Lakefront Greenway and Downtown Connector Study

December 31, 2015

Prepared for:

stclair superior development corporation

CAMPUS DISTRICT

WAREHOUSE DISTRICT

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Environmental Design Group

Contents

INTRODUCTION

STUDY PURPOSE

Lake Erie is a valued resource for the City of Cleveland and Northeast Ohio. However, it has historically been difficult for residents on bicycle or foot to access the lakefront, separated by I-90 and the railroad line. Much of the lakefront has been occupied by industrial uses, which also has limited public access. Further, away from the lakefront, relatively few roadways offer bicycle facilities between downtown and the northeastern suburbs and near eastside neighborhoods.

Several trends are converging to heighten interest, at this time, in improving access to the lakefront for pedestrians and bicyclists. Alternative transportation modes are drawing attention from more residents locally and nationwide. The redevelopment of downtown Cleveland and near eastside neighborhoods promises to place larger numbers of residents close to the lakefront. Recognition of the important role played by lakefront development and recreational resources in other major American cities has also served to highlight the potential of a Lakefront Greenway. The Lakefront Greenway and Downtown Connector Study is well-positioned to capitalize on all of these developments.

Sponsors

The potential of this area for multi-modal transportation is exemplified by the three community development districts that have partnered to sponsor the Lakefront Greenway and Downtown Connector Study:

St. Clair-Superior Development Corporation. The service area extends from East 30th Street on the Western boundary to Martin Luther King Boulevard as the Eastern boundary, South to Superior and Payne Avenues and North to Lake Erie in Cleveland, Ohio. The area is home to several diverse populations including ethnic neighborhoods, a stable industrial corridor, growing arts scene, and a myriad of unique dining and shopping venues.

Campus District. Extending from the Shoreway to Orange Avenue between East 30th and 18th Streets, the Campus District includes the following institutions: Cleveland State University, Saint Vincent Charity Medical Center, and Cuyahoga Community College Metropolitan Campus. Also, the area has seen a large increase in residential development including housing for Cleveland State University students and market rate development

Warehouse District. This district encompasses the area between West 10th Street, West 3rd Street, Superior Avenue, and the bluffs overlooking Lake Erie. Listed on the National Register of Historic Places, many buildings have been converted to residential and commercial uses.

Goals and Objectives

The Lakefront Greenway and Downtown Connector Study has two primary goals:

- Improve North and South Marginal Roads for travel by bicyclists and pedestrians.
- Strengthen the connection between lakefront, downtown, and near eastside neighborhoods.

It is anticipated that the goals will be accomplished via the following objectives:

- Establish a Lakefront Greenway along the Marginal Road corridor. The corridor will encompass both North Marginal Road and South Marginal Road, to maximize points of connection to the adjacent neighborhoods.

- Create north-south connections to the Lakefront Greenway. New connections to the Lakefront are envisioned in this plan, along with improvements to existing connections.

- Facilitate east-west connectivity. Along with improvements to the Marginal Roads, bicycle facilities on higher order roadways are needed to enhance bicycle movement within the study area.

Concepts

Products from this study include plans for a trail along both Marginal Roads; the improvement of existing connections to the lakefront and plans for new lakefront connections; and concepts for providing bicycle facilities on higher-order east-west roadways.

STUDY AREA

The study area is largely framed by the lakefront (north); Martin Luther King Jr. Drive (east); Superior Avenue (south); and the Cuyahoga River (west). The East 22nd Street corridor between Superior Avenue and I-90 was also included in the study area to provide connectivity to the planned bicycle facility on this roadway within the Campus District.

TLCI PROCESS

This planning study was primarily funded by a "Transportation for Livable Communities Initiative (TLCI)" grant from the Northeast Ohio Areawide Coordinating Agency (NOACA). The City of Cleveland Planning Commission sponsored the project and provided the local funding match.

The TLCI program provides assistance to communities and public agencies for integrated transportation and land use planning and projects that strengthen community livability. The Lakefront Greenway and Downtown Connector Study addresses many key objectives of the TLCI program:

- Develop transportation projects that provide more travel options through complete streets and context sensitive solutions, increasing user safety and supporting positive public health impacts
- Promote reinvestment in underutilized or vacant/abandoned properties through development concepts supported by multimodal transportation systems
- Support economic development through place-based transportation and land use recommendations, and connect these proposals with existing assets and investments
- Develop transportation projects that provide more travel options through complete streets and context sensitive solutions, increasing user safety and supporting positive public health impacts
- Promote reinvestment in underutilized or vacant/abandoned properties through development concepts supported by multimodal transportation systems
- Support economic development through place-based transportation and land use recommendations, and connect these proposals with existing assets and investments

The grant was provided to St. Clair Superior Development Corporation, the Campus District, and the Historic Warehouse District. These project sponsors enlisted the consulting team of Michael Baker International and the Environmental Design Group to conduct the study.

PUBLIC INVOLVEMENT

An active public involvement process was developed for this study. A Steering Committee was formed with broad representation among city, regional and state stakeholders, with input provided at four Steering Committee meetings. In addition to these Steering Committee meetings, special meetings were held throughout the project, including a design workshop, bicycle network planning, and coordination with Burke Lakefront Airport. These meetings gave Steering Committee members a further opportunity to offer input into the project. Their participation was vital to the concepts as finalized.

Steering Committee members are listed below, organized by sponsoring organization; represented organization; and consulting team members.

Project Sponsors

St Clair Superior CDC
James Amendola
Michael Fleming

Campus District
Bobbi Reichtell

Warehouse District
Tom Starinsky

Represented Organizations

Ariel Ventures
Radhika Reddy

Bike Cleveland
Rob Thompson

Burke Lakefront Airport
Khalid Bahhur

Cleveland Airport Systems
Ren Camacho
Dino Lustri

Cleveland City Planning
Freddie Collier
Marty Cader
Arthur Schmidt
Sharonda Watley

Cleveland City Sustainability
Jenita McGowan
Michelle Harvanek

Cleveland-Cuyahoga County Port Authority
Linda Sternheimer

Cleveland Metro Parks
Kelly Coffman
Sara Maier

Department of Port Control
Hugh Holley

GCRTA
Amy Snell

NOACA
Ryan Noles
Melissa Thompson

ODOT
Brian Blayney

Residents
April Bleakney
Rachel DuFresne

Trust for Public Lands
Jim Kastelic

Yacht Club – Lakeside
Larry Orlowski

YMCA
Barb Clint

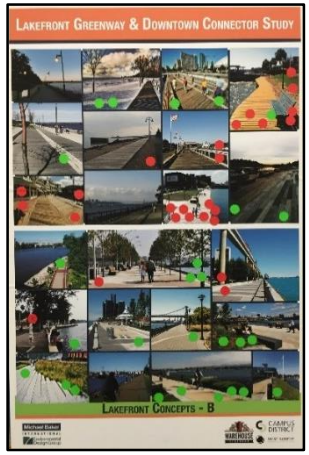
Consulting Team

Michael Baker International
Jim Shea
Daniel Kueper
Kim Guice

Environmental Design Group
Michelle Johnson
Jeff Kerr
Travis Mathews

In addition to regular Steering Committee meetings, two meetings were held to present the project to the public. Both were held at the Ariel International Center on E. 40th Street in the heart of the study area. These meetings incorporated a presentation on potential concepts by consulting team members, followed by a question-and-answer session. After the question-and-answer session, project team members made themselves available for questions at exhibits illustrating concepts. Members of the public were asked to complete questionnaires providing their input on the range of concepts initially offered. This input was used to steer project team members in evaluating and refining developed concepts.

Records of the Steering Committee meetings and the public meetings are provided in Technical Appendix A.



Two public meetings gave area residents, businesspersons and other stakeholders the opportunity to learn more about the project and provide input.

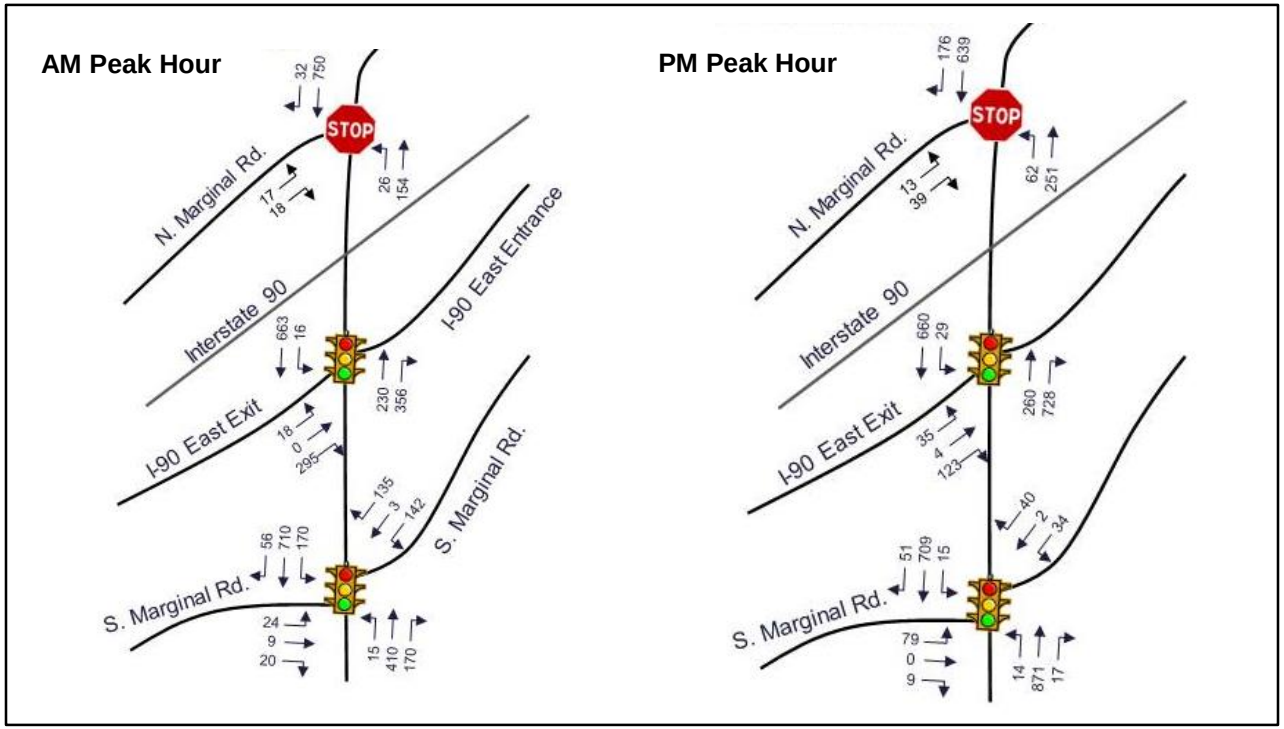
EXISTING CONDITIONS

TRAFFIC VOLUMES

Existing traffic volumes for key roadways were collected from NOACA, ODOT, and traffic reports prepared within the study area. Traffic volumes are an important parameter for multi-modal plans, since they help determine if bicyclists will feel comfortable traveling on roadways, and since they also help determine the feasibility of bicycle treatments that can be applied to these roadways. Average daily traffic (ADT) volumes are summarized in the accompanying table. As indicated, ADT volumes range from 1,500 on North Marginal Road to 26,000 on East 9th Street south of the Shoreway interchange. The ADT exceeds 10,000 on all collector and arterial roadways.

In addition to reviewing collected volumes, the project team conducted peak hour traffic counts on East 55th Street at its intersection with North Marginal Road; the I-90 eastbound entrance and exit; and South Marginal Road. Detailed turning movement counts were collected specifically at these intersections because it was anticipated that capacity reductions were possible.

AM and PM Peak Hour Traffic Volumes: East 55th Street at I-90

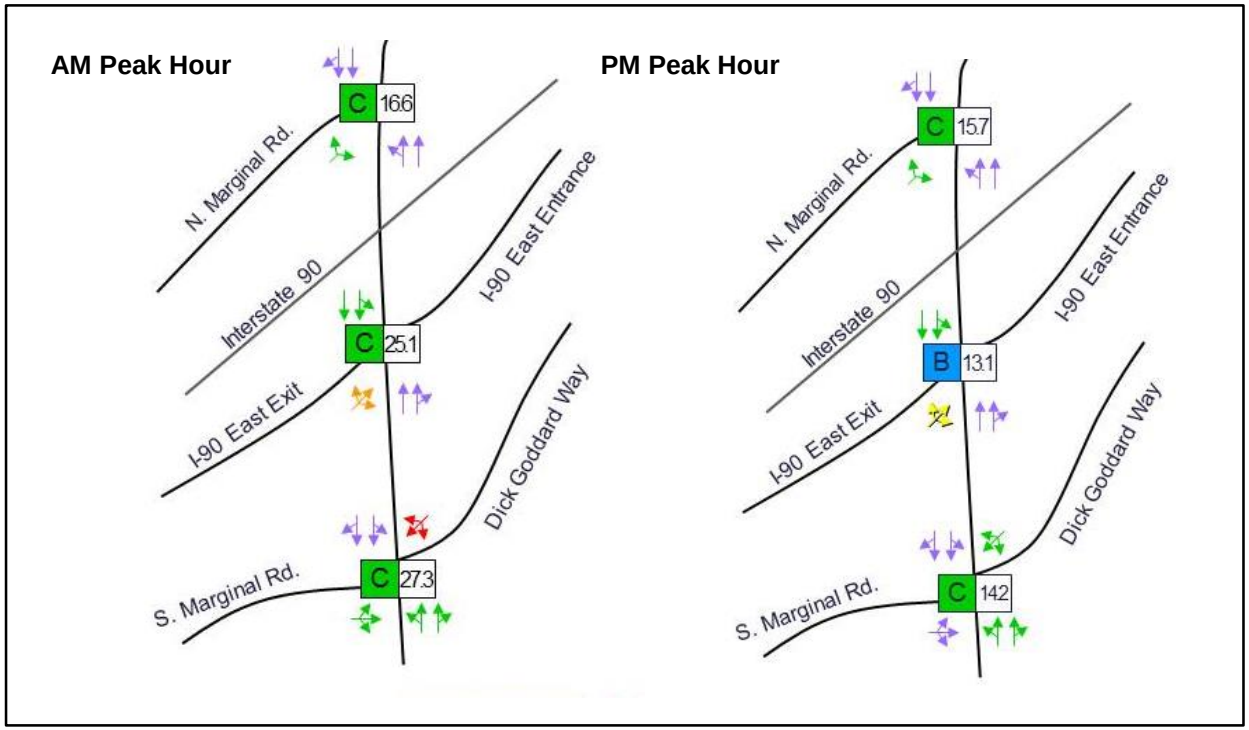


Roadway	ADT Volume	Roadway	ADT Volume
North Marginal Rd		**W. 3rd St**	
west of E. 55th St	1,500	north of W. Lakeside Ave	11,000
South Marginal Rd		**East 9th St**	
west of E. 9th St	3,000	north of N. Marginal Rd	2,900
west of E. 55th St	1,600	south of S. Marginal Rd	26,000
		north of St. Clair Ave	15,500
St. Clair Ave		**E. 55th St**	
east of E. 9th St	18,700	south of S. Marginal Rd	17,700
Superior Ave		**E. 72nd St**	
east of E. 9th St	13,000	north of Gordon Park Drive	7,500
west of E. 18th St	10,000	**Martin Luther King Drive**	
west of E. 30th St	16,000	north of St. Clair Ave	22,500
east of E. 40th St	14,500		

The traffic data was analyzed using Synchro software to assess the traffic performance and operational efficiency at each intersection. The analysis results include the approach delay (measured in seconds of delay), volume-capacity (v/c) ratio, and level of service (LOS) for each approach as well as the overall intersection. Average delay is an indication of the expected delay that would typically be experienced in the lane, on the approach, or at the intersection. Level of service (LOS) is a grading scale based upon average delay, with LOS A representing free-flow conditions, LOS E representing operational capacity, and LOS F being over-capacity. The specific delay thresholds for assessing intersection performance are provided by the Transportation Research Board in the Highway Capacity Manual, as shown in the table to the right.

As seen in the figure, the evaluated intersections operate at LOS B or C during the morning and evening peak hours, indicating modest delays for traffic.

AM and PM Peak Hour Level of Service: East 55th Street at I-90



LEVEL OF SERVICE (LOS)		
LOS	Signalized Intersection Average Delay (sec/veh)	Unsignalized Intersection Average Delay (sec/veh)
A	x < 10	x < 10
B	10 < x < 20	10 < x < 15
C	20 < x < 35	15 < x < 25
D	35 < x < 55	25 < x < 35
E	55 < x < 80	35 < x < 50
F	80 < x	50 < x

BICYCLIST AND PEDESTRIAN CONDITIONS

North Marginal Road

As the closest public roadway to the lakefront in the study area, North Marginal Road has great potential for attracting recreational bicyclists and pedestrians. However, it faces a number of obstacles in doing so:

- At 12 feet in width, the travel lanes on North Marginal are too narrow to be comfortably shared by vehicles and bicyclists.
- The roadway, curbing and shoulder are in poor condition.
- A shared use path is currently present only on limited sections along the roadway: between Marjorie Rosenbaum Plaza and Aviation High School, and east of East 55th Street.
- The path between Marjorie Rosenbaum Plaza and Aviation High School is substandard. Although 10 feet in width for most of this section, some segments are immediately adjacent to a chain-link fence – reducing the usable width by 2 feet – or dangerously narrowed by fire hydrants placed in the middle of the path. Other segments are only 6 feet in width.
- The path is not visually appealing, due to the presence of cobra-head street lights, chain-link fence, and overgrown shrubbery and weeds in some areas.
- Access is limited, with no access points between East 9th and East 55th Streets.
- There is no buffer between North Marginal Road and the Shoreway.

Constraints along North Marginal Road.

Path along North Marginal Road.

Constraints along North Marginal Road.

Pavement conditions along North Marginal Road.

South Marginal Road

Like North Marginal Road, South Marginal Road is 24 feet in width, with two 12-foot lanes. There is no sidewalk or path along virtually the entire length of South Marginal Road; the only sidewalk is located adjacent to the South Harbor Rapid Station. Access to South Marginal Road is limited between East 9th Street and East 55th Street, with the only access points being at East 38th, East 40th, Marquette and East 49th Streets.

South Marginal Road by Rapid Station.

South Marginal Road looking west at East 40th Street

Lakefront Bikeway

All of the lakefront segments within the study area are already designated as part of the Cleveland Lakefront Bikeway. Segments include the lakefront trail east of East 55th Street, North Marginal Road, Erieside Avenue, West 3rd Street, and St. Clair Avenue. The entire bikeway is approximately 17 miles long. The Bikeway consists of various types of on-road and off road facilities. Generally, the Bikeway is signed as shown below.

Existing North-South Connections

Within the study area, there are seven points at which bicyclists and pedestrians can cross the Shoreway and travel in close proximity to the lakefront, as discussed below. The pedestrian bridge at Gordon Park is the only connection not primarily for motorists.

West 3rd Street

With travel lanes of 10 to 11 feet in width, West 3rd Street presents uncomfortable travel conditions for bicyclists. However, this roadway is classified as an existing bikeway on the City of Cleveland Bikeway Master Plan, and many bicyclists may choose to avoid mixing with vehicular traffic by riding on the sidewalk on the east side of the roadway, which is 20 feet in width on the Amtrak overpass. There is no sidewalk on the west side.

East 9th Street

With travel lanes of 10 to 11 feet in width, high traffic volumes, and significant turning movements on and off the Shoreway, East 9th Street presents uncomfortable travel conditions for bicyclists. Sidewalks of 8 feet in width are present on both sides of the bridge over the Shoreway.

Muni Lot Bridge

There is no bicycle facility on the Muni Lot Bridge. Each travel lane is 13 feet in width. A sidewalk is present on the west side of the roadway between the north end of the bridge and South Marginal Road. It terminates on the north end of the bridge, and there is no formal pedestrian or bicycle connection to North Marginal Road. The sidewalk reaches a full width of 6 feet, but the usable width narrows to less than 4 feet next to the guiderail posts.

East 55th Street

Bike lanes are present on the west side of East 55th Street from Fairlie Avenue to the East 55th Street Marina, and on the east side of East 55th Street from Dick Goddard Way to the entrance to the Shoreway. It should be noted that bike lanes are absent on East 55th south of the Fairlie Avenue/Lake Court intersection, which may discourage some bicyclists from using this street. Sidewalks are present along the majority of East 55th Street, but are absent on the west side of East 55th Street north of North Marginal Road. The sidewalks are typically 5 to 6 feet in width through the interchange area

East 72nd Street

Buffered bike lanes are present on East 72nd Street between St. Clair Avenue and the westbound on/off-ramps to the Shoreway. A 5-foot sidewalk is present on the east side of East 72nd Street between the lakefront path and the railroad, and sidewalks are present on both sides of East 72nd Street south of the railroad.

Gordon Park Bridge

A pedestrian bridge spans the Shoreway between Intercity Yacht Club and Gordon Park.

MLK Drive

No bike facilities are present on Martin Luther King Drive through the Shoreway interchange. Bike-compatible shoulders (4 to 5 feet in width) are present on MLK Drive south of the railroad overpass. A sidewalk is on the west side of MLK Drive through the interchange. This is immediately adjacent to the roadway, creating an uncomfortable walking environment.

East-West Roadways

The primary east-west roadways within the study area are Superior Avenue, also signed as U.S. 6; and St. Clair Avenue, signed as Ohio Route 283 east of East 55th Street.

Superior Avenue

Bike lanes are currently present on Superior Avenue between East 55th Street and East 18th Street. Between East 18th Street and Public Square, Superior Avenue is a six-lane roadway, with bus-only travel lanes next to the curb. Although the City has expressed interest in having bicyclists use these lanes, they are currently signed as bus-only due to FTA restrictions. Additional Coordination with the GCRTA will be required to develop a shared use plan for these lanes.

Superior Avenue looking east at East 52nd Street

Superior Avenue looking east at East 13th Street

St. Clair Avenue

No bike lanes are presently found on St. Clair Avenue. East of East 55th Street, St. Clair has a five-lane cross-section and on-street parking. This section of St. Clair, 72 feet wide, is included in preliminary concepts for the Cleveland Midway Bike Plan and will be further evaluated under the Cleveland Midway Cycle Track & Protected Bike Facilities TLCI that is currently underway.

Between East 55th Street and East 13th Street, St. Clair Avenue is typically 60 feet wide, with a four-lane cross-section and on-street parking. Between West 3rd Street and East 13th Street, the cross-section varies, from 60 to 65 feet in width. The curb lane is signed as a bus lane for the peak hour.

St. Clair Avenue looking east at East 63rd Street

PLANNING STUDIES AND PROJECTS

A wide range of plans and projects were reviewed by the consultant team to ensure that proposed recommendations would be consistent with past and on-going planning efforts.

TLCI PLANS

A host of TLCI plans have been prepared for neighborhoods within and adjacent to the three community development organizations sponsoring this project.

Campus District Plan (2011) – This plan called for a wide range of initiatives, with the installation of bike lanes on East 22nd Street between Euclid Avenue and Orange Avenue being most relevant to this study. The Campus District Plan also called for streetscape enhancements and pedestrian amenities.

Asiatown Plan (2010) – Three transportation recommendations are of greatest interest to the Lakefront Greenway study:

- Create a main street for the neighborhood along Superior Avenue.
- Convert travel lanes to parking lanes.
- Provide bike facility along Superior Avenue between 30th and 40th Streets.

Canal Basin District Plan (2010) – This plan called for the installation of trails and bike lanes along such roadways as Frankfort Avenue and Summit to connect with Canal Basin Park and Towpath Trail.

Bike lanes are proposed for East 22nd Street in the 2011 Campus District Plan.

CITY PLANS

Downtown Lakefront Plan (2012) – This plan, covering the lakefront area between West 3rd and East 18th Streets, calls for a walkable, dense, and mixed use urban fabric. The Bicycle Circulation Plan identifies North Marginal Road, Erieside Avenue and West 3rd Street as existing bike paths. A bike path is proposed for South Marginal Road.

PRIVATE PLANS AND PROJECTS

Burke Master Plan Update (2008) -
Greater development is recommended on Burke Lakefront Airport in this master plan update, including new mixed use development on the southwest corner of the property. Geis Corporation has proposed an office park on this site.

North Coast Harbor – Cumberland Development and Trammell Crow announced plans for a large mixed use development on this site north of Cleveland Browns Stadium, including more than 1000 apartments, 80,000 square feet of offices, stores and restaurants, and a downtown school near the science center.

Flats East Bank – Leasing has recently begun at this development on the east bank of the Cuyahoga River, consisting of new office space, retail locations and 240 apartments in the first phase.

Midway Bike Plan – NOACA approved a planning grant for a "midway cycle track" at its June 2015 meeting. The purpose of this study is to determine implementation feasibility of previously identified corridors, develop typical design standards and understand how the improved bicycle infrastructure integrates into the adjacent neighborhoods. The below rendering depicts preliminary Midway Cycle Track concepts along St. Clair Avene.

IMPLICATION FOR LAKEFRONT GREENWAY

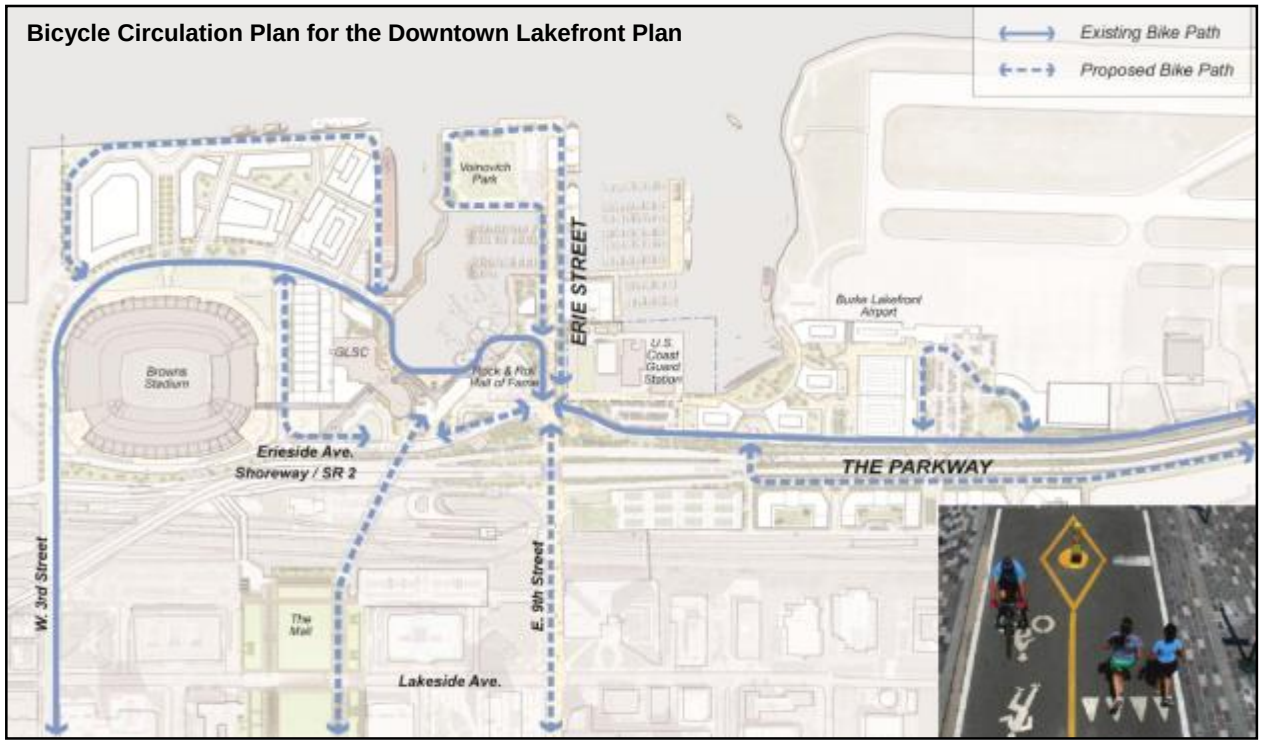
Taken together, recent plans and projects in downtown Cleveland create a picture of a region that is undergoing demographic changes that will bolster support for an enhanced bicycle and pedestrian infrastructure. The region is creating a bicycle network as part its long-range vision.

The most significant development in recent years has been the influx of residents and workers in mixed use developments (MUD's) downtown. MUD's are typically associated both with lower vehicular ownership rates and higher rates of walking and bicycling. These MUD's have also been accompanied by a "green infrastructure" with pedestrian and bicycle facilities.

Meanwhile, TLCI studies and other plans have identified the need to develop facilities to expand the city's bicycle network, and to create pedestrian-friendly streets. These studies have also recognized the presence of excess vehicular capacity on many roadways. To take advantage of excess capacity, and meet increasing demand for low stress bicycle facilities, these studies have proposed a variety of innovative bicycle facilities, such as separated bike lanes and median bike lanes.

Studies are clear that one of the most significant determinants to the number of bicyclists in a community is adequate infrastructure, along with the lack of a nucleus of bicycling community. In summary, persons not currently bicycling are more likely to bicycle in the future when they see other persons doing so. Therefore, the trends described in this report are likely to encourage a growing interest in facilities that can accommodate recreational use, along with commuting to work and shopping uses.

Bicycle Circulation Plan for the Downtown Lakefront Plan



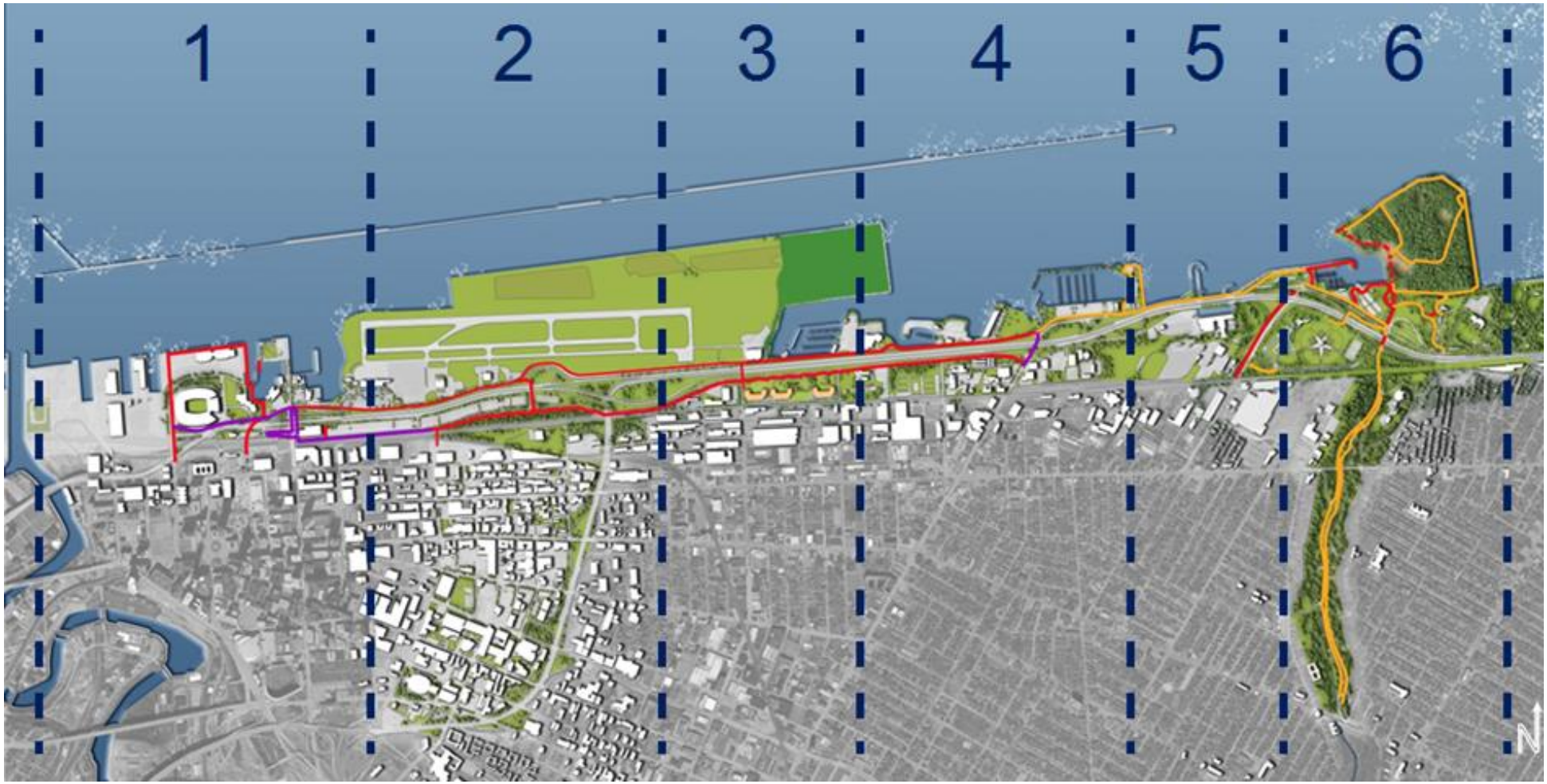
RECOMMENDATIONS

To address facility needs and stakeholder input, recommendations are proposed in three areas:

- Enhance the Marginal Road corridor.
- Connect to the lakefront.
- Improve bicycle network connections between Downtown, the Campus District, and the St. Clair Superior neighborhoods.

Proposed enhancements to the Marginal Road corridor – consisting of both North Marginal Road and South Marginal Road – are presented first. Due to the length of the study area – approximately five miles – the corridor has been divided into six trail and greenway segments, as shown in the diagram below. Proposed trail segments are illustrated in red; existing trail segments in yellow; and on-road improvements in purple.

Proposed improvements in each segment are discussed in the following section of the report.

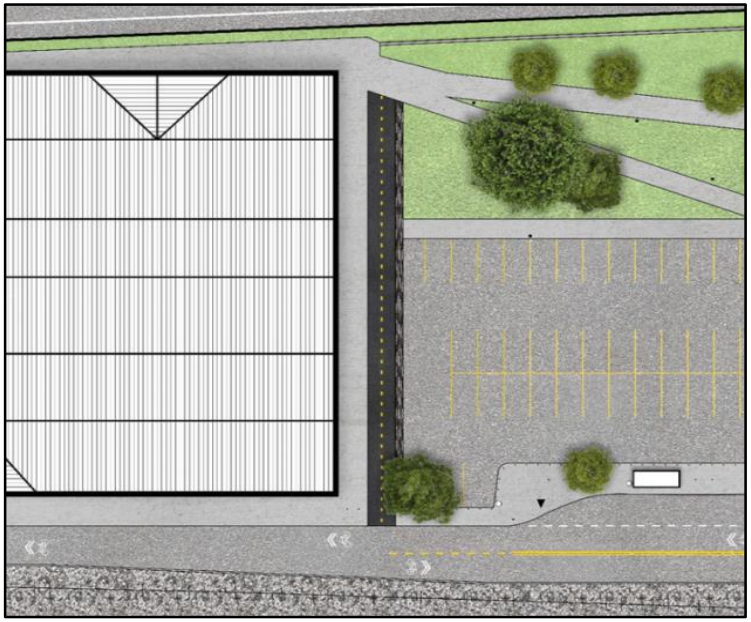


GREENWAY SEGMENT 1

The bicycle improvements outlined in the 2012 Downtown Lakefront Plan provide the base for trail and greenway improvements in this segment. Redevelopment of the North Coast will enable construction of a multi-use path to the north of Cleveland Browns Stadium, and other improvements are anticipated to East 9th Street Pier. The existing 6-foot wide brick sidewalk along North Marginal Road between East 9th Street and Marjorie Rosenbaum Plaza should be replaced by a 10-foot path as part of the mixed-use redevelopment planned for this area.

Due to the right-of-way constraints, no path is feasible along South Marginal Road in Segment 1. Rather, shared lane markings (popularly known as “sharrows”) are recommended for this section of the roadway. South Marginal Road is only one lane wide to the south of the Municipal Parking Garage, squeezed between a Jersey barrier and the Garage wall. The typical bicyclist will feel uncomfortable traveling on this roadway section. To give bicyclists traveling along South Marginal Road the option to skirt the Parking Garage to the north in traveling to East 9th Street, a path is recommended for the east side of the Garage. A plan view and ground view drawing illustrate this concept.

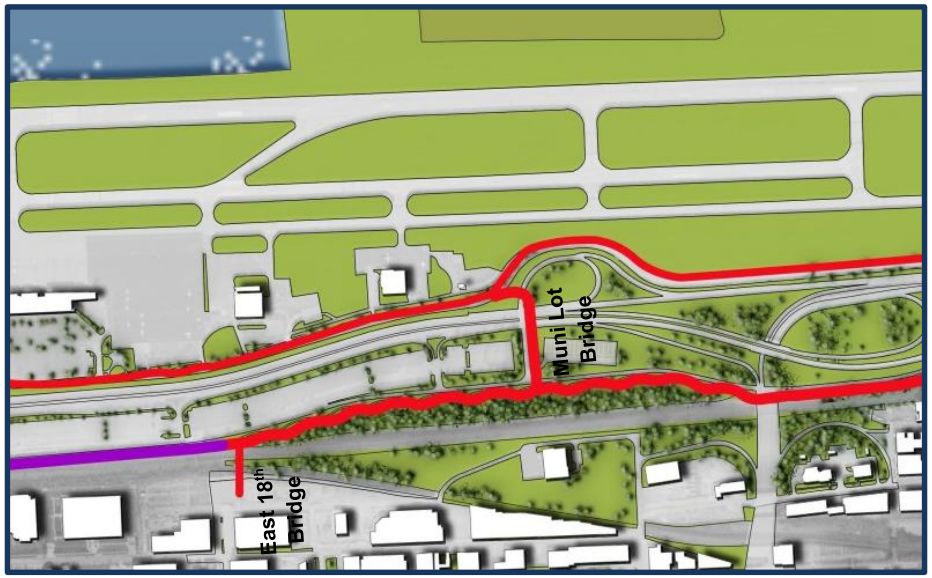
Above: proposed path to the east of the Municipal Parking Garage. Below: sharrows are proposed for South Marginal Road, along with the proposed path on the east side of the Garage.



GREENWAY SEGMENT 2

Segment 2 includes one of the constricted segments for the trail along North Marginal Road, as the existing path narrows to 11 feet between North Marginal Road and the Burke Airport fence on the curve north of the Muni Lots Road interchange. Along trail segments with constrained right-of-way, the trail will typically need to be situated immediately next to North Marginal Road. A 2 foot brick paver can be used to demarcate an 8 foot path from North Marginal Road, and add aesthetic interest.

As seen in the public engagement summaries, consideration was given to closing North Marginal Road within the constrained section, from the Muni Lot Bridge east to Aviation High School. This would have enabled the greenway to meander through this section and avoid design restrictions. Ultimately, support from all engaged stakeholders was not established and the alternative was not advanced. Extensive coordination occurred with Burke Lakefront Airport regarding the location of their existing fence and the possibilities of relocating the fence to improve constrained conditions along the corridor. It was determined that Burke Lakefront Airport would find it acceptable to move the fence 2-3 feet at specific location along the corridor where the additional space would help meet trail design criteria.

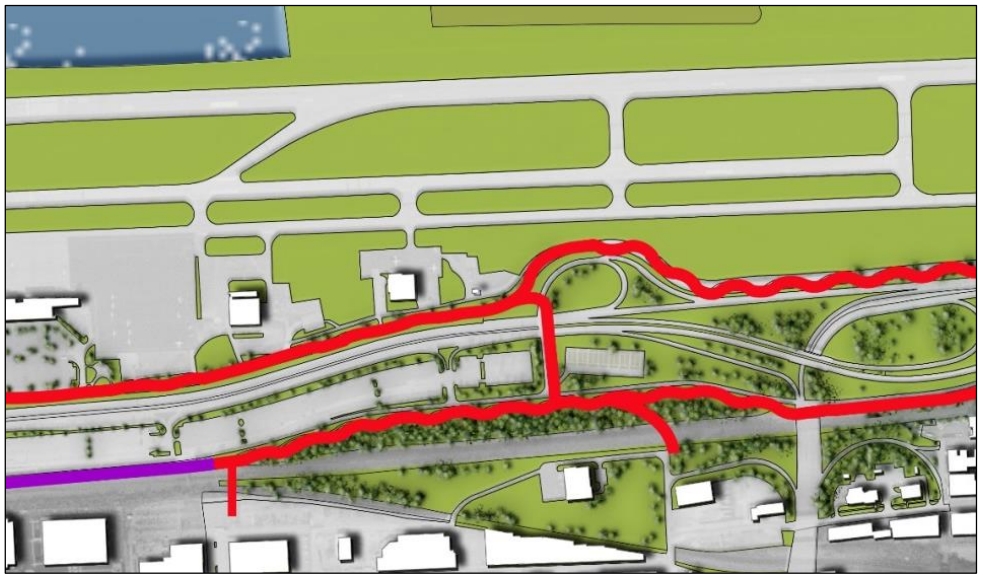


A grass median of 20 to 25 feet typically separates North Marginal Road from the Shoreway on this section, and could be used to accommodate slight shifts in North Marginal Road if it is desired to widen the path to 10 feet, or install a greater buffer between North Marginal Road and the trail.

Improvements to the Muni Lot Bridge will facilitate access to North Marginal Road in this section, and a new bridge over the railroad at East 18th Street will provide greater access to South Marginal Road. These will be discussed at greater length in the Connections section.

The proposed off-road trail along South Marginal Road begins in this segment. The path is proposed to be 10 feet wide. Adjacent properties are typically set back 35 feet from South Marginal Road, allowing ample room to design a trail with modest horizontal curvature, emphasizing the recreational nature of this trail and incorporating new plantings.

Other municipalities have had experience with fitting paths into restricted rights-of-way. Below is an 8 foot multi-use path recently installed next to Shore Boulevard in Queens, New York.



