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## Response to Public Comment

### *Reconnecting Cincinnati Westway Design Improvements*

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**TO:** KYTC and ODOT

**FROM:** HNTB Corporation

**DATE:** September 14, 2022

**RE:** Brent Spence Bridge Corridor Project | ODOT PID 89068 | KYTC Project Item No. 6-17

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### Introduction

The Kentucky Transportation Cabinet (KYTC) and the Ohio Department of Transportation (ODOT) received numerous emails beginning in August 2022 suggesting potential changes to Preferred Alternative I (Concept I-W) for the Brent Spence Bridge (BSB) Corridor Project. The content of the emails was the same, and in most cases the subject line of the emails read: “Brent Spence Bridge Project – Reconnecting Cincinnati Westway Design Improvements” (hereafter referred to as the “Westway Emails”). As expressed in the Westway Emails, KYTC and ODOT are also excited by the momentum gained for the BSB Corridor Project and are dedicated to helping the Cincinnati region receive the best possible outcome for this large infrastructure investment. The following sections provide a response to the concepts and ideas outlined in the emailed comments.

### Purpose and Need

The Westway Emails suggest an expansion of the project’s purpose and need statement to include community priorities such as east-west connectivity, multi-modal improvements, and economic development as primary goals (among others). The project’s purpose and need statement was developed based on extensive analyses of existing and proposed conditions in the greater Cincinnati region and in collaboration with local stakeholders – including the cities of Cincinnati and Covington and Kenton and Hamilton counties – and the general public. It has undergone extensive state and federal review and was approved early in the project’s development. While the project’s primary needs reflect the existing and future conditions that are truly causing the transportation problem, they do not preclude KYTC and ODOT from pursuing other goals in the project’s development. To that end, KYTC and ODOT have intentionally incorporated features that reduce the project’s footprint, promote and improve bicycle and pedestrian connectivity, improve water quality by separating storm water from the sanitary system, balance regional and local traffic needs, and reduce community impacts throughout the project’s development. Many of these features were added and refined based on local agency, stakeholder, and public feedback.

### Alternatives Development and Evaluation

The Westway Emails also advocate for additional alternatives that do not adhere to Preferred Alternative I (Concept I-W) for the BSB Corridor Project. In August 2012, the Federal Highway Administration (FHWA)



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issued a Finding of No Significant Impact (FONSI), which approved the preferred alternative for the BSB Corridor Project after extensive evaluation of numerous alternatives which incorporated feedback from local agencies, stakeholders, and the public. Introducing additional alternatives would invalidate the FONSI issued by FHWA and would require the project's environmental process to be re-opened. The extensive preliminary design, study, evaluation, and public involvement required to re-open the alternatives analysis would delay the project's targeted groundbreaking for two years or more and could potentially jeopardize the project's eligibility for federal grants for construction. These realities conflict with the goals advocated in the Westway Emails, which include capitalizing on funding from the Bipartisan Infrastructure Law, applying for and receiving funding through the federal INFRA and Mega grant programs, and adhering to the project's targeted groundbreaking in late 2023.

## Traffic Forecasting

The Westway Emails include comments that traffic forecasting assumptions used to drive the project's design should be validated by actual, historic traffic counts and trends. In addition, the forecasting methodology should consider econometric factors, individual trip preference, and alternative transportation modes, among others. KYTC and ODOT fully support this approach to traffic forecasting and modeling. The traffic forecasts developed for the BSB Corridor Project consider historical traffic counts, trends, regional land use projections, and the planned regional network as forecasted by the Ohio-Kentucky-Indiana Regional Council of Governments (OKI), which is the Metropolitan Planning Organization (MPO) for the greater Cincinnati area. The traffic forecasts consider the full regional network and the ability for trips to shift to other corridors. Trip modes, telecommuting, and changed trips are modeled by OKI using the best available data.

## Lowered Alignment of I-75

ODOT supports the idea of lowering freeways through urban areas where feasible, as evidenced by the Fort Washington Way project that is prominently referenced in the Westway Emails. However, the concept simply is not feasible for this specific location due to the following limitations:

- Any bridge over the Ohio River must meet U.S. Coast Guard clearance requirements, which means the bottom of the bridge will need to be 55 feet above the flowline of the Ohio River.
- Once the interstate passes over the Ohio River, it cannot descend directly into downtown Cincinnati. First, it must stay elevated to cross active CSX rail lines between Pete Rose Avenue and 3<sup>rd</sup> Street.
- Any design must accommodate a complicated system of mainline and ramp movements to provide local access and continuity along I-71, I-75, and US 50. Weaving these ramps through the project area requires a complex tiered bridge system with the highest tier rising over 50 feet above the ground (see Attachment 1).