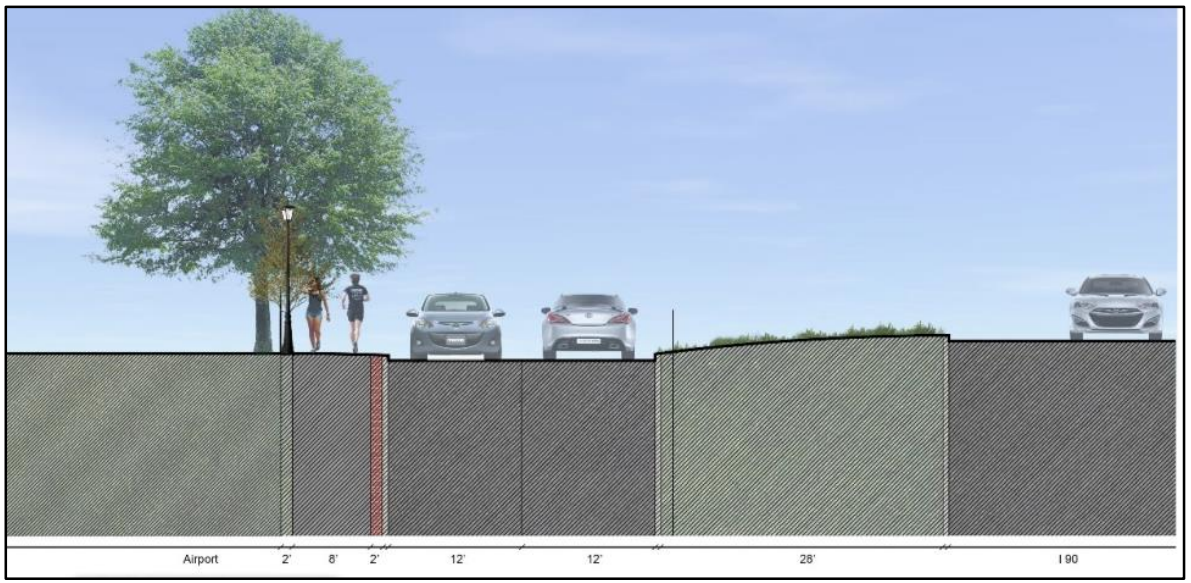
Left and Above: Alternatives for closing North Marginal between the Muni Lot Bridge and Aviation High School were presented at Public Meeting #1 and found to be the preferred public alternative. Prior to Public Meeting #2 it was requested by members of the Steering Committee that the alternative for closing North Marginal be marked as 'Under Negotiation' while further details regarding the location of the Burke Lakefront Airport fence were explored.

It was determined that the closure of the North Marginal road would not be feasible and the negotiations for relocating the Burke Lakefront Airport fence a maximum of 2-3 feet was agreed upon depending on specific site constraints along the North Marginal Road corridor.

Below, South Marginal Road before and after installation of the proposed trail. The large setback provides the opportunity to introduce gentle curves in the path, along with attractive landscaping. Top right, an 8 foot path and 2 foot brick paved buffer are proposed along North Marginal Road in constrained areas. Below right, the proposed trail system along North and South Marginal Road, along with improvements to the Muni Lot Bridge, will facilitate access to Downtown.

South Marginal Road Before

South Marginal Road After

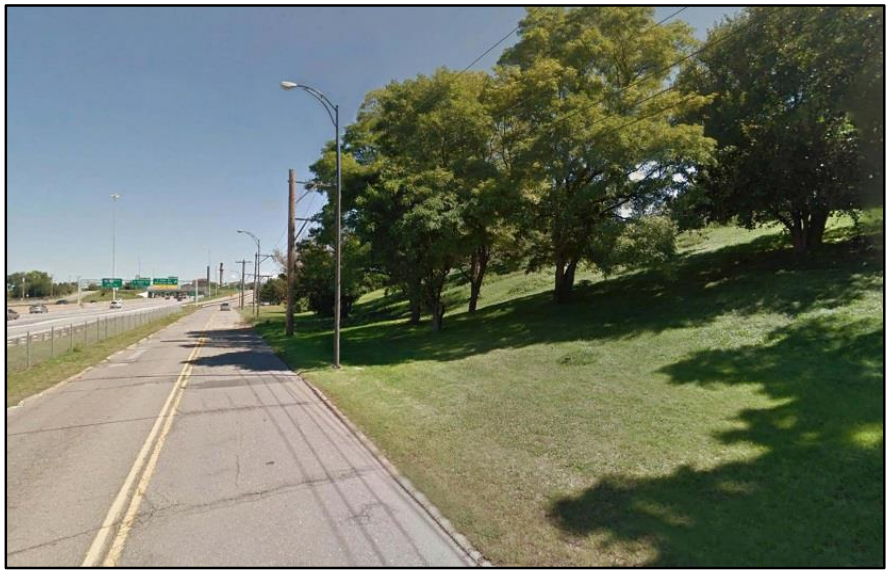


GREENWAY SEGMENT 3

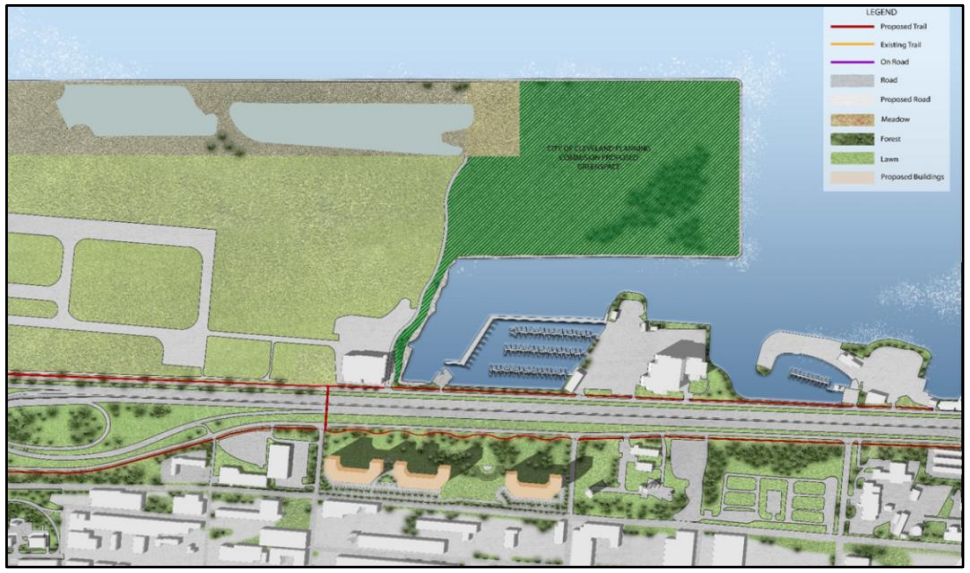
In Segment 3, physical constraints for the proposed trail along North Marginal Road are most conspicuous at the abandoned Aviation High School and the Lakeside Yacht Club. In both locations, the fencing is set back 10 feet from the road. In these locations, the trail should be installed immediately adjacent to North Marginal Road, with a 2 foot brick paver separating the trail from the roadway.

Access to the North Marginal Road trail in this segment will be offered by the proposed pedestrian bridge across the Shoreway at East 40th Street, discussed in greater detail in the Connections section.

Above: North Marginal Road in front of the Lakeside Yacht Club.
Below: The proposed trail, with a 2 foot brick paver buffer between the trail and roadway.



Above: South Marginal Road today.
Below: South Marginal Road with the proposed trail. The ground is level along much of South Marginal Road, but where slopes are present, the wide right-of-way will permit retaining walls, as seen in the drawing.



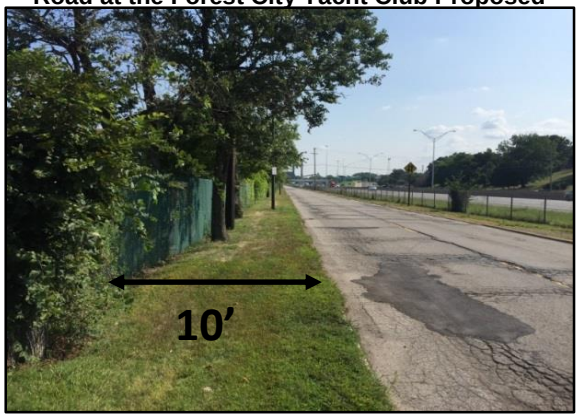
Above and below, the potential exists for redevelopment along the South Marginal Road trail between East 40th Street and East 49th Street, as illustrated by the new structures in beige. To the north of the Lakeside Yacht Club, the Cleveland Planning Commission recommends a green space for the CDF (confined disposal facility) at Burke Airport. However, continued operations are planned for this CDF well into the future.

GREENWAY SEGMENT 4

The eastern terminus of the South Marginal trail is in this segment, at East 55th Street. Along North Marginal Road, the proposed trail continues east at E. 55th Street by linking with an existing path. Unlike the trail to the west, the existing path meets AASHTO standards of a minimum 10 foot facility.

The North Marginal trail faces constraints in two locations in this segment. Along the Forest City Yacht Club, a grass buffer of 10 feet separates the property fence from the roadway. A more significant constraint is present at the Quay 55 development, where a decorative fence at the front of the property is only 4 feet from the roadway. At this latter location, shared lane markings can be installed to alert motorists to the presence of bicyclists; alternatively, physical improvements will be needed to shift the roadway and create more space for non-motorized travel.

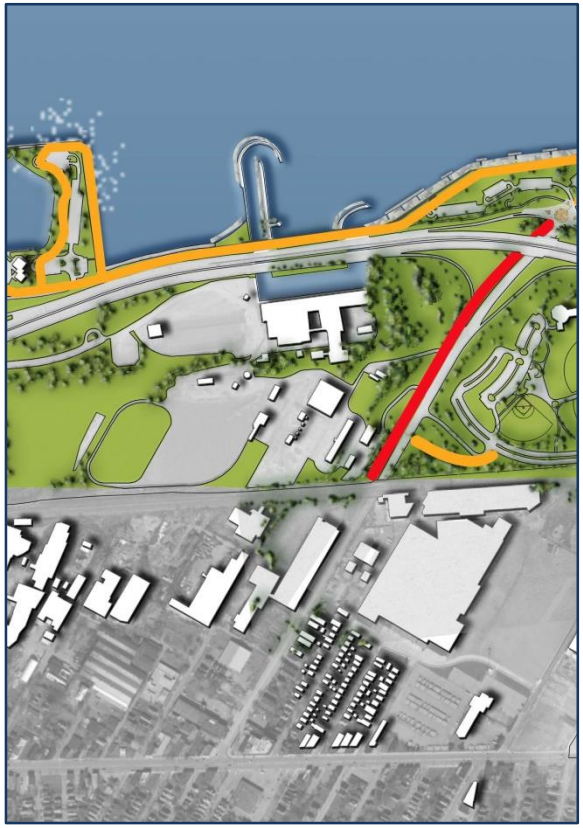
Existing conditions along North Marginal Road at the Forest City Yacht Club Proposed



Top right: a stone wall and fencing treatment is proposed along the Yacht Club frontage. At a width of 8 feet, the path is less than the width of 10 feet recommended by AASHTO; a slight shift in roadway alignment could create the space needed for greater width, if desired. Below: trail along South Marginal Road.

GREENWAY SEGMENT 5

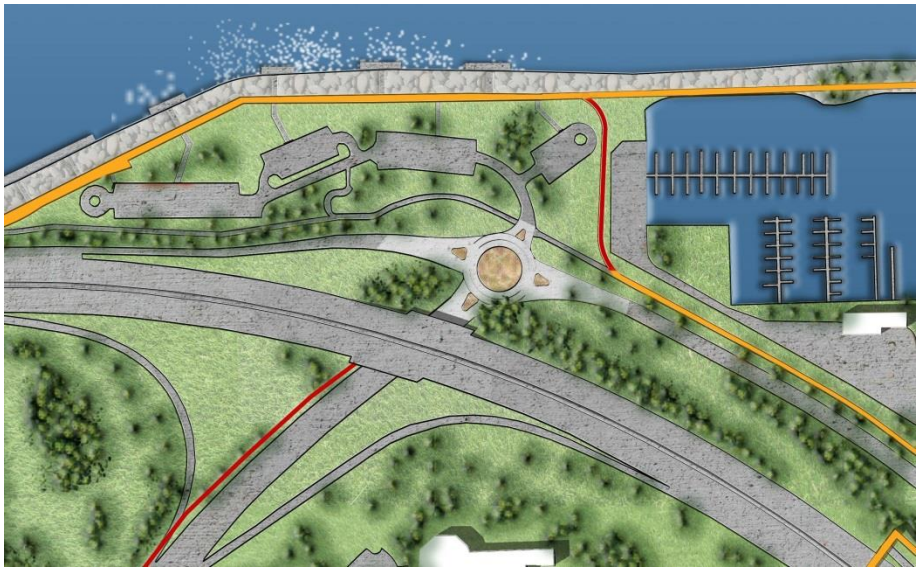
The existing path along North Marginal Road in this segment is 10 feet wide and meets AASHTO standards. Other than standard maintenance activities, improvements to the path are generally not warranted at this time. However, to enhance the safety of bicyclists and pedestrians, a high-visibility crossing treatment is recommended at the intersection of the path with North Marginal Road within the East 55th Street Marina. The treatment is illustrated below right.



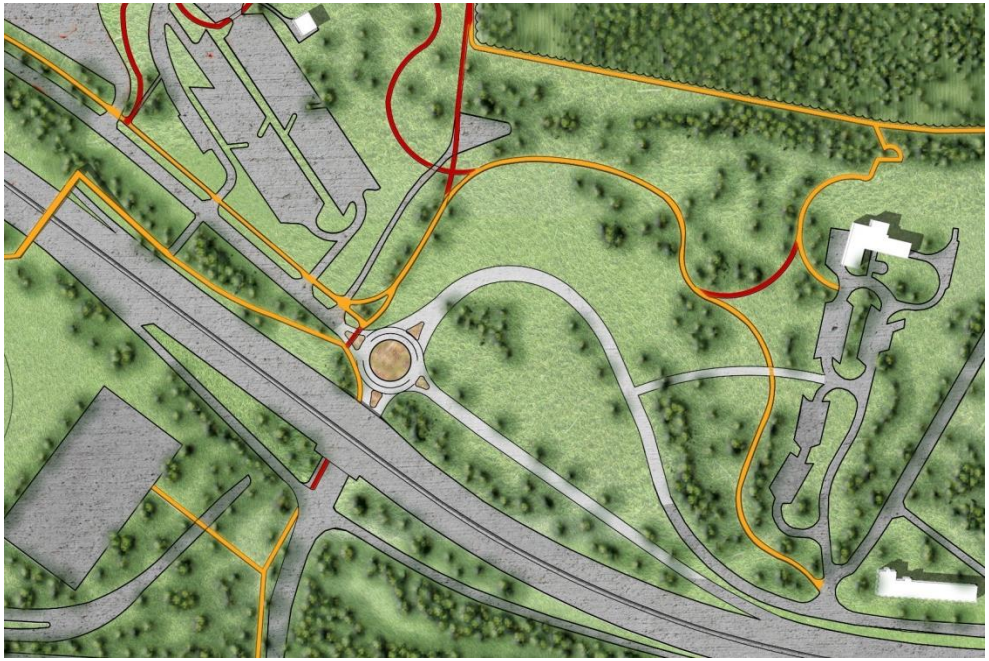
GREENWAY SEGMENT 6

A variety of improvements are recommended in this segment, including new trails for the Lakefront Nature Preserve. These trails are intended, at least in part, to fulfill the promise of the Lakes-to-Lakes Trail, by facilitating greater pedestrian and bicycle access to the lakefront area. These improvements also serve to enhance connectivity between the Intercity Yacht Club and the Nature Preserve.

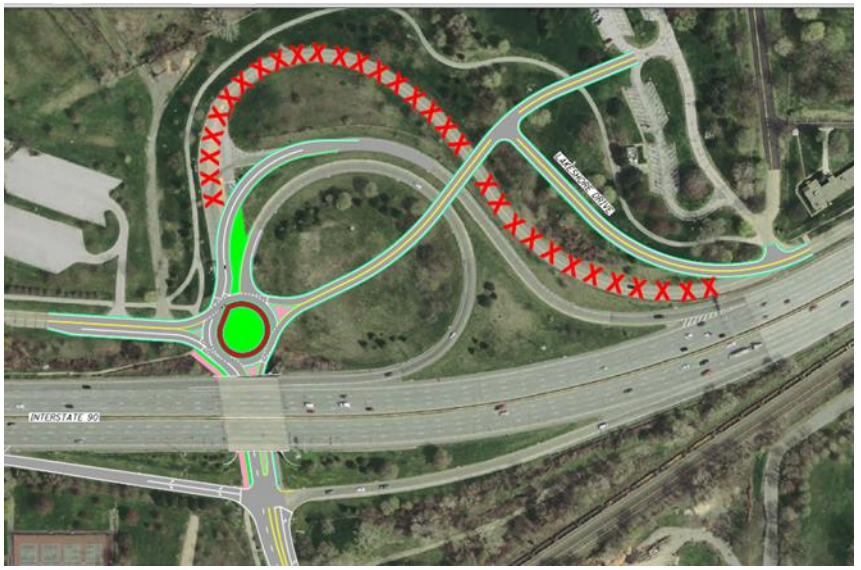
Improvements are also proposed for the roadway system north of the Shoreway at both East 72nd Street and Martin Luther King Jr. Drive. Although these improvements should have the effect of enhancing safety and facilitating traffic flow in the area of these two interchanges, these were proposed within this project primarily because of the benefits to pedestrian and bicycle mobility in this area. The study team coordinated with ODOT, which was simultaneously preparing a safety study examining conditions at these two interchanges. The recommendations from that study are also included in this report to illustrate how the issues raised as part of this study may be addressed.



Top: Existing conditions at East 72nd Street. Middle: A roundabout is proposed for the East 72nd Street interchange, along with vacating the westbound I-90 exit ramp, and consolidating the westbound entrance ramps. Bottom: the ODOT August 2015 Interstate 90 Safety Study proposes closing both the eastbound on-ramp and westbound off-ramp at East 72nd Street.



Top: MLK Drive existing conditions. Bottom: New paths are shown proximate to the Lakefront Nature Preserve. A roundabout is proposed to process traffic from westbound I-90 and Lakeshore Boulevard. This results in a smaller footprint for vehicular roadways than the existing loop road design.

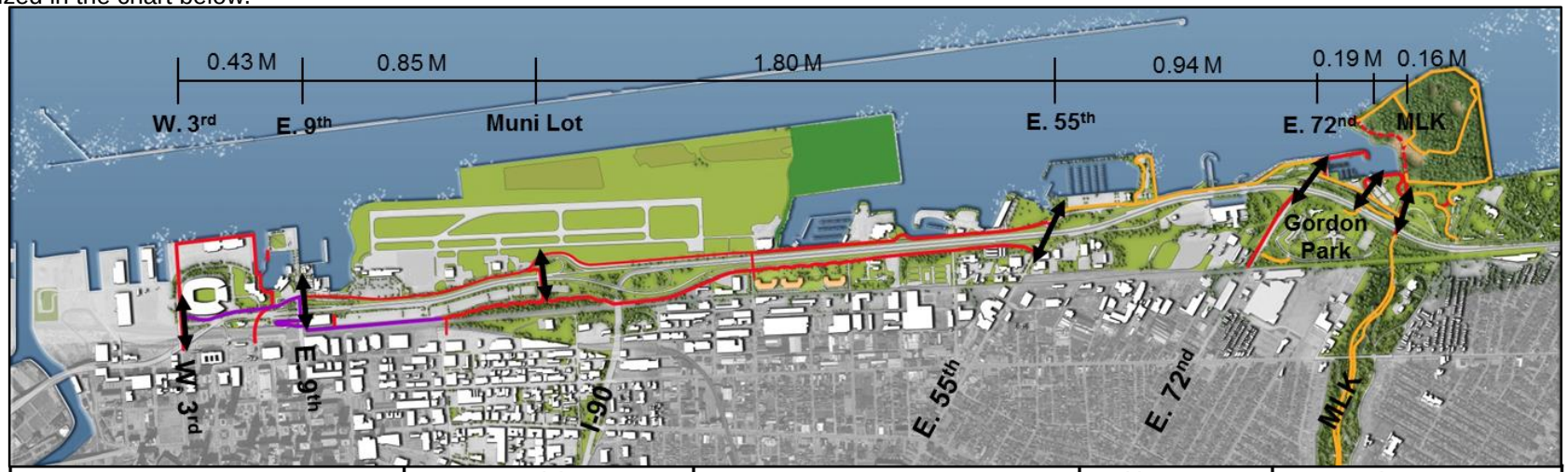


Top: Proposed short-term improvement for the MLK Drive interchange, from the ODOT August 2015 Safety Study. Bottom: Proposed long-term improvement from the ODOT Safety Study. Consistent with the Lakefront Greenway study, vacation of Lakeshore Boulevard and creation of a roundabout is proposed.

Top and bottom: Improvements to the trail system between East 72nd Street and MLK Drive are proposed, along with better connections to the Lakefront Nature Preserve. As discussed above, roundabouts are proposed for East 72nd Street and MLK Drive. The reconfiguration of the roadway system in this area will benefit motorists, bicyclists and pedestrians alike.

EXISTING CONNECTIONS

The seven existing pedestrian connections to the lakefront, and the distance between each, are indicated in the accompanying graphic. In order to determine which crossings to study, and to identify the most feasible improvements to existing connections, each crossing was evaluated in four different categories, as summarized in the chart below.



	Mobility			Property Impacts				Public Comment		Implementation		
	Improves Pedestrian Mobility	Improves Vehicular Mobility	Improves Lakefront Access	Institutional/ Business	Burke Lakefront Airport	ODOT	Freight Rail	Project Stakeholders	General Public	Environmental Impacts	Costs	Further Study?
Improvements to Existing Crossings												
West 3rd Street	Minor/No Change or Impact	Minor/No Change or Impact	Minor/No Change or Impact	Low Impacts	Low Impacts	Moderate Impacts	Low Impacts	Favorable	Moderate Impacts	Minor Impacts & Costs	Moderate Impacts & Costs	Minor Impacts & Costs
East 9th Street	Minor/No Change or Impact	Minor/No Change or Impact	Minor/No Change or Impact	High Impacts	Low Impacts	Moderate Impacts	High Impacts	Moderate Impacts	Unfavorable	Moderate Impacts & Costs	Major Impacts & Costs	Minor Impacts & Costs
Muni Lot Bridge	Positive Impacts	Positive Impacts	Positive Impacts	Low Impacts	Low Impacts	High Impacts	Low Impacts	Favorable	Favorable	Moderate Impacts & Costs	Moderate Impacts & Costs	Minor Impacts & Costs
East 55th Street	Positive Impacts	Positive Impacts	Positive Impacts	Low Impacts	Low Impacts	Moderate Impacts	Low Impacts	Favorable	Moderate Impacts	Moderate Impacts & Costs	Moderate Impacts & Costs	Minor Impacts & Costs
East 72nd Street	Minor/No Change or Impact	Minor/No Change or Impact	Minor/No Change or Impact	Low Impacts	Low Impacts	Moderate Impacts	Low Impacts	Favorable	Unfavorable	Moderate Impacts & Costs	Moderate Impacts & Costs	Minor Impacts & Costs
Gordon Park Pedestrian Bridge	Minor/No Change or Impact	N/A	Minor/No Change or Impact	Low Impacts	Low Impacts	Low Impacts	Low Impacts	Minor/No Change or Impact	Unfavorable	Low Impacts	Low Impacts	Low Impacts
MLK (Lake-to-Lakes Trail)	Positive Impacts	Minor/No Change or Impact	Positive Impacts	Low Impacts	Low Impacts	Low Impacts	Low Impacts	Favorable	Favorable	Low Impacts	Low Impacts	Low Impacts
	Positive Impacts Minor/No Change or Impact Negative Change or Impact			Low Impacts Moderate Impacts High Impacts				Favorable Neutral Unfavorable		Minor Impacts & Costs Moderate Impacts & Costs Major Impacts & Costs		

The four areas of evaluation include:

Mobility. Improvements to the Muni Lot Bridge, East 55th Street Bridge, and MLK Boulevard Bridge were seen as having the most potential for enhancing pedestrian mobility.

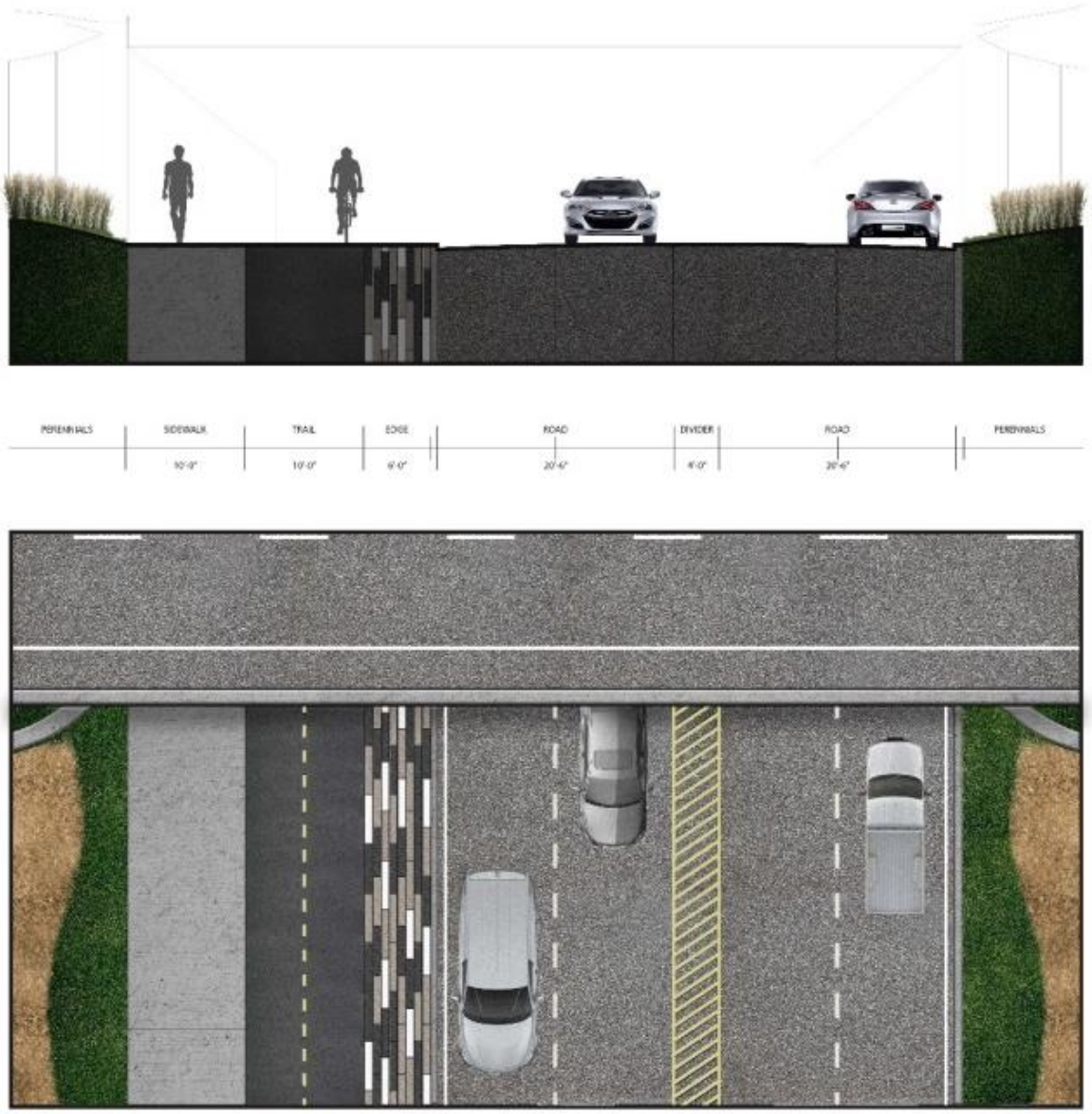
Property Impacts. With the one exception of the East 9th Street Bridge, improvements at the existing crossings could be made with relatively few impacts to adjacent properties.

Public Comment. Options for crossings were presented to the public at the first public meeting. Attendees selected the Muni Lot Bridge and MLK Boulevard as the first preferences for improvements. Attendees were neutral regarding the potential for improvements to West 3rd Street and East 55th Street.

Implementation. Environmental impacts would likely be relatively minor for improvements to connections at West 3rd Street, Gordon Park Bridge, and MLK Boulevard. Costs would be highest for improvements to the crossing at East 9th Street.

In summary, the analysis revealed that there are no significant impediments to making improvements at most of the existing connections to the lakefront. Improvements at East 9th Street would likely be the most costly, with the greatest impacts to existing properties.

Following are proposed concepts to improve conditions for pedestrian and/or bicyclists at existing connections.

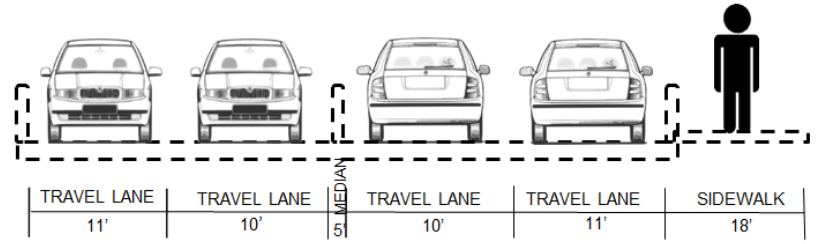


Proposed improvement at MLK Drive, discussed later in this section.

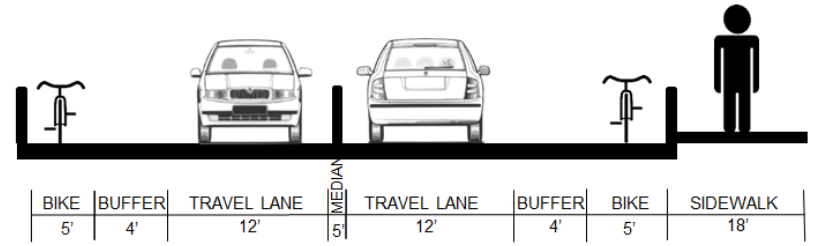
WEST 3RD STREET BRIDGE

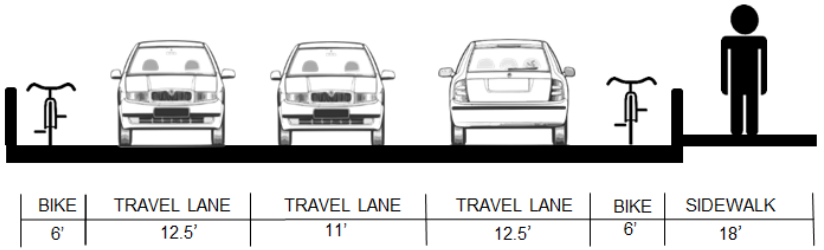
Conditions for bicyclists on the West 3rd Street Bridge are uncomfortable, due to 10 to 11 foot travel lanes, as indicated in the top cross-section drawing. The sidewalk is relatively wide, at 18 feet. Some bicyclists choose to ride on the sidewalk currently, but given the difference between on-road and recreational users, it would be desirable to provide bicyclists with a dedicated facility rather than mingling the two modes.

On the right are two examples of concepts that would improve bicycling conditions. West 3rd Street could be reconfigured with one travel lane in each direction, instead of the two lanes in each direction on the existing bridge. Under this scenario, a buffered bike lane could be installed for both directions. Alternatively, as shown in the bottom cross-section, bike lanes could be installed without a buffer. This would provide space for two southbound travel lanes, which would facilitate egress from Cleveland Browns Stadium as well as traffic exiting westbound along SR 2. Under this scenario, the median barrier would need to be removed.



Existing





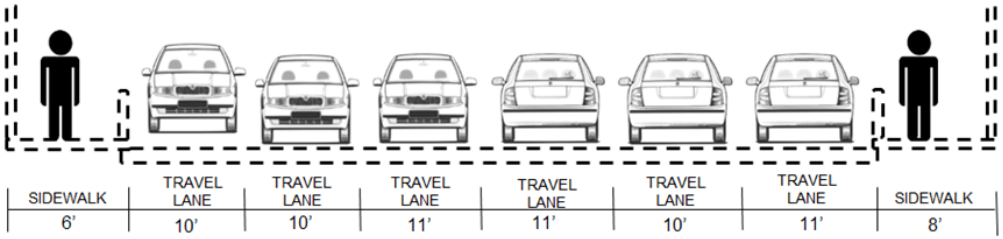
Proposed

EAST 9TH STREET BRIDGE

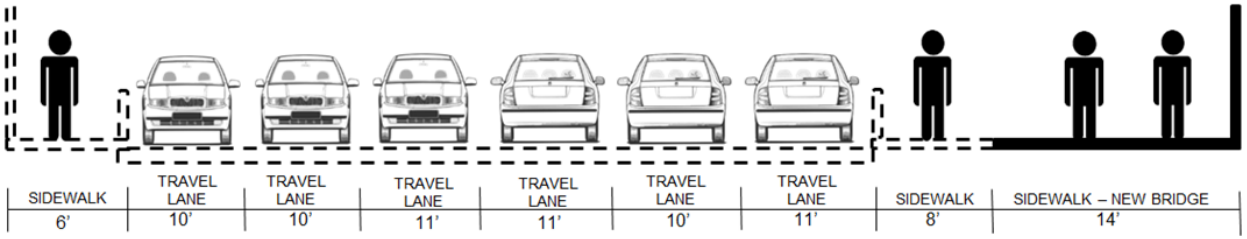
With high traffic volumes and six travel lanes from 10 to 11 feet in width, as indicated in the top cross-section drawing, conditions on East 9th Street are uncomfortable for bicyclists. The sidewalks on the bridge, at 6 to 8 feet, are narrower than on adjacent sections to the north and south. However, given the high traffic volumes on the East 9th Street Bridge, consideration for converting travel lanes to bicycle or pedestrian facilities would need to be further studied and is beyond the scope of this study.

A potential concept, which would leave all travel lane in place, would be install a new, 14-foot wide pedestrian structure immediately west of the existing structure. The sidewalk on the west side of the existing bridge could be combined with the new structure, providing a 22 foot wide sidewalk. It may be possible to stripe a dedicated area for bicyclists under this scenario. The west side of the structure is shown on the typical sections to the right and was chosen to align with the previously widened structure over the railroad to the south. Depending on the location of the proposed intermodal center the location of the proposed bridge could be shifted to the east side of the existing structure to provide more direct access to the intermodal center. This would also facilitate a more direct greenway loop between North and South Marginal Roads.

Existing



Proposed



MUNI LOT BRIDGE

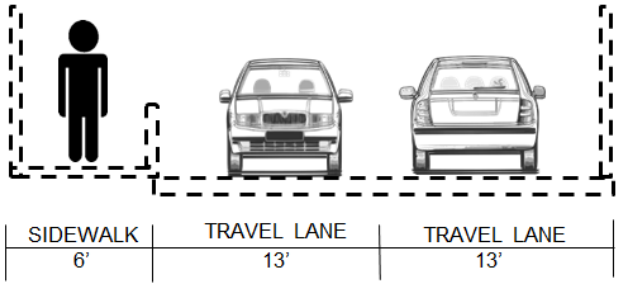
The Muni Lot Bridge roadway is comprised of two 13-foot travel lanes and one 6-foot sidewalk, as indicated in the top cross-section drawing. To better accommodate bicyclists and pedestrians, it is proposed to widen the existing structure. The abutments, piers and deck would be widened 17 feet to the east under this scenario, and the entire deck replaced.

Under this widening scenario, two 6-foot bike lanes could be installed along with two 11-foot travel lanes. A new 10-foot sidewalk would be installed on the east side of the bridge. The improvements are summarized in the bottom cross-section drawing.

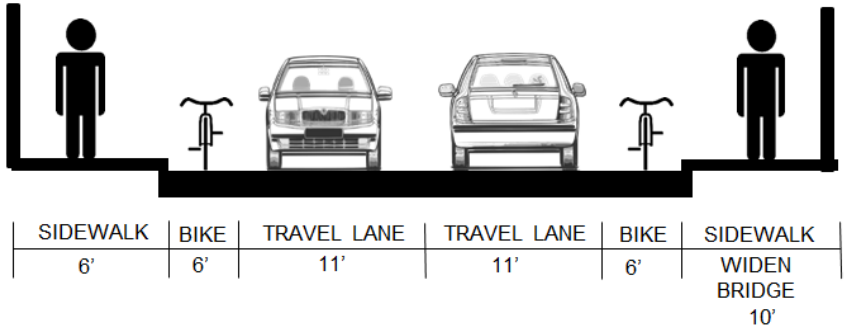
Given the significant distance to pedestrian and bicycle access points to North Marginal Road in either direction, a retrofit of this bridge would be a meaningful advance for pedestrian and bicycle mobility on the corridor.

Additionally, pedestrian and bicycle volumes are expected to increase on the Muni Lot Bridge once the proposed East 18th Street crossing is constructed. It is anticipate that pedestrians and bicyclists will use the East 18th Street crossing to access South Marginal and then the Muni Lot crossing to access North Marginal. In the event that the East 18th crossing is constructed and the Muni Lot structure is not widened, additional signing and markings would be warranted on the Muni Lot Bridge to facilitate this crossing.

Existing



Proposed



EAST 55TH STREET BRIDGE

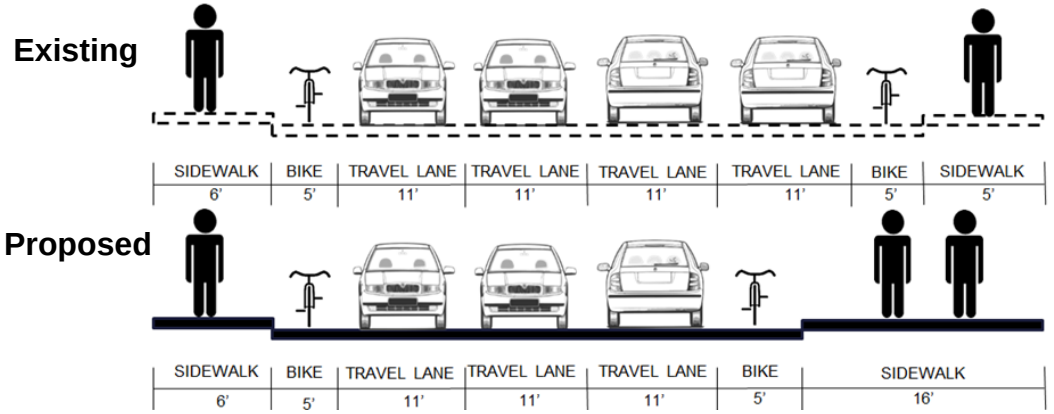
The existing East 55th Street Bridge presents an uncomfortable environment for pedestrians, due to their close proximity to passing traffic. The existing roadway is illustrated in the top cross—section drawing. Since four travel lanes are not required to accommodate the traffic volumes on this bridge, it is proposed to reconfigure East 55th Street in this section as a three-lane roadway. This "road diet" will have minimal effects on traffic delays.

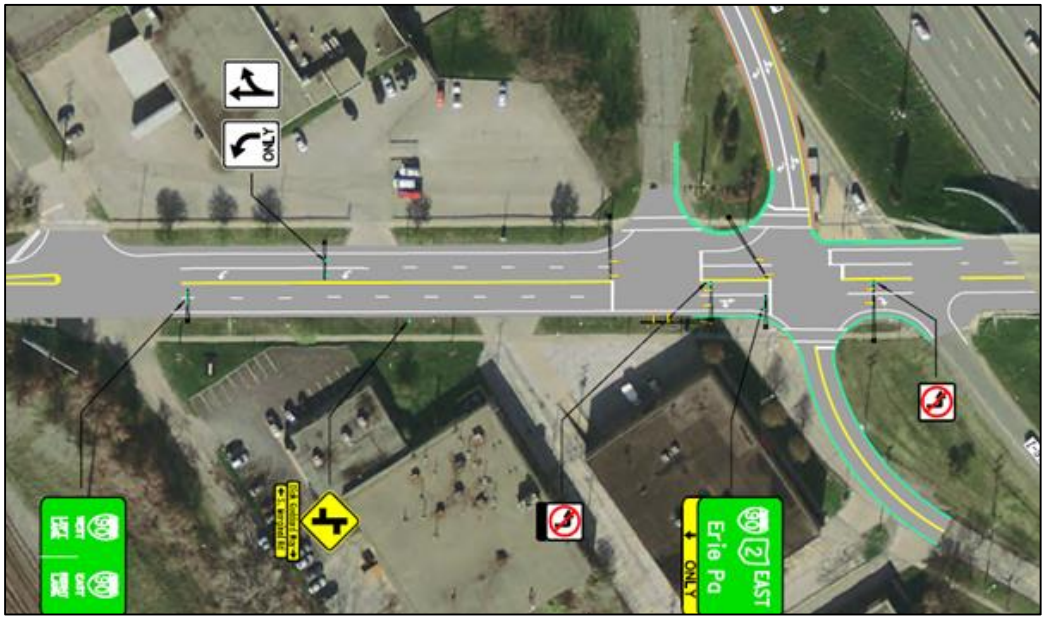
The proposed roadway is illustrated in the bottom cross-section drawing. Instead of the 6-foot sidewalk, a 16-foot sidewalk would be installed on the east side of the bridge, by converting a northbound travel lane into a widened sidewalk. Only minimal approach lane use configurations would need to be adjusted to reclaim the travel lane.

Widening the walk on the west side of the bridge is also a possibility as the width of the existing bridge deck permits. The widened walk on the west side would also create a more user friendly loop system between the North and South Marginal Trails. However, if the west side of the bridge were chosen much of the southern portion of the interchange would require reconstruction to accommodate the roadway tapering associated with the new lane use.

This section of East 55th Street, north of Woodland Avenue, is included in preliminary concepts for the Cleveland Midway Bike Plan and will be further evaluated under the Cleveland Midway Cycle Track & Protected Bike Facilities TLCI that is currently underway.

The proposed reconfiguration of East 55th Street on the I-90 Bridge should be coordinated with the improvements recommended in the ODOT August 2015 Interstate 90 Safety Study. Illustrated on the right, that study recommends reconfiguration of East 55th Street from the bridge to the south, along with improvements to the eastbound on-ramp and off-ramps and signing improvements.

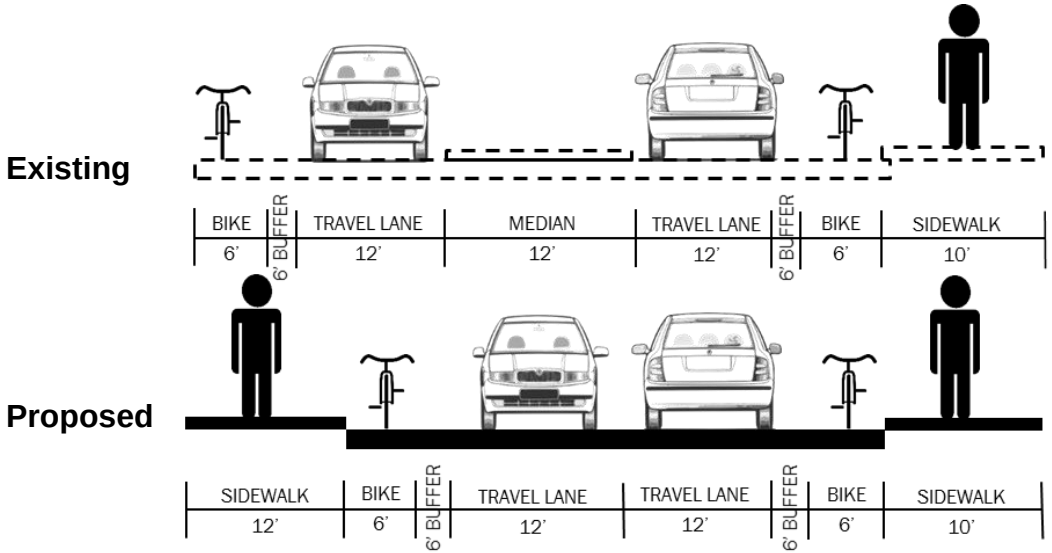




EAST 72ND STREET

East 72nd Street south of the I-90 bridge has buffered bike lanes, with a sidewalk on only the east side of the road. The bike lane on the east side of the road is dropped under the bridge, with sharrows installed to continue the bicycle facility to the Intercity Yacht Club.

The presence of a large concrete median on East 72nd Street offers the opportunity to reconfigure the roadway to make it more welcoming for bicyclists and pedestrians. The removal of the median allows for the addition of a sidewalk on the west side of East 72nd Street, as shown in the bottom cross-section drawing.



MARTIN LUTHER KING JR. DRIVE

Martin Luther King Jr. Drive is also the site of the Lake-to-Lakes Trail. The Trail ends south of the I-90 underpass. Conditions are unpleasant for pedestrians and bicyclists under this bridge, with no dedicated bicycle facility, and pedestrians in close proximity to traffic.

It is proposed to remove the existing concrete median on MLK Drive under the bridge, and to reconfigure the roadway to better accommodate pedestrians and bicyclists. Instead of a concrete median, a 4-foot striped median can serve to separate opposing traffic. A 10-foot sidewalk and 10-foot bicycle path on the west side of the Drive will more safely and comfortably serve pedestrians and bicyclists.

Decorative paving treatments are proposed for the buffer strip between the roadway and the bicycle path, and for the walls and ceiling of the underpass. Lights installed within these paving treatments will provide greater security for non-motorized users at night.

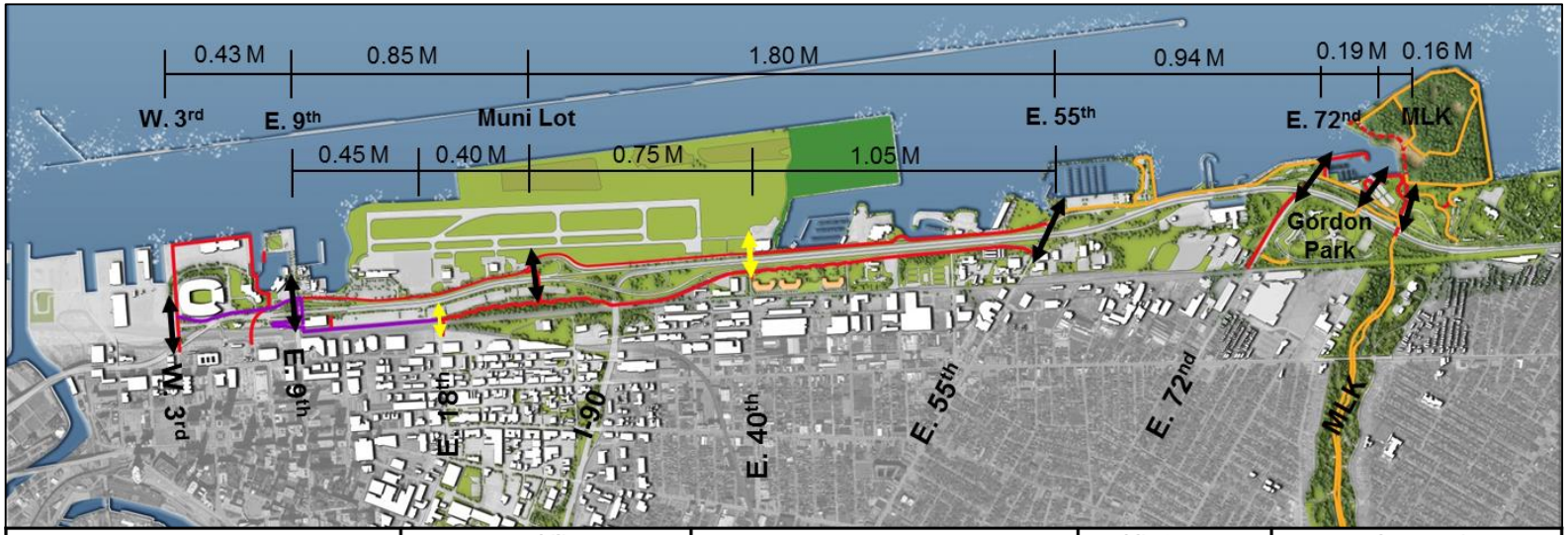
Existing

Proposed Treatment, Day

Proposed Treatment, Night

PROPOSED CROSSINGS

The need for new crossings to the lakefront was identified based on the distance between existing crossings. As indicating in the top diagram, the largest gap is between the Muni Lot Bridge and East 55th Street, at 1.8 miles. Major gaps are also present between East 9th Street and the Muni Lot Bridge, at .85 miles – and between East 55th Street and E. 72nd Street, at .94 miles. To improve access for residents of the near eastside neighborhoods and the Campus District, the study team identified potential crossings at four points: East 16th Street, East 18th Street, East 40th Street, and East 49th Street. The four crossings were evaluated based upon the analysis of the four categories listed in the chart below. Of these crossings, the study team identified two as preferable: East 18th Street and East 40th Street, with East 40th Street being the top priority. These locations are highlighted by the yellow arrows in the aerial.



	Mobility			Property Impacts				Public Comment		Implementation		
	Improves Pedestrian Mobility	Improves Vehicular Mobility	Improves Lakefront Access	Institutional/ Business	Burke Lakefront Airport	ODOT	Freight Rail	Project Stakeholders	General Public	Environmental Impacts	Costs	Further Study?
Proposed Crossings												
East 16th Street to N. Marginal / to S. Marginal	🟢🟡	N/A	🟡🟡	🔴🔴	🔴🟢	🟡🟢	🔴🔴	🔴🟡	🟡🟡	🟡🟡	🔴🟢	🔴🔴
East 18th Street to N. Marginal / to S. Marginal	🟢🟡	N/A	🟡🟡	🔴🔴	🔴🟢	🟡🟢	🔴🔴	🔴🟢	🟡🟡	🟡🟡	🔴🟢	🔴🟢
East 40th Street	🟢	N/A	🟢	🟡	🔴	🟡	🟢	🟢	🟢	🟡	🟢	🟢
East 49th Street	🟡	N/A	🟢	🔴	🟢	🟡	🟢	🔴	🔴	🟢	🟢	🔴
	🟢 Positive Impacts 🟡 Minor/No Change or Impact 🔴 Negative Change or Impact			🟢 Low Impacts 🟡 Moderate Impacts 🔴 High Impacts				🟢 Favorable 🟡 Neutral 🔴 Unfavorable		🟢 Minor Impacts & Costs 🟡 Moderate Impacts & Costs 🔴 Major Impacts & Costs		

Two new pedestrian bridges are proposed to facilitate access to the lakefront.

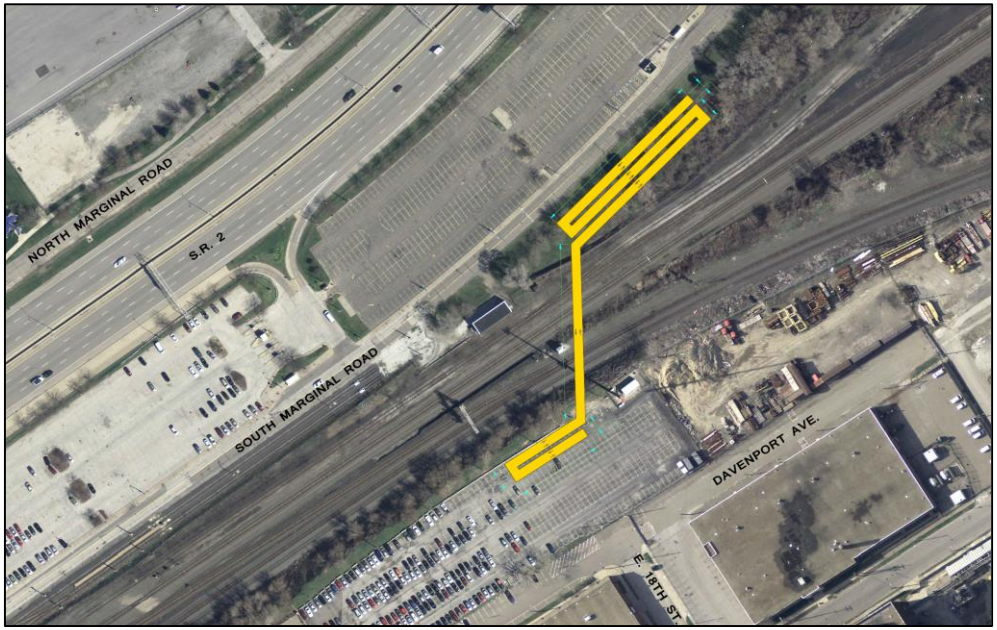
EAST 18TH STREET BRIDGE

The proposed East 18th Street Bridge has its southern terminus in a parking lot at the intersection of 18th Street and Davenport Avenue. East 18th Street, a higher-order roadway south of St. Clair Avenue, provides a desired connection to the Campus District. North of the span over the railroad tracks, the ramp descends in a series of switchbacks to street level at South Marginal Road. The switchbacks are necessary to meet ADA standards. From this point, pedestrians and bicyclists can use the proposed South Marginal trail to access the Muni Lot Bridge, approximately 1/3 mile to the east. A vertical clearance of 24 feet over the railroad tracks is provided.

EAST 40TH STREET BRIDGE

Starting at the intersection of East 40th Street and South Marginal Road, the ramp for the proposed bridge rises to the east. The span crosses the Shoreway just east of the vacant Aviation High School. Due to the constrained landing area, the ramp on the north side would likely be installed between the Shoreway and North Marginal Road. A vertical clearance of 17.5 feet over the Shoreway is provided. From the perspective of access to near eastside neighborhoods, this is the most strategic location for a bridge, interrupting the 1.8 mile gap for lakeside crossings, between the Muni Lot Bridge and East 55th Street.

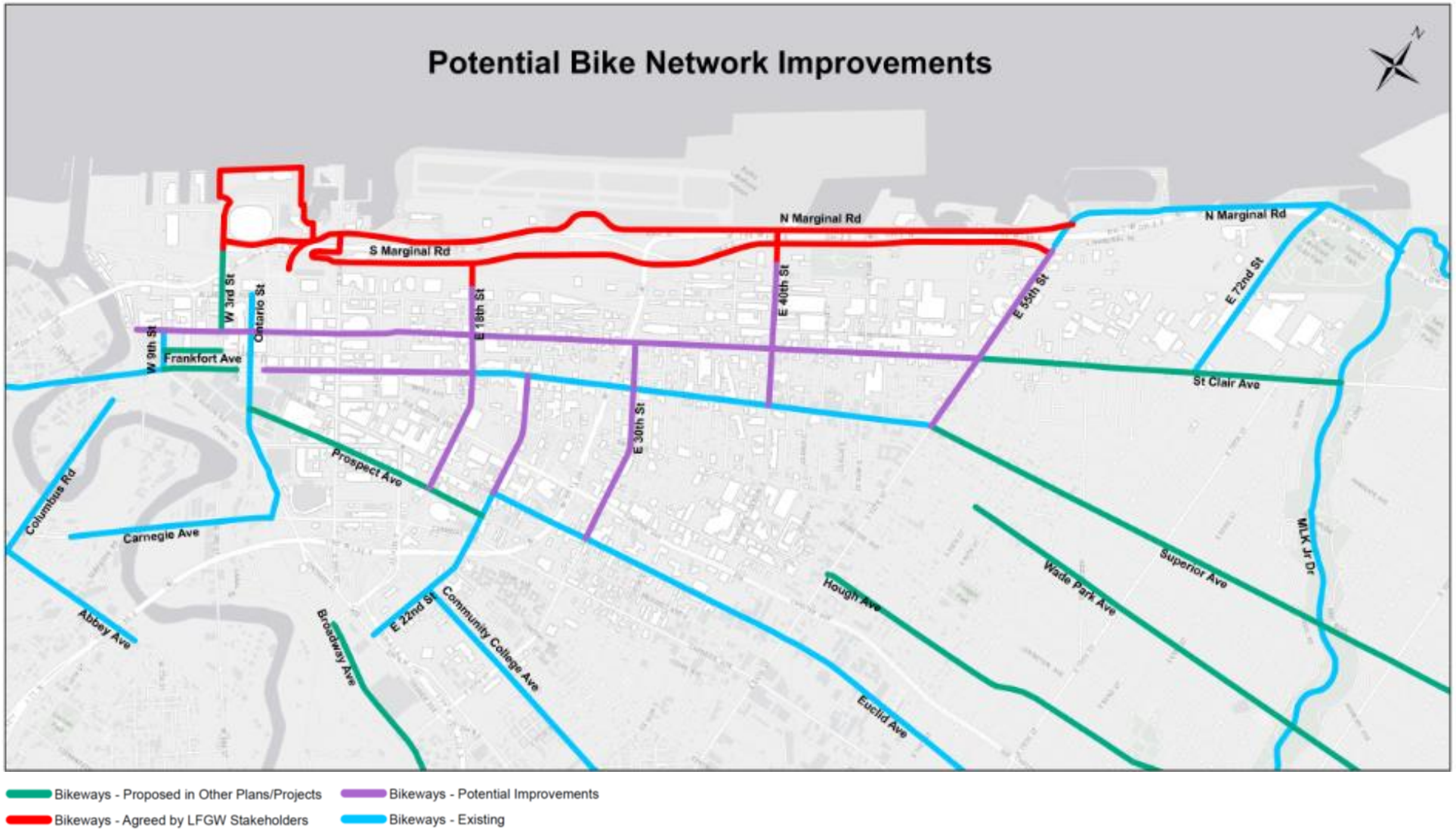
East 18th Street Crossing



East 40th Street Crossing

BICYCLE NETWORK

Along with improvements and connections to the Marginal Road corridor, the study team prepared a recommended bicycle network plan for the study area. The network is intended to tie together the downtown, Marginal Road corridor, Campus District, and near eastside neighborhoods. The goal is to facilitate both recreational and utilitarian bicycling. The proposed bicycle network is illustrated in the accompanying figure; as indicated, network segments fall into one of four categories.



Existing Facilities

Steady progress has been made in expanding the regional bike network. Within the study area, noteworthy improvements include a bike lane – mostly protected – on East 72nd Street between St. Clair Avenue and the Shoreway. Bike lanes also exist on Superior Avenue between East 18th and East 55th Streets. Bike compatible shoulders are present on Martin Luther King Drive. Other facilities include:

- Ontario Street – sharrows
- Euclid Avenue – bike lanes east of East 22nd Street
- West 9th Street – sharrows
- Superior Avenue west of West 9th Street – bike lanes

Facilities are also present on Carnegie Avenue, Columbus Road, and Abbey Avenue.

Agreed by LFGW Stakeholders

As part of this study, project stakeholders agreed upon improvements to the Marginal Road corridor. Those are discussed at length in this report.

Proposed in Other Plans/Projects

A number of improvements have been proposed by other parties. One of the higher profile recommendations is the "Midway Cycle Track" proposed for St. Clair Avenue between East 55th Street and Martin Luther King Drive. The Canal Basin District Plan proposed bike lanes for Frankfort Avenue.

The Office of Sustainability Bikeway Plan has recommended bikeway improvements to:

- West 3rd Street
- Superior Avenue between West 9th Street and Ontario Street
- Superior Avenue east of East 55th Street. Given the existing ADT of 11,000 to 13,000, traffic volumes could easily be accommodated in a three-lane cross-section. There is potential to install bike lanes, particularly if on-street parking can be restricted to one side of the street.
- Prospect Avenue between Ontario Street and East 22nd Street.

The map shows other roads proposed by the Office of Sustainability for improvements. The Office indicates that these roadways will be prioritized based on network functionality.

Potential Improvements

Superior Avenue

Public Square to East 18th Street – this section has bus lanes, which are intended to serve as a de facto bike lane. Given the wide roadway width (77 feet), and traffic volumes of 8,000 to 14,000 per day in this section, various roadway reconfiguration options may be considered for installing bicycle facilities. For example, existing travel lanes could be reduced in width in order to create shared bus/ bike lanes of 16 feet in width, or the number of travel lanes could be reduced from four to three in a "road diet" in order to create dedicated bike lanes.

St. Clair Avenue

- West 10th Street to West 3rd Street – Given the 58 to 60 foot cartway and moderate traffic volumes, bike facilities may be installed via a three-lane road diet, or by restricting parking to one side of the street.
- West 3rd Street to East 13th Street – If the outside lanes continue to be designated bus only for peak hours, it will be difficult to install bike facilities. Given the 56 to 60 foot cartway and moderate traffic volumes, the potential exists for creating bike facilities under other roadway reconfiguration scenarios.
- East 13th Street to East 55th Street – With a 60 foot cartway, this four-lane roadway could be placed on a road diet to offer three travel lanes, bike lanes, and parking. Off-street parking is generally available, so restricting parking to only one side of the street is also a possibility.

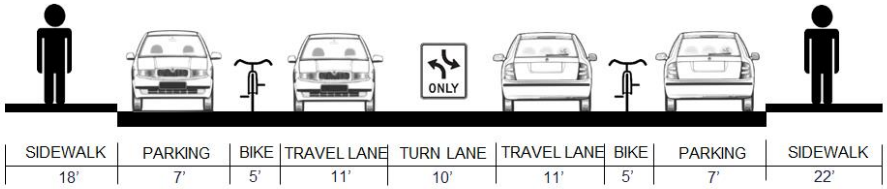
East 55th Street

With average daily traffic volumes between 15,000 and 17,000, a three-lane road diet and bike lanes should be considered for this roadway. East 55th Street is narrowed down to only a two-lane cross-section at the railroad overpass, without significant associated delays, indicating that a three-lane cross-section should suffice in accommodating existing traffic volumes.

East 40th Street

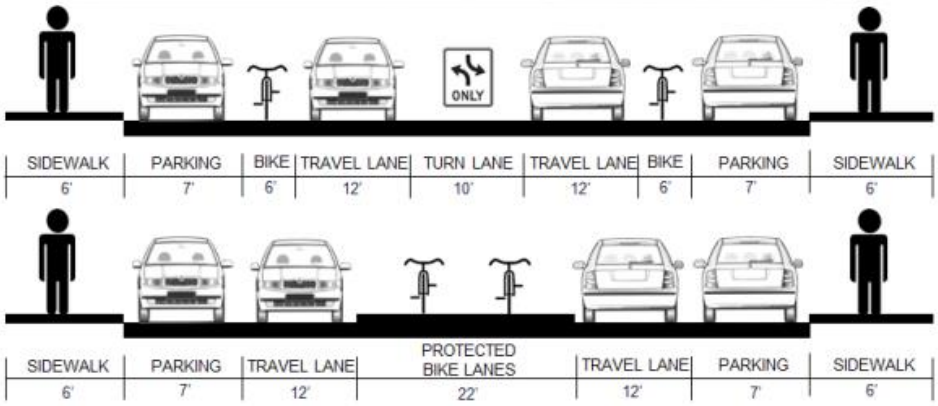
With a 36 foot width, bike lanes could be striped on this roadway if parking is restricted. Given the existing low traffic volumes, this roadway is compatible for bicycle travel in any case even if the roadway cannot be restriped.

St. Clair Avenue at West 3rd Street

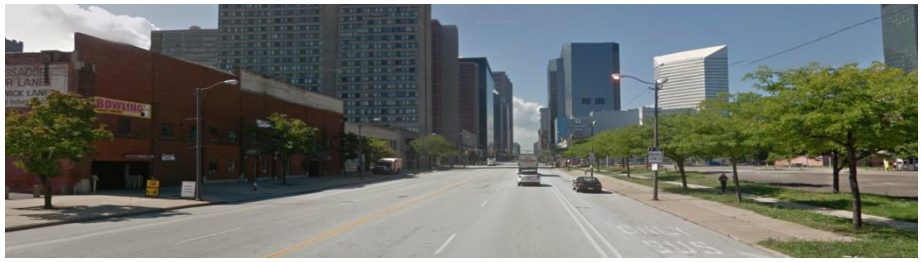


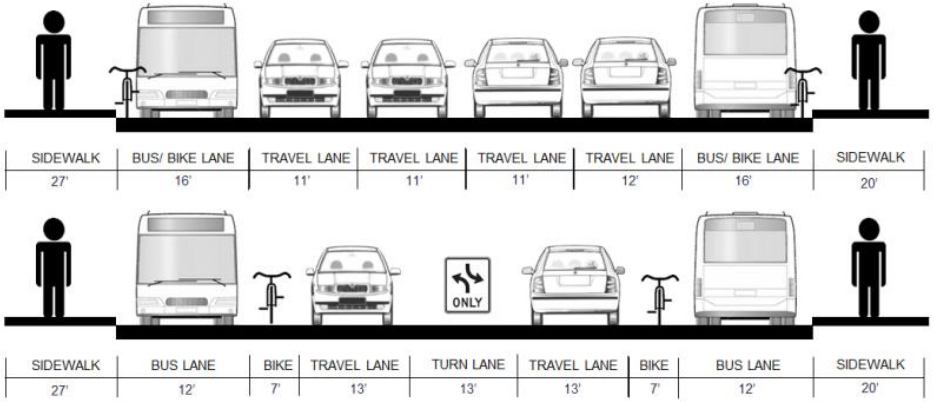
This page provides three examples of how major east-west roadways in the study area may be reconfigured to better accommodate bicyclists. St. Clair Avenue west of East 13th Street varies from 56 to 60 feet; in the narrower sections, it will be necessary to provide cross-section elements with minimum dimensions, or to remove on-street parking from at least one side in order to increase the width of bike lanes and travel lanes. On St. Clair Avenue at West 3rd Street, the cross-section shows 11 foot travel lanes, 5 foot bike lanes, and 7 foot parking lanes. East of East 13th Street, a consistent 60 foot width of St. Clair Avenue provides more space for cross-section elements. On Superior Avenue, with its 77-foot cross-section, either a shared bus/bike lane or individual bike lanes are possibilities.

St. Clair Avenue at East 42nd Street



Superior Avenue at East 18th Street





CAMPUS DISTRICT CONNECTIVITY

Bicycle network improvements are proposed to build upon the new bike lanes under construction now along East 22nd Street, which are expected to be completed by June 2016. Shared lane markings are proposed for key streets in the Campus District, including East 30th Street, East 18th Street, East 24th Street, East 22nd Street north of Chester Avenue, and Prospect Avenue. These pavement markings have been shown to encourage bicyclists to ride in a safer manner, and to make motorists more aware of the presence of bicyclists. It may be feasible to install bike lanes on some of these streets; for example, bike lanes could be installed on East 18th Street if on-street parking were restricted. Prior to any installation of new shared lane markings or bike lane markings further analysis should be done regarding on street parking restrictions, signing, intersection capacity and safety.

COST ESTIMATE

Order-of-magnitude cost estimates were prepared for the major capital improvements proposed in this report. It is likely that estimates will change as improvements are actually designed, and engineers are able to specify quantities with greater precision. The plan does not take into account changes or escalation factors in the costs of labor, materials, or equipment. The provided cost estimate does not include right of way, or construction engineering and inspection costs. A general attempt was made to anticipate potential impacts of known and seen utilities, primarily power and traffic poles and fire hydrants. Although these estimates are order-of-magnitude, these will serve as a useful planning tool in moving the proposed improvements forward through subsequent phases. A summary of costs is shown in the accompanying table; more detailed estimates are provided in Technical Appendix A.

Improvement	Probable Costs
Bridges	
West 3rd Street Median Removal	$67,000
East 9th Street Pedestrian Structure	$1,200,000
Muni Lot Bridge Widening	$1,745,000
East 55th Street Reconfiguration	$726,700
East 40th Street Bridge	$4,520,000
East 18th Street Bridge	$5,307,000
Trail Segments	
North Marginal Road Trail	$5,598,482
South Marginal Road Trail, Off-Road	$2,503,359
South Marginal Road Trail, On-Road	$252,387
Erieside Avenue/Lerner Way	$439,964
North Coast Harbor Trail	$973,344
Parking Garage Path	$122,988
East 72nd Street Path	$143,819
MLK Drive Path	$280,505
Lakefront Nature Preserve Trail Segments	$397,768
Intercity Yacht Club	$245,939

FUNDING SOURCES

Following is a brief summary of potential funding sources.

FHWA

Funding under some FHWA programs are at the discretion of ODOT and/or NOACA (Northeast Ohio Areawide Coordinating Agency (NOACA), the region's Metropolitan Planning Organization (MPO). Others require direct application to USDOT or its divisions.

- Surface Transportation Program (STP) – Provides flexible funding that states and localities may use for non-motorized transportation. The flexible nature of this program focuses direct funding to priority areas and areas of greatest need. Eligible projects include bicycle lanes on roadways, paved Shoulders, signed bike routes, and shared use paths. Administered by ODOT and NOACA.
- Congestion Mitigation and Air Quality Improvement Program (CMAQ) – Provides a flexible funding source to State and local governments for transportation projects and programs designed to help States meet the requirements of the Clean Air Act. Eligible projects include bicycle lanes on roadways, signed bike routes, shared use path, and trail/highway intersections. Administered by ODOT and NOACA.
- Transportation Alternatives (TA) – Funds alternative transportation programs and projects, which are not related to roadway capacity. These include pedestrian and bicycle facilities, community improvement activities, and recreational trail projects, among others. Administered by ODOT and NOACA.
- Transportation Investment Generating Economic Recovery (TIGER) Grants – Provides funding for transportation projects that promise to help achieve critical national objectives, such as improving community livability and sustainability. TIGER grants generally require "project readiness," including completion of environmental documentation and design, prior to application to ensure that funding is used expeditiously. The TIGER program is generally highly over-subscribed, with requests far exceeding the available funding, which comprised $600 million nationally in 2014.

Ohio

- Recreational Trails Program – Funded by ODNR, this can be used for urban trail linkages. This can be used as a local match for TA, SRTS, STP and CMAQ programs.
- County and Municipal Bridge Program – Issued by the County Engineers Association and ODOT, this program funds bike and pedestrian facilities that are appurtenances to the bridge project itself.
- State Capital Improvement Program and Local Transportation Improvement Programs – Administered by the Ohio Public Works Commission, these programs fund bike and pedestrian facilities that are appurtenances to the roadway project itself.

IMPLEMENTATION

A well-organized implementation plan will be needed to follow through on the various physical improvements proposed in this study. It is recommended that a Plan Implementation Committee be formed in order to shepherd the improvements to completion. This Committee can be largely comprised of members of the study Steering Committee.

A key task of the Implementation Committee will be to determine a Phasing Plan. Phasing priorities should be based on the following attributes:

- **Cost**. Lower-cost items should be implemented first, simply because it typically takes a longer period of time to design, and assemble and process the funding required for more expensive projects.

- **Ease of Implementation**. Less-complex projects should be implemented first. This helps to create momentum, and therefore a constituency, for implementing the more complex projects. Additionally, it is often a good idea to dovetail improvements, where possible, with other projects if this will result in lower costs. Perhaps the best example would be roadway re-striping improvements for the purpose of installing bike lanes, such as those discussed in the Bicycle Network section. It is less costly, and therefore more feasible, to make these improvements if they can be packaged together with scheduled roadway resurfacing projects.

- **Importance of Implementation**. The Implementation Committee should evaluate the benefit of each project in facilitating bicycle and pedestrian mobility within the study area. Other potential benefits, such as helping to revitalize neighborhoods or commercial districts, should also be taken into consideration. Assessing the importance of a particular project can serve as a counter-weight to projects assessed on the basis of cost and ease of implementation alone, since the most costly projects can sometimes also yield the greatest benefits.

Appendix A

Public Involvement

Project:	Lakefront Greenway and Downtown Connector Study	**Date:**	9 A.M., October 27, 2014
Place:	St. Clair Superior CDC Office	**Prepared by:**	Dan Kueper

Purpose: Steering Committee #1 Meeting

Attending:

Name	Organization	Email	Phone
James Amendola	St Clair Superior CDC	jamendola@stclairsuperior.org	216-881-0644 x109
Michael Fleming	St Clair Superior CDC	mfleming@stclairsuperior.org	216-881-0644 x103
Bobbi Reichtell	Campus District, Inc.	breichtell@campusdistrict.org	216-650-6945
Tom Starinsky	Historic Warehouse Neighborhood Corporation	tstarinsky@historicgateway.org	216-771-8088
Radhika Reddy	Ariel Ventures/International	rr@arielventures.com	216-577-2420
Michelle Harvanek	Cleveland City Sustainability	mharvanek@city.cleveland.oh.us	216-664-2405
Linda Sternheimer	Cleveland Cuyahoga County Port Authority	Linda.sternheimer@portofcleveland.com	216-377-1348
Kelly Coffman	Cleveland Metro Parks	kbc@clevelandmetroparks.com	216.351.6300 x3295
Sara Maier	Cleveland Metro Parks	sbm@clevelandmetroparks.com	216-635-3289
Amy Snell	GCRTA	asnell@gcrta.org	216-771-4144
Ryan Noles	NOACA	rnoles@mpo.noaca.org	216-241-2414 ext. 273
April Bleakney	Resident - Campus District	apemadeohio@gmail.com	330-212-0124
Rachel DuFresne	Resident - Campus District	earthphilosophy@hotmail.com	216-344-9488
Jim Kastelic	Trust for Public Lands	Jim.kastelic@tpl.org	216-928-7518 x107
Larry Orlowski	Yacht Club - Lakeside	larryo@lakesideyachtclub.com	216-409-4323
Barb Clint	YMCA	bclint@clevelandymca.org	216-385-5114
Nancy Lyon-Stadler	Michael Baker Jr., Inc.	nlyonstadler@mbakerintl.com	216-776-6814
Daniel Kueper	Michael Baker Jr., Inc.	dkueper@mbakerintl.com	908-421-0959
Michelle Johnson	Environmental Design Group	MJohnson@ENVDESIGNGROUP.COM	330-375-1390
Jeff Kerr	Environmental Design Group	jkerr@envdesigngroup.com	330-375-1390

Meeting Summary

The purpose of the meeting was to introduce the project to the Steering Committee, provide an initial assessment of existing conditions in the study area, and seek input from Steering Committee members on opportunities.

Michael Fleming began the meeting by welcoming attendees, following by introductions of all attendees. A presentation on the project was given by Nancy Lyon Stadler, Dan Kueper, and Michelle Johnson. The purpose of the project is focused on three components: 1) Create a linear park along North and South Marginal Roads to facilitate travel by bicyclists and pedestrians, 2) Strengthen the connection between the lakefront, downtown, and the near eastside neighborhoods, and 3) Enhance east-west connectivity within the study area for bicycle and pedestrian travel. The presentation summarized:

- Recent planning studies and development projects in the study area
- Traffic conditions on E. 55th Street at North Marginal Road and South Marginal Road;
- Conditions along North Marginal Road and other key study area roadways;
- Land use and population in the study area; and,
- Constraints and opportunities for improvements.

Following is a summary of the discussion during and after the presentation:

- It was queried if the Muni Lots Bridge could be used to better accommodate pedestrians and bicyclists as part of this study. Nancy Lyon Stadler indicated that the bridge may have potential, and bike/ped access can be independent from vehicular access, specifically given the controlled vehicular access on the north side of the bridge.

- Bobbi Reichtell asked if in addition to the population data, employment data could be provided by census tract. Michelle Johnson said that employment data could be provided only for larger groups.

- Radhika Reddy said that Ariel International Center would like to see the closed Aviation High School re-opened as the Davis High School. It would be desirable to install a pedestrian bridge along E. 40th Street, connecting the neighborhood south of SR-2 to the school and North Marginal Road.

- Linda Sternheimer asked if there was a standard definition of access to the lakefront as part of this study. Does it consist of being able to touch the lake, be adjacent to the lake, or a viewshed? Michelle Johnson said that would need to be determined, but all of those components are important and will be considered. Group consensus: There is appeal along the lakefront, whether it is touching the water or watching airplanes at Burke.

- Metroparks is discussing its draft plan for lakefront access with its board, and will hold a public meeting on the plan in four to six weeks. There should be a graphic that shows the lakefront from downtown through the Cleveland Lakefront Nature Preserve, identifying all parks and greenspaces.

- Barb Clint suggested a possible opportunity on the north side of the Burke Airport - a path along the edge of the CDF (confined disposal facility). Bobbi Reichtell felt that public access in this area should be shown on the long term plan. Linda Sternheimer said that the CDF's are still active, but will eventually be completed. It would be ideal to have a nature preserve there in the future. Nancy noted there may be airfield clearance issues that could constrain access to this land.

- Linda Sternheimer said that the Coast Guard should be included in the planning process.

- It was queried how much a new pedestrian bridge would cost. Nancy Lyon Stadler said that this information could be provided by Baker. Upon checking with Baker structural engineers, it would cost approximately $2.5-$3 million to construct an estimated 600 ft bridge.

- Michael Fleming said that there was a small beach immediately west of the Lakeside Yacht Club. It is apparently public land but not accessible to the public. Larry added that this area was formerly used by the Cleveland Police Department but it is no longer active as police docks. He also said that Cleveland Public Power (CPP) has a small public park area. Linda said that a water movement study was conducted and that particular area is a bit of a dead zone, but it needs additional study. She also said that the CDFs will be completed soon, but the Port of Cleveland and the US Army Corps of Engineers have differing views on the timing of when the CDFs will be full.

- Michael Fleming said that the First Energy site, a coal-fired pland, was supposed to be closed . Its redevelopment potential could mean an enormous addition to the resources along the development. There is an intake of water under the Shoreway near that site. Nancy added that the water rights that are included with that site are no longer granted for new sites. As such, there is value associated with the First Energy site and it is likely that future redevelopment of the site would capitalize on access to the water intake. First Energy should be engaged to find out the status of the facility and its redevelopment potential.

- Linda suggested the opportunity for implementation of a shared street concept on North Marginal Road (likely east of Burke access), and South Marginal Road.

- Tom Starinsky said that if North Marginal Road is made one-way to facilitate a bike facility, there would need to be special event planning to permit two-way operations as needed, particularly for egress from events at Burke.

- Michelle noted that the City is requiring a 20 ft promenade for bicycle and pedestrian use for new development along the lakefront.

- Upon discussion of where to create access from the neighborhood to the anticipated linear park, the group identified the area between E.18th and E.22nd Streets, notably to serve CSU. According to Jim Kastelic, the CSU and Campus District plans include E.18th St as a corridor to connect to the lakefront. Rachel DuFresne said that CSU students occasionally walk into the parking lot of an EMS facility in the 2200 block of Superior Avenue in an effort to see the lakefront. Bobbi Reichtell said that CSU coordinated with the Campus District on its recent TLCI study, and that 18th Street was identified as a means of access to the lakefront.

- Jim Kastelic said that the Trust for Public Lands is attempting to connect the towpath to the lakefront (Lake-Link Trail to Wendy Park and Edgewater Park). TPL is in the process of updating the downtown connectivity plan, looking at something like the Indianapolis Cultural Trail that would infiltrate and provide connectivity throughout downtown Cleveland. He noted that some roads should be placed on a road diet.

- Barb Clint said that a segment of North Marginal Road (at the pinch point) would benefit from a green “art fence” as a buffer between a shared use path along North Marginal Road and the Shoreway.

However, people on the path should not feel isolated or completely blocked from view. She said that Lean Dog had indicated the possibility of a gondola connection by the lakefront and this might be an optimal location and use for a gondola across SR-2.

- Radhika Reddy said that it would be desirable to provide RTA service along South Marginal Road. Employees at the ALCOA plant at 3960 S. Marginal Road complain about lack of good transit access; employees are required to walk from the plant to South Marginal Road.

- Upon discussing the potential vision for this project, the Steering Committee agreed that this is an opportunity to "go big", identifying big, transformational ideas and concepts with a phased implementation plan so that the big vision could be achieved in steps, given anticipated funding constraints.

- Bobbi Reichtell said that the "big vision" for the plan should be the eventual closure of Burke Airport, and development of the land for a park or other public area. Linda Sternheimer said that the Cleveland Clinic would likely state that the airport was vital to its transplant operations. With subsequent discussion, the group consensus was that if the plan highlights the closure of Burke Airport, the rest of the plan may not gain traction with the City. Michael Fleming said that the Burke closure should not be assumed in the recommended design concepts. Tom Starinsky said that he agreed that the closure of Burke should not be assumed; the infrastructure recommended in the plan should be shown regardless of the status of the airport. Tom also noted that the future of Burke was not the reason behind this project. He also stated that there will be tremendous value associated with the plan that this project will develop, with or without redevelopment of Burke. It is important to keep that in mind with plan development, and not make it easy to throw stones at, or disregard the plan, because of the controversial subject of Burke. Nancy Lyon Stadler said that the plan could show the airport as continuing to exist, but that it should indicate that the land would provide a great opportunity for public space if the airport ever did close. Michael suggested including a question about Burke and the public's desire for that land a part of the polling process for the first public meeting.

- Linda noted that the Port is open to considering ways to connect the W.3rd Street neighborhood with the lakefront. She said that the Port has studied it and that the geography is challengeing with the change in grade. Homeland security issues are a consideration, but the Port would like to see bike/ped access to the lakefront.
-
- Barb noted that lighting must be addressed. The existing trail to the east of E.55th Street and the marina (where people fish) is not lit and there are dangerous sections of the trail where bollard bases are raised above the paved trail.

Next Steps

- Baker and EDG will prepare draft concepts and will present at the next Steering Committee meeting in January. The concepts will be developed during an internal team workshop. The specific meeting date and logistics will be determined, but the project sponsors expressed an interest in being involved.
- A public meeting will be scheduled in February to present existing conditions and draft concepts.

Action Items

- Engage Department of Port Control/Burke in the project and as a member of the Steering Committee. *(Baker + EDG will reach out to Ren Camacho)*
- Engage US Coast Guard in the project and as a member of the Steering Committee. *(St Clair Superior)*
- Engage First Energy to find out the status of the facility and its redevelopment potential. *(St Clair Superior)*
- Identify constraints associated with Burke. *(Baker to coordinate with Burke)*
- Provide updated census information for downtown area. *(Tom Starinsky)*
- Develop survey for Public Meeting #1. Include a query about Burke (per Michael's suggestion). *(Baker)*

Meeting Presentation:

Steering Committee #1
October 27, 2014

LAKEFRONT GREENWAY and DOWNTOWN CONNECTOR STUDY

Prepared for:
St. Clair Superior Development Corporation
Campus District, Inc.
Historic Gateway Neighborhood Corporation

Prepared by:
Michael Baker Jr., Inc.
Environmental Design Group

Agenda

- Introduction
- Project goal and objectives
- Study area
- Schedule
- Planning background
- Existing conditions
- Constraints
- Opportunities
- Discussion

Goal and Objectives

- *Goal:* Improve North and South Marginal Roads for travel by bicyclists and pedestrians; and strengthen the connection between the lakefront, downtown, and the near eastside neighborhoods.
- *Objectives:*
  - Establish a lakefront greenway, focusing on the North Marginal Road corridor with supplemental use of the South Marginal Road corridor.
  - Create north-south connections within the study area to the Lakefront Greenway, taking advantage of existing infrastructure that crosses the Shoreway and exploring the potential for a new pedestrian bridge across the Shoreway.
  - Facilitate east-west connectivity within the study area, mapping concepts for key corridors.