To meet these geometric constraints, the preferred alternative for the BSB Corridor Project currently descends toward downtown Cincinnati at a 4- to 5.5-percent grade. Lowering the roadway any further would require substantially steeper roadway grades (up to 7.7 percent). For reference, ODOT's *Location and Design Manual, Volume 1* lists the maximum grade for urban interstates in similar terrain as 6 percent. Furthermore, given the complicated geometry, any changes to the mainline profile would cascade throughout the BSB interchange area, resulting in prohibitively steep grades along other ramps and C-D roads. Introducing grades of this magnitude would require design exceptions and present traffic operational and safety concerns, particularly considering the high volumes of heavy truck traffic traveling through the corridor. This would be contrary to the project's approved purpose and need, which includes improving traffic flow and safety and correcting geometric deficiencies through a key regional and national transportation corridor.



*Long, steep roadway grades can negatively affect traffic flow on interstate highways such as on southbound I-71/I-75 between Kyles Lane and MLK Jr. Boulevard in Kentucky – also known as the “Cut in the Hill” (pictured above). Truck traffic climbing the hill often moves at a much slower speed than other traffic. The substantial difference in speed between trucks and cars contributes to elevated traffic congestion and crashes.<sup>1</sup> (Photo: Traffic cam for I-71/I-75 at Cut in the Hill)*