Study Area - Priority Connections

Schedule

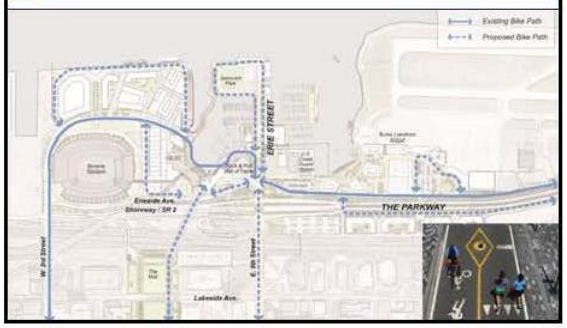
Lakefront Greenway and Downtown Connector Schedule	2014					2015					
	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Task 1: Existing Conditions Assessment											
Scoping Meeting	X										
SC #1: Project Kick-Off Meeting			X								
Task 2: Concept Development											
SC #2: Existing Conditions & Initial Concepts						X					
PM #1: Project Introduction, Existing Conditions, Initial Concepts							X				
Task 3: Concept Evaluation and Feasibility Assessment											
SC #3: Evaluate & Refine Concepts, Develop Recommendations									X		
Task 4: Recommendations											
PM #2: Present Recommendations										X	
Task 5: Report											
Draft and Final Reports											X

SC - Steering Committee
PM - Public Meeting

Planning Background

- Build upon on-going planning efforts in this area
  - City plans
  - TLCI plans
  - Private developer initiatives

Downtown Lakefront Plan (2012)
Bicycle Circulation



Downtown Lakefront Plan (2012)
Public Open Space

Burke Master Plan Update (2008)
Recommended Development

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Geis Development at Burke

Proposed office campus

Michael Baker INTERNATIONAL Environmental Design Group

Other Development Projects

Flats East Bank – Wolstein Group is currently developing 243 apartments

North Coast – Cumberland Development and Trammell Crow will start with office, apartments, and school

Michael Baker INTERNATIONAL Environmental Design Group

City Plans and Projects

- Common thread:
  - Influx of residents and workers in mixed use developments downtown
    - MUDs typically associated with lower vehicular ownership rates, higher rates of walking and bicycling
  - "Green infrastructure" with pedestrian and bicycle facilities
  - Likely to encourage growing interest in lakefront recreational facilities

Michael Baker INTERNATIONAL Environmental Design Group

Michael Baker INTERNATIONAL Environmental Design Group

TLCI Plans

- Campus District Plan (2011)
  - Bike lanes on E. 22nd between Euclid Ave. and Orange Ave
- Asiatown Plan (2010)
  - Create main street for the neighborhood along Superior Ave.
  - Convert travel lanes to parking lanes
  - Install sharrows on Superior Ave. between 30th and 40th Streets
- Canal Basin District Plan (2010)
  - Install trails and bike lanes along such roadways as Frankfort and Summit to connect with Canal Basin Park and Towpath Trail

Midway Plan

Possible segment:

St. Clair from E.55th St to MLK

TLCI and other plans

- Common thread:
  - Develop facilities to expand city's bicycle network, and to create pedestrian-friendly streets
  - Recognition of excess vehicular capacity on many roadways
  - Proposing variety of innovative bicycle facilities – separated bike lanes, median bike lanes

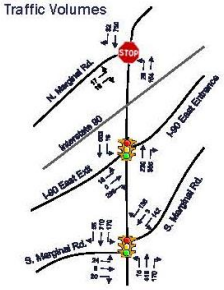
Existing Conditions

North Marginal Road

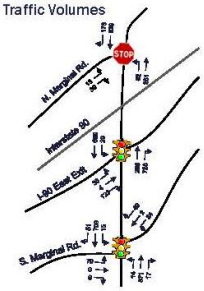
E. 55th Street

Traffic: E.55th St – Peak Hours

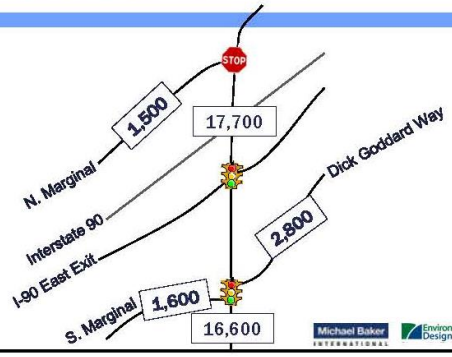
AM Peak Hour Traffic Volumes



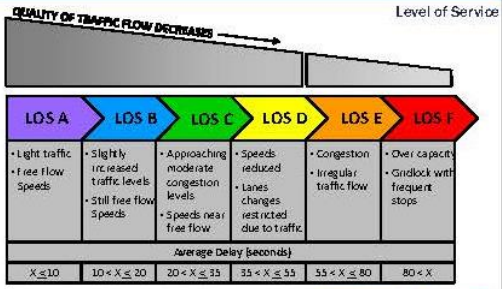
PM Peak Hour Traffic Volumes



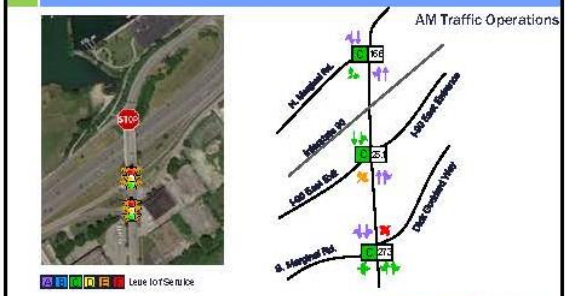
Traffic: E.55th St - ADT



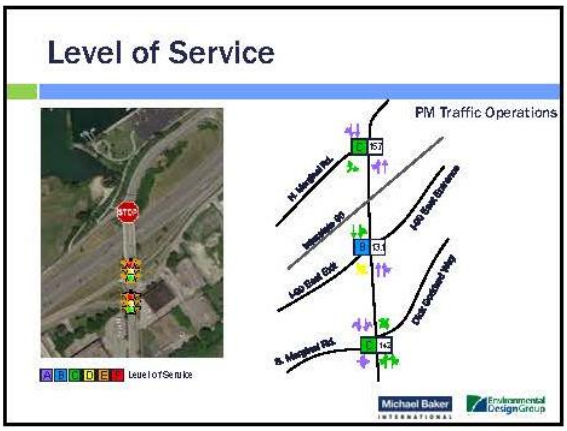
Level of Service



Level of Service



Level of Service



North Marginal Road

Shared use path is substandard width for bicycles
Shown above: 6-foot section next to light pole

6-foot section with landscaping

North Marginal Road

Path is 10 feet wide near Muni Lot Bridge, but abuts chain link fence. Fire hydrant reduces usable width to 6 feet.

Path is 10 feet in width at 55th Street Marina and to the east.

North Marginal Road

No path east of Aviation High School.
Left: 10 foot grass buffer in front of Forest City Yacht Club
Right: Quay 55 parking lot fence sits 4 feet off North Marginal Road.

North Marginal Road

North Marginal roadway, curb and shoulder are in poor condition.

12 foot travel lanes are too narrow for shared bicyclist and vehicular travel.

South Marginal Road

No path or sidewalk along South Marginal Road for virtually its entire length. The only sidewalk segment is by the South Harbor Rapid Station.

Existing North-South Connections

E. 9th Street

E. 72nd Street

E. 55th Street; bike lanes at interchange with Shoreway

Key East-West Roadways

St. Clair Avenue
Section proposed for "Midway"

Superior Avenue

Study Area

Priority Connections

Land Use

Census Data

Census Data

Constraints and Obstacles

- Substandard shared use path on North Marginal Road
  - Narrow
  - Obstacles in and next to path
- Narrow corridor and 'pinch points' on North Marginal Road
- Unattractive infrastructure along N. Marginal Road
  - Chain link fence
  - Highway scale lighting
  - Lack of landscaping
- No buffer between North Marginal Road and Shoreway
- Limited connections between North and South Marginal Roads
- South Marginal Road is isolated and lacks bicycle and pedestrian infrastructure
- Pavement condition on North Marginal is poor, South Marginal is very poor
- Lack of bicycle facilities on many north-south and east-west corridors in study area

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Opportunities

- Redevelopment potential along North Marginal Road
- Few significant physical obstacles to widening shared use path along North Marginal Road
- Potential for effective visual buffer between North Marginal Road and Shoreway
- Ample right-of-way along South Marginal Road for shared use path
- Potential for new pedestrian bridge across Shoreway

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Opportunities

- Increase demand for recreational facilities with continued downtown population growth
- Build network around existing and planned public lakefront assets
- Recent planning efforts recommend bike/ped improvements throughout study area
- Available capacity on north-south and east-west corridors for roadway reconfiguration to add bicycle facilities

E. 55th Street Marina

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Next Steps
Continue to analyze existing conditions
Develop draft concepts
Steering Committee meeting to discuss draft concepts (Jan 2015)
Public meeting to introduce project and draft concepts to the public (Feb 2015)
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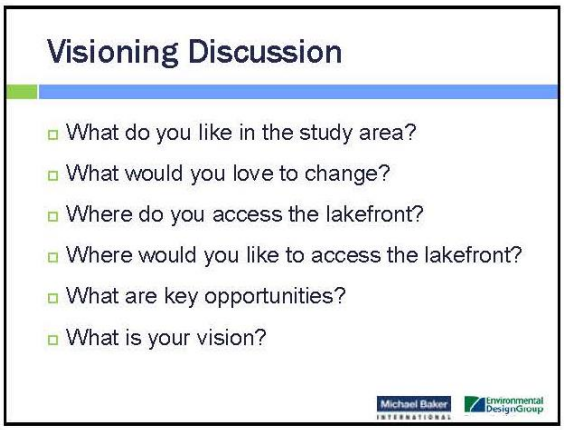
Visioning Discussion
What do you like in the study area?
What would you love to change?
Where do you access the lakefront?
Where would you like to access the lakefront?
What are key opportunities?
What is your vision?
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Lakefront Greenway & Downtown Connector
Steering Committee Meeting
February 17, 2015

Attending:

Name	Organization	Email	Phone
James Amendola	St Clair Superior CDC	jamendola@stclairsuperior.org	216-881-0644 x109
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Bobbi Reichtell	Campus District, Inc.	breichtell@campusdistrict.org	216-650-6945
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Jeff Kerr	Environmental Design Group	jkerr@envdesigngroup.com	330-375-1390

Purpose
The project team presented Steering Committee with the project status and work completed to date. The primary goal of the meeting was to gain committee feedback prior to the first public meeting.

Summary of Meeting
Study Area, Goals and Schedule

- Goals:
  - Improve North and South Marginal Roads for travel by bicyclists and pedestrians
  - Strengthen connection between lakefront, downtown, and near eastside neighborhoods
- Objectives:
  - Establish a lakefront greenway Marginal Road corridor

- Create north-south connections to the Lakefront Greenway
- Facilitate east-west connectivity

Schedule: Project is currently on schedule. Public Meeting #1 will occur in early March, concept evaluation will occur in March and April, Public Meeting #2 will be in May and Deliverables will be completed in June.

Existing Conditions and Challenges

Burke Lakefront Airport Discussion

- The west end of the project is limited by the existing airfield fence currently surrounding Burke Lakefront Airport. Project team is interested in the ability to move this fence and use some of the property adjacent to the north side of North Marginal Road as part of the linear parkway.
- Burke indicated that it would be up to the FAA as to whether or not the fence could be moved since it was constructed using FAA money. It was indicated that the fence could likely be moved a modest amount without much trouble (2-3 feet). Further coordination is needed to determine the limits.
- Presentation indicated a trail loop circling the existing runway. Burke indicated that this loop would not be permitted by the FAA since it would be located within the runway safety areas on the east and west ends of the airfield.

Usage of CDF Discussion

- Providing Lakefront access was described as an important function of the greenway. The existing CDF was identified as an opportunity to provide this access depending on its functional ability to do so.
- There are currently 5 lakefront CDFs that are maintained by the US Army Corps of Engineers. It is anticipated that their capacity will be reached within the near future (2015-2016).
- It is anticipated that the Port will begin actively managing sediment. With this approach the Port could potentially avoid the construction of a new CDF and create a resource for distribution.
- With the plans for active sediment management, it is anticipated that additional truck traffic will be accessing the CDF. The CDF will appear to be more active with construction equipment since the sediment will no longer just be disposed of in this area but also managed.
- Even with the CDF being actively managed it is still a priority of this project to gain lakefront access via the CDF.

Design Concepts and Opportunities

North Marginal Alternatives Discussion

- North Marginal Road alternatives were presented in three sections (West, Central and East):
  - West section could provide 2-way traffic and an improved trail or 1-way traffic and an improved trail.
  - Central section could provide 2-way traffic and an improved trail, 1-way traffic and an improved trail or a closure of the road to provide an enhanced bike and pedestrian linear park area.
  - East section could provide 2-way traffic and an improved trail or 1-way traffic and an improved trail.
- The following questions and comments were made during the presentation of the alternatives along North Marginal Road.
  - What would the limits of the central section of North Marginal Road be if it were closed? *Generally the limits would be from the Muni-lot bridge crossing to Aviation High School.*
  - NOACA indicated that North Marginal is currently on the TIP. *More information regarding funding specifics is needed and coordination should begin on determining the requirements of the funding.*
  - If the central section of North Marginal Road were to be closed how much traffic would it divert/impact? *Counts were taken at East 55th Street and North Marginal. The project team will investigate if other traffic counts have been done in the area to determine the overall traffic impacts.*

- Currently an ODOT fence runs along LA right of way. This is the only separation between North Marginal and westbound SR 2. ODOT indicated that the fence could potentially be removed if concrete barrier were installed along SR 2. SR 2 is generally more under City operations than ODOT.
- Marina fence improvements are a goal of this project. New fencing needs to be installed to provide Marina security and improve appearances along the greenway.

Existing and Proposed Crossing Discussion

- West 3rd Street
  - Narrow walk on the east side of West 3rd to make accommodations on the west side.
  - West 3rd has been identified as a route from Superior to Lakefront Development.
- E.9th Street
  - Further investigation needs to be completed to understand the ability to widen existing structure.
- Muni Lot Bridge
  - ODOT indicated that this bridge could potentially be used to better accommodate pedestrians/bikes if the SR 2 access could be revised to avoid free flow movements.
- E.55th Street
  - Potential for roadway capacity can be transferred to bike and pedestrian space.
- E.72nd Street / MLK
  - ODOT indicated that these crossing/interstate access points are currently being studied as part of their safety program. As study recommendations become available ODOT will share them with the group.

<u>Other Discussion</u>

- Need to get updated Dike 14 plan from Metroparks.

LAKEFRONT GREENWAY and DOWNTOWN CONNECTOR STUDY

stclair superior development corporation

CAMPUS DISTRICT

WAREHOUSE DISTRICT

Steering Committee Meeting

February 17, 2015

Michael Baker INTERNATIONAL

Environmental Design Group

Agenda

- Study area
- Project goals and objectives
- Schedule
- Other related plans and projects
- Existing conditions
- Challenges
- Design concepts and opportunities
- Public input

Study Area

Goals and Objectives

- *Goals:*
  - Improve North and South Marginal Roads for travel by bicyclists and pedestrians
  - Strengthen connection between lakefront, downtown, and near eastside neighborhoods
- *Objectives:*
  - Establish a lakefront greenway Marginal Road corridor
  - Create north-south connections to the Lakefront Greenway
  - Facilitate east-west connectivity

Study Area - Priority Connections

Schedule

Lakefront Greenway and Downtown Connector Schedule	2014					2015					
	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Task 1: Existing Conditions Assessment											
Scoping Meeting	X										
SC #1: Project Kick-Off Meeting			X								
Task 2: Concept Development											
SC #2: Existing Conditions & Initial Concepts						X					
PM #1: Project Introduction, Existing Conditions, Initial Concepts							X				
Task 3: Concept Evaluation and Feasibility Assessment											
SC #3: Evaluate & Refine Concepts, Develop Recommendations									X		
Task 4: Recommendations											
PM #2: Present Recommendations										X	
Task 5: Report											
Draft and Final Reports											X

SC - Steering Committee
PM - Public Meeting

Other Plans & Projects

- Build upon on-going efforts
  - City plans
  - TLCI plans
  - Private developer initiatives
  - Bikeway plans

Existing Conditions: North Marginal

Existing Conditions: North Marginal

Existing Conditions: South Marginal

Challenges

- Substandard shared use path on North Marginal Road
  - Narrow
  - Obstacles in and next to path
- Narrow corridor and 'pinch points' on North Marginal Road
- Unattractive infrastructure along N. Marginal Road
  - Chain link fence
  - Highway scale lighting
  - Lack of landscaping
  - No buffer between North Marginal Road and Shoreway
- Limited connections between Marginal Roads and across SR-2 / I-90
- South Marginal Road is isolated, lacks bicycle and pedestrian infrastructure
- Poor pavement condition on North and South Marginal Roads

Overall Site Plan

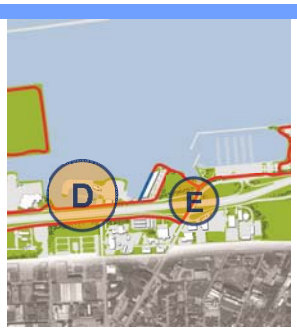
Trail Segments & Nodes

Segment 1

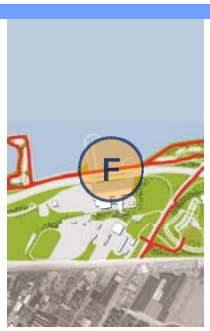
Segment 2

Segment 3

Segment 4

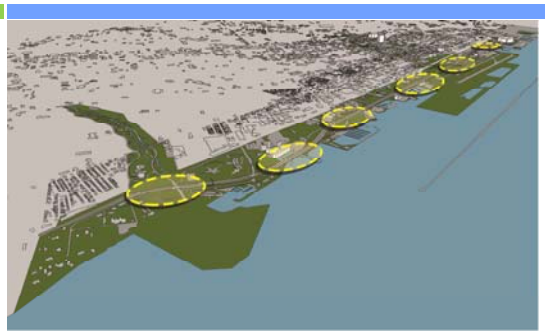


Segment 5

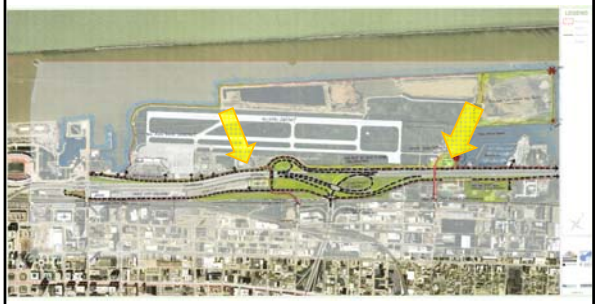


Segment 6

Site Plan Nodes



Central Concept



N. Marginal – Existing Section

N. Marginal – Existing Perspective

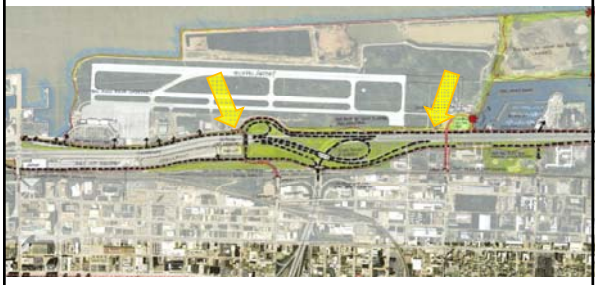
N. Marginal – 2-Lane Section

N. Marginal – 2-Lane Perspective

N. Marginal – One Way Section (1-Lane)

N. Marginal – One Way Perspective (1-Lane)

N. Marginal – Section Closed to Cars



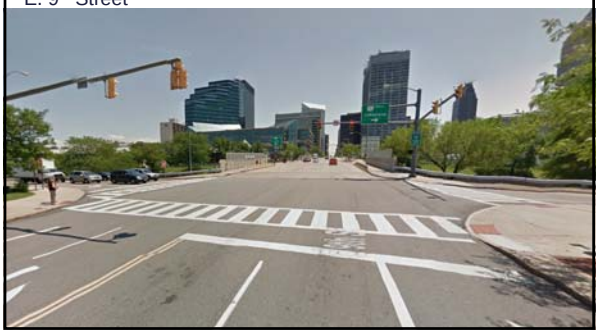
N-S Connections: Existing & Potential

North-South Connections: Existing

W.3rd Street

North-South Connections: Existing

E. 9th Street



North-South Connections: Potential

E. 16th/18th Street

North-South Connections: Existing

Muni Lot

North-South Connections: Potential

E. 40th Street

North-South Connections: Potential

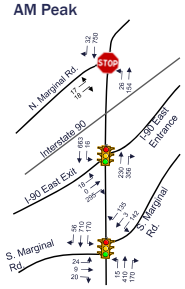
E. 49th Street

North-South Connections: Existing

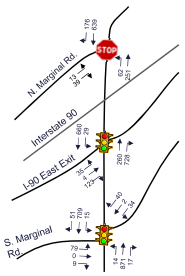
E. 55th Street

Traffic: E.55th St – Peak Hours

AM Peak

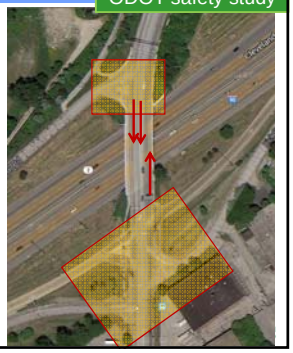


PM Peak



E.55th St Opportunities

ODOT safety study



North-South Connections: Existing

E. 72nd Street

North-South Connections: Existing

Gordon Park Pedestrian Bridge

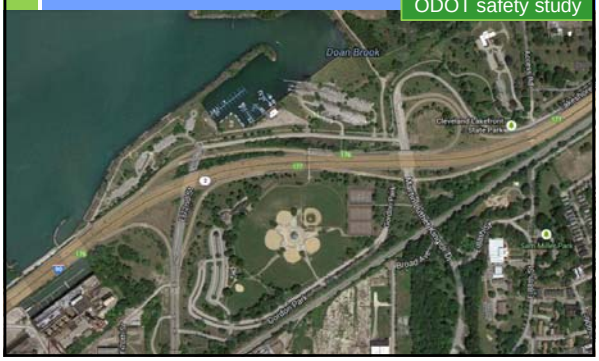
North-South Connections: Existing

MLK

Eastern Concept

E.72nd - MLK Opportunities

ODOT safety study



Next Steps

- Gather public input
- Concept evaluation & feasibility assessment
- Develop recommendations
- Present recommendations (public mtg May 2015)
- Prepare report

What is Your Vision?

- What do you like in the study area?
- What would you love to change?
- Where do you access the lakefront?
- Where would you like to access the lakefront?
- What are key opportunities?
- What is your vision?

Your Input Matters!

BOARDS

- Pedestrian bridge locations *(2 green dots + 2 red dots)*
  - Existing bridges / crossing locations
  - Potential pedestrian bridge crossing locations
- North Marginal configuration at pinch point *(1 green dot + 1 red dot)*
  - Two-way road with multi-use trail
  - One-way road with wider multi-use trail
  - Close to vehicular traffic, widened linear park for non-motorized use
- South Marginal with potential trail
- What should this park look like? *(6 green dots + 6 red dots)*
  - 2-3 boards with lots of photos

THANK YOU!

Lakefront Greenway and Downtown Connector Study

Public Meeting #1

March 5, 2015
5:30-7:30 pm
Ariel International Center, 1163 East 40th Street, Cleveland, Ohio 44114

Attendance

65 (including project team)
Names and affiliations are included at the end of the notes.

Meeting Summary

The purpose of the meeting was to introduce the project to the public, provide an overview of the concepts, and get public input, reactions and preferences on the concepts and ideas that were presented.

Michael Fleming and Bobbi Reichtell welcomed everyone to the meeting with an overview of the project purpose and the motivation behind the project. Nancy Lyon-Stadler and Michelle Johnson gave the presentation and addressed questions during the brief Q&A session after the formal presentation. The meeting attendees were then asked to look at the boards, talk with project team members, and provide their input.

Questions from the Public (Q&A)

- Have you looked at what happens on your one lane road when a car breaks down?
- If it's a one lane road, how do trucks turn around?
- Are you going to put a pedestrian bridge on the CEI to connect East 55th Street with East 72nd Street?
- Does the option you select affect where you would put the North and South access points?
- When the project is done will there be a continuous bike path from North Marginal to Downtown?
- Noise reduction is a concern. How do we buffer sounds from the highway, airport, and train tracks?
- Are you working with Amtrak at all? It is currently hard to get to their station.
- Bike trails are not maintained in winter like bike lanes are maintained. Can we have bike path clearing programs like Minneapolis?

Public Feedback from Comment Forms

- Commenter #1
  1. Your 12' one way road is too narrow. Probably need 18' minimum, including a striped off pull around lane to pass a "Broken Car"!
  2. Check "Fall Distances," Edge of bike lane above curb to curb! 5'
  3. Review design truck + 90 degree right turn.
  4. Will you have a pedestrian bridge across the CEI channel (bikes shall be walked) between E. 72 and adjacent street?
  5. Please be advised if you want move an existing utility you have to pay the costs.
  6. If the road goes from 2 lane to one lane you need to turn a vehicle around!

  Name: William McLaughlin
  4286 Elmwood Road
  South Euclid, Ohio 44121-3502

- Commenter #2
  1. Look at Cincinnati's waterfront development – varied and unique.
  2. Add interesting recreation & art along the connectors – like swings.
  3. Focus on N. Marginal – Make this a long term project that values the lakefront, not just the "easy" way.
  4. Make a trail for both runners, walkers & bikers to be comfortable.
  5. Move forward with E. 40th Street first – Inexpensive, easy, good connector.

- Commenter #3
  1. Think about simplicity and preservation
  2. Plan should also include activation of Aviation High School by E. 40th Connector – East 45th a good connector to corridor.
  3. Also activate Kirtland Park if you activate South Marginal.
  4. MLK configuration should also be a connection; priority – improve safety.
  5. How do you design for the future? Future connections East and West.
  6. How do you think about reducing noise of the freeway? Make experience feel more park-like? Vegetation? Same with wind reduction.
  7. Need to think about creating intentional connections. North-South into St. Clair Superior – branding and signage can help too.

- Commenter #4
  1. I'm really impressed and excited by this. Thank you!

  Name: Nolan

- Commenter #5
  1. Strongly support expansion of Muni Lot Bridge and construction of bridge at E. 40th Street. I would be interested in how much more access we can legally gain to airport perimeter property.

  Names: Drew Ferguson, Bess Viettos, Dave Cerra

- Commenter #6
  1. As a cyclist, I concur with the gentleman at the meeting who stated that there is poor pedestrian/bicycle access to the Amtrak Station. Allowing good rail-trail-inner city access makes sense both from a recreational and a transportation viewpoint.

- Commenter #7
  1. Pedestrian accessed dog park on North Marginal side is good idea, and definitely like park on the South Marginal component.
  2. With that just what other options are for the "viewpoints" described?
     Park-like seating areas
     Historic or ecologic didactic panels
     Pedestrian-only landscape buffered pods

  Name: Steve Misencik, Resident/Designer

- Commenter #8
  1. Take a small section of the bike path downtown, design an LED Lite path similar to what they have in Amsterdam. It could become a point of interest for Bikers from all over the U.S.A. Have Corp. Sponsors pay for it. General Electric Nela Park would be the initial sponsor.

- Commenter #9
  1. Excellent presentation, everything makes sense. Nice to see the collaborative efforts and involvement with important stakeholders – Nice Ideas. Uses assets of land (views) and current strengths. With this ODOT is a great intersection. Are there other collaborations like this that would be important? One person brought up more connectivity with Amtrak. How about funding? Taxpayers?
  2. Other Ideas:
     - Safety for pedestrian/biker at night
     - Sculptors
     - Kayak parking along the lake
     - Bike rental racks at strategic points

- Commenter #10
  1. Connection to Amtrak/Lakefront intermodal station should be much easier. Proposed intermodal station would have 71 million boarding per year (RTA/ Greyhound/Amtrak) and Amtrak will be debuting "roll-on" bike service soon. Currently you have to climb a small fence to get to West 3rd Street or walk along Shoreway to E. 9th.
  2. Pittsburgh has a great intermodal station, why not us? Trails need to be maintained year round. What is the point of MLK trail if it's full of potholes with newly paved road wide enough for bikes available? Bike lanes are safe.

- Commenter #11
  1. Elevate bike/pedestrian path along North Marginal pinch points. Time study to show travel time if North Marginal turned into one way or shut down.

- Commenter #12
  1. Connection with Amtrak! Bike aboard soon. Possible intermodal station with 1 million per year users. (Amtrak/Greyhound/RTA)
  2. Keep trail clear in winter. Cleveland is a 4 season locale!
  3. Where is a connection to the waterfront RTA? (I'll need to take rapid back home, uphill, to the heights).
  4. East 40th good connector
  5. One way bad idea
  6. Must have LONG TERM maintenance and cleaning program
     - Protected bike lanes
     - Elevated bike lanes
     - South Marginal better
  7. 5' buffer between trail & roadway or barrier
     - South Marginal dog park (AASHTO)
     - Intermittent tree lines because sight lines are oriented by the pedestrian's orientation, not a static view point.

Results of Voting

At board stations, attendees were asked to indicate preferences for landscaping concepts in parks along the proposed Greenway, north-south connections, and North Marginal Road trail section alternatives.

Following is a summary of preferences expressed for park concepts:

Aspects Most Appealing to Public:
Groomed
Planted flower beds
Railing at edge of water
Wooded/park- like
Tree lined
Seating edge
Curved pathways

Favored Materials:
Stamped Concrete (patterned)
Paved

Aspects Least Appealing to Public:
Open edges
Set back from water's edge
Enclosed
Multiple levels

Worst Materials:
Wood
Brick

Below is a summary of attendee voting results for north-south connections and trail section alternatives. Attendees were given green dots to place on alternatives that they preferred, and red dots to place on alternatives that they did not consider desirable. As indicating by a tally of the voting, the preferred north-south connection to the Lakefront would be at East 40th Street, which received the highest percentage of "green" votes, at 26%. East 9th Street was regarded as the least desirable location to place a north-south connection, receiving 36% of the "red" votes.

For the Trail Section West, attendees were unanimous in preferring a shared use path next to the two-lane road. For the Trail Section Central, the bike/pedestrian only alternative (combined with vacating the existing roadway) received the highest percentage of "green" votes, at 88%. For the Trail Section East, attendees preferred to place the recreational path next to the two-lane road, giving that alternative 82% of "green" votes.

North-South Connections			Rankings	
Connection	Green	Red	Green	Red
West 3rd Street	3	2	7%	9%
East 40th Street	12	0	26%	0%
East 55th Street	4	0	9%	0%
North Coast Harbor Ped Bridge	5	2	11%	9%
East 72nd Street	1	0	2%	0%
East 9th Street	0	8	0%	36%
East 16th / East 18th Street	5	1	11%	5%
Gordon Park Ped Bridge	0	1	0%	5%
Muni Lot Bridge	7	2	15%	9%
East 49th Street	2	6	4%	27%
MLK Lake to Lakes Trail	7	0	15%	0%
Other Locations	0	0	0%	0%
	46	22		
Trail Section West Alternative			Rankings	
Alternative	Green	Red	Green	Red
Existing	0	5	0%	71%
Two-Lane Road	15	2	100%	29%
	15	7		
Trail Section Central Alternative			Rankings	
Connection	Green	Red	Green	Red
Existing	0	1	0%	5%
One-lane Road	1	12	3%	63%
Two-lane Road	3	4	9%	21%
Bike/Ped Only	28	2	88%	11%
	32	19		
Trail Section East Alternative			Rankings	
Connection	Green	Red	Green	Red
Existing	0	1	0%	8%
One-lane Road	2	9	18%	69%
Two-lane Road	9	3	82%	23%
	11	13		

Lakefront Greenway and Downtown Connector Study Public Meeting #1
March 5, 2015 from 5:30 pm to 7:30 pm
Ariel Interantion Center, 1163 East 40th Street, Cleveland, Ohio 44114

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Lysha Saleem Peoples	Baker	lsaleem-peoples@mbakerintl.com	1228 Euclid Avenue, Suite 1050	Cleveland, Ohio 44115	216.664.6493
Dino Lustri	Dept of Port Control	dlustri@clevelandairport.com			216.387.3781
Mitch Zimmer		mzimmer13@hotmail.com			
David Centa	Davis Aerospace & Martitime H.S.	dcenta@davidandm.org	1163 E. 40th Street, #204	Cleveland, Ohio 44114	216.860.4483
Kaera Geschke	Campus District, Inc.	kgeschke@campusdistrict.org	2254 Euclid Avenue, Suite 101	Cleveland, Ohio 44115	216.287.4535
Bobbi Reichtell	Campus District, Inc.	breichtell@campusdistrict.org	2254 Euclid Avenue, Suite 101	Cleveland, Ohio 44115	216.650.6945
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Siu Yan Scott	Trust for Public Land	Syscott@gmail.com	255 E. 242nd Street	Euclid, Ohio 44123	216.289.3605
Ken Schneider	Canalway Partners	kschneider@canalwaypartners.com			216.520.1825
Jeff Barbalics		jbarbalics@csinc.com	1424 W. 81st Street	Cleveland, Ohio 44102	216.426.5272
Paul Tsurik			32245 Carleen	Avon, Ohio 44011	
Wei-Ming Kao		waterguzzler@gmail.com	4424 S. Meadow Lane	Cleveland, Ohio 44109	
George Kamen	Biker Resident	georgekamen2004@yahoo.com	2870 Litchfield Road	Shaker Heights, Ohio 44120	216.235.6231
Allison Lukacsy	Resident	alukacsy@gmail.com	326 Groveland Club Drive	Cleveland, Ohio 44110	856.889.6015
Joy Rollen	Global Cleveland	Joy@globalcleveland.org	2900 E. Overlook Road	Cleveland Heights, Ohio 44118	216.262.4206
Mimi Kato	Resident	mimikato.mail@gmail.com	2613 Ashton	Cleveland Heights, Ohio 44118	
Michael Fleming	SCSDC				
John Motl	ODOT - District 12	johnnotl@dot.state.oh.us	5500 Transportation Boulevard	Garfield Heights, Ohio 44125	216.584.2085
Elise Yablinsky	University Circle Inc.	eyablinsky@universitycircle.org	10831 Magnolia Drive		216.707.4662
Rita Amonett	Resident	rita.amonett@yahoo.com	1900 Superior Avenue, #217	Cleveland, Ohio 44114	330.310.0581
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Bruce Carr	Bruce Carr	bruce@brucecarr.com	1967 Aldersgate	Cleveland, Ohio 44124	440.840.6723
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LAKEFRONT GREENWAY and DOWNTOWN CONNECTOR STUDY

stclair superior development corporation

CAMPUS DISTRICT

WAREHOUSE DISTRICT

Public Meeting

March 5, 2015

Michael Baker INTERNATIONAL

Environmental DesignGroup

Agenda

- Study area
- Project goals and objectives
- Plan development process & project team
- Existing conditions & challenges
- Design concepts and opportunities
- Public input

Study Area

Goals and Objectives

- *Goals:*
  - Improve North and South Marginal Roads for travel by bicyclists and pedestrians
  - Strengthen connection between lakefront, downtown, and near eastside neighborhoods
- *Objectives:*
  - Establish a lakefront greenway Marginal Road corridor
  - Create north-south connections to the Lakefront Greenway
  - Facilitate east-west connectivity

Study Area - Priority Connections

Plan Development Process

- Project Scope, Goals & Objectives
- Existing Conditions Assessment
- Concept Development
- Concept Evaluation and Feasibility Assessment
- Recommendations
- Steering Committee Meeting 4
- Report

Community Engagement

Concept Development
- Steering Committee Meeting 1
- Project Team Workshop
- Steering Committee Meeting 2
- Public Meeting #1 (March 2015)

Concept Evaluation & Assessment
- Steering Committee Meeting 3

Recommendations
- Public Meeting #2 (May 2015)


Project Team
Project Sponsors
James Amendola – St. Clair Superior CDC
Michael Fleming – St. Clair Superior CDC
Bobbi Reichtell – Campus District
Tom Starinsky – Historic Warehouse District & Gateway District
Consultant Team
Nancy Lyon-Stadler – Michael Baker Intl.
Michelle Johnson – Environmental Design Group
Jeff Kerr – Environmental Design Group
Travis Mathews – Environmental Design Group
Jim Shea – Michael Baker Intl.
Kim Guice – Michael Baker Intl.
Steering Committee
Radhika Reddy – Ariel Ventures
Ren Camacho – Cleveland Airport Systems
Arthur Schmidt – Cleveland City Planning
Sharonda Watley – Cleveland City Planning
Michelle Harvanek – Cleveland City Sustainability
Linda Sternheimer – Cleveland Cuyahoga County Port Authority
Ed Rybka – Cleveland Lakefront Development
Kelly Coffman – Cleveland Metroparks
Sara Burns Maier – Cleveland Metrparks
Amy Snell – GCRTA
Ryan Noles – NOACA
Melissa Thompson – NOACA
Mark Coffin – property owner
John Motl – ODOT District 12 Planning
Brian Blayney – ODOT Dist. 12, Traffic Engineering
Scott Knebel - LJB
April Bleakney – Resident, Campus District
Rachel DuFresne – Resident, Campus District
Maureen Haden – Resident, St. Clair Superior
Jim Kastelic – Trust for Public Lands
Larry Orlowski – Lakeside Yacht Club
Barb Clint – YMCA & Bike Cleveland


Other Plans & Projects
Build upon on-going efforts
City plans
TLCI plans
Private developer initiatives
Bikeway plans
Cleveland Metroparks Lakefront Plan


Cleveland Metroparks Waterfront Plan
E.55th Marina


Cleveland Metroparks Waterfront Plan
E.72nd / Gordon Park / CLNP Lakefront Resvn


Existing Conditions: North Marginal


Existing Conditions: South Marginal

Challenges

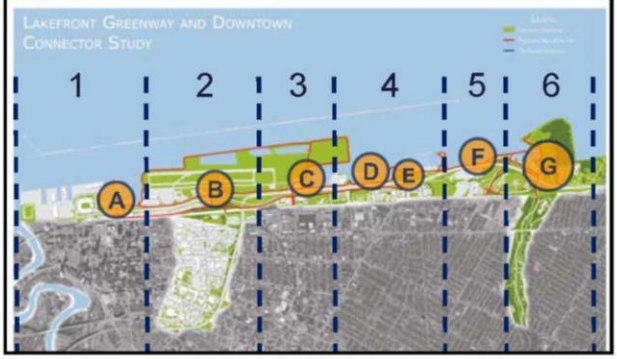
- Poor pavement condition on both Marginal Roads
- Limited connections across SR-2 / I-90

North Marginal Road
- Substandard shared use path
  - Narrow
  - Obstacles
  - Pinch Points
- Unattractive infrastructure
  - Chain link fence
  - Highway scale lighting
  - Lack of landscaping
  - No buffer between North Marginal Road and Shoreway

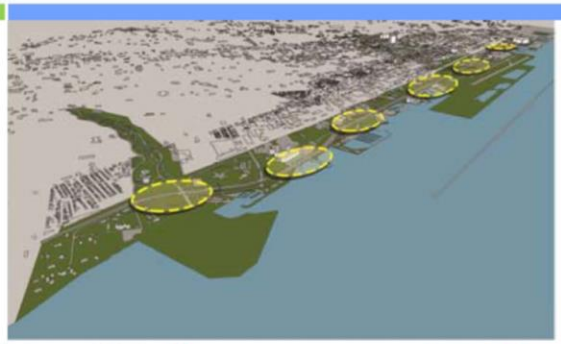
South Marginal Road
- Isolated
- Lacks bicycle and pedestrian infrastructure
- Does not traverse entire study area

Existing Trails & View Points

Trail Segments & Nodes



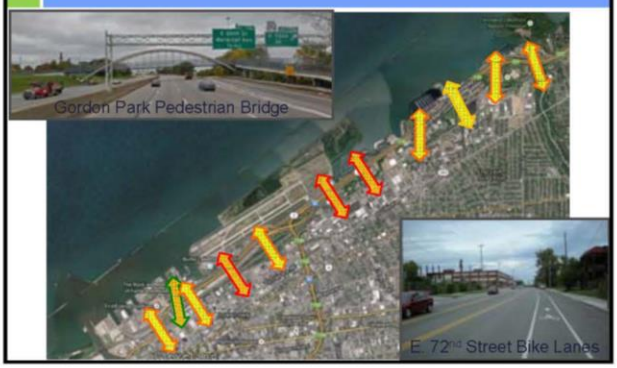
Site Plan Nodes



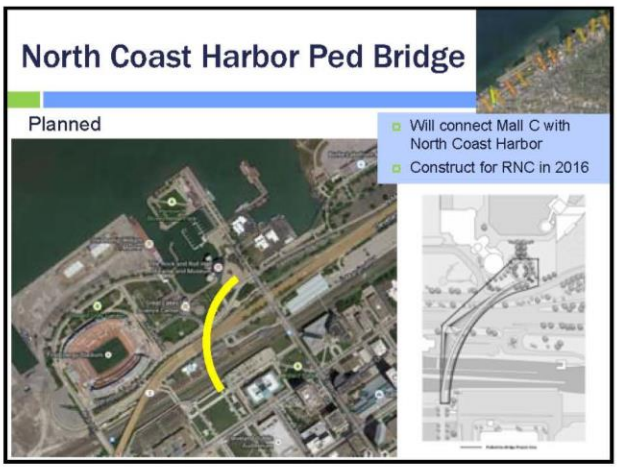
Constraints

- Burke
  - Ongoing operations
  - FAA regulations
  - 20 year horizon (minimum)
- CDF: Port managing active site for sediment processing
  - Ongoing generation of urban soils
  - Intense industrial use
  - Different than USACE management
  - 50 year horizon
- Influences implementation of concepts/opportunities

North-South Connections
Existing, Planned & Potential



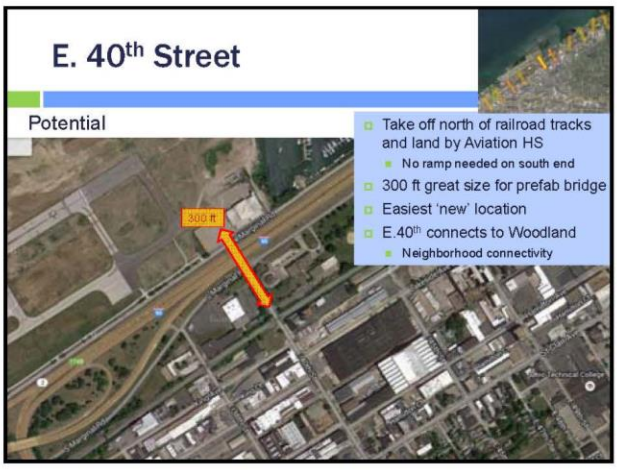

W.3rd Street
Existing
Potential to reconfigure roadway
City is studying feasibility

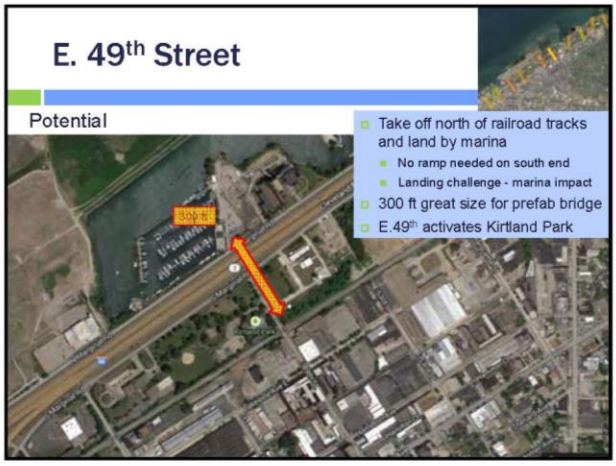

North Coast Harbor Ped Bridge
Planned
Will connect Mall C with North Coast Harbor
Construct for RNC in 2016


E.9th Street
Existing
Capacity reduction on E.9th not feasible
Can't widen existing bridge
Potential for adjacent matching structure

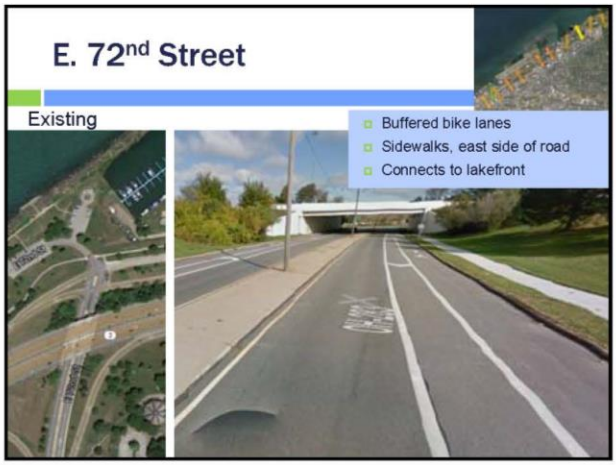

E. 16th/18th Street
Potential
Campus District connection
Take off from parking lot, land by Burke & by Muni Lot
Need to clear railroad tracks
Vertical clearance & landing considerations
700 ft
270 ft
270 ft


Muni Lot Bridge
Existing
Access via SR-2 WB ramps
Sidewalk is narrow
Widen bridge deck for bikes & peds
Consider ramp modification to facilitate access (stop control)
West
Lakewood


E. 40th Street
Potential
Take off north of railroad tracks and land by Aviation HS
No ramp needed on south end
300 ft great size for prefab bridge
Easiest 'new' location
E.40th connects to Woodland
Neighborhood connectivity
300 ft


E. 49th Street
Potential
Take off north of railroad tracks and land by marina
No ramp needed on south end
Landing challenge - marina impact
300 ft great size for prefab bridge
E.49th activates Kirtland Park


E. 55th Street
Existing
Bike lanes & sidewalks on bridge
Lots of pavement at intersections
South Marginal
I-90 EB ramps
North Marginal


E. 72nd Street
Existing
Buffered bike lanes
Sidewalks, east side of road
Connects to lakefront

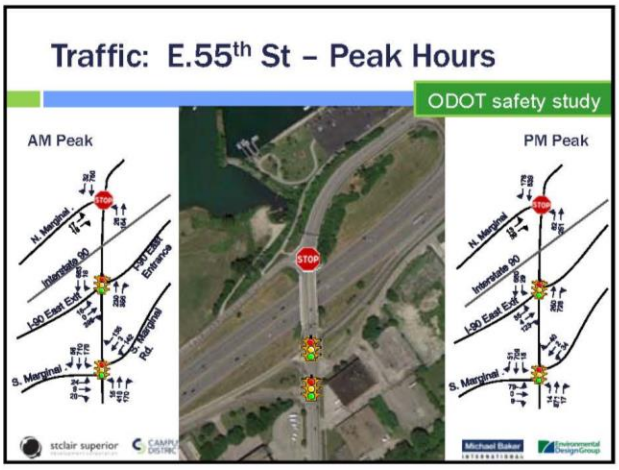

Gordon Park Pedestrian Bridge
Existing
Bridge over I-90
Connects Gordon Park with lakefront
Stairs or long ped ramp (north side)

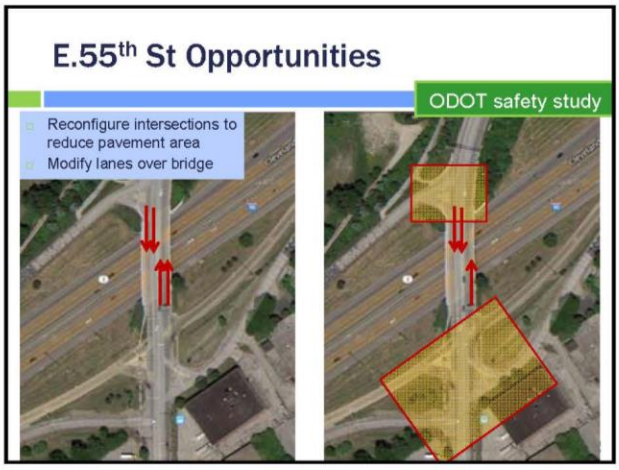

MLK (Lake-to-Lakes Trail)
Existing
I-90 underpass
Uncomfortable for bikes & peds
Doesn't quite get to the lake


Big Ideas
E.72nd-MLK
E.55th Street
North Marginal (E.9th St to E.55th St)
Muni Lot Bridge


ODOT Safety Study
ODOT safety study
E.72nd Street & MLK interchange areas
E.55th Street interchange area


E.72nd - MLK Opportunities
ODOT safety study
Study crash data to identify problem areas
Potential reconfiguration of ramps as single interchange
Potential changes to ramp intersections
Modify MLK cross section to improve trail under bridge


Traffic: E.55th St – Peak Hours
ODOT safety study
AM Peak
PM Peak
STOP


E.55th St Opportunities
ODOT safety study
Reconfigure intersections to reduce pavement area
Modify lanes over bridge


Eastern Concept (MLK-E.72nd & E.55th)

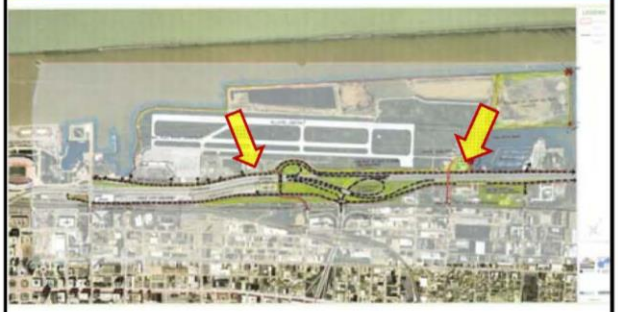

North Marginal by Burke

North Marginal – Existing

North Marginal – Existing

- Constrained width
- Proximity to Shoreway
- Unpleasant bike/ped experience

Central Concept



Options for North Marginal by Burke

Option 1: Two-Lane
- Add 8 ft wide trail next to North Marginal

Option 2: One-Way
- Reduce North Marginal to one-way road for 10 ft trail and more buffer space

Option 3: Bike/Ped (Trail Only)
- Close section of North Marginal
  - Potential modification to Muni Lot Bridge access could help circulation

North Marginal Traffic at E.55th St

- North Marginal Traffic volumes at E.55th Street
  - AM Peak: 93 vph (35 EB + 58 WB)
  - PM Peak: 290 vph (52 EB + 238 WB)

(Lower volumes betw Burke parking and Aviation HS)

North Marginal as Two-Lane

North Marginal as Two-Lane

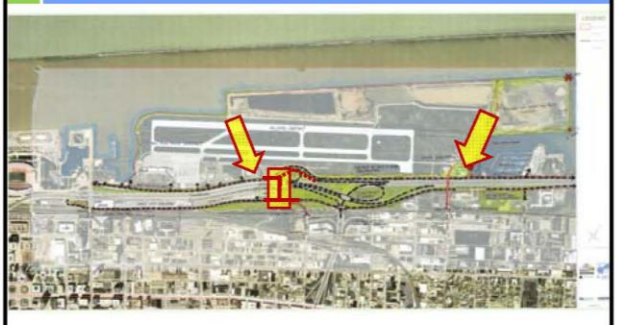
North Marginal as One-Way

North Marginal as One-Way

North Marginal Bike/Ped Only (Trail)

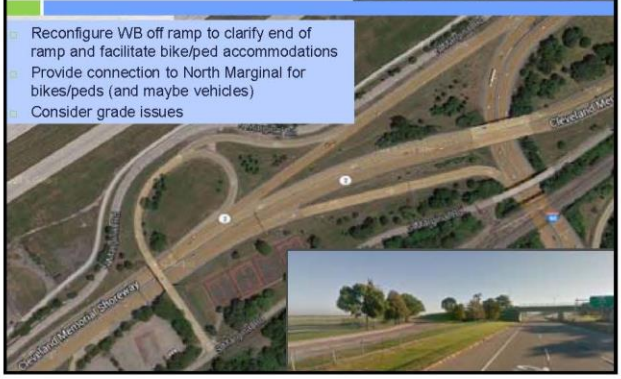
North Marginal Bike/Ped Only (Trail)

Central Concept

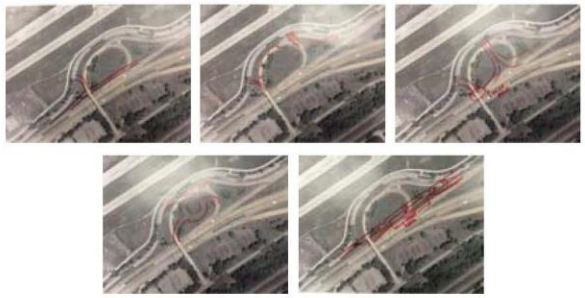


Muni Lot Bridge

- Reconfigure WB off ramp to clarify end of ramp and facilitate bike/ped accommodations
- Provide connection to North Marginal for bikes/peds (and maybe vehicles)
- Consider grade issues



Muni Lot Bridge



Central Concept Combinations

Plan Development: Next Steps

- Gather public input
- Concept evaluation & feasibility assessment
- Develop recommendations
- Present recommendations (public mtg May 2015)
- Prepare report

Your Input Matters!

BOARDS

- What should this park look like?
  (6 green dots + 6 red dots)
  - 3 boards with lots of photos
- Pedestrian bridge locations
  (2 green dots + 2 red dots)
  - Existing bridges / crossing locations
  - Potential pedestrian bridge crossing locations
- North Marginal (between E.9th and E.55th Streets)
  (1 green dot + 1 red dot)
  - Two-way road with multi-use trail
  - One-way road with wider multi-use trail
  - Bike/pedestrian access only (widened linear park for non-motorized use)

THANK YOU!

LAKEFRONT GREENWAY & DOWNTOWN CONNECTOR STUDY

Public Meeting

A Lake Erie lakefront trail network is being planned and we need your input!!!
Open House from 5:30pm - 7:30pm
Formal Presentation at 6:30pm

For up-to-date information or questions, contact
James Amendola at **JAmendola@stclairsuperior.org** or
Bobbi Reichtell at **BReichtell@campusdistrict.org**

Michael Baker INTERNATIONAL
Environmental Design Group

CAMPUS DISTRICT
stclair superior development corporation
WAREHOUSE DISTRICT

Lakefront Greenway and Downtown Connector Study Public Meeting #1

March 5, 2015 from 5:30 pm to 7:30 pm

Ariel Interantion Center, 1163 East 40th Street, Cleveland, Ohio 44114

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Wei-Ming Kao		waterguzzler@gmail.com	4424 S. Meadow Lane	Cleveland, Ohio 44109	
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Michael Fleming	SCSDC				
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Steve Misencik	President	stephenmisencik@sbcglobal.com	2212 Superior Avenue, # 207		
Steve Lae	Cleveland Foundation	slae@clevefdn.org	422 Euclid Avenue, #1300	Cleveland, Ohio 44114	216.615.7259

Lakefront Greenway & Downtown Connector
Steering Committee Meeting
May 14, 2015

Attending:

Name	Organization	Email	Phone
James Amendola	St Clair Superior CDC	jamendola@stclairsuperior.org	216-881-0644 x109
Bobbi Reichtell	Campus District, Inc.	breichtell@campusdistrict.org	216-650-6945
Tom Starinsky	Historic Warehouse Neighborhood Corporation	tstarinsky@historicgateway.org	216-771-8088
Jenita McGowan	Cleveland City Sustainability	Jmcgowan@city.cleveland.oh.us	216-664-2405
Linda Sternheimer	Cleveland Cuyahoga County Port Authority	Linda.sternheimer@portofcleveland.com	216-377-1348
Kelly Coffman	Cleveland Metro Parks	kbc@clevelandmetroparks.com	216.351.6300 x3295
Sara Maier	Cleveland Metro Parks	sbm@clevelandmetroparks.com	216-635-3289
Brian Blayney	ODOT	Brian.blayney@dot.state.oh.us	216-584-2102
Jim Kastelic	Trust for Public Lands	Jim.kastelic@tpl.org	216-928-7518 x107
Dino Lustri	Cleveland Airport System	dlustri@clevelandairport.com	216-387-3781
Marty Cader	Cleveland City Planning	mcader@city.cleveland.oh.us	216-664-2952
Sharon Whatley	Cleveland City Planning	swhatley@city.cleveland.oh.us	216-664-3806
Rob Thompson	Bike Cleveland	rob@bikecleveland.org	216-245-3101
James Shea	Michael Baker Jr., Inc.	jshea@mbakerintl.com	216-776-6806
Kim Guice	Michael Baker Jr., Inc.	kaguice@mbakerintl.com	216-776-6618
Daniel Kueper	Michael Baker Jr., Inc.	dkueper@mbakerintl.com	614-570-9969
Michelle Johnson	Environmental Design Group	MJohnson@ENVDESIGNGROUP.COM	330-375-1390
	Environmental Design Group		330-375-1390

Purpose

The project team presented Steering Committee with the concepts completed to date. The primary goal of the meeting was to evaluate the concepts, with the focus on trail & greenway segments and crossing connections, and gain input from the Steering Committee.

Summary of Meeting

Study Area, Goals and Schedule

- Goals:
  - Improve North and South Marginal Roads for travel by bicyclists and pedestrians
  - Strengthen connection between lakefront, downtown, and near eastside neighborhoods
- Objectives:
  - Establish a lakefront greenway Marginal Road corridor
  - Create north-south connections to the Lakefront Greenway
  - Facilitate east-west connectivity

Trail and Greenway Segments

Michelle Johnson presented concepts for trail and greenway segments. The discussion of the proposed improvements below is organized by the roadway or location.

W. 3rd Street

Tom Starinsky said that W. 3rd Street is being repaved this season, and it would be desirable to incorporate recommendations from the study team for this roadway into the repaving project. Marty Cader said that the City is reviewing this roadway and other parts of downtown to enhance mobility for all modes, but that this was a long-term effort. Linda Sternheimer said the Port has developed plans for this area, and that W. 3rd Street should be shown as a straight line on the plan, instead of with a curve by First Energy stadium as depicted.

Michelle Johnson said that the project team could consider making the existing sidewalk on the W. 3rd Street bridge wider, or widen the sidewalk on the west side. Tom Starinsky said that the median could be removed, with the space used for a bike lane. Marty Cader said that on-street parking is not needed on both sides of W. 3rd Street south of the bridge, given the available off-street parking in the vicinity.

E. 9th Street

It is assumed that the Intermodal Center will go forward as planned. The project team is proposing a multi-modal connection from South Marginal Road east of the existing public garage on the site.

South Marginal Road

Rob Thompson queried how eastbound bicyclists would be accommodated on the western end of South Marginal Road. It was indicated that the bicyclist would need to go east along North Marginal Road, or along St. Clair Avenue to access South Marginal Road to the east.

CDF's (Confined Disposal Facilities) and Burke Airport

The plan's proposal for a future recreational use for the two CDF's adjacent to Burke Airport led to extensive discussion and a recommendation that the project team change its proposal for this site. The City and the Port assume indefinite use of the CFS's, and there is no projected timeline by which the CDF's will be phased out. They could be in place for 50 years into the future or longer. The Port assumes more efficient use of these sites in conjunction with future dredging, as opposed to building new CDF sites elsewhere. In the future, the CDF's will look like a typical construction site, and trucks will be transporting materials from this site in order to create room for future dredging deposits.

With regard to Burke Airport, Dino Lustri noted that the Department of Port Control owes significant funds to the FAA for site improvements, and for that reason the entire Burke Lakefront Airport will likely remain as an active airport many years into the future. The project team should assume no public access to the land on the eastern edge of the Airport. Marty Cader said that some consideration of future use of the Airport was understandable, as past City plans had shown this area as open space. However, for this plan, the project team could use a precedent established for other City plans, and use hatchmarks over the area in question and indicate that there was no consensus on future use of the land. Tom Starinsky said that the matter could be resolved by indicating that this area would be developed per City plans, with no specific proposals provided.

E. 72nd Street

The project team is proposing a trailhead at E. 72nd Street where North Marginal Road ends. An improvement is needed to distinguish the path where it crosses the roadway. Marty Cader said that a crosswalk at E. 72nd Street would be beneficial.

Cleveland Lakefront Nature Preserve and Cleveland Lakefront State Park

An enhanced trail system is proposed at the entrance to Cleveland Lakefront Nature Preserve. It was noted that the Department of Port Control does not want a bike rack in the park, in part out of concern that it may attract mountain bicyclists. It was suggested that a bike rack could be placed by the turnstile.

Martin Luther King Jr. Drive

The project team is proposing a roundabout at the northern end of the drive. Attendees expressed concern about riding a bicycle through the roundabout, particularly a multi-lane roundabout. Jim Shea said that the roundabout

was multi-lane due to existing lane approaches, not due to traffic volume. The project team assumes that ODOT will provide recommendations for the roadway configuration in this area. ODOT is performing a safety study, with recommendations due by June 1. Attendees agreed that roadways in this area should be reconfigured, as the current ramp system is a remnant from over 50 years ago. The project team will serve as a "placeholder" for future planning efforts. Michelle Johnson suggested prioritizing the Martin Luther King Jr. roundabout over the E. 72nd Street roundabout.

A buffered bike path could be provided on Martin Luther King Jr Drive under the underpass, with decorative treatments.

Existing Connections
Jim Shea provided recommendations for improving existing connections to the lakefront. The discussion is summarized by connection below.

E. 9th Street
Michelle Johnson said that due to existing traffic conditions, options for better accommodating bicyclists on E. 9th Street were constrained. Marty Cader said that the City would likely not invest in a new bridge along E. 9th Street due to the new bridge being provided from the Mall. Tom Starinsky said that the report should at least state the potential for widening the E. 9th Street bridge, since a new bridge to the west will not accommodate people traveling from the Campus District. The project team said that the existing bridge cannot be widened, but that consideration could be given to providing a new, pedestrian-sized structure adjacent to the existing bridge. It was agreed that this should be to the west of the existing bridge.

Municipal Lots Bridge
Jim Shea presented concepts for reconfiguring the Muni Lots Bridge, and noted that the grading is not as significant as it appeared. This bridge could be widened to better accommodate pedestrians and bicyclists. The existing abutments and piers could be widened, and a new girder provided.

E. 55th Street Bridge
A wider sidewalk could be provided on this bridge. Dino Lustri recommended color-coding the bike lane here, and in other concept drawings, to better distinguish from vehicular paths. Marty Cader said that the drawing should show where the proposed South Marginal Road bike path will terminate at E. 55th Street.

E. 72nd Street
The project team presented concepts for improving this connection. James Amendola said that consideration should be given to removing the median, as the roadway looks like a high-speed facility and motorists therefore drive too fast. Better facilities should be provided for pedestrians and bicyclists.

Martin Luther King Jr. Drive
The project team noted that connection improvements here could take place independently of other proposed improvements in this area.

Proposed Connections
Jim Shea provided recommendations for proposed connections to the lakefront. The discussion is summarized by connection below.

E. 16th Street and E. 18th Street Area
Attendees agreed that the project team should show only the E. 18th Street connection, not E. 16th Street. The only improvements shown should be the connection to South Marginal Road, due to the greater expense and complexity of connecting to North Marginal Road. It was suggested that on the northern end of the span across the railroad, the ramp to grade could run parallel to South Marginal Road in order to take up less room of the Muni lots.

E. 40th Street and E. 49th Street Area

Attendees agreed that the project team should show only the E. 40th Street connection, not E. 49th Street. This is due in part to the feedback received at the public meeting.

Maintenance

Dino Lustri suggested that the study discuss the need for snow removal and other maintenance for off-road facilities. If switchbacks are used, ATV's cannot be used to clear facilities. Attendees noted that the Cleveland Lakefront State Park is the best-maintained of recreational facilities in the area. There should be coordination with Metroparks to maintain planned facilities.

Cost

Kim Guice said that an order of magnitude cost estimate for a bridge on E. 18th Street would be $1 million to $1.5 million, with a somewhat smaller cost for the E. 40th Street bridge.

For the improvements to the connections along Martin Luther King Jr. Drive, the cost could range from $50,000 to $300,000, depending on the nature of the improvements.

On-Road Bike Network

Tom Starinsky asked when the project team would provide recommendations for St. Clair Avenue and Superior Avenue. He said that there was a need to provide on-road bicycle connections from W. 9th Street to E. 55th Street that would serve residents of these areas. Jim Shea said that the project team was waiting to make network recommendations after connection recommendations were finalized.

Marty Cader said that Superior Avenue downtown had a median, with much of it painted out, and that could be used to provide space for bike lanes. James Amendola said that bike lanes on Superior Avenue will be extended from E. 30th Street to E. 18th Street in the future.

It was agreed to hold a meeting on May 26, 2:30 PM, at the St. Clair Superior CDC offices involving James Amendola, Bobbi Reichtell, Tom Starinsky, Jim Shea, and Michelle Johnson to discuss a potential on-road bike network.

Phasing

Jim Shea presented the phasing plan. Bobbi Reichtell recommended that construction of proposed crossings be placed first in the Medium Term Recommendations. It was also noted that the CDF improvements should be eliminated.

Public Meeting

It was recommended that the Public Meeting start with a presentation by 6 PM. Bobbi Reichtell said that the project team should provide information for pre-meeting publicity. Dino Lustri recommended that the project team be consistent with all colors used on maps. Existing versus proposed crossings should be distinguished.

LAKEFRONT GREENWAY and DOWNTOWN CONNECTOR STUDY

stclair superior development corporation

CAMPUS DISTRICT

WAREHOUSE DISTRICT

Steering Committee Meeting

May 14, 2015

Michael Baker INTERNATIONAL Environmental Design Group

Agenda

- Project Background
- Preferred Trail Alignment
- Existing & Proposed Crossings
- Preliminary Project Phasing
- Next Steps & Public input

Michael Baker INTERNATIONAL Environmental Design Group

Study Area

Goals and Objectives

- *Goals:*
  - Improve North and South Marginal Roads for travel by bicyclists and pedestrians
  - Strengthen connection between lakefront, downtown, and near eastside neighborhoods
- *Objectives:*
  - Establish a lakefront greenway Marginal Road corridor
  - Create north-south connections to the Lakefront Greenway
  - Facilitate east-west connectivity

Michael Baker INTERNATIONAL Environmental Design Group

Plan Development Process

- Project Scope, Goals & Objectives
- Existing Conditions Assessment
- Concept Development
- **Concept Evaluation and Feasibility Assessment**
- Recommendations
- Steering Committee Meeting 4
- Report

Community Engagement

Concept Development
- Steering Committee Meeting 1
- Project Team Workshop
- Steering Committee Meeting 2
- Public Meeting #1 (March 2015)

Concept Evaluation & Assessment
- Steering Committee Meeting 3

Recommendations
- Public Meeting #2 (June 4, 2015)

Michael Baker INTERNATIONAL Environmental Design Group

Project Team

Project Sponsors
James Amendola – St. Clair Superior CDC
Michael Fleming – St. Clair Superior CDC
Bobbi Reichtell – Campus District
Tom Starinsky – Historic Warehouse District & Gateway District

Consultant Team
Nancy Lyon-Stadler – Michael Baker Intl.
Michelle Johnson – Environmental Design Group
Jeff Kerr – Environmental Design Group
Travis Mathews – Environmental Design Group
Jim Shea – Michael Baker Intl.
Kim Guice – Michael Baker Intl.

Steering Committee

Radhika Reddy – Ariel Ventures
Ren Camacho – Cleveland Airport Systems
Arthur Schmidt – Cleveland City Planning
Sharonda Watley – Cleveland City Planning
Michelle Harvanek – Cleveland City Sustainability
Linda Sternheimer – Cleveland Cuyahoga County Port Authority
Ed Rybka – Cleveland Lakefront Development
Kelly Coffman – Cleveland Metroparks
Sara Burns Maier – Cleveland Metrparks
Amy Snell – GCRTA
Ryan Noles – NOACA
Melissa Thompson – NOACA
Mark Coffin – property owner
John Motl – ODOT District 12 Planning
Brian Blayney – ODOT Dist. 12, Traffic Engineering
Scott Knebel - LJB
April Bleakney – Resident, Campus District
Rachel DuFresne – Resident, Campus District
Maureen Haden – Resident, St. Clair Superior
Jim Kastelic – Trust for Public Lands
Larry Orlowski – Lakeside Yacht Club
Barb Clint – YMCA & Bike Cleveland

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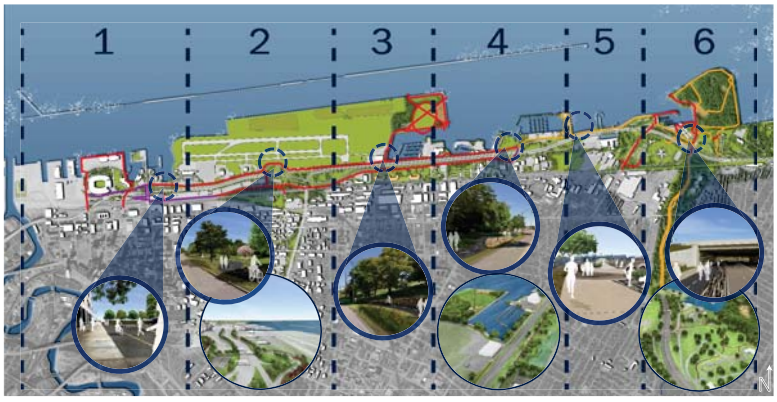
Overall Site Plan

Proposed
Existing
On Road

Michael Baker INTERNATIONAL Environmental Design Group

Trail & Greenway Segments

Proposed
Existing
On Road



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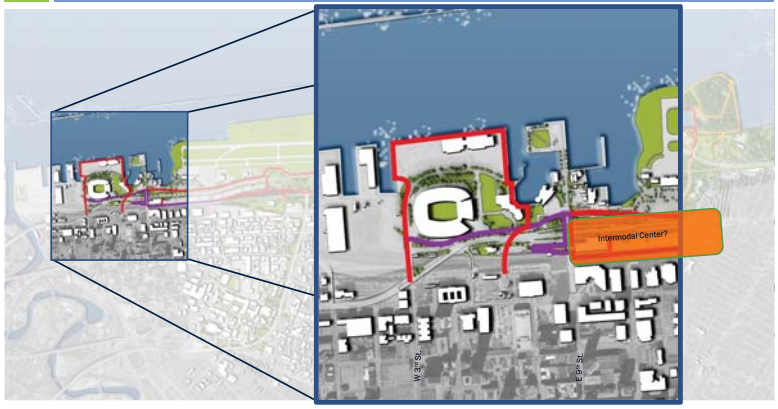
Segment 1

Proposed
Existing
On Road



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Muni Parking Lot

Existing

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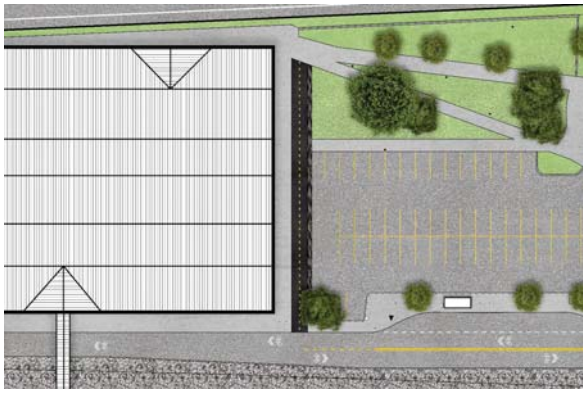
Muni Parking Lot



Proposed

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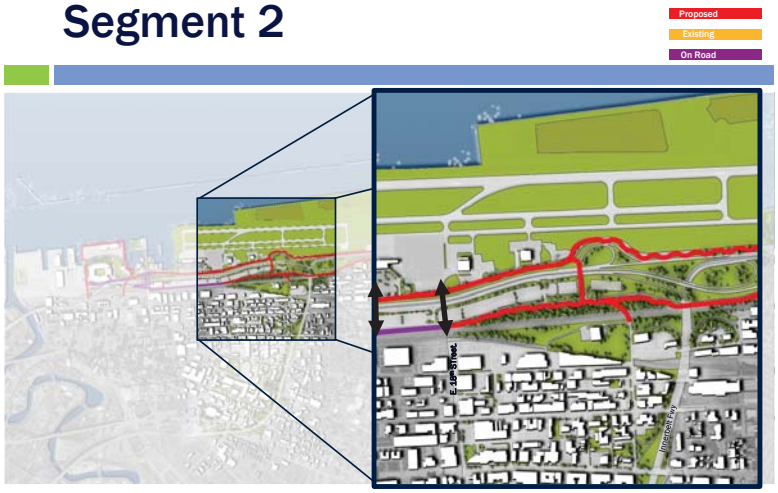
Muni Parking Lot

Before

After

Michael Baker INTERNATIONAL Environmental Design Group

Segment 2



North Marginal Trail

North Marginal Trail

Before

North Marginal Trail

After

South Marginal Trail

Before

South Marginal Trail

After

Downtown

Proposed
Existing
On Road

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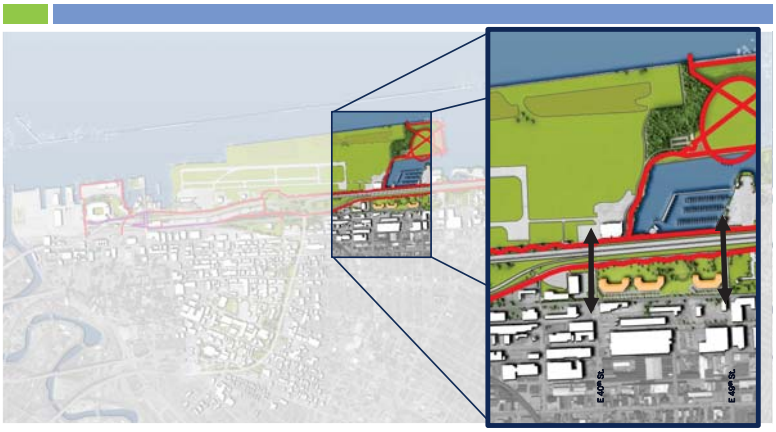
Segment 3

Proposed
Existing
On Road



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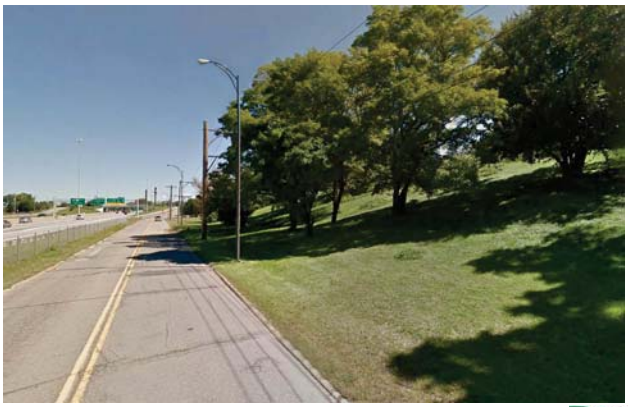
South Marginal Trail



Before

Michael Baker INTERNATIONAL Environmental Design Group

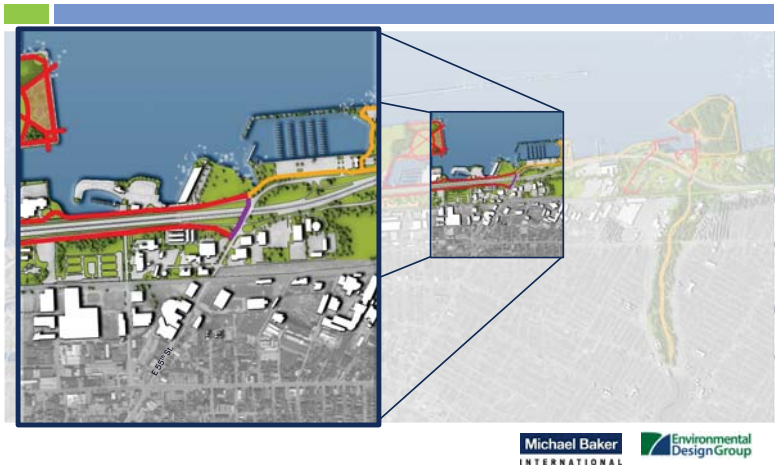
South Marginal Trail

After

Michael Baker INTERNATIONAL Environmental Design Group

Segment 4

Proposed
Existing
On Road



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South Marginal Trail

Before

Michael Baker INTERNATIONAL Environmental Design Group

South Marginal Trail

After

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Environmental Design Group

CDF Development – Phase I

Proposed
Existing
On Road

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CDF Development – Phase II

Proposed
Existing
On Road

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CDF Development – Phase III

Proposed
Existing
On Road

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CFD Development – Phase III

Proposed
Existing
On Road

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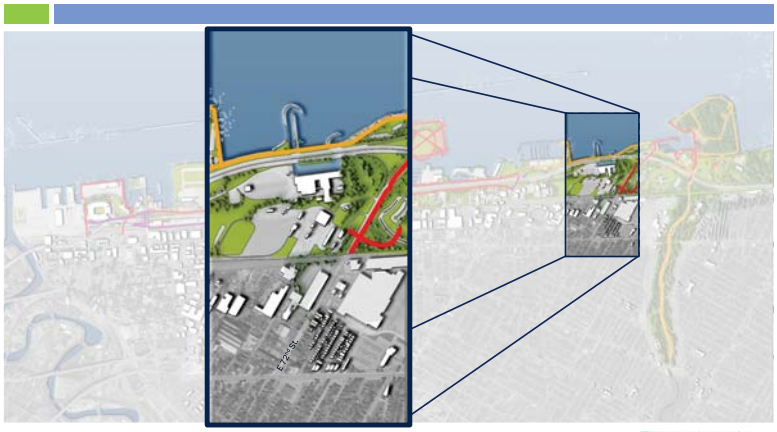
Segment 5

Proposed
Existing
On Road



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Environmental Design Group

North Marginal Trail Crossing

Before

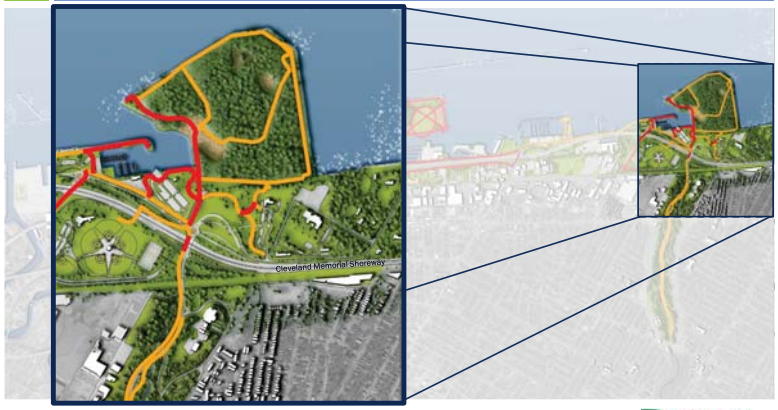
Michael Baker INTERNATIONAL Environmental Design Group

North Marginal Trail Crossing

After

Michael Baker INTERNATIONAL Environmental Design Group

Segment 6



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E 72nd Street Existing

Existing

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E 72nd Street Roundabout

Proposed

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Martin Luther King Jr. Dr. Existing

Existing

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Martin Luther King Jr. Dr. Roundabout

Proposed

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MLK Underpass Existing

Before

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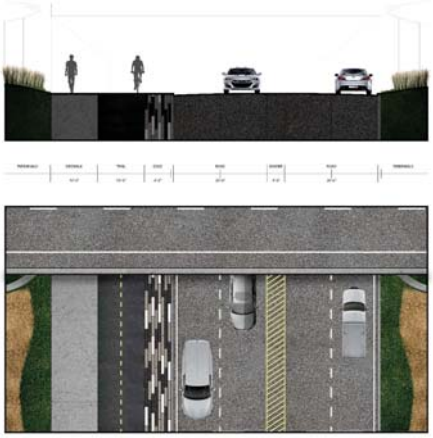
MLK Underpass



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MLK Underpass

Before

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MLK Underpass - Day

After

Michael Baker INTERNATIONAL Environmental Design Group

MLK Underpass - Night

After

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Lakefront Nature Preserve

Lakefront Nature Preserve

Proposed
Existing
On Road

Existing North-South Connections

	Mobility			Property Impacts				Public Comment		Implementation		
Improvements to Existing Crossings												
West 3rd Street												
East 9th Street												
Muni Lot Bridge												
East 55th Street												
East 72nd Street												
Gordon Park Pedestrian Bridge												
MLK (Lake-to-Lakes Trail)												

West 3rd & East 9th Street

West 3rd Street

East 9th Street

- Potential to reconfigure roadway
- City is studying feasibility

- Capacity reduction not feasible
- Can't widen existing bridge
- Potential for adjacent matching structure

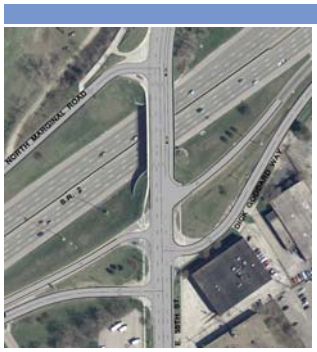
	Mobility			Property Impacts				Public Comment		Implementation		
Improvements to Existing Crossings												
West 3rd Street												
East 9th Street												

Muni Lot Bridge

- Access via SR-2 WB ramps
- Sidewalk is narrow
- Widen bridge deck for bikes & peds
- Consider ramp modification to facilitate access

	Mobility			Property Impacts				Public Comment		Implementation		
Improvements to Existing Crossings												
Muni Lot Bridge												

East 55th Street



- Bike lanes & sidewalks on bridge
- Lots of pavement at intersections
  - South Marginal
  - I-90 EB ramps
  - North Marginal

	Mobility			Property Impacts				Public Comment		Implementation		
Improvements to Existing Crossings												
East 55th Street												

East 72nd Street & Gordon Park

East 72nd Street

- Buffered bike lanes
- Sidewalks, east side of road
- Connects to lakefront

Gordon Park

- Bridge over I-90
- Connects Gordon Park with lakefront
- Stairs or long ped ramp (north side)

	Mobility			Property Impacts					Public Comment		Implementation		
	Improves Pedestrian Mobility	Improves Vehicular Mobility	Improves Lakefront Access	Institutional/ Business	Burke Lakefront Airport	ODOT	Freight Rail		Project Stakeholders	General Public	Environmental Impacts	Costs	Further Study?
Improvements to Existing Crossings													
East 72nd Street	●	●	●	●	●	●	●			●	●	●	
Gordon Park Pedestrian Bridge	●	N/A	●	●	●	●	●			●	●	●	

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MLK (Lake-to-Lakes Trail)

- I-90 underpass
- Uncomfortable for bikes & peds
- Lake-to-Lakes Trail ends south of underpass

	Mobility			Property Impacts					Public Comment		Implementation		
	Improves Pedestrian Mobility	Improves Vehicular Mobility	Improves Lakefront Access	Institutional/ Business	Burke Lakefront Airport	ODOT	Freight Rail		Project Stakeholders	General Public	Environmental Impacts	Costs	Further Study?
Improvements to Existing Crossings													
MLK (Lake-to-Lakes Trail)	●	●	●	●	●	●	●			●	●	●	

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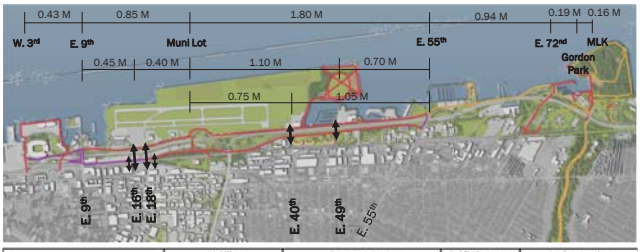
Proposed North-South Connections



	Mobility			Property Impacts					Public Comment		Implementation		
	Improves Pedestrian Mobility	Improves Vehicular Mobility	Improves Lakefront Access	Institutional/ Business	Burke Lakefront Airport	ODOT	Freight Rail		Project Stakeholders	General Public	Environmental Impacts	Costs	Further Study?
Improvements to Existing Crossings													
East 16th Street to N. Marginal / to S. Marginal	●●	N/A	●●	●●	●●	●●	●●			●●	●●	●●	
East 18th Street to N. Marginal / to S. Marginal	●●	N/A	●●	●●	●●	●●	●●			●●	●●	●●	
East 40th Street	●	N/A	●	●	●	●	●			●	●	●	
East 49th Street	●	N/A	●	●	●	●	●			●	●	●	

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Proposed North-South Connections
East 16th Street/East 18th Street

	Mobility			Property Impacts					Public Comment		Implementation		
	Improves Pedestrian Mobility	Improves Vehicular Mobility	Improves Lakefront Access	Institutional/ Business	Burke Lakefront Airport	ODOT	Freight Rail		Project Stakeholders	General Public	Environmental Impacts	Costs	Further Study?
Improvements to Existing Crossings													
East 16th Street to N. Marginal / to S. Marginal	●●	N/A	●●	●●	●●	●●	●●			●●	●●	●●	
East 18th Street to N. Marginal / to S. Marginal	●●	N/A	●●	●●	●●	●●	●●			●●	●●	●●	

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Proposed North-South Connections
East 40th Street/East 49th Street

	Mobility			Property Impacts					Public Comment		Implementation		
	Improves Pedestrian Mobility	Improves Vehicular Mobility	Improves Lakefront Access	Institutional/ Business	Burke Lakefront Airport	ODOT	Freight Rail		Project Stakeholders	General Public	Environmental Impacts	Costs	Further Study?
Improvements to Existing Crossings													
East 40th Street	●	N/A	●	●	●	●	●			●	●	●	
East 49th Street	●	N/A	●	●	●	●	●			●	●	●	

Michael Baker INTERNATIONAL Environmental Design Group

Proposed North-South Connections

Michael Baker INTERNATIONAL Environmental Design Group

ODOT Safety Study

ODOT safety study

- E.72nd Street & MLK interchange areas
- E.55th Street interchange area

Preliminary Project Phasing

- Out of the Gate
  - MLK Lake to Lakes Connections
  - North Marginal East End (Trail Crossing) Enhancements
- Short Term
  - Preferred Trail Alignment Construction along North and South Marginal
- Medium Term
  - Muni Lot Crossing Upgrades
  - East 55th Street Upgrades
  - Construction of Proposed Crossings
- Long Term
  - Potential CDF Development

Plan Development: Next Steps

- Concept evaluation & feasibility assessment
- Develop recommendations
- Present recommendations (public mtg June 4, 2015)
- Prepare report

THANK YOU!

Lakefront Greenway and Downtown Connector Study

Public Meeting #2

June 4, 2015
6:00-7:30 pm
Ariel International Center, 1163 East 40th Street, Cleveland, Ohio 44114

Attendance

59 (including project team)
Names and affiliations are included at the end of the notes.

Meeting Summary

The purpose of the meeting was to provide a project update to the public, provide an overview of the development of the concepts since Public Meeting #1, and gather public input, reactions and preferences on the concepts and ideas that were presented.

Questions from the Public (Q&A)

- Question was asked as to if North Marginal Road will be closed as part of this project?
- Segment 3 – Concerns arouse about the existing road surface condition and lack of enough room for the trail because of the water when it runs next to South Marginal Road.
- Segment 3 – Will Kirtland Park shrink? What are the buildings in that area being shown in yellow on the map?
- Question and concern about safety: To what extent this design truly protects bikes from cars and pedestrians from bikes? Can we use rumble strips instead of relying merely on pavement marking? Technical terms need to be explained. What is the shared use path? An attendee who described himself as a terrified resident shared an unpleasant experiences in which he's been passed by bicyclists running very fast.
- What is the time frame for the construction? Why can't we build the trail closer to the lake?
- Question was asked as to the reasons of Aviation School demolition plan. Can the project team provide any information in this regard?
- Concerns were mentioned about the short merge distance between E. 55th and E. 77th on and off ramps on I-90.
- Question was asked as to if there is any plan about the aesthetics around the trail? Trees, artworks, etc.
- On W. 3rd and E. 9th, Can we do a mini version of the Lorain Carnegie Bridge where bicyclists and pedestrians are protected with barriers?
- Safety concerns were mentioned about the usage of roundabouts. A participant was curious to know if ODOT was involved with the removal of Steelyard Commons roundabout.
- Has Dog Park been considered as part a project?

- A citizen mentioned concerns about the potential impacts of Opportunity Corridor on E. 55th traffic conditions.
- Has way finding and transportation signage been planned for the project? E.g. Signs guiding to rest stop amenities.
- Has any exercise facility been planned for the park adjacent to the trail crossing?
- Who and What Burke Airport service?
- Will Browns' game traffic be impacted by the W. 3rd proposed improvements?
- Group of attendees expressed frustrations about the Burke Airport being uncooperative in providing flexibility and space. One resident mentioned Cuyahoga and Washington airports as two examples of airport where you can easily bike around.

Public Feedback from Comment Forms

- Commenter #1
  1. It is a terrific idea to build a separate ped/bike bridge west of E. 9th St.

- Commenter #2
  1. Please put PHYSICAL barriers between cars and peds/bikes under bridges. This is a space that totally distracts some drivers, and it is way too easy to not see pedestrians and bikes in the changing (dark) light under the bridge structure.

- Commenter #3
  1. North Marginal – Muni Lot: Keep it simple. First option is good – other options are too complicated.

- Commenter #4
  1. There is a need for access around Burke/Lakefront Airport. In Arlington, VA, you can bicycle very close to the Reagan International Airport. How is it possible there but not at Burke?

- Commenter #5
  1. Design a path around outer edge of Burke.

- Commenter #6
  1. Rework the MLK intersection. This should be priority over 72nd.

- Commenter #7
  1. E. 40th St. bridge is very important.

Lakefront Greenway and Downtown Connector Study Public Meeting #1
June 4, 2015 from 6:00 pm to 7:30 pm
Ariel Interantion Center, 1163 East 40th Street, Cleveland, Ohio 44114

Name	Company/Organization	Email
Jim Shea	Baker	jim.shea@mbakerintl.com
Alireza Gerayeli	Baker	alireza.geryaeli@mbakerintl.com
Cyntia Ringenback	Downtown resident	
Leonard Ringenback	Downtown resident	lenringenbach@gmail.com
Lyle Geschke		
Penelope Gleason	Forest City Yatch Club	pennyg415@gmail.com
Gennano Lucg	Sequentia	GNL@SEQUENTIACANE.COM
Nikki Tofalo	Downtown resident	nikki.tofalo@gmail.com
Bennet Newman	Downtown resident	banewman1@gmail.com
Lynda Novotny	Quay55 resident	mcgkgmin@msn.com
John Sparano	LYC	John@woodhillplaying.com
Dan Lournger	LYC	DANLLORI@AOL.COM
John Szabe	LYC	JZSLAW@ROADRUNNER.COM
David Hunt	LYC	DHunt17303@aol.com
Rod Desilets	FCYC	Rdesilets@ENPROTECH.COM
Kelly Coffman	Cleveland Metroparks	kbc@clevelandmetroparks.com
J. Shoney		J.SHONEY@THEFOUNDRYPROJECT.COM
E. HOGAN	CSU	e.r.hogan@csuohio.edu
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E. Donley	Self	Ebdonley1@yahoo.com
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Gretchen Faro		gretchen@clevelandlakefrontconservancy@org
Kaela Geschke	CDI	
Wade Kratzer	TDA Architecture	wkratzer@thindesign.com
James Asnery	SCSDC	
Fron Twomey		FRONTWOMEYZZ@GMAIL.COM
Jeff Barbalics		jbarbalics@csinc.com
Rebecca Hartman		rebeccajhartman@mac.com
Scott Knebel	LJB	sknebel@ljbinc.com
Erica Henkin		ericahenkin@gmail.com
Bill Harmetgovld		gouldlaft@sbc.global.net
Judge Russo		bermbege@aol.com
Patricia Russo		
Ryam Noles	NOACA	rnoles@mpo.noaca.org
Nolan Bench	Dnd.	helloiamnolan@gmail.com
Etsy Bench	Dnd.	
Janean Aikens	SCSDC	Jaikens@stclairsuperior.org
Micheal Fleming	SCSDC	
Dolores Watson	Earth Day Coalition	dwatson@earthdaycoalition.org
Stephen Love	Cleveland Foundation	slove@cleveFdn.org
Tim Lewis		
Dorjan Scott		scotdor@gmail.com
Marylou Miller		MMILLER1444@ATT.NET
Sharonda Watley	City of Cleveland	swatley@city.cleveland.oh.us
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Giselle Dover		gdover@umich.edu
Grorge Kamem		georgekamem2004@yahoo.com
Leslie Besmar	Resident	llbesmar@gmail.com
Dan Jakubisin	Tower President	dan@2320lofts.com
Siuyans Scott	Trust for Public Land	syscott@gmail.com
Jeff	CHMA	jpnt@cmha.net
Steve Miseacik	Campus District	stephenmiscencik@sbcglobal.net
Patricia Crutchfield		crutch09@att.net
Mark Chupp	CWRU	mak.chupp@gmail.com
Caitlin Russell	EDG	crussell@envdesigngroup.com
Michelle Johnson	EDG	

LAKEFRONT GREENWAY and DOWNTOWN CONNECTOR STUDY

stclair superior development corporation

CAMPUS DISTRICT

WAREHOUSE DISTRICT

Public Meeting #2

June 4, 2015

Michael Baker INTERNATIONAL Environmental Design Group

Agenda

- Project Background
- Preferred Trail Alignment
- Existing & Proposed Crossings
- Neighborhood Connections
- Preliminary Project Phasing
- Next Steps & Public input

Michael Baker INTERNATIONAL Environmental Design Group

Study Area

Goals and Objectives

- *Goals:*
  - Improve North and South Marginal Roads for travel by bicyclists and pedestrians
  - Strengthen connection between lakefront, downtown, and near eastside neighborhoods
- *Objectives:*
  - Establish a lakefront greenway Marginal Road corridor
  - Create north-south connections to the Lakefront Greenway
  - Facilitate east-west connectivity

Michael Baker INTERNATIONAL Environmental Design Group

Plan Development Process

- Project Scope, Goals & Objectives
- Existing Conditions Assessment
- Concept Development
- **Concept Evaluation and Feasibility Assessment**
- **Recommendations**
- Steering Committee Meeting 4
- Report

Community Engagement

Concept Development
- Steering Committee Meeting 1
- Project Team Workshop
- Steering Committee Meeting 2
- Public Meeting #1 (March 2015)

Concept Evaluation & Assessment
- Steering Committee Meeting 3

Recommendations
- Public Meeting #2 (June 2015)
- Steering Committee Meeting 4 (July 2015)

Michael Baker INTERNATIONAL Environmental Design Group

Project Team

Project Sponsors
James Amendola – St. Clair Superior CDC
Michael Fleming – St. Clair Superior CDC
Bobbi Reichtell – Campus District
Tom Starinsky – Historic Warehouse District & Gateway District

Consultant Team
Jim Shea – Michael Baker Intl.
Kim Guice – Michael Baker Intl.
Michelle Johnson – Environmental Design Group
Jeff Kerr – Environmental Design Group
Travis Mathews – Environmental Design Group

Steering Committee

Radhika Reddy – Ariel Ventures
Ren Camacho – Cleveland Airport Systems
Arthur Schmidt – Cleveland City Planning
Sharonda Watley – Cleveland City Planning
Linda Sternheimer – Cleveland Cuyahoga County Port Authority
Ed Rybka – Cleveland Lakefront Development
Kelly Coffman – Cleveland Metroparks
Sara Burns Maier – Cleveland Metrparks
Amy Snell – GCRTA
Ryan Noles – NOACA
Melissa Thompson – NOACA
Mark Coffin – property owner
John Motl – ODOT District 12 Planning
Brian Blayney – ODOT Dist. 12, Traffic Engineering
Scott Knebel - LJB
April Bleakney – Resident, Campus District
Rachel DuFresne – Resident, Campus District
Maureen Haden – Resident, St. Clair Superior
Jim Kastelic – Trust for Public Lands
Larry Orlowski – Lakeside Yacht Club
Barb Clint – YMCA & Bike Cleveland

Michael Baker INTERNATIONAL Environmental Design Group

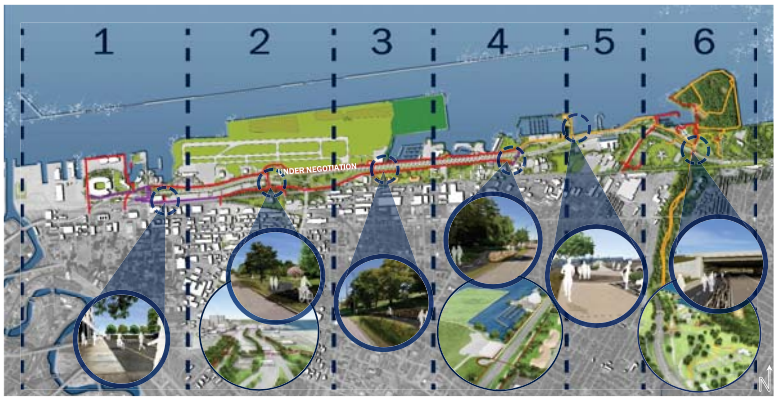
Overall Site Plan

Proposed
Existing
On Road

Michael Baker INTERNATIONAL Environmental Design Group

Trail & Greenway Segments

Proposed
Existing
On Road



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Segment 1

Proposed
Existing
On Road

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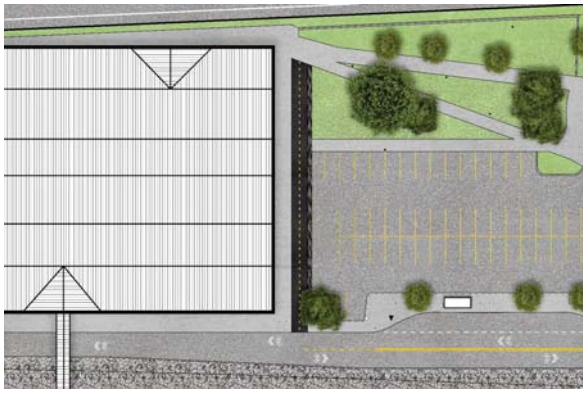
Muni Parking Lot

Existing

Michael Baker INTERNATIONAL Environmental Design Group

Muni Parking Lot



Proposed

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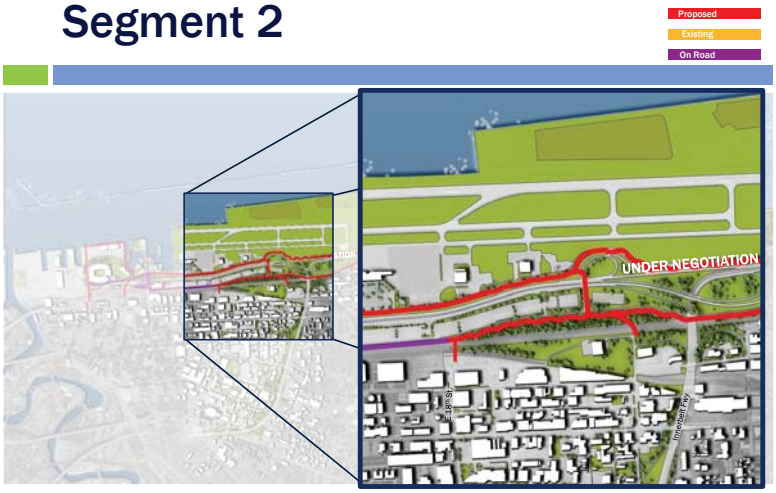
Muni Parking Lot

Before

After

Michael Baker INTERNATIONAL Environmental Design Group

Segment 2



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North Marginal Trail

Michael Baker INTERNATIONAL Environmental Design Group

North Marginal Trail

Michael Baker INTERNATIONAL Environmental Design Group

North Marginal Trail

Before

Michael Baker INTERNATIONAL Environmental Design Group

North Marginal Trail

After

Michael Baker INTERNATIONAL Environmental Design Group

South Marginal Trail

Before

Michael Baker INTERNATIONAL Environmental Design Group

South Marginal Trail

After

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Downtown

Proposed
Existing
On Road

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Campus District Connectivity

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Campus District Connectivity

Before

Michael Baker INTERNATIONAL Environmental Design Group

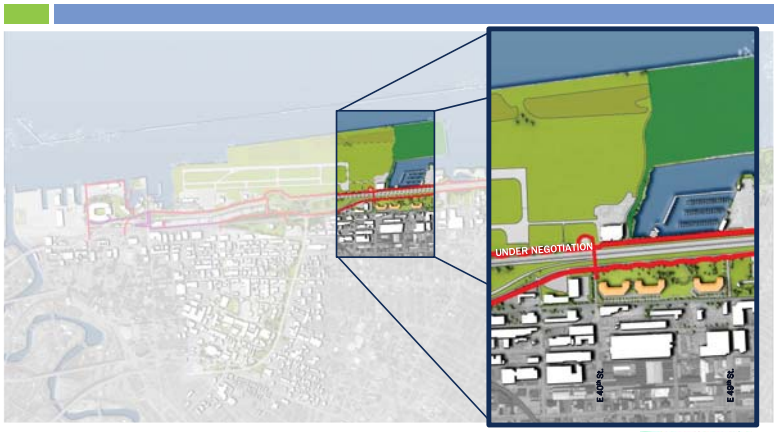
Campus District Connectivity

After

Michael Baker INTERNATIONAL Environmental Design Group

Segment 3

Proposed
Existing
On Road



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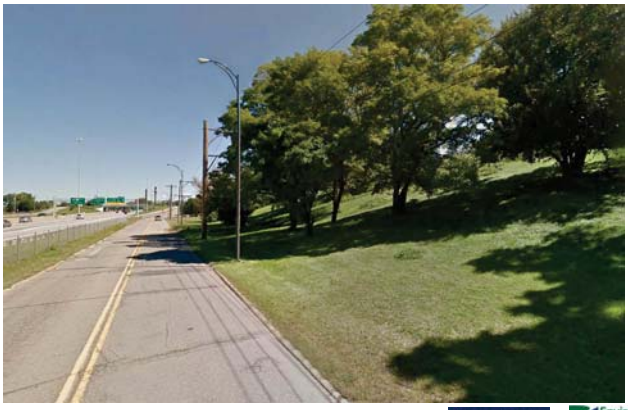
South Marginal Trail



Before

Michael Baker INTERNATIONAL Environmental Design Group

South Marginal Trail

After

Michael Baker INTERNATIONAL Environmental Design Group

Segment 4

Proposed
Existing
On Road

Michael Baker INTERNATIONAL Environmental Design Group

South Marginal Trail

Before

Michael Baker INTERNATIONAL Environmental Design Group

South Marginal Trail

After

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CDF Development – Phase I

Proposed
Existing
On Road

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CDF Development – Phase II

Proposed
Existing
On Road

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CDF Development – Phase II

Proposed
Existing
On Road

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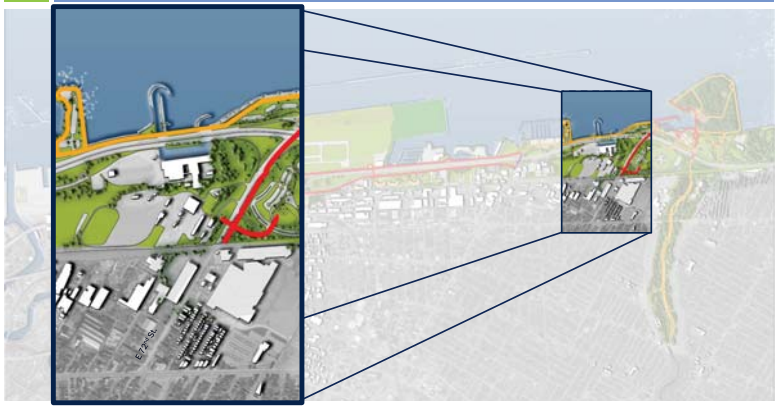
Segment 5

Proposed
Existing
On Road



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Environmental Design Group

North Marginal Crossing

Before

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North Marginal Crossing

After

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Segment 6

Proposed
Existing
On Road

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E 72nd Street Existing

Existing

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E 72nd Street Roundabout

Proposed

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Martin Luther King Jr. Dr. Existing

Existing

Michael Baker INTERNATIONAL Environmental Design Group

Martin Luther King Jr. Dr. Roundabout

Proposed

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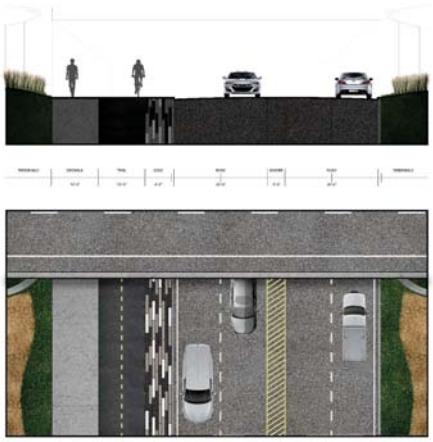
MLK Underpass Existing

Before

Michael Baker INTERNATIONAL Environmental Design Group

MLK Underpass



Michael Baker INTERNATIONAL Environmental Design Group

MLK Underpass

Before

Michael Baker INTERNATIONAL Environmental Design Group

MLK Underpass - Day

After

Michael Baker INTERNATIONAL Environmental Design Group

MLK Underpass - Night

After

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Lakefront Nature Preserve

Proposed
Existing
On Road

Michael Baker INTERNATIONAL Environmental Design Group

Lakefront Nature Preserve

Proposed
Existing
On Road

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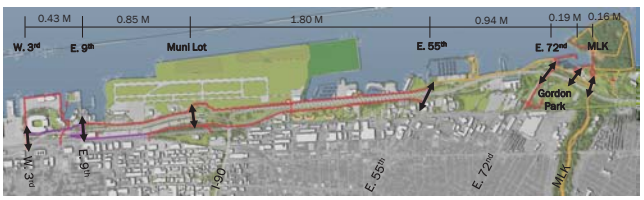
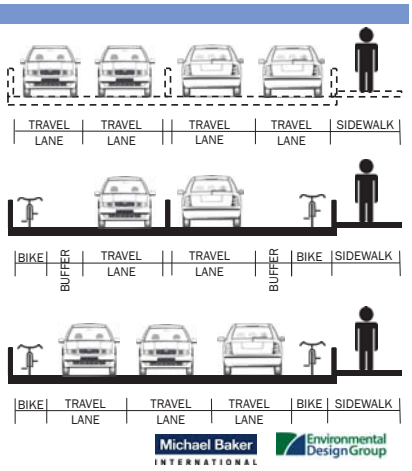
Existing North-South Connections



	Mobility			Property Impacts				Public Comment		Implementation		
	Improves Pedestrian Mobility	Improves Vehicular Mobility	Improves Lakefront Access	Institutional/ Business	Burke Lakefront Airport	ODOT	Freight Rail	Project Stakeholders	General Public	Environmental Impacts	Costs	Further Study?
Improvements to Existing Crossings												
West 3rd Street	○	○	○	●	●	○	●	●	○	●	○	●
East 9th Street	○	○	○	●	●	○	●	○	●	○	●	●
Muni Lot Bridge	●	●	●	●	●	●	●	●	●	○	○	●
East 55th Street	●	●	●	●	●	○	●	●	○	○	○	●
East 72nd Street	○	○	○	●	●	○	●	●	●	○	○	●
Gordon Park Pedestrian Bridge	○	N/A	○	●	●	●	●	○	●	●	●	●
MLK (Lake-to-Lakes Trail)	●	○	●	●	●	●	●	●	●	●	●	●

Michael Baker INTERNATIONAL Environmental Design Group

West 3rd Street



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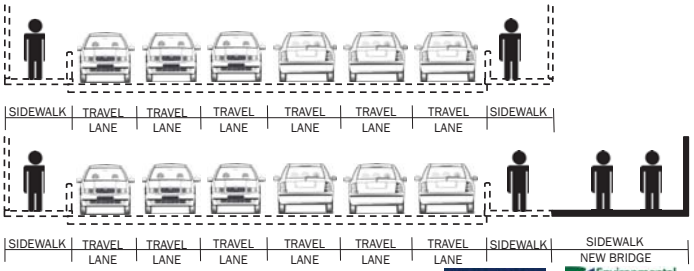
East 9th Street



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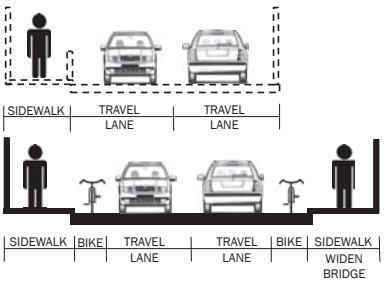
Muni Lot Bridge



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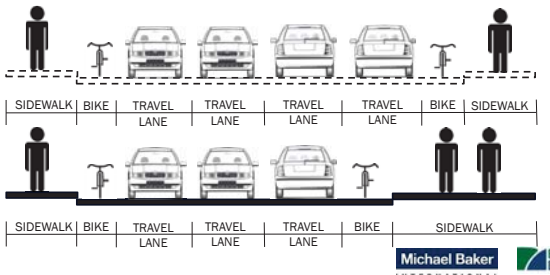
Muni Lot Bridge

Michael Baker INTERNATIONAL Environmental Design Group

East 55th Street



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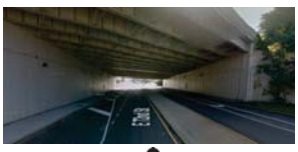
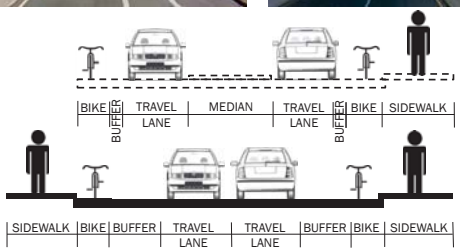
East 72nd Street





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MLK (Lake-to-Lakes Trail)

- I-90 underpass
- Uncomfortable for bikes & peds
- Lake-to-Lakes Trail ends south of underpass

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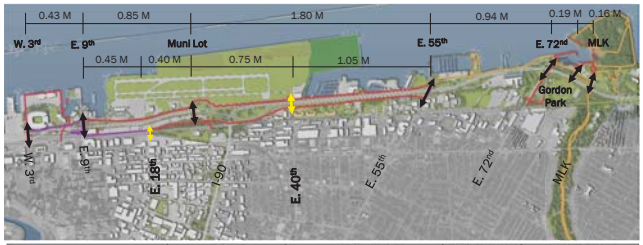
Proposed North-South Connections



Proposed Crossings	Mobility			Property Impacts				Public Comment		Implementation		
East 16th Street to N. Marginal / to S. Marginal		N/A										
East 18th Street to N. Marginal / to S. Marginal		N/A										
East 40th Street		N/A										
East 49th Street		N/A										

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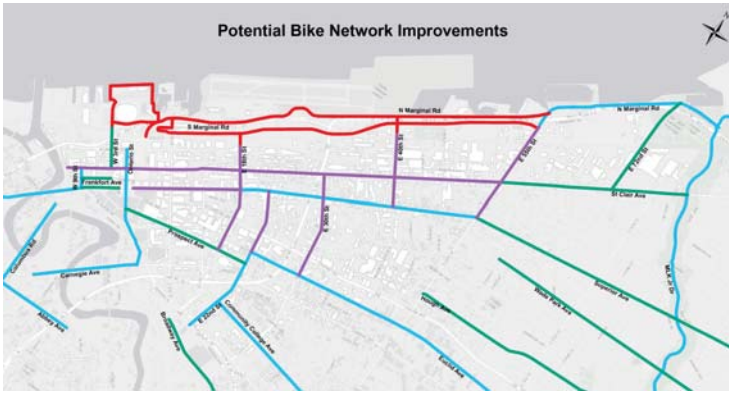
Proposed North-South Connections
East 18th Street & East 40th Street

Michael Baker INTERNATIONAL | Environmental Design Group

Proposed North-South Connections

Michael Baker INTERNATIONAL | Environmental Design Group

East-West Connections



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ODOT Safety Study

ODOT safety study

- E.72nd Street & MLK interchange areas
- E.55th Street interchange area

Michael Baker INTERNATIONAL | Environmental Design Group

Preliminary Project Phasing

- **Short Term**
  - Preferred Trail Alignment Construction along North and South Marginal
  - MLK Lake to Lakes Connections
  - North Marginal West End Enhancements
- **Medium Term**
  - Improvements to Existing Crossings
- **Long Term**
  - Construction of Proposed Crossings

Plan Development: Next Steps

Concept Development

- Steering Committee Meeting 1
- Project Team Workshop
- Steering Committee Meeting 2
- Public Meeting #1 (March 2015)

Concept Evaluation & Assessment

- Steering Committee Meeting 3

Recommendations

- Public Meeting #2 (June 2015)
- Finalize Recommendations
- Steering Committee Meeting 4 (July 2015)
- Prepare Report

Plan Development: Next Steps

- Concept evaluation & feasibility assessment
- Develop recommendations
- Present recommendations (public mtg June 2015)
- Prepare report

THANK YOU!

Lakefront Greenway & Downtown Connector
Steering Committee Meeting
August 31, 2015

Attending:

Name	Organization	Email	Phone
James Amendola	St Clair Superior CDC	jamendola@stclairsuperior.org	216-881-0644 x109
Michael Fleming	St Clair Superior CDC	mfleming@stclairsuperior.org	216-881-0644 x103
Bobbi Reichtell	Campus District, Inc.	breichtell@campusdistrict.org	216-650-6945
Tom Starinsky	Historic Warehouse Neighborhood Corporation	tstarinsky@historicgateway.org	216-771-8088
Linda Sternheimer	Cleveland Cuyahoga County Port Authority	Linda.sternheimer@portofcleveland.com	216-377-1348
Kelly Coffman	Cleveland Metro Parks	kbc@clevelandmetroparks.com	216.351.6300 x3295
Sara Maier	Cleveland Metro Parks	sbm@clevelandmetroparks.com	216-635-3289
Melissa Thompson	NOACA	mthompson@mpo.noaca.org	
Brian Blayney	ODOT	Brian.blayney@dot.state.oh.us	216-584-2102
John Motl	ODOT	John.motl@dot.ohio.gov	216-584-2085
Rachel DuFresne	Resident - Campus District	earthphilosophy@hotmail.com	216-344-9488
Jim Kastelic	Trust for Public Lands	Jim.kastelic@tpl.org	216-928-7518 x107
Barb Clint	YMCA	bclint@clevelandymca.org	216-385-5114
Marty Cader	Cleveland City Planning	mcader@city.cleveland.oh.us	216-664-2952
Jenita McGowan	Cleveland City Sustainability	Jmcgowan@city.cleveland.oh.us	216-664-2405
Donn Angus	Cleveland City Planning	dangus@city.cleveland.oh.us	
Arthur Schmidt	Cleveland City Planning	aschmidt@city.cleveland.oh.us	216-664-3817
Dino Lustri	Cleveland Airport System	dlustri@clevelandairport.com	216-387-3781
Alison Wasserman	NOACA	awasserman@mpo.noca	
Shannon Barnhart	Cleveland Airport System	sbarnhart@clevelandairport.com	216-265-6610
Jabob Van Sickle	Bike Cleveland	jacob@bikecleveland.org	216-245-3101
Jim Shea	Michael Baker Jr., Inc.	jshea@mbakerintl.com	216-776-6806
Michelle Johnson	Environmental Design Group	MJohnson@ENVDESIGNGROUP.COM	330-375-1390

Lakefront Greenway & Downtown Connector
Steering Committee Meeting
August 31, 2015

Purpose
The project team presented Steering Committee with the project recommendations. The primary goal of the meeting was to gain final committee feedback prior to developing final planning document.

Summary of Meeting

- Jim Shea and Michelle Johnson presented project recommentations to the steering committee for final feedback. The following final comments were recorded and will be incorporated in the final planning document.
    - Include in the final document that exploring closing north marginal was explored and that participants from the Steering Committee found it unacceptable to reduce access.
    - The group would like to see green space maximized along the corridor since many areas are going to be constrained.
    - West 3rd improvements are underway and will include streetscaping and landscaping elements south of the West 3rd Street bridge over the railroad and the Shoreway.
    - Committee would like to see the option for pedestrian bridge on either the east of west side of East 9th Street. Providing the bridge on the east could provide better connections to the future intermodal center.
    - Steering Committee would like to see preliminary alignments for the proposed crossings at Eats 18th Street and East 40th Street based on the cost estimates that were developed. Alignments show depict potential locations for switch back locations.
    - Costs estimates for East 55th Street bridge modifications should not include complete re-decking. Re-decking of this bridge has just recently occurred.
    - Consider widened sidewalk on the west side of the East 55th Street Bridge to complete greenway loop. This may or may not be possible depending on roadway alignments and tapers. This will also need to be coordinated with recommendations from the ODOT Safety Study that is currently underway.
    - ODOT indicated that proposed crossing locations will need to meet increased vertical clearance requirements since they are pedestrian facilities. Additional height requirements should be accounted for in the development of the preliminary alignments as well as the cost estimates.

LAKEFRONT GREENWAY and DOWNTOWN CONNECTOR STUDY

stclair superior development corporation

CAMPUS DISTRICT

WAREHOUSE DISTRICT

Steering Committee Meeting #4

August 31, 2015

Michael Baker INTERNATIONAL Environmental Design Group

Agenda

- Project Background
- Preferred Trail Alignment
- North/South Neighborhood Connections
- East/West Neighborhood Connections
- Implementation Plan
  - Implementation Committee
  - Project Phasing

Michael Baker INTERNATIONAL Environmental Design Group

Plan Development Process

- Project Scope, Goals & Objectives
- Existing Conditions Assessment
- Concept Development
- Concept Evaluation and Feasibility Assessment
- Recommendations
- **Steering Committee Meeting 4**
- **Report**

Community Engagement

Concept Development
- Steering Committee Meeting 1
- Project Team Workshop
- Steering Committee Meeting 2
- Public Meeting #1 (March 2015)

Concept Evaluation & Assessment
- Steering Committee Meeting 3

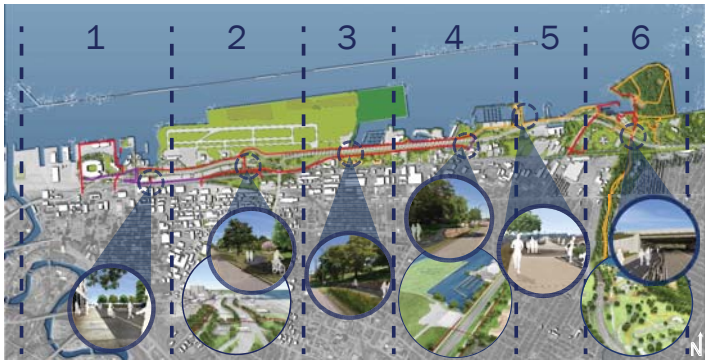
Recommendations
- Public Meeting #2 (June 2015)
- **Steering Committee Meeting 4 (August 2015)**

Michael Baker INTERNATIONAL Environmental Design Group

Overall Site Plan

Michael Baker INTERNATIONAL Environmental Design Group

Trail & Greenway Segments



Michael Baker INTERNATIONAL Environmental Design Group

Segment 1

Michael Baker INTERNATIONAL Environmental Design Group

Muni Parking Lot

Existing

Muni Parking Lot

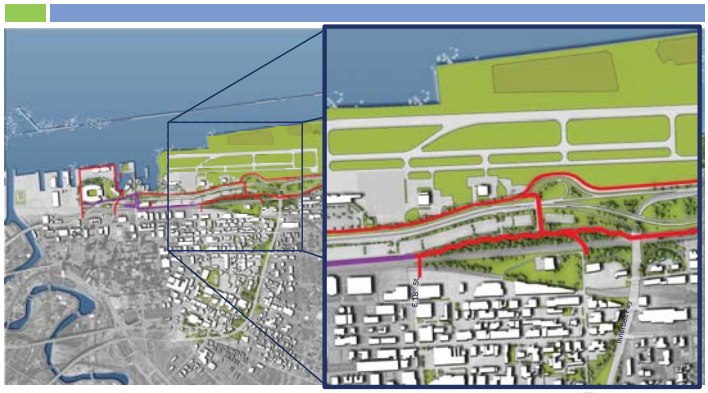
Proposed

Muni Parking Lot

Before

After

Segment 2



Segment 2

North Marginal Trail

South Marginal Trail

Before

South Marginal Trail

After

Downtown

Segment 3

Segment 3

North Marginal Trail

North Marginal Trail

Before

North Marginal Trail

Before

South Marginal Trail

Before

South Marginal Trail

After

CDF Development – Phase I

CDF Development – Phase II

CDF Development – Phase II

Segment 4

North Marginal Trail

Before

North Marginal Trail

After

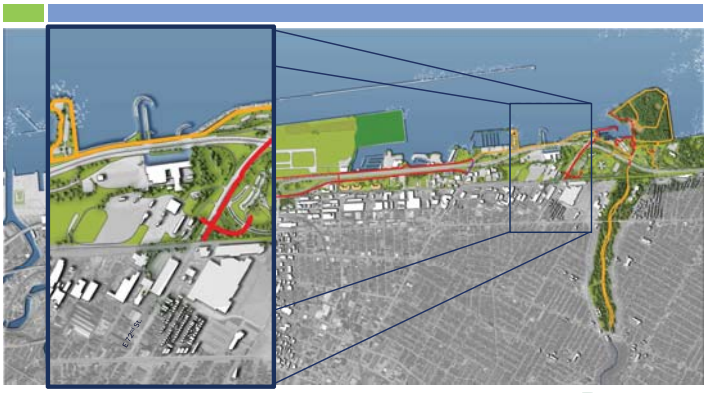
South Marginal Trail

Before

South Marginal Trail

After

Segment 5



North Marginal Crossing

Before

North Marginal Crossing

After

Segment 6

E 72nd Street Existing

Existing

E 72nd Street Roundabout

Proposed

Martin Luther King Jr. Dr. Existing

Existing

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Martin Luther King Jr. Dr. Roundabout

Proposed

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MLK Underpass Existing

Before

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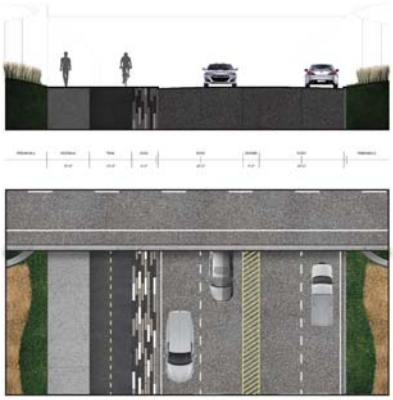
MLK Underpass



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MLK Underpass - Day

After

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MLK Underpass - Night

After

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Lakefront Nature Preserve

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Lakefront Nature Preserve

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Estimated Trail Costs

CONCEPTUAL OPINION OF PROBABLE COSTS

Lakefront Greenway & Downtown Connector Study

August 1, 2015

Environmental Design Group

	PREFERRED ROUTE	
SECTION	DESCRIPTION	TOTAL
A	North Marginal	$4,366,531.52
B	South Marginal	$2,755,746.24
C	East-End Connectors	$1,885,548.29
	PREFERRED ROUTE TOTAL	$9,007,826.05

The above Opinion of Probable Project Costs is based on available information and the Engineer's experience and qualifications. This opinion represents the Engineer's best judgment based on experience with the construction of similar projects. The Engineer has no control over the cost of labor, materials, equipment or services furnished by others or over competitive bidding or market conditions and, therefore, does not guarantee that this project cost estimate will approximate the actual project costs.

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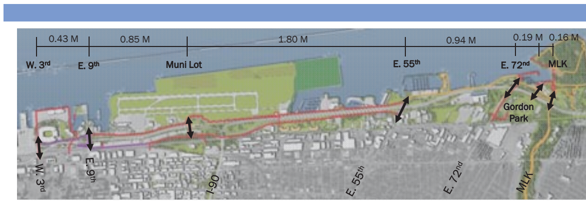
Existing North-South Connections



	Mobility			Property Impacts				Public Comment		Implementation		
	Improves Pedestrian Mobility	Improves Vehicular Mobility	Improves Lakefront Access	Institutional/ Business	Burke Lakefront Airport	ODOT	Freight Rail	Project Stakeholders	General Public	Environmental Impacts	Costs	Further Study?
Improvements to Existing Crossings												
West 3rd Street	Yellow	Yellow	Yellow	Green	Green	Yellow	Green	Green	Yellow	Green	Yellow	Green
East 9th Street	Yellow	Yellow	Yellow	Red	Green	Yellow	Red	Yellow	Red	Yellow	Red	Green
Muni Lot Bridge	Green	Green	Green	Green	Green	Red	Green	Green	Green	Yellow	Yellow	Green
East 55th Street	Green	Green	Green	Green	Green	Yellow	Green	Green	Yellow	Yellow	Yellow	Green
East 72nd Street	Yellow	Yellow	Yellow	Green	Green	Yellow	Green	Green	Red	Yellow	Yellow	Green
Gordon Park Pedestrian Bridge	Yellow	N/A	Yellow	Green	Green	Green	Green	Yellow	Red	Green	Green	Green
MLK (Lake-to-Lakes Trail)	Green	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green

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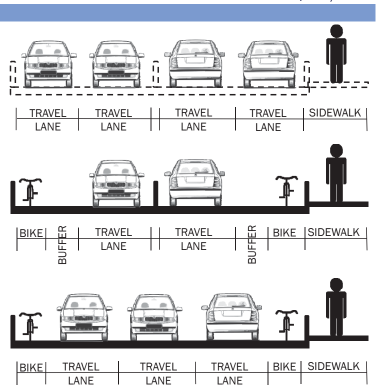
West 3rd Street

$70,000



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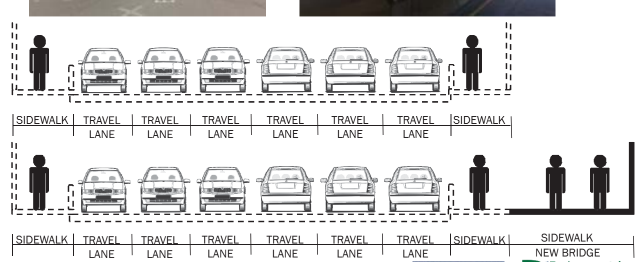
East 9th Street

$1,200,000



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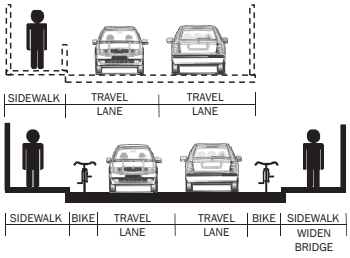
Muni Lot Bridge

$1,745,000



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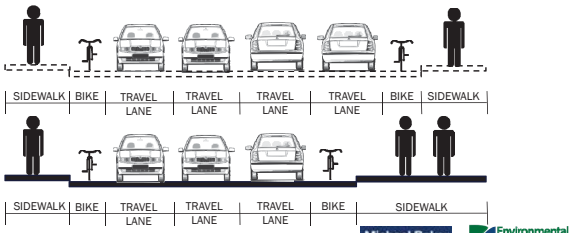
East 55th Street

$2,422,000



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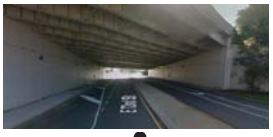
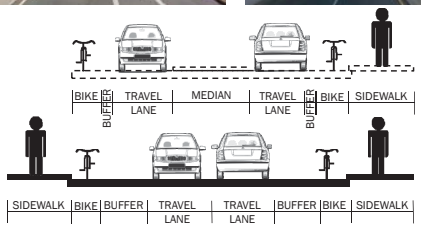
East 72nd Street





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MLK (Lake-to-Lakes Trail)

- I-90 underpass
- Uncomfortable for bikes & peds
- Lake-to-Lakes Trail ends south of underpass

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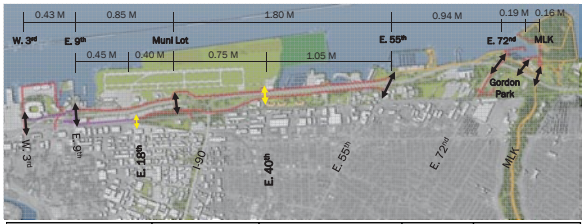
Proposed North-South Connections



	Mobility			Property Impacts				Public Comment		Implementation		
	Improves Network Mobility	Improves Vehicular Mobility	Improves Local Access	Institutional/ Business	Burke Lakefront Airport	ODOT	Freight Rail	Project Stakeholders	General Public	Environmental Impacts	Costs	Further Study?
Proposed Crossings												
East 18th Street to N. Marginal / to S. Marginal		N/A										
East 18th Street to N. Marginal / to S. Marginal		N/A										
East 40th Street		N/A										
East 49th Street		N/A										

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Proposed North-South Connections

East 18th Street & East 40th Street

$5,307,000

$4,520,000

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Campus District Connectivity

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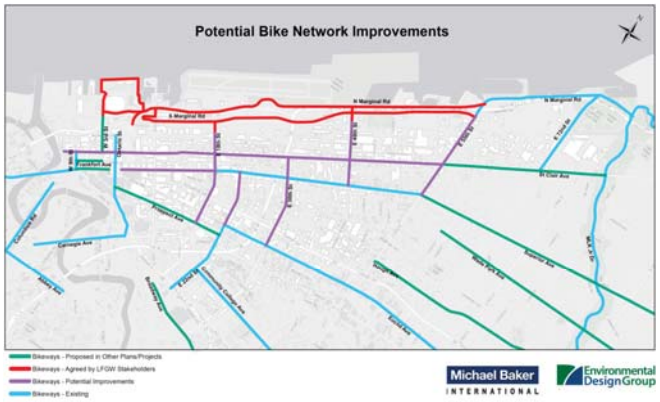
East-West Connections



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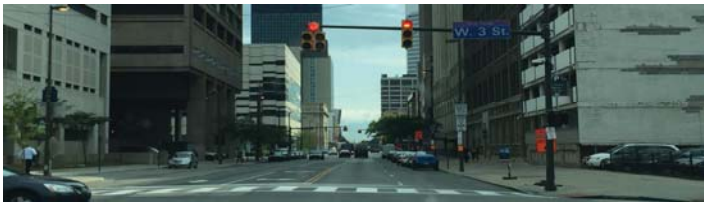
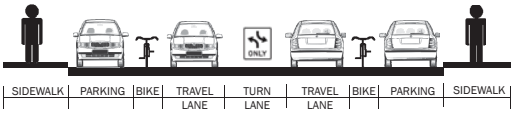
East-West Connections
St. Clair Avenue





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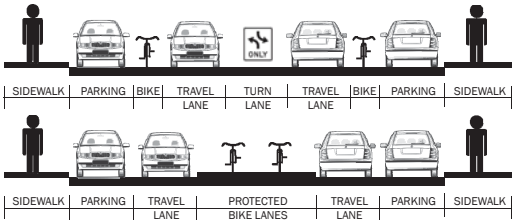
East-West Connections
St. Clair Avenue



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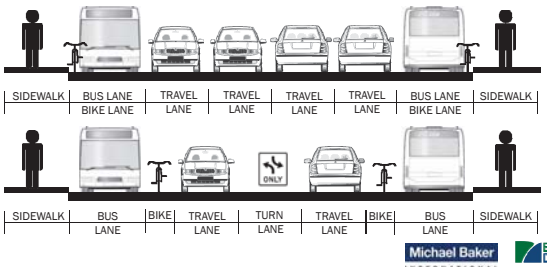
East-West Connections
Superior Avenue



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Implementation Plan

- Implementation Committee
  - Project Phasing
    - Determine Phasing Priorities
      - Based on Cost
      - Ease of Implementation
      - Importance of Implementation
  - Funding Identification
  - On-going Coordination

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Plan Development: Next Steps

Concept Development

- Steering Committee Meeting 1
- Project Team Workshop
- Steering Committee Meeting 2
- Public Meeting #1 (March 2015)

Concept Evaluation & Assessment

- Steering Committee Meeting 3

Recommendations

- Public Meeting #2 (June 2015)
- Finalize Recommendations
- Steering Committee Meeting #4 (August 2015)
- Prepare Report

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THANK YOU!

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Appendix B

Cost Estimate

BRIDGE IMPROVEMENTS

West 3rd Street Median Removal	Quantity	Cost	Construction Cost
Assume 360' length of removal			
Barrier removal	360 l.f.	$40/ l.f.	$14,400
Removal of surface, place concrete overlay	120 s.y.	$125/s.y.	$15,000
Additional hand chipping	48 s.y.	$150/s.y.	$7,200
Repair joint	2	$3,000	$6,000
Replace strip seals	65 l.f. width, 2 ends	$100/ l.f.	$13,000
Subtotal			$55,600
Contingency 20%		20% x subtotal	$11,120
Total (rounded)			**$67,000**

Assume 360' existing structure.

East 9th Street Pedestrian Structure	Quantity	Cost	Construction Cost
Superstructure	1440 s.f.	$190/s.f.	$275,000
Shoring costs to remove NW and SW wing walls	3525 s.f.	$25/s.f.	$90,000
Cost to remove wing walls	161 c.y.	$200/c.y.	$32,500
Abutments	249 c.y.	$700/c.y.	$175,000
Piles	4222 l.f.	$45/l.f.	$190,000
Subtotal			$762,500
Aesthetic enhancements subtotal		1.1 x subtotal	$838,750
Inflation subtotal (assumes contruction in April 2018)		1.1 x aesthetic subtotal	$922,625
Contingency 30%		30% x inflation subtotal	$276,788
Total (rounded)			**$1,200,000**

Assume pedestrian structure of 14' width and 90' length.

Muni Lot Bridge Widening	Quantity	Cost	Construction Cost
Substructure			
Sheeting	3600 s.f.	$25/s.f.	$90,000
Removal costs for wing walls	148 c.y.	$200/c.y.	$30,000
Abutments	266 c.y.	$700/c.y.	$186,200
Piers	47 c.y.	$700/c.y.	$33,000
Substructure subtotal			$339,200
Aesthetic enhancements subtotal		1.1 x subtotal	$373,120
Inflation subtotal (assumes contruction in April 2018)		1.1 x aesthetic subtotal	$410,432
Contingency 30%		30% x inflation subtotal	$123,130
Substructure Total (rounded)			$535,000
Superstructure			
Deck removal	5250 s.f.	$20/s.f.	$105,000
New deck on existing beams	5250 s.f.	$75/s.f.	$395,000
New deck on new beams	2550 s.f.	$85/s.f.	$216,750
Parapets	300 l.f.	$175/l.f.	$52,500
Superstructure subtotal			$769,250
Aesthetic enhancements subtotal		1.1 x subtotal	$846,175
Inflation subtotal (assumes contruction in April 2018)		1.1 x aesthetic subtotal	$930,793
Contingency 30%		30% x inflation subtotal	$279,238
Superstructure subtotal (rounded)			**$1,210,000**
Total			**$1,745,000**

Add 10' sidewalk.

East 55th Street Reconfiguration	Quantity	Cost	Construction Cost
Bridge deck removal	15400 s.f.	$20/s.f.	$308,000
Bridge deck replacement	15400 s.f.	$75/s.f.	$1,155,000
New parapets	440 l.f.	$175/l.f.	$77,000
Subtotal			$1,540,000
Aesthetic enhancements subtotal		1.1 x subtotal	$1,694,000
Inflation subtotal (assumes contruction in April 2018)		1.1 x aesthetic subtotal	$1,863,400
Contingency 30%		30% x inflation subtotal	$559,020
Sub-Total			**$2,422,420**
Assume 70% of Bridge Deck Remains			**$1,695,694**
Total			**$726,726**

East 40th Street Bridge	Quantity	Cost	Construction Cost
Substructure			
Concrete	90 c.y.	$700/c.y.	$63,000
Piles	1350 l.f.	$45/l.f.	$60,750
Subtotal			123750
Aesthetic enhancements subtotal		1.1 x subtotal	$136,125
Inflation subtotal (assumes contruction in April 2018)		1.1 x aesthetic subtotal	$149,738
Contingency 30%		30% x inflation subtotal	$44,921
Substructure subtotal (rounded)			**$200,000**
Superstructure			
Superstructure surface	4400	$190/s.f.	$836,000
Aesthetic enhancements subtotal		1.1 x subtotal	$919,600
Inflation subtotal (assumes contruction in April 2018)		1.1 x aesthetic subtotal	$1,011,560
Contingency 30%		30% x inflation subtotal	$303,468
Superstructure subtotal (rounded)			**$1,320,000**
Ramps			
Ramps surface	13760 s.f.	$140/s.f.	**$1,926,400**
Aesthetic enhancements subtotal		1.1 x subtotal	$2,119,040
Inflation subtotal (assumes contruction in April 2018)		1.1 x aesthetic subtotal	$2,330,944
Contingency 30%		30% x inflation subtotal	$699,283
Ramps subtotal (rounded)			**$3,000,000**
Total			**$4,520,000**

Assume bridge span of 275' and width of 14'.

East 18th Street Bridge	Quantity	Cost	Construction Cost
Substructure			
Concrete	101 c.y.	$700/c.y.	$70,700
Piles	1350 l.f.	$45/l.f.	$60,750
Subtotal			$131,450
Aesthetic enhancements subtotal		1.1 x subtotal	$144,595
Inflation subtotal (assumes contruction in April 2018)		1.1 x aesthetic subtotal	$159,055
Contingency 30%		30% x inflation subtotal	$47,716
Substructure subtotal (rounded)			**$207,000**
Superstructure			
Superstructure surface	4000 s.f.	$190/s.f.	$760,000
Aesthetic enhancements subtotal		1.1 x subtotal	$836,000
Inflation subtotal (assumes contruction in April 2018)		1.1 x aesthetic subtotal	$919,600
Contingency 30%		30% x inflation subtotal	$275,880
Superstructure subtotal (rounded)			**$1,200,000**
Ramps			
Ramps surface	17760 s.f.	$140/s.f.	**$2,486,400**
Aesthetic enhancements subtotal		1.1 x subtotal	$2,735,040
Inflation subtotal (assumes contruction in April 2018)		1.1 x aesthetic subtotal	$3,008,544
Contingency 30%		30% x inflation subtotal	$902,563
Ramps subtotal (rounded)			**$3,900,000**
Total			**$5,307,000**

Assume bridge span of 250' and width of 14'.

Lakefront Greenway & Downtown Connector Study
CONCEPTUAL OPINION OF PROBABLE COSTS
June 1, 2015

Environmental Design Group

Erieside Avenue/Lerner Way (2215 LF of Trail)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	**Site Preparation/Demolition**				
	A. Clearing & Grubbing	0.8	AC	$4,000.00	$3,000.00
	B. Construction Fencing	4430	LF	$4.00	$17,720.00
	C. Asphalt & Concrete Pavement Removal		SY	$9.00	$0.00
	D. Concrete Crosswalk Pavement Removal		SY	$50.00	$0.00
	E. Saw Cut Pavement		LF	$8.00	$0.00
	F. Miscellaneous Demoliton	1	LS	$5,000.00	$5,000.00
	Subtotal				**$25,720.00**
2	**Earthwork**				
	A. Excavation/Embankment	1230	CY	$20.00	$24,600.00
	B. Borrow		CY	$12.50	$0.00
	C. Haul Off Excess		CY	$10.00	$0.00
	D. Stream Crossing		CY	$10.00	$0.00
					$24,600.00
3	**Erosion Control**				
	A. Swale Matting	3700	SY	$4.25	$15,725.00
	B. Slope Matting Protection	1100	SY	$4.25	$4,675.00
	C. Silt Fence	2215	LF	$3.50	$7,752.50
	D. Miscellaneous Erosion Control Measures	1	LS	$5,000.00	$5,000.00
	Subtotal				**$33,152.50**
4	**Pavement**				
	A. Subgrade Preparation	3445	SY	$1.75	$6,028.75
	B. 10' Wide Asphalt Pavement (Trail)	2500	SY	$45.00	$112,500.00
	C. Decorative Concrete Node Pavement		SF	$15.00	$0.00
	D. Geogrid	3445	SY	$7.00	$24,115.00
	Subtotal				**$142,643.75**
5	**At Grade Crossings & Road Markings**				
	A. Crosswalk Striping (Existing Non-Traffic Light, Thermoplastic)		SF	$30.00	$0.00
	B. Restripe Road (Trail Markings)		LF	$5.00	$0.00
	C. 10' Curb Ramps w/ Trunc. Domes		EA	$2,200.00	$0.00
	D. Hawk Signal		LS	$100,000.00	$0.00
	E. Pedestrian Signal Improvement at Existing Traffic Light		LS	$15,000.00	$0.00
	Subtotal				**$0.00**
6	**Utilities**				
	A. Utility Pole Relocation		EA	$10,000.00	$0.00
	B. Adjust Utilities to Grade	1	LS	$5,000.00	$5,000.00
	C. Sign Relocation		EA	$500.00	$0.00
	Subtotal				**$5,000.00**
7	**Trail Structures and Storm Sewers**				
	A. Premanufactured Bridge		LF	$350,000.00	$0.00
	B. Premanufactured Bridge Concrete Abutments		EA	$40,000.00	$0.00
	C. Wooden Boardwalk on Wooden Piles		LF	$800.00	$0.00
	D. Timber Guardrail		LF	$55.00	$0.00
	E. Culvert (Underpass for Trail)		LF	$5,000.00	$0.00
	F. 12" Culvert (30 LF)	2	EA	$1,800.00	$3,600.00
	G. 18" Culvert (30 LF)		EA	$2,400.00	$0.00
	H. 24" Culvert (30 LF)		EA	$3,000.00	$0.00
	I. 3-sided Culvert		LF	$1,000.00	$0.00
	Subtotal				**$3,600.00**
8	**Site Amenities**				
	A. Bollards		EA	$800.00	$0.00
	B. Removable Bollards		EA	$1,200.00	$0.00
	C. Trail Signage	2215	LF	$1.50	$3,322.50
	D. Bench (500' O.C.)	4	EA	$2,500.00	$11,075.00
	E. Trash Receptacle (500' O.C.)	4	EA	$1,500.00	$6,645.00
	Subtotal				**$21,042.50**
9	**Landscape**				
	A. Trailside Seeding and Fine Grading	2500	SY	$1.50	$3,750.00
	B. Seeding and Fine Grading		SY	$1.50	$0.00
	C. Trees (3" Cal., 1 per 50LF)	44	EA	$450.00	$19,935.00
	Subtotal				**$23,685.00**
10	**Construction Survey & Layout**				.
	A. Survey & Layout	1	LS	$6,000.00	$6,000.00
	B. Traffic Control & Maintenance		LS	$4,000.00	$0.00
	Subtotal				**$6,000.00**
11	**Right-of-Way and Property Acquisition**				.
	A. Acquisition Negotiation & Documentation		EA	$3,500.00	$0.00
	B. Residential Property (Non-Buildable)		AC	$20,000.00	$0.00
	C. Non-Residential Property		AC	$60,000.00	$0.00
	D. Residential Property (Buildable)		AC	$125,000.00	$0.00
	Subtotal				**$0.00**
	TOTAL				**$264,401.25**
	A. Contingency (30%)				$79,320.38
	B. General Conditions (8%)				$27,497.73
	C. Bonds & Insurances (5%)				$17,186.08
	D. Mobilization/Demobilization (3%)				$10,311.65
	E. Design & Documents (12%)				$41,246.60
	GRAND TOTAL				**$439,963.68**

General Assumptions:

1 A general attempt was made to anticipate potential impacts of known and seen utilities; primarily power and traffic poles and fire hydrants.
2 Existing storm sewers and storm ditches were assumed to be adequate.
3 This cost opinion is based on 2014 construction costs.
4 All improvements/projects were assumed to be publicly bid and required to meet AASHTO standards.
5 Ecological and environmental issues, such as wetland delineations, were unknown and therefore not included.
6 No traffic studies were included.
7 No acquisition costs were included for public owned lands, assumed agreement with owners.

Lakefront Greenway & Downtown Connector Study
CONCEPTUAL OPINION OF PROBABLE COSTS
June 1, 2015

Environmental Design Group

North Coast Harbor Trail (North) 1/3 (1392 LF of Trail)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	**Site Preparation/Demolition**				
	A. Clearing & Grubbing	0.5	AC	$4,000.00	$1,800.00
	B. Construction Fencing	2784	LF	$4.00	$11,136.00
	C. Asphalt & Concrete Pavement Removal	70	SY	$9.00	$630.00
	D. Concrete Crosswalk Pavement Removal		SY	$50.00	$0.00
	E. Saw Cut Pavement		LF	$8.00	$0.00
	F. Miscellaneous Demoliton	1	LS	$5,000.00	$5,000.00
	Subtotal				**$18,566.00**
2	**Earthwork**				
	A. Excavation/Embankment	775	CY	$20.00	$15,500.00
	B. Borrow		CY	$12.50	$0.00
	C. Haul Off Excess		CY	$10.00	$0.00
	D. Stream Crossing		CY	$10.00	$0.00
					$15,500.00
3	**Erosion Control**				
	A. Swale Matting	2320	SY	$4.25	$9,860.00
	B. Slope Matting Protection	1475	SY	$4.25	$6,268.75
	C. Silt Fence	1392	LF	$3.50	$4,872.00
	D. Miscellaneous Erosion Control Measures	1	LS	$5,000.00	$5,000.00
	Subtotal				**$26,000.75**
4	**Pavement**				
	A. Subgrade Preparation	2165	SY	$1.75	$3,788.75
	B. 10' Wide Asphalt Pavement (Trail)	450	SY	$45.00	$20,250.00
	C. 10' Wide Concrete Pavement (Trail)	1115	SY	$90.00	$100,350.00
	D. Decorative Concrete Node Pavement		SF	$15.00	$0.00
	E. Geogrid	2165	SY	$7.00	$15,155.00
	Subtotal				**$139,543.75**
5	**At Grade Crossings & Road Markings**				
	A. Crosswalk Striping (Existing Non-Traffic Light, Thermoplastic)		SF	$30.00	$0.00
	B. Restripe Road (Trail Markings)		LF	$5.00	$0.00
	C. 10' Curb Ramps w/ Trunc. Domes		EA	$2,200.00	$0.00
	D. Hawk Signal		LS	$100,000.00	$0.00
	E. Pedestrian Signal Improvement at Existing Traffic Light		LS	$15,000.00	$0.00
	Subtotal				**$0.00**
6	**Utilities**				
	A. Utility Pole Relocation		EA	$10,000.00	$0.00
	B. Adjust Utilities to Grade	1	LS	$3,000.00	$3,000.00
	C. Sign Relocation		EA	$500.00	$0.00
	Subtotal				**$3,000.00**
7	**Trail Structures and Storm Sewers**				
	A. Premanufactured Bridge		LF	$350,000.00	$0.00
	B. Premanufactured Bridge Concrete Abutments		EA	$40,000.00	$0.00
	C. Wooden Boardwalk on Wooden Piles		LF	$800.00	$0.00
	D. Timber Guardrail		LF	$55.00	$0.00
	E. Culvert (Underpass for Trail)		LF	$5,000.00	$0.00
	F. 12" Culvert (30 LF)		EA	$1,800.00	$0.00
	G. 18" Culvert (30 LF)		EA	$2,400.00	$0.00
	H. 24" Culvert (30 LF)		EA	$3,000.00	$0.00
	I. 3-sided Culvert		LF	$1,000.00	$0.00
	Subtotal				**$0.00**
8	**Site Amenities**				
	A. Bollards		EA	$800.00	$0.00
	B. Removable Bollards		EA	$1,200.00	$0.00
	C. Trail Signage	1392	LF	$1.50	$2,088.00
	D. Bench (500' O.C.)	3	EA	$2,500.00	$6,960.00
	E. Trash Receptacle (500' O.C.)	3	EA	$1,500.00	$4,176.00
	Subtotal				**$13,224.00**
9	**Landscape**				
	A. Trailside Seeding and Fine Grading	1550	SY	$1.50	$2,325.00
	B. Seeding and Fine Grading		SY	$1.50	$0.00
	C. Trees (3" Cal., 1 per 50LF)	28	EA	$450.00	$12,528.00
	Subtotal				**$14,853.00**
10	**Construction Survey & Layout**				.
	A. Survey & Layout	1	LS	$6,000.00	$6,000.00
	B. Traffic Control & Maintenance		LS	$4,000.00	$0.00
	Subtotal				**$6,000.00**
11	**Right-of-Way and Property Acquisition**				.
	A. Acquisition Negotiation & Documentation		EA	$3,500.00	$0.00
	B. Residential Property (Non-Buildable)		AC	$20,000.00	$0.00
	C. Non-Residential Property		AC	$60,000.00	$0.00
	D. Residential Property (Buildable)		AC	$125,000.00	$0.00
	Subtotal				**$0.00**
	TOTAL				**$223,463.50**
	A. Contingency (30%)				$67,039.05
	B. General Conditions (8%)				$23,240.20
	C. Bonds & Insurances (5%)				$14,525.13
	D. Mobilization/Demobilization (3%)				$8,715.08
	E. Design & Documents (12%)				$34,860.31
	GRAND TOTAL				**$371,843.26**

General Assumptions:

1 A general attempt was made to anticipate potential impacts of known and seen utilities; primarily power and traffic poles and fire hydrants.
2 Existing storm sewers and storm ditches were assumed to be adequate.
3 This cost opinion is based on 2014 construction costs.
4 All improvements/projects were assumed to be publicly bid and required to meet AASHTO standards.
5 Ecological and environmental issues, such as wetland delineations, were unknown and therefore not included.
6 No traffic studies were included.
7 No acquisition costs were included for public owned lands, assumed agreement with owners.

Lakefront Greenway & Downtown Connector Study
CONCEPTUAL OPINION OF PROBABLE COSTS
June 1, 2015

Environmental Design Group

North Coast Harbor Trail (West) 2/3 ((1980 LF of Trail)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	**Site Preparation/Demolition**				
	A. Clearing & Grubbing	0.7	AC	$4,000.00	$2,600.00
	B. Construction Fencing	3960	LF	$4.00	$15,840.00
	C. Asphalt & Concrete Pavement Removal		SY	$9.00	$0.00
	D. Concrete Crosswalk Pavement Removal		SY	$50.00	$0.00
	E. Saw Cut Pavement		LF	$8.00	$0.00
	F. Miscellaneous Demoliton	1	LS	$5,000.00	$5,000.00
	Subtotal				**$23,440.00**
2	**Earthwork**				
	A. Excavation/Embankment	1100	CY	$20.00	$22,000.00
	B. Borrow		CY	$12.50	$0.00
	C. Haul Off Excess		CY	$10.00	$0.00
	D. Stream Crossing		CY	$10.00	$0.00
					$22,000.00
3	**Erosion Control**				
	A. Swale Matting		SY	$4.25	$0.00
	B. Slope Matting Protection		SY	$4.25	$0.00
	C. Silt Fence		LF	$3.50	$0.00
	D. Miscellaneous Erosion Control Measures		LS	$5,000.00	$0.00
	Subtotal				**$0.00**
4	**Pavement**				
	A. Subgrade Preparation		SY	$1.75	$0.00
	B. 10' Wide Asphalt Pavement (Trail)		SY	$45.00	$0.00
	C. Decorative Concrete Node Pavement		SF	$15.00	$0.00
	D. Geogrid		SY	$7.00	$0.00
	Subtotal				**$0.00**
5	**At Grade Crossings & Road Markings**				
	A. Crosswalk Striping (Existing Non-Traffic Light, Thermoplastic)	2800	SF	$30.00	$84,000.00
	B. Restripe Road (Trail Markings)	1980	LF	$5.00	$9,900.00
	C. 10' Curb Ramps w/ Trunc. Domes	4	EA	$2,200.00	$8,800.00
	D. Hawk Signal		LS	$100,000.00	$0.00
	E. Pedestrian Signal Improvement at Existing Traffic Light		LS	$15,000.00	$0.00
	Subtotal				**$102,700.00**
6	**Utilities**				
	A. Utility Pole Relocation		EA	$10,000.00	$0.00
	B. Adjust Utilities to Grade	1	LS	$5,000.00	$5,000.00
	C. Sign Relocation		EA	$500.00	$0.00
	Subtotal				**$5,000.00**
7	**Trail Structures and Storm Sewers**				
	A. Premanufactured Bridge		LF	$350,000.00	$0.00
	B. Premanufactured Bridge Concrete Abutments		EA	$40,000.00	$0.00
	C. Wooden Boardwalk on Wooden Piles		LF	$800.00	$0.00
	D. Timber Guardrail		LF	$55.00	$0.00
	E. Culvert (Underpass for Trail)		LF	$5,000.00	$0.00
	F. 12" Culvert (30 LF)		EA	$1,800.00	$0.00
	G. 18" Culvert (30 LF)		EA	$2,400.00	$0.00
	H. 24" Culvert (30 LF)		EA	$3,000.00	$0.00
	I. 3-sided Culvert		LF	$1,000.00	$0.00
	Subtotal				**$0.00**
8	**Site Amenities**				
	A. Bollards		EA	$800.00	$0.00
	B. Removable Bollards		EA	$1,200.00	$0.00
	C. Trail Signage	1980	LF	$1.50	$2,970.00
	D. Bench (500' O.C.)		EA	$2,500.00	$0.00
	E. Trash Receptacle (500' O.C.)		EA	$1,500.00	$0.00
	Subtotal				**$2,970.00**
9	**Landscape**				
	A. Trailside Seeding and Fine Grading		SY	$1.50	$0.00
	B. Seeding and Fine Grading		SY	$1.50	$0.00
	C. Trees (3" Cal., 1 per 50LF)		EA	$450.00	$0.00
	Subtotal				**$0.00**
10	**Construction Survey & Layout**				.
	A. Survey & Layout	1	LS	$10,000.00	$10,000.00
	B. Traffic Control & Maintenance	1	LS	$10,000.00	$10,000.00
	Subtotal				**$20,000.00**
11	**Right-of-Way and Property Acquisition**				.
	A. Acquisition Negotiation & Documentation		EA	$3,500.00	$0.00
	B. Residential Property (Non-Buildable)		AC	$20,000.00	$0.00
	C. Non-Residential Property		AC	$60,000.00	$0.00
	D. Residential Property (Buildable)		AC	$125,000.00	$0.00
	Subtotal				**$0.00**
	TOTAL				**$173,140.00**
	A. Contingency (30%)				$51,942.00
	B. General Conditions (8%)				$18,006.56
	C. Bonds & Insurances (5%)				$11,254.10
	D. Mobilization/Demobilization (3%)				$6,752.46
	E. Design & Documents (12%)				$27,009.84
	GRAND TOTAL				**$288,104.96**

General Assumptions:

1 A general attempt was made to anticipate potential impacts of known and seen utilities; primarily power and traffic poles and fire hydrants.
2 Existing storm sewers and storm ditches were assumed to be adequate.
3 This cost opinion is based on 2014 construction costs.
4 All improvements/projects were assumed to be publicly bid and required to meet AASHTO standards.
5 Ecological and environmental issues, such as wetland delineations, were unknown and therefore not included.
6 No traffic studies were included.
7 No acquisition costs were included for public owned lands, assumed agreement with owners.

Lakefront Greenway & Downtown Connector Study
CONCEPTUAL OPINION OF PROBABLE COSTS
June 1, 2015

Environmental Design Group

North Coast Harbor Trail (East) 3/3 ((1573 LF of Trail)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	**Site Preparation/Demolition**				
	A. Clearing & Grubbing	0.5	AC	$4,000.00	$2,000.00
	B. Construction Fencing	3146	LF	$4.00	$12,584.00
	C. Asphalt & Concrete Pavement Removal	13	SY	$9.00	$117.00
	D. Concrete Crosswalk Pavement Removal		SY	$50.00	$0.00
	E. Saw Cut Pavement		LF	$8.00	$0.00
	F. Miscellaneous Demoliton	1	LS	$5,000.00	$5,000.00
	Subtotal				**$19,701.00**
2	**Earthwork**				
	A. Excavation/Embankment	875	CY	$20.00	$17,500.00
	B. Borrow		CY	$12.50	$0.00
	C. Haul Off Excess		CY	$10.00	$0.00
	D. Stream Crossing		CY	$10.00	$0.00
					$17,500.00
3	**Erosion Control**				
	A. Swale Matting	2621	SY	$4.25	$11,139.25
	B. Slope Matting Protection		SY	$4.25	$0.00
	C. Silt Fence	1573	LF	$3.50	$5,505.50
	D. Miscellaneous Erosion Control Measures	1	LS	$5,000.00	$5,000.00
	Subtotal				**$21,644.75**
4	**Pavement**				
	A. Subgrade Preparation	2445	SY	$1.75	$4,278.75
	B. 10' Wide Asphalt Pavement (Trail)	1745	SY	$45.00	$78,525.00
	C. Decorative Concrete Node Pavement		SF	$15.00	$0.00
	D. Geogrid	2445	SY	$7.00	$17,115.00
	Subtotal				**$99,918.75**
5	**At Grade Crossings & Road Markings**				
	A. Crosswalk Striping (Existing Non-Traffic Light, Thermoplastic)		SF	$30.00	$0.00
	B. Restripe Road (Trail Markings)		LF	$5.00	$0.00
	C. 10' Curb Ramps w/ Trunc. Domes		EA	$2,200.00	$0.00
	D. Hawk Signal		LS	$100,000.00	$0.00
	E. Pedestrian Signal Improvement at Existing Traffic Light		LS	$15,000.00	$0.00
	Subtotal				**$0.00**
6	**Utilities**				
	A. Utility Pole Relocation		EA	$10,000.00	$0.00
	B. Adjust Utilities to Grade	1	LS	$3,000.00	$3,000.00
	C. Sign Relocation		EA	$500.00	$0.00
	Subtotal				**$3,000.00**
7	**Trail Structures and Storm Sewers**				
	A. Premanufactured Bridge		LF	$350,000.00	$0.00
	B. Premanufactured Bridge Concrete Abutments		EA	$40,000.00	$0.00
	C. Wooden Boardwalk on Wooden Piles		LF	$800.00	$0.00
	D. Timber Guardrail		LF	$55.00	$0.00
	E. Culvert (Underpass for Trail)		LF	$5,000.00	$0.00
	F. 12" Culvert (30 LF)	1	EA	$1,800.00	$1,800.00
	G. 18" Culvert (30 LF)		EA	$2,400.00	$0.00
	H. 24" Culvert (30 LF)		EA	$3,000.00	$0.00
	I. 3-sided Culvert		LF	$1,000.00	$0.00
	Subtotal				**$1,800.00**
8	**Site Amenities**				
	A. Bollards		EA	$800.00	$0.00
	B. Removable Bollards		EA	$1,200.00	$0.00
	C. Trail Signage	1575	LF	$1.50	$2,362.50
	D. Bench (500' O.C.)	3	EA	$2,500.00	$7,875.00
	E. Trash Receptacle (500' O.C.)	3	EA	$1,500.00	$4,725.00
	Subtotal				**$14,962.50**
9	**Landscape**				
	A. Trailside Seeding and Fine Grading	1745	SY	$1.50	$2,617.50
	B. Seeding and Fine Grading		SY	$1.50	$0.00
	C. Trees (3" Cal., 1 per 50LF)	31	EA	$450.00	$14,157.00
	Subtotal				**$16,774.50**
10	**Construction Survey & Layout**				.
	A. Survey & Layout	1	LS	$8,000.00	$8,000.00
	B. Traffic Control & Maintenance		LS	$4,000.00	$0.00
	Subtotal				**$8,000.00**
11	**Right-of-Way and Property Acquisition**				.
	A. Acquisition Negotiation & Documentation		EA	$3,500.00	$0.00
	B. Residential Property (Non-Buildable)		AC	$20,000.00	$0.00
	C. Non-Residential Property		AC	$60,000.00	$0.00
	D. Residential Property (Buildable)		AC	$125,000.00	$0.00
	Subtotal				**$0.00**
	TOTAL				**$188,339.00**
	A. Contingency (30%)				$56,501.70
	B. General Conditions (8%)				$19,587.26
	C. Bonds & Insurances (5%)				$12,242.04
	D. Mobilization/Demobilization (3%)				$7,345.22
	E. Design & Documents (12%)				$29,380.88
	GRAND TOTAL				**$313,396.10**

General Assumptions:

1 A general attempt was made to anticipate potential impacts of known and seen utilities; primarily power and traffic poles and fire hydrants.
2 Existing storm sewers and storm ditches were assumed to be adequate.
3 This cost opinion is based on 2014 construction costs.
4 All improvements/projects were assumed to be publicly bid and required to meet AASHTO standards.
5 Ecological and environmental issues, such as wetland delineations, were unknown and therefore not included.
6 No traffic studies were included.
7 No acquisition costs were included for public owned lands, assumed agreement with owners.

Lakefront Greenway & Downtown Connector Study
CONCEPTUAL OPINION OF PROBABLE COSTS
June 1, 2015

Environmental Design Group

MLK Drive Path (435 LF of Trail)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	**Site Preparation/Demolition**				
	A. Clearing & Grubbing	0.15	AC	$4,000.00	$600.00
	B. Construction Fencing	870	LF	$4.00	$3,480.00
	C. Asphalt & Concrete Pavement Removal	335	SY	$9.00	$3,015.00
	D. Concrete Crosswalk Pavement Removal		SY	$50.00	$0.00
	E. Saw Cut Pavement		LF	$8.00	$0.00
	F. Miscellaneous Demoliton	1	LS	$5,000.00	$5,000.00
	Subtotal				**$12,095.00**
2	**Earthwork**				
	A. Excavation/Embankment	725	CY	$20.00	$14,500.00
	B. Borrow		CY	$12.50	$0.00
	C. Haul Off Excess		CY	$10.00	$0.00
	D. Stream Crossing		CY	$10.00	$0.00
					$14,500.00
3	**Erosion Control**				
	A. Swale Matting	725	SY	$4.25	$3,081.25
	B. Slope Matting Protection		SY	$4.25	$0.00
	C. Silt Fence	435	LF	$3.50	$1,522.50
	D. Miscellaneous Erosion Control Measures	1	LS	$5,000.00	$5,000.00
	Subtotal				**$9,603.75**
4	**Pavement**				
	A. Subgrade Preparation	675	SY	$1.75	$1,181.25
	B. 10' Wide Asphalt Pavement (Trail)	485	SY	$45.00	$21,825.00
	C. Decorative Concrete Node Pavement		SF	$15.00	$0.00
	D. Geogrid	675	SY	$7.00	$4,725.00
	Subtotal				**$27,731.25**
5	**At Grade Crossings & Road Markings**				
	A. Crosswalk Striping (Existing Non-Traffic Light, Thermoplastic)	1000	SF	$30.00	$30,000.00
	B. Restripe Road (Trail Markings)		LF	$5.00	$0.00
	C. 10' Curb Ramps w/ Trunc. Domes	2	EA	$2,200.00	$4,400.00
	D. Rapid Flashing Beacon	2	LS	$25,000.00	$50,000.00
	E. Hawk Signal		LS	$100,000.00	$0.00
	F. Pedestrian Signal Improvement at Existing Traffic Light		LS	$15,000.00	$0.00
	Subtotal				**$84,400.00**
6	**Utilities**				
	A. Utility Pole Relocation		EA	$10,000.00	$0.00
	B. Adjust Utilities to Grade	1	LS	$2,000.00	$2,000.00
	C. Sign Relocation		EA	$500.00	$0.00
	Subtotal				**$2,000.00**
7	**Trail Structures and Storm Sewers**				
	A. Premanufactured Bridge		LF	$350,000.00	$0.00
	B. Premanufactured Bridge Concrete Abutments		EA	$40,000.00	$0.00
	C. Wooden Boardwalk on Wooden Piles		LF	$800.00	$0.00
	D. Timber Guardrail		LF	$55.00	$0.00
	E. Culvert (Underpass for Trail)		LF	$5,000.00	$0.00
	F. 12" Culvert (30 LF)	2	EA	$1,800.00	$3,600.00
	G. 18" Culvert (30 LF)		EA	$2,400.00	$0.00
	H. 24" Culvert (30 LF)		EA	$3,000.00	$0.00
	I. 3-sided Culvert		LF	$1,000.00	$0.00
	Subtotal				**$3,600.00**
8	**Site Amenities**				
	A. Bollards		EA	$800.00	$0.00
	B. Removable Bollards		EA	$1,200.00	$0.00
	C. Trail Signage	435	LF	$1.50	$652.50
	D. Bench (500' O.C.)	1	EA	$2,500.00	$2,175.00
	E. Trash Receptacle (500' O.C.)	1	EA	$1,500.00	$1,500.00
	Subtotal				**$4,327.50**
9	**Landscape**				
	A. Trailside Seeding and Fine Grading	485	SY	$1.50	$727.50
	B. Seeding and Fine Grading		SY	$1.50	$0.00
	C. Trees (3" Cal., 1 per 50LF)	9	EA	$450.00	$3,915.00
	Subtotal				**$4,642.50**
10	**Construction Survey & Layout**				.
	A. Survey & Layout	1	LS	$6,000.00	$6,000.00
	B. Traffic Control & Maintenance	1	LS	$4,000.00	$4,000.00
	Subtotal				**$10,000.00**
11	**Right-of-Way and Property Acquisition**				.
	A. Acquisition Negotiation & Documentation		EA	$3,500.00	$0.00
	B. Residential Property (Non-Buildable)		AC	$20,000.00	$0.00
	C. Non-Residential Property		AC	$60,000.00	$0.00
	D. Residential Property (Buildable)		AC	$125,000.00	$0.00
	Subtotal				**$0.00**
	TOTAL				**$168,572.50**
	A. Contingency (30%)				$50,571.75
	B. General Conditions (8%)				$17,531.54
	C. Bonds & Insurances (5%)				$10,957.21
	D. Mobilization/Demobilization (3%)				$6,574.33
	E. Design & Documents (12%)				$26,297.31
	GRAND TOTAL				**$280,504.64**

General Assumptions:

1. A general attempt was made to anticipate potential impacts of known and seen utilities; primarily power and traffic poles and fire hydrants.
2. Existing storm sewers and storm ditches were assumed to be adequate.
3. This cost opinion is based on 2014 construction costs.
4. All improvements/projects were assumed to be publicly bid and required to meet AASHTO standards.
5. Ecological and environmental issues, such as wetland delineations, were unknown and therefore not included.
6. No traffic studies were included.
7. No acquisition costs were included for public owned lands, assumed agreement with owners.

Lakefront Greenway & Downtown Connector Study
CONCEPTUAL OPINION OF PROBABLE COSTS
June 1, 2015

Environmental Design Group

Parking Garage Path (225 LF of Trail)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	**Site Preparation/Demolition**				
	A. Clearing & Grubbing	0.1	AC	$4,000.00	$280.00
	B. Construction Fencing	450	LF	$4.00	$1,800.00
	C. Asphalt & Concrete Pavement Removal	300	SY	$9.00	$2,700.00
	D. Concrete Crosswalk Pavement Removal		SY	$50.00	$0.00
	E. Saw Cut Pavement		LF	$8.00	$0.00
	F. Miscellaneous Demoliton	1	LS	$5,000.00	$5,000.00
	Subtotal				**$9,780.00**
2	**Earthwork**				
	A. Excavation/Embankment	125	CY	$20.00	$2,500.00
	B. Borrow		CY	$12.50	$0.00
	C. Haul Off Excess		CY	$10.00	$0.00
	D. Stream Crossing		CY	$10.00	$0.00
					$2,500.00
3	**Erosion Control**				
	A. Swale Matting	375	SY	$4.25	$1,593.75
	B. Slope Matting Protection	150	SY	$4.25	$637.50
	C. Silt Fence	225	LF	$3.50	$787.50
	D. Miscellaneous Erosion Control Measures	1	LS	$5,000.00	$5,000.00
	Subtotal				**$8,018.75**
4	**Pavement**				
	A. Subgrade Preparation	350	SY	$1.75	$612.50
	B. 10' Wide Asphalt Pavement (Trail)	250	SY	$45.00	$11,250.00
	C. Decorative Concrete Node Pavement		SF	$15.00	$0.00
	D. Geogrid	350	SY	$7.00	$2,450.00
	Subtotal				**$14,312.50**
5	**At Grade Crossings & Road Markings**				
	A. Crosswalk Striping (Existing Non-Traffic Light, Thermoplastic)	600	SF	$30.00	$18,000.00
	B. Restripe Road (Trail Markings)		LF	$5.00	$0.00
	C. 10' Curb Ramps w/ Trunc. Domes	2	EA	$2,200.00	$4,400.00
	D. Hawk Signal		LS	$100,000.00	$0.00
	E. Pedestrian Signal Improvement at Existing Traffic Light		LS	$15,000.00	$0.00
	Subtotal				**$22,400.00**
6	**Utilities**				
	A. Utility Pole Relocation		EA	$10,000.00	$0.00
	B. Adjust Utilities to Grade	1	LS	$2,000.00	$2,000.00
	C. Sign Relocation	1	EA	$500.00	$500.00
	Subtotal				**$2,500.00**
7	**Trail Structures and Storm Sewers**				
	A. Premanufactured Bridge		LF	$350,000.00	$0.00
	B. Premanufactured Bridge Concrete Abutments		EA	$40,000.00	$0.00
	C. Wooden Boardwalk on Wooden Piles		LF	$800.00	$0.00
	D. Timber Guardrail		LF	$55.00	$0.00
	E. Culvert (Underpass for Trail)		LF	$5,000.00	$0.00
	F. 12" Culvert (30 LF)		EA	$1,800.00	$0.00
	G. 18" Culvert (30 LF)		EA	$2,400.00	$0.00
	H. 24" Culvert (30 LF)		EA	$3,000.00	$0.00
	I. 3-sided Culvert		LF	$1,000.00	$0.00
	Subtotal				**$0.00**
8	**Site Amenities**				
	A. Bollards		EA	$800.00	$0.00
	B. Removable Bollards		EA	$1,200.00	$0.00
	C. Trail Signage	225	LF	$1.50	$337.50
	D. Bench (500' O.C.)		EA	$2,500.00	$0.00
	E. Trash Receptacle (500' O.C.)		EA	$1,500.00	$0.00
	Subtotal				**$337.50**
9	**Landscape**				
	A. Trailside Seeding and Fine Grading	250	SY	$1.50	$375.00
	B. Seeding and Fine Grading		SY	$1.50	$0.00
	C. Trees (3" Cal., 1 per 50LF)	5	EA	$450.00	$2,025.00
	Subtotal				**$2,400.00**
10	**Construction Survey & Layout**				.
	A. Survey & Layout	1	LS	$6,000.00	$6,000.00
	B. Traffic Control & Maintenance	1	LS	$6,000.00	$6,000.00
	Subtotal				**$12,000.00**
11	**Right-of-Way and Property Acquisition**				.
	A. Acquisition Negotiation & Documentation		EA	$3,500.00	$0.00
	B. Residential Property (Non-Buildable)		AC	$20,000.00	$0.00
	C. Non-Residential Property		AC	$60,000.00	$0.00
	D. Residential Property (Buildable)		AC	$125,000.00	$0.00
	Subtotal				**$0.00**
	TOTAL				**$73,911.25**
	A. Contingency (30%)				$22,173.38
	B. General Conditions (8%)				$7,686.77
	C. Bonds & Insurances (5%)				$4,804.23
	D. Mobilization/Demobilization (3%)				$2,882.54
	E. Design & Documents (12%)				$11,530.16
	GRAND TOTAL				**$122,988.32**

General Assumptions:

1 A general attempt was made to anticipate potential impacts of known and seen utilities; primarily power and traffic poles and fire hydrants.
2 Existing storm sewers and storm ditches were assumed to be adequate.
3 This cost opinion is based on 2014 construction costs.
4 All improvements/projects were assumed to be publicly bid and required to meet AASHTO standards.
5 Ecological and environmental issues, such as wetland delineations, were unknown and therefore not included.
6 No traffic studies were included.
7 No acquisition costs were included for public owned lands, assumed agreement with owners.

Lakefront Greenway & Downtown Connector Study
CONCEPTUAL OPINION OF PROBABLE COSTS
June 1, 2015

Environmental Design Group

Lakefront Nature Preserve Trail Segments 1/2 (275 LF of Trail)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	**Site Preparation/Demolition**				
	A. Clearing & Grubbing	0.1	AC	$4,000.00	$352.00
	B. Construction Fencing	550	LF	$4.00	$2,200.00
	C. Asphalt & Concrete Pavement Removal		SY	$9.00	$0.00
	D. Concrete Crosswalk Pavement Removal		SY	$50.00	$0.00
	E. Saw Cut Pavement		LF	$8.00	$0.00
	F. Miscellaneous Demoliton	1	LS	$5,000.00	$5,000.00
	Subtotal				**$7,552.00**
2	**Earthwork**				
	A. Excavation/Embankment	155	CY	$20.00	$3,100.00
	B. Borrow		CY	$12.50	$0.00
	C. Haul Off Excess		CY	$10.00	$0.00
	D. Stream Crossing		CY	$10.00	$0.00
					$3,100.00
3	**Erosion Control**				
	A. Swale Matting	460	SY	$4.25	$1,955.00
	B. Slope Matting Protection		SY	$4.25	$0.00
	C. Silt Fence	275	LF	$3.50	$962.50
	D. Miscellaneous Erosion Control Measures		LS	$5,000.00	$0.00
	Subtotal				**$2,917.50**
4	**Pavement**				
	A. Subgrade Preparation	430	SY	$1.75	$752.50
	B. 10' Wide Asphalt Pavement (Trail)	305	SY	$45.00	$13,725.00
	C. Decorative Concrete Node Pavement		SF	$15.00	$0.00
	D. Geogrid	430	SY	$7.00	$3,010.00
	Subtotal				**$17,487.50**
5	**At Grade Crossings & Road Markings**				
	A. Crosswalk Striping (Existing Non-Traffic Light, Thermoplastic)		SF	$30.00	$0.00
	B. Restripe Road (Trail Markings)		LF	$5.00	$0.00
	C. 10' Curb Ramps w/ Trunc. Domes		EA	$2,200.00	$0.00
	D. Hawk Signal		LS	$100,000.00	$0.00
	E. Pedestrian Signal Improvement at Existing Traffic Light		LS	$15,000.00	$0.00
	Subtotal				**$0.00**
6	**Utilities**				
	A. Utility Pole Relocation		EA	$10,000.00	$0.00
	B. Adjust Utilities to Grade	1	LS	$2,000.00	$2,000.00
	C. Sign Relocation		EA	$500.00	$0.00
	Subtotal				**$2,000.00**
7	**Trail Structures and Storm Sewers**				
	A. Premanufactured Bridge		LF	$350,000.00	$0.00
	B. Premanufactured Bridge Concrete Abutments		EA	$40,000.00	$0.00
	C. Wooden Boardwalk on Wooden Piles		LF	$800.00	$0.00
	D. Timber Guardrail		LF	$55.00	$0.00
	E. Culvert (Underpass for Trail)		LF	$5,000.00	$0.00
	F. 12" Culvert (30 LF)	1	EA	$1,800.00	$1,800.00
	G. 18" Culvert (30 LF)		EA	$2,400.00	$0.00
	H. 24" Culvert (30 LF)		EA	$3,000.00	$0.00
	I. 3-sided Culvert		LF	$1,000.00	$0.00
	Subtotal				**$1,800.00**
8	**Site Amenities**				
	A. Bollards		EA	$800.00	$0.00
	B. Removable Bollards		EA	$1,200.00	$0.00
	C. Trail Signage	275	LF	$1.50	$412.50
	D. Bench (500' O.C.)	1	EA	$2,500.00	$1,375.00
	E. Trash Receptacle (500' O.C.)	1	EA	$1,500.00	$825.00
	Subtotal				**$2,612.50**
9	**Landscape**				
	A. Trailside Seeding and Fine Grading	305	SY	$1.50	$457.50
	B. Seeding and Fine Grading		SY	$1.50	$0.00
	C. Trees (3" Cal., 1 per 50LF)		EA	$450.00	$0.00
	Subtotal				**$457.50**
10	**Construction Survey & Layout**				.
	A. Survey & Layout	1	LS	$6,000.00	$6,000.00
	B. Traffic Control & Maintenance		LS	$5,000.00	$0.00
	Subtotal				**$6,000.00**
11	**Right-of-Way and Property Acquisition**				.
	A. Acquisition Negotiation & Documentation		EA	$3,500.00	$0.00
	B. Residential Property (Non-Buildable)		AC	$20,000.00	$0.00
	C. Non-Residential Property		AC	$60,000.00	$0.00
	D. Residential Property (Buildable)		AC	$125,000.00	$0.00
	Subtotal				**$0.00**
	TOTAL				**$41,314.50**
	A. Contingency (30%)				$12,394.35
	B. General Conditions (8%)				$4,296.71
	C. Bonds & Insurances (5%)				$2,685.44
	D. Mobilization/Demobilization (3%)				$1,611.27
	E. Design & Documents (12%)				$6,445.06
	GRAND TOTAL				**$68,747.33**

General Assumptions:

1 A general attempt was made to anticipate potential impacts of known and seen utilities; primarily power and traffic poles and fire hydrants.
2 Existing storm sewers and storm ditches were assumed to be adequate.
3 This cost opinion is based on 2014 construction costs.
4 All improvements/projects were assumed to be publicly bid and required to meet AASHTO standards.
5 Ecological and environmental issues, such as wetland delineations, were unknown and therefore not included.
6 No traffic studies were included.
7 No acquisition costs were included for public owned lands, assumed agreement with owners.

Lakefront Greenway & Downtown Connector Study
CONCEPTUAL OPINION OF PROBABLE COSTS
June 1, 2015

Environmental Design Group

Lakefront Nature Preserve Trail Segments 2/2 (1590 LF of Trail)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	**Site Preparation/Demolition**				
	A. Clearing & Grubbing	0.50	AC	$4,000.00	$2,000.00
	B. Construction Fencing	3180	LF	$4.00	$12,720.00
	C. Asphalt & Concrete Pavement Removal		SY	$9.00	$0.00
	D. Concrete Crosswalk Pavement Removal		SY	$50.00	$0.00
	E. Saw Cut Pavement		LF	$8.00	$0.00
	F. Miscellaneous Demoliton	1	LS	$5,000.00	$5,000.00
	Subtotal				**$19,720.00**
2	**Earthwork**				
	A. Excavation/Embankment	882	CY	$20.00	$17,640.00
	B. Borrow		CY	$12.50	$0.00
	C. Haul Off Excess		CY	$10.00	$0.00
	D. Stream Crossing		CY	$10.00	$0.00
					$17,640.00
3	**Erosion Control**				
	A. Swale Matting	2650	SY	$4.25	$11,262.50
	B. Slope Matting Protection	790	SY	$4.25	$3,357.50
	C. Silt Fence	1590	LF	$3.50	$5,565.00
	D. Miscellaneous Erosion Control Measures	1	LS	$5,000.00	$5,000.00
	Subtotal				**$25,185.00**
4	**Pavement**				
	A. Subgrade Preparation	2473	SY	$1.75	$4,327.75
	B. 10' Wide Asphalt Pavement (Trail)	1800	SY	$45.00	$81,000.00
	C. Decorative Concrete Node Pavement		SF	$15.00	$0.00
	D. Geogrid	2473	SY	$7.00	$17,311.00
	Subtotal				**$102,638.75**
5	**At Grade Crossings & Road Markings**				
	A. Crosswalk Striping (Existing Non-Traffic Light, Thermoplastic)		SF	$30.00	$0.00
	B. Restripe Road (Trail Markings)	1431	LF	$5.00	$7,155.00
	C. 10' Curb Ramps w/ Trunc. Domes		EA	$2,200.00	$0.00
	D. Hawk Signal		LS	$100,000.00	$0.00
	E. Pedestrian Signal Improvement at Existing Traffic Light		LS	$15,000.00	$0.00
	Subtotal				**$7,155.00**
6	**Utilities**				
	A. Utility Pole Relocation		EA	$10,000.00	$0.00
	B. Adjust Utilities to Grade	1	LS	$2,500.00	$2,500.00
	C. Sign Relocation		EA	$500.00	$0.00
	Subtotal				**$2,500.00**
7	**Trail Structures and Storm Sewers**				
	A. Premanufactured Bridge		LF	$350,000.00	$0.00
	B. Premanufactured Bridge Concrete Abutments		EA	$40,000.00	$0.00
	C. Wooden Boardwalk on Wooden Piles		LF	$800.00	$0.00
	D. Timber Guardrail		LF	$55.00	$0.00
	E. Culvert (Underpass for Trail)		LF	$5,000.00	$0.00
	F. 12" Culvert (30 LF)	1	EA	$1,800.00	$1,800.00
	G. 18" Culvert (30 LF)		EA	$2,400.00	$0.00
	H. 24" Culvert (30 LF)		EA	$3,000.00	$0.00
	I. 3-sided Culvert		LF	$1,000.00	$0.00
	Subtotal				**$1,800.00**
8	**Site Amenities**				
	A. Bollards		EA	$800.00	$0.00
	B. Removable Bollards		EA	$1,200.00	$0.00
	C. Trail Signage	1590	LF	$1.50	$2,385.00
	D. Bench (500' O.C.)	3	EA	$2,500.00	$7,500.00
	E. Trash Receptacle (500' O.C.)	3	EA	$1,500.00	$4,500.00
	Subtotal				**$14,385.00**
9	**Landscape**				
	A. Trailside Seeding and Fine Grading	1060	SY	$1.50	$1,590.00
	B. Seeding and Fine Grading		SY	$1.50	$0.00
	C. Trees (3" Cal., 1 per 50LF)	30	EA	$450.00	$13,500.00
	Subtotal				**$15,090.00**
10	**Construction Survey & Layout**				.
	A. Survey & Layout	1	LS	$6,000.00	$6,000.00
	B. Traffic Control & Maintenance		LS	$4,000.00	$0.00
	Subtotal				**$6,000.00**
11	**Right-of-Way and Property Acquisition**				.
	A. Acquisition Negotiation & Documentation		EA	$3,500.00	$0.00
	B. Residential Property (Non-Buildable)		AC	$20,000.00	$0.00
	C. Non-Residential Property		AC	$60,000.00	$0.00
	D. Residential Property (Buildable)		AC	$125,000.00	$0.00
	Subtotal				**$0.00**
	TOTAL				**$197,728.75**
	A. Contingency (30%)				$59,318.63
	B. General Conditions (8%)				$20,563.79
	C. Bonds & Insurances (5%)				$12,852.37
	D. Mobilization/Demobilization (3%)				$7,711.42
	E. Design & Documents (12%)				$30,845.69
	GRAND TOTAL				**$329,020.64**

General Assumptions:

1 A general attempt was made to anticipate potential impacts of known and seen utilities; primarily power and traffic poles and fire hydrants.
2 Existing storm sewers and storm ditches were assumed to be adequate.
3 This cost opinion is based on 2014 construction costs.
4 All improvements/projects were assumed to be publicly bid and required to meet AASHTO standards.
5 Ecological and environmental issues, such as wetland delineations, were unknown and therefore not included.
6 No traffic studies were included.
7 No acquisition costs were included for public owned lands, assumed agreement with owners.

Lakefront Greenway & Downtown Connector Study
CONCEPTUAL OPINION OF PROBABLE COSTS
June 1, 2015

Environmental Design Group

Intercity Yacht Club (1200 LF of Trail)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	**Site Preparation/Demolition**				
	A. Clearing & Grubbing		AC	$4,000.00	$0.00
	B. Construction Fencing	2400	LF	$4.00	$9,600.00
	C. Asphalt & Concrete Pavement Removal		SY	$9.00	$0.00
	D. Concrete Crosswalk Pavement Removal		SY	$50.00	$0.00
	E. Saw Cut Pavement		LF	$8.00	$0.00
	F. Miscellaneous Demoliton	1	LS	$5,000.00	$5,000.00
	Subtotal				**$14,600.00**
2	**Earthwork**				
	A. Excavation/Embankment	675	CY	$20.00	$13,500.00
	B. Borrow		CY	$12.50	$0.00
	C. Haul Off Excess		CY	$10.00	$0.00
	D. Stream Crossing		CY	$10.00	$0.00
					$13,500.00
3	**Erosion Control**				
	A. Swale Matting		SY	$4.25	$0.00
	B. Slope Matting Protection		SY	$4.25	$0.00
	C. Silt Fence		LF	$3.50	$0.00
	D. Miscellaneous Erosion Control Measures		LS	$5,000.00	$0.00
	Subtotal				**$0.00**
4	**Pavement**				
	A. Subgrade Preparation		SY	$1.75	$0.00
	B. 10' Wide Asphalt Pavement (Trail)		SY	$45.00	$0.00
	C. Decorative Concrete Node Pavement		SF	$15.00	$0.00
	D. Geogrid		SY	$7.00	$0.00
	Subtotal				**$0.00**
5	**At Grade Crossings & Road Markings**				
	A. Crosswalk Striping (Existing Non-Traffic Light, Thermoplastic)	1000	SF	$30.00	$30,000.00
	B. Restripe Road (Trail Markings)	1200	LF	$5.00	$6,000.00
	C. 10' Curb Ramps w/ Trunc. Domes	2	EA	$2,200.00	$4,400.00
	D. Hawk Signal		LS	$100,000.00	$0.00
	E. Pedestrian Signal Improvement at Existing Traffic Light		LS	$15,000.00	$0.00
	Subtotal				**$40,400.00**
6	**Utilities**				
	A. Utility Pole Relocation		EA	$10,000.00	$0.00
	B. Adjust Utilities to Grade	1	LS	$2,500.00	$2,500.00
	C. Sign Relocation		EA	$500.00	$0.00
	Subtotal				**$2,500.00**
7	**Trail Structures and Storm Sewers**				
	A. Premanufactured Bridge		LF	$350,000.00	$0.00
	B. Premanufactured Bridge Concrete Abutments		EA	$40,000.00	$0.00
	C. Wooden Boardwalk on Wooden Piles		LF	$800.00	$0.00
	D. Timber Guardrail		LF	$55.00	$0.00
	E. Concrete Barrier	400	LF	$125.00	$50,000.00
	F. Culvert (Underpass for Trail)		LF	$5,000.00	$0.00
	G. 12" Culvert (30 LF)		EA	$1,800.00	$0.00
	H. 18" Culvert (30 LF)		EA	$2,400.00	$0.00
	I. 24" Culvert (30 LF)		EA	$3,000.00	$0.00
	J. 3-sided Culvert		LF	$1,000.00	$0.00
	Subtotal				**$50,000.00**
8	**Site Amenities**				
	A. Bollards		EA	$800.00	$0.00
	B. Removable Bollards		EA	$1,200.00	$0.00
	C. Trail Signage	1200	LF	$1.50	$1,800.00
	D. Bench (500' O.C.)	2	EA	$2,500.00	$6,000.00
	E. Trash Receptacle (500' O.C.)	2	EA	$1,500.00	$3,600.00
	Subtotal				**$11,400.00**
9	**Landscape**				
	A. Trailside Seeding and Fine Grading		SY	$1.50	$0.00
	B. Seeding and Fine Grading		SY	$1.50	$0.00
	C. Trees (3" Cal., 1 per 50LF)	24	EA	$450.00	$10,800.00
	Subtotal				**$10,800.00**
10	**Construction Survey & Layout**				.
	A. Survey & Layout	1	LS	$6,000.00	$6,000.00
	B. Traffic Control & Maintenance	1	LS	$10,000.00	$10,000.00
	Subtotal				**$16,000.00**
11	**Right-of-Way and Property Acquisition**				.
	A. Acquisition Negotiation & Documentation		EA	$3,500.00	$0.00
	B. Residential Property (Non-Buildable)		AC	$20,000.00	$0.00
	C. Non-Residential Property		AC	$60,000.00	$0.00
	D. Residential Property (Buildable)		AC	$125,000.00	$0.00
	Subtotal				**$0.00**
	TOTAL				**$147,800.00**
	A. Contingency (30%)				$44,340.00
	B. General Conditions (8%)				$15,371.20
	C. Bonds & Insurances (5%)				$9,607.00
	D. Mobilization/Demobilization (3%)				$5,764.20
	E. Design & Documents (12%)				$23,056.80
	GRAND TOTAL				**$245,939.20**

General Assumptions:

1 A general attempt was made to anticipate potential impacts of known and seen utilities; primarily power and traffic poles and fire hydrants.
2 Existing storm sewers and storm ditches were assumed to be adequate.
3 This cost opinion is based on 2014 construction costs.
4 All improvements/projects were assumed to be publicly bid and required to meet AASHTO standards.
5 Ecological and environmental issues, such as wetland delineations, were unknown and therefore not included.
6 No traffic studies were included.
7 No acquisition costs were included for public owned lands, assumed agreement with owners.

Lakefront Greenway & Downtown Connector Study
CONCEPTUAL OPINION OF PROBABLE COSTS
June 1, 2015

Environmental Design Group

North Marginal Road Trail (14050 LF of Trail)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	**Site Preparation/Demolition**				
	A. Clearing & Grubbing	4.8	AC	$4,000.00	$19,200.00
	B. Construction Fencing	28100	LF	$4.00	$112,400.00
	C. Asphalt & Concrete Pavement Removal	12490	SY	$9.00	$112,410.00
	D. Concrete Crosswalk Pavement Removal		SY	$50.00	$0.00
	E. Saw Cut Pavement		LF	$8.00	$0.00
	F. Miscellaneous Demoliton	1	LS	$5,000.00	$5,000.00
	G. Fence Removal	3200	LF	$2.50	$8,000.00
	Subtotal				**$257,010.00**
2	**Earthwork**				
	A. Excavation/Embankment	7800	CY	$20.00	$156,000.00
	B. Borrow		CY	$12.50	$0.00
	C. Haul Off Excess		CY	$10.00	$0.00
	D. Stream Crossing		CY	$10.00	$0.00
					$156,000.00
3	**Erosion Control**				
	A. Swale Matting	23420	SY	$4.25	$99,535.00
	B. Slope Matting Protection	3650	SY	$4.25	$15,512.50
	C. Silt Fence	14050	LF	$3.50	$49,175.00
	D. Miscellaneous Erosion Control Measures		LS	$5,000.00	$0.00
	Subtotal				**$164,222.50**
4	**Pavement**				
	A. Subgrade Preparation	21860	SY	$1.75	$38,255.00
	B. 10' Wide Asphalt Pavement (Trail)	15620	SY	$45.00	$702,900.00
	D. Decorative Concrete Node Pavement		SF	$15.00	$0.00
	E. Geogrid	21860	SY	$7.00	$153,020.00
	Subtotal				**$894,175.00**
5	**At Grade Crossings & Road Markings**				
	A. Crosswalk Striping (Existing Non-Traffic Light, Thermoplastic)	600	SF	$30.00	$18,000.00
	B. Restripe Road (Trail Markings)		LF	$5.00	$0.00
	C. 10' Curb Ramps w/ Trunc. Domes	6	EA	$2,200.00	$13,200.00
	D. Rapid Flashing Beacon		EA	$25,000.00	$0.00
	D. Hawk Signal		LS	$100,000.00	$0.00
	E. Pedestrian Signal Improvement at Existing Traffic Light		LS	$15,000.00	$0.00
	Subtotal				**$31,200.00**
6	**Utilities**				
	A. Utility Pole Relocation	72	EA	$10,000.00	$720,000.00
	B. Adjust Utilities to Grade	1	LS	$20,000.00	$20,000.00
	C. Sign Relocation		EA	$500.00	$0.00
	Subtotal				**$740,000.00**
7	**Trail Structures and Storm Sewers**				
	A. Premanufactured Bridge		LF	$350,000.00	$0.00
	B. Premanufactured Bridge Concrete Abutments		EA	$40,000.00	$0.00
	C. Wooden Boardwalk on Wooden Piles		LF	$800.00	$0.00
	D. Security Fence	3200	LF	$275.00	$880,000.00
	E. Culvert (Underpass for Trail)		LF	$5,000.00	$0.00
	F. 12" Culvert (30 LF)	6	EA	$1,800.00	$10,800.00
	G. 18" Culvert (30 LF)		EA	$2,400.00	$0.00
	H. 24" Culvert (30 LF)		EA	$3,000.00	$0.00
	I. 3-sided Culvert		LF	$1,000.00	$0.00
	Subtotal				**$890,800.00**
8	**Site Amenities**				
	A. Bollards		EA	$800.00	$0.00
	B. Removable Bollards		EA	$1,200.00	$0.00
	C. Trail Signage	14160	LF	$1.50	$21,240.00
	D. Bench (500' O.C.)	28	EA	$2,500.00	$70,800.00
	E. Trash Receptacle (500' O.C.)	28	EA	$1,500.00	$42,000.00
	Subtotal				**$134,040.00**
9	**Landscape**				
	A. Trailside Seeding and Fine Grading	15750	SY	$1.50	$23,625.00
	B. Seeding and Fine Grading		SY	$1.50	$0.00
	C. Trees (3" Cal., 1 per 50LF)	283	EA	$450.00	$127,440.00
	Subtotal				**$151,065.00**
10	**Construction Survey & Layout**				.
	A. Survey & Layout	1	LS	$30,000.00	$30,000.00
	B. Traffic Control & Maintenance	1	LS	$50,000.00	$50,000.00
	Subtotal				**$80,000.00**
11	**Right-of-Way and Property Acquisition**				.
	A. Acquisition Negotiation & Documentation		EA	$3,500.00	$0.00
	B. Residential Property (Non-Buildable)		AC	$20,000.00	$0.00
	C. Non-Residential Property		AC	$60,000.00	$0.00
	D. Residential Property (Buildable)		AC	$125,000.00	$0.00
	Subtotal				**$0.00**
	TOTAL				**$3,364,472.50**
	A. Contingency (30%)				$1,009,341.75
	B. General Conditions (8%)				$349,905.14
	C. Bonds & Insurances (5%)				$218,690.71
	D. Mobilization/Demobilization (3%)				$131,214.43
	E. Design & Documents (12%)				$524,857.71
	GRAND TOTAL				**$5,598,482.24**

General Assumptions:

1 A general attempt was made to anticipate potential impacts of known and seen utilities; primarily power and traffic poles and fire hydrants.
2 Existing storm sewers and storm ditches were assumed to be adequate.
3 This cost opinion is based on 2014 construction costs.
4 All improvements/projects were assumed to be publicly bid and required to meet AASHTO standards.
5 Ecological and environmental issues, such as wetland delineations, were unknown and therefore not included.
6 No traffic studies were included.
7 No acquisition costs were included for public owned lands, assumed agreement with owners.

Lakefront Greenway & Downtown Connector Study
CONCEPTUAL OPINION OF PROBABLE COSTS
June 1, 2015

Environmental Design Group

East 72nd Street Path (2235 LF of Trail)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	**Site Preparation/Demolition**				
	A. Clearing & Grubbing		AC	$4,000.00	$0.00
	B. Construction Fencing	2235	LF	$4.00	$8,940.00
	C. Asphalt & Concrete Pavement Removal		SY	$9.00	$0.00
	D. Concrete Crosswalk Pavement Removal		SY	$50.00	$0.00
	E. Saw Cut Pavement		LF	$8.00	$0.00
	F. Miscellaneous Demoliton	1	LS	$5,000.00	$5,000.00
	Subtotal				**$13,940.00**
2	**Earthwork**				
	A. Excavation/Embankment		CY	$20.00	$0.00
	B. Borrow		CY	$12.50	$0.00
	C. Haul Off Excess		CY	$10.00	$0.00
	D. Stream Crossing		CY	$10.00	$0.00
					$0.00
3	**Erosion Control**				
	A. Swale Matting		SY	$4.25	$0.00
	B. Slope Matting Protection		SY	$4.25	$0.00
	C. Silt Fence		LF	$3.50	$0.00
	D. Miscellaneous Erosion Control Measures		LS	$5,000.00	$0.00
	Subtotal				**$0.00**
4	**Pavement**				
	A. Subgrade Preparation		SY	$1.75	$0.00
	B. 10' Wide Asphalt Pavement (Trail)		SY	$45.00	$0.00
	C. Decorative Concrete Node Pavement		SF	$15.00	$0.00
	D. Geogrid		SY	$7.00	$0.00
	Subtotal				**$0.00**
5	**At Grade Crossings & Road Markings**				
	A. Crosswalk Striping (Existing Non-Traffic Light, Thermoplastic)	500	SF	$30.00	$15,000.00
	B. Restripe Road (Trail Markings)	2235	LF	$5.00	$11,175.00
	C. 10' Curb Ramps w/ Trunc. Domes	6	EA	$2,200.00	$13,200.00
	D. Hawk Signal		LS	$100,000.00	$0.00
	E. Pedestrian Signal Improvement at Existing Traffic Light		LS	$15,000.00	$0.00
	Subtotal				**$39,375.00**
6	**Utilities**				
	A. Utility Pole Relocation		EA	$10,000.00	$0.00
	B. Adjust Utilities to Grade	1	LS	$3,000.00	$3,000.00
	C. Sign Relocation		EA	$500.00	$0.00
	Subtotal				**$3,000.00**
7	**Trail Structures and Storm Sewers**				
	A. Premanufactured Bridge		LF	$350,000.00	$0.00
	B. Premanufactured Bridge Concrete Abutments		EA	$40,000.00	$0.00
	C. Wooden Boardwalk on Wooden Piles		LF	$800.00	$0.00
	D. Timber Guardrail		LF	$55.00	$0.00
	E. Culvert (Underpass for Trail)		LF	$5,000.00	$0.00
	F. 12" Culvert (30 LF)		EA	$1,800.00	$0.00
	G. 18" Culvert (30 LF)		EA	$2,400.00	$0.00
	H. 24" Culvert (30 LF)		EA	$3,000.00	$0.00
	I. 3-sided Culvert		LF	$1,000.00	$0.00
	Subtotal				**$0.00**
8	**Site Amenities**				
	A. Bollards		EA	$800.00	$0.00
	B. Removable Bollards		EA	$1,200.00	$0.00
	C. Trail Signage	2235	LF	$1.50	$3,352.50
	D. Bench (500' O.C.)	4	EA	$2,500.00	$11,175.00
	E. Trash Receptacle (500' O.C.)	4	EA	$1,500.00	$6,000.00
	Subtotal				**$20,527.50**
9	**Landscape**				
	A. Trailside Seeding and Fine Grading		SY	$1.50	$0.00
	B. Seeding and Fine Grading		SY	$1.50	$0.00
	C. Trees (3" Cal., 1 per 50LF)	45	EA	$450.00	$20,115.00
	Subtotal				**$20,115.00**
10	**Construction Survey & Layout**				.
	A. Survey & Layout	1	LS	$6,000.00	$6,000.00
	B. Traffic Control & Maintenance	1	LS	$4,000.00	$4,000.00
	Subtotal				**$10,000.00**
11	**Right-of-Way and Property Acquisition**				.
	A. Acquisition Negotiation & Documentation		EA	$3,500.00	$0.00
	B. Residential Property (Non-Buildable)		AC	$20,000.00	$0.00
	C. Non-Residential Property		AC	$60,000.00	$0.00
	D. Residential Property (Buildable)		AC	$125,000.00	$0.00
	Subtotal				**$0.00**
	TOTAL				**$86,430.00**
	A. Contingency (30%)				$25,929.00
	B. General Conditions (8%)				$8,988.72
	C. Bonds & Insurances (5%)				$5,617.95
	D. Mobilization/Demobilization (3%)				$3,370.77
	E. Design & Documents (12%)				$13,483.08
	GRAND TOTAL				**$143,819.52**

General Assumptions:

1 A general attempt was made to anticipate potential impacts of known and seen utilities; primarily power and traffic poles and fire hydrants.
2 Existing storm sewers and storm ditches were assumed to be adequate.
3 This cost opinion is based on 2014 construction costs.
4 All improvements/projects were assumed to be publicly bid and required to meet AASHTO standards.
5 Ecological and environmental issues, such as wetland delineations, were unknown and therefore not included.
6 No traffic studies were included.
7 No acquisition costs were included for public owned lands, assumed agreement with owners.

Lakefront Greenway & Downtown Connector Study
CONCEPTUAL OPINION OF PROBABLE COSTS
June 1, 2015

Environmental Design Group

South Marginal Road Trail, On-Road (4575 LF of Trail)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	**Site Preparation/Demolition**				
	A. Clearing & Grubbing		AC	$4,000.00	$0.00
	B. Construction Fencing	9150	LF	$4.00	$36,600.00
	C. Asphalt & Concrete Pavement Removal		SY	$9.00	$0.00
	D. Concrete Crosswalk Pavement Removal		SY	$50.00	$0.00
	E. Saw Cut Pavement		LF	$8.00	$0.00
	F. Miscellaneous Demoliton	1	LS	$5,000.00	$5,000.00
	Subtotal				**$41,600.00**
2	**Earthwork**				
	A. Excavation/Embankment		CY	$20.00	$0.00
	B. Borrow		CY	$12.50	$0.00
	C. Haul Off Excess		CY	$10.00	$0.00
	D. Stream Crossing		CY	$10.00	$0.00
					$0.00
3	**Erosion Control**				
	A. Swale Matting		SY	$4.25	$0.00
	B. Slope Matting Protection		SY	$4.25	$0.00
	C. Silt Fence		LF	$3.50	$0.00
	D. Miscellaneous Erosion Control Measures		LS	$5,000.00	$0.00
	Subtotal				**$0.00**
4	**Pavement**				
	A. Subgrade Preparation		SY	$1.75	$0.00
	B. 10' Wide Asphalt Pavement (Trail)		SY	$45.00	$0.00
	C. Decorative Concrete Node Pavement		SF	$15.00	$0.00
	D. Geogrid		SY	$7.00	$0.00
	Subtotal				**$0.00**
5	**At Grade Crossings & Road Markings**				
	A. Crosswalk Striping (Existing Non-Traffic Light, Thermoplastic)		SF	$30.00	$0.00
	B. Restripe Road (Trail Markings)	4100	LF	$5.00	$20,500.00
	C. 10' Curb Ramps w/ Trunc. Domes	12	EA	$2,200.00	$26,400.00
	D. Hawk Signal		LS	$100,000.00	$0.00
	E. Pedestrian Signal Improvement at Existing Traffic Light		LS	$15,000.00	$0.00
	Subtotal				**$46,900.00**
6	**Utilities**				
	A. Utility Pole Relocation		EA	$10,000.00	$0.00
	B. Adjust Utilities to Grade	1	LS	$8,000.00	$8,000.00
	C. Sign Relocation		EA	$500.00	$0.00
	Subtotal				**$8,000.00**
7	**Trail Structures and Storm Sewers**				
	A. Premanufactured Bridge		LF	$350,000.00	$0.00
	B. Premanufactured Bridge Concrete Abutments		EA	$40,000.00	$0.00
	C. Wooden Boardwalk on Wooden Piles		LF	$800.00	$0.00
	D. Timber Guardrail		LF	$55.00	$0.00
	E. Culvert (Underpass for Trail)		LF	$5,000.00	$0.00
	F. 12" Culvert (30 LF)		EA	$1,800.00	$0.00
	G. 18" Culvert (30 LF)		EA	$2,400.00	$0.00
	H. 24" Culvert (30 LF)		EA	$3,000.00	$0.00
	I. 3-sided Culvert		LF	$1,000.00	$0.00
	Subtotal				**$0.00**
8	**Site Amenities**				
	A. Bollards		EA	$800.00	$0.00
	B. Removable Bollards		EA	$1,200.00	$0.00
	C. Trail Signage	4575	LF	$1.50	$6,862.50
	D. Bench (500' O.C.)	9	EA	$2,500.00	$22,875.00
	E. Trash Receptacle (500' O.C.)	9	EA	$1,500.00	$13,500.00
	Subtotal				**$43,237.50**
9	**Landscape**				
	A. Trailside Seeding and Fine Grading		SY	$1.50	$0.00
	B. Seeding and Fine Grading		SY	$1.50	$0.00
	C. Trees (3" Cal., 1 per 50LF)	92	EA	$450.00	$41,175.00
	Subtotal				**$41,175.00**
10	**Construction Survey & Layout**				.
	A. Survey & Layout	1	LS	$8,000.00	$8,000.00
	B. Traffic Control & Maintenance	1	LS	$6,000.00	$6,000.00
	Subtotal				**$14,000.00**
11	**Right-of-Way and Property Acquisition**				.
	A. Acquisition Negotiation & Documentation		EA	$3,500.00	$0.00
	B. Residential Property (Non-Buildable)		AC	$20,000.00	$0.00
	C. Non-Residential Property		AC	$60,000.00	$0.00
	D. Residential Property (Buildable)		AC	$125,000.00	$0.00
	Subtotal				**$0.00**
	TOTAL				**$151,675.00**
	A. Contingency (30%)				$45,502.50
	B. General Conditions (8%)				$15,774.20
	C. Bonds & Insurances (5%)				$9,858.88
	D. Mobilization/Demobilization (3%)				$5,915.33
	E. Design & Documents (12%)				$23,661.30
					$252,387.20

General Assumptions:

1 A general attempt was made to anticipate potential impacts of known and seen utilities; primarily power and traffic poles and fire hydrants.
2 Existing storm sewers and storm ditches were assumed to be adequate.
3 This cost opinion is based on 2014 construction costs.
4 All improvements/projects were assumed to be publicly bid and required to meet AASHTO standards.
5 Ecological and environmental issues, such as wetland delineations, were unknown and therefore not included.
6 No traffic studies were included.
7 No acquisition costs were included for public owned lands, assumed agreement with owners.

Lakefront Greenway & Downtown Connector Study
CONCEPTUAL OPINION OF PROBABLE COSTS
June 1, 2015

Environmental Design Group

South Marginal Road Trail, Off-Road (11520 LF of Trail)

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1	**Site Preparation/Demolition**				
	A. Clearing & Grubbing	3.7	AC	$4,000.00	$14,800.00
	B. Construction Fencing	23040	LF	$4.00	$92,160.00
	C. Asphalt & Concrete Pavement Removal		SY	$9.00	$0.00
	D. Concrete Crosswalk Pavement Removal		SY	$50.00	$0.00
	E. Saw Cut Pavement		LF	$8.00	$0.00
	F. Billboard Relocation	1	LS	$50,000.00	$50,000.00
	G. Miscellaneous Demoliton	1	LS	$5,000.00	$5,000.00
	Subtotal				**$161,960.00**
2	**Earthwork**				
	A. Excavation/Embankment	6400	CY	$20.00	$128,000.00
	B. Borrow		CY	$12.50	$0.00
	C. Haul Off Excess		CY	$10.00	$0.00
	D. Stream Crossing		CY	$10.00	$0.00
					$128,000.00
3	**Erosion Control**				
	A. Swale Matting	19200	SY	$4.25	$81,600.00
	B. Slope Matting Protection	250	SY	$4.25	$1,062.50
	C. Silt Fence	11520	LF	$3.50	$40,320.00
	D. Miscellaneous Erosion Control Measures	1	LS	$5,000.00	$5,000.00
	Subtotal				**$127,982.50**
4	**Pavement**				
	A. Subgrade Preparation	17920	SY	$1.75	$31,360.00
	B. 10' Wide Asphalt Pavement (Trail)	12800	SY	$45.00	$576,000.00
	D. Decorative Concrete Node Pavement		SF	$15.00	$0.00
	E. Geogrid	17920	SY	$7.00	$125,440.00
	Subtotal				**$732,800.00**
5	**At Grade Crossings & Road Markings**				
	A. Crosswalk Striping (Existing Non-Traffic Light, Thermoplastic)	5500	SF	$30.00	$165,000.00
	B. Restripe Road (Trail Markings)		LF	$5.00	$0.00
	C. 10' Curb Ramps w/ Trunc. Domes	8	EA	$2,200.00	$17,600.00
	D. Rapid Flashing Beachon		EA	$25,000.00	$0.00
	D. Hawk Signal		LS	$100,000.00	$0.00
	E. Pedestrian Signal Improvement at Existing Traffic Light		LS	$15,000.00	$0.00
	Subtotal				**$182,600.00**
6	**Utilities**				
	A. Utility Pole Relocation		EA	$10,000.00	$0.00
	B. Adjust Utilities to Grade	1	LS	$18,000.00	$18,000.00
	C. Sign Relocation		EA	$500.00	$0.00
	Subtotal				**$18,000.00**
7	**Trail Structures and Storm Sewers**				
	A. Premanufactured Bridge		LF	$350,000.00	$0.00
	B. Premanufactured Bridge Concrete Abutments		EA	$40,000.00	$0.00
	C. Wooden Boardwalk on Wooden Piles		LF	$800.00	$0.00
	D. Timber Guardrail		LF	$55.00	$0.00
	E. Culvert (Underpass for Trail)		LF	$5,000.00	$0.00
	F. 12" Culvert (30 LF)	8	EA	$1,800.00	$14,400.00
	G. 18" Culvert (30 LF)		EA	$2,400.00	$0.00
	H. 24" Culvert (30 LF)		EA	$3,000.00	$0.00
	I. 3-sided Culvert		LF	$1,000.00	$0.00
	Subtotal				**$14,400.00**
8	**Site Amenities**				
	A. Bollards		EA	$800.00	$0.00
	B. Removable Bollards		EA	$1,200.00	$0.00
	C. Trail Signage	11520	LF	$1.50	$17,280.00
	D. Bench (500' O.C.)	23	EA	$2,500.00	$57,600.00
	E. Trash Receptacle (500' O.C.)	23	EA	$1,500.00	$34,500.00
	Subtotal				**$109,380.00**
9	**Landscape**				
	A. Trailside Seeding and Fine Grading		SY	$1.50	$0.00
	B. Seeding and Fine Grading		SY	$1.50	$0.00
	C. Trees (3" Cal., 1 per 50LF)	230	EA	$450.00	$103,680.00
	Subtotal				**$103,680.00**
10	**Construction Survey & Layout**				.
	A. Survey & Layout	1	LS	$20,000.00	$20,000.00
	B. Traffic Control & Maintenance	1	LS	$15,000.00	$15,000.00
	Subtotal				**$35,000.00**
11	**Right-of-Way and Property Acquisition**				.
	A. Acquisition Negotiation & Documentation		EA	$3,500.00	$0.00
	B. Residential Property (Non-Buildable)		AC	$20,000.00	$0.00
	C. Non-Residential Property		AC	$60,000.00	$0.00
	D. Residential Property (Buildable)		AC	$125,000.00	$0.00
	Subtotal				**$0.00**
	TOTAL				**$1,504,422.50**
	A. Contingency (30%)				$451,326.75
	B. General Conditions (8%)				$156,459.94
	C. Bonds & Insurances (5%)				$97,787.46
	D. Mobilization/Demobilization (3%)				$58,672.48
	E. Design & Documents (12%)				$234,689.91
	GRAND TOTAL				**$2,503,359.04**

General Assumptions:

1 A general attempt was made to anticipate potential impacts of known and seen utilities; primarily power and traffic poles and fire hydrants.
2 Existing storm sewers and storm ditches were assumed to be adequate.
3 This cost opinion is based on 2014 construction costs.
4 All improvements/projects were assumed to be publicly bid and required to meet AASHTO standards.
5 Ecological and environmental issues, such as wetland delineations, were unknown and therefore not included.
6 No traffic studies were included.
7 No acquisition costs were included for public owned lands, assumed agreement with owners.