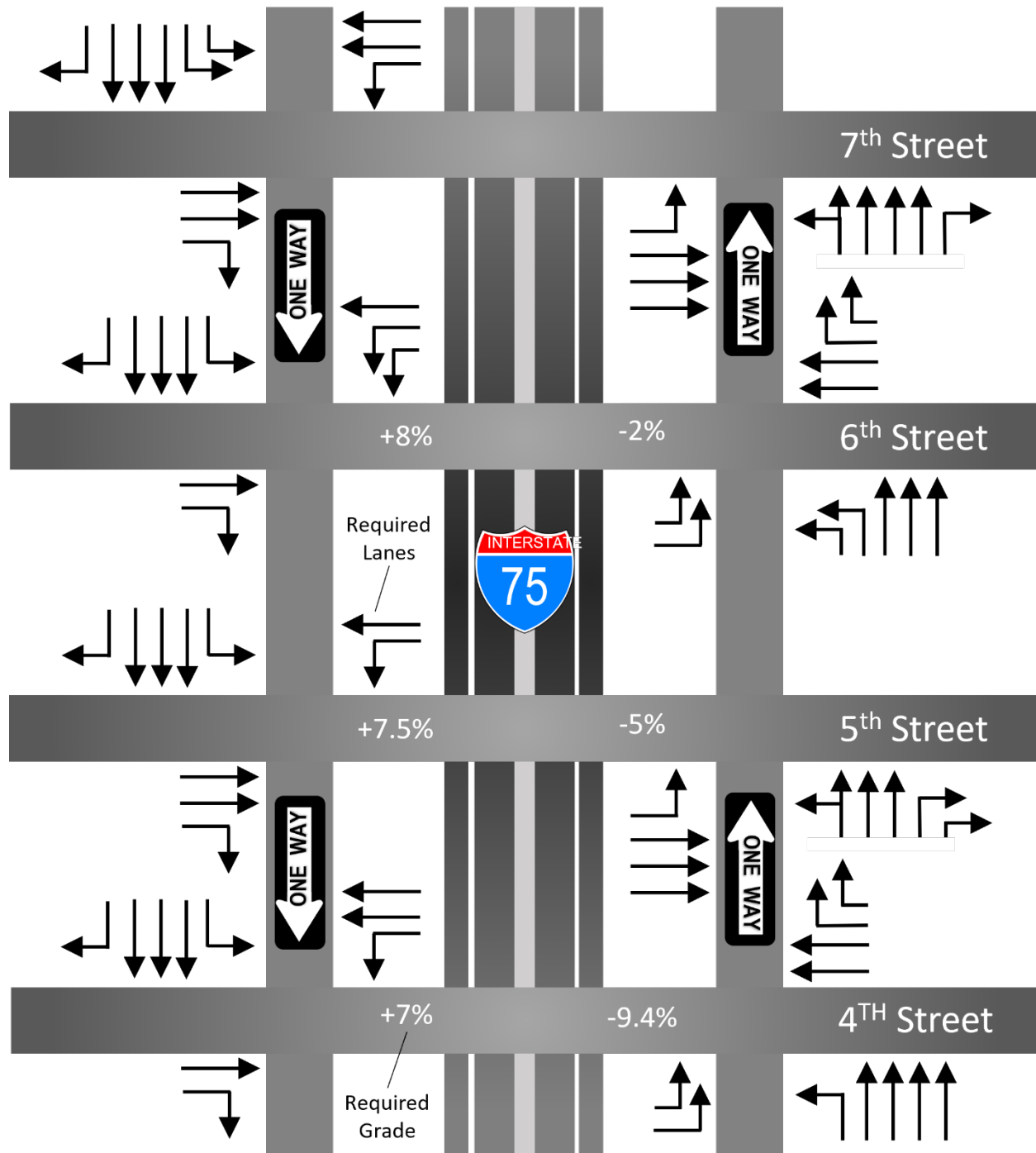
## Extended Local Street Grid

The Westway Emails suggest extending the local street grid over I-75 to better connect the Cincinnati Central Business District (CBD) to Queensgate and the West End and to accommodate additional street-facing development. The geometric constraints discussed previously also affect the design of local cross streets. Because the I-75 mainline and access ramps cannot be depressed further, Cincinnati's cross streets must be raised substantially if they are reconfigured in a grid-type configuration that passes over I-75. These changes would require grades ranging from 5 to 9 percent on 4<sup>th</sup> Street, 5<sup>th</sup> Street, and 6<sup>th</sup> Street<sup>1</sup> (see Figure 1 and Attachment 2). ODOT's *Location and Design Manual, Volume 1* lists the maximum grade for urban arterial roadways as 7 percent. However, the manual states that maximum design grades should be used infrequently, rather than a value to be used in most cases. These required grades would not support a “capped” design for the BSB corridor. Furthermore, grades of this magnitude are not only undesirable for vehicular traffic, but they also present substantial mobility and accessibility concerns for cyclists and pedestrians. The Americans with Disabilities Act (ADA) requires facilities that accommodate pedestrians to be constructed with grades of 5 percent or less.

<sup>1</sup> Potential exists to reduce the grades on 6<sup>th</sup> Street with more extensive engineering study and refinement. However, the constraints on 4<sup>th</sup> and 5<sup>th</sup> Street would remain.



Figure 1: Schematic Depiction of Lowered I-75 Concept with Frontage Road Intersections





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The Westway Emails maintain that the final width of the BSB Corridor should be no larger than the width of Fort Washington Way. A high-level screening of traffic operations was conducted using available traffic data to determine the minimum number of lanes required to provide acceptable levels of service<sup>2</sup> for a roadway configuration similar to Fort Washington Way, which includes parallel frontage roads on both sides of the interstate. Based on the screening, the frontage roads would require three to four lanes for through traffic with additional left and right turn lanes at each intersection to eliminate any adverse operations on the freeway system. The local cross streets would also require additional lanes for turning traffic. The minimum lanes required for a configuration similar to Fort Washington Way are depicted schematically in Figure 1.

## Project Footprint

When compared to the preferred alternative for the BSB Corridor Project, extending and elevating the downtown Cincinnati cross streets over I-75 would substantially increase the project footprint on the west side of I-75 to tie into the existing elevations near 4<sup>th</sup> Street. This additional footprint would result in new impacts to existing businesses and potential developable land. For example, the elevated cross streets would create steep slopes that would negatively affect potential development opportunities for urban, street-facing development on 2.5 to 3.0 acres of land east of I-75 that is currently slated to be transferred to the City of Cincinnati once the project is completed.

Since 2012, KYTC and ODOT have been refining the preferred alternative for the BSB Corridor Project to further reduce the project footprint. Measures already incorporated into Preferred Alternative I (Concept I-W) include:

- Optimizing interchange geometry by utilizing the land formerly occupied by the Dunn-Humby building in Cincinnati.
- Allowing the inside and outside shoulder widths on ramps to be flipped to reduce overall width and improve horizontal stopping sight distance.
- Providing narrower inside and outside shoulder widths for I-71/I-75 and the C-D roads according to current design standards.
- Reconfiguring the lanes on the existing BSB and new companion bridge to keep through (interstate) and local (C-D) traffic on separate facilities and reducing the width of the new companion bridge from 172 feet to 107 feet.

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<sup>2</sup> Level of Service (LOS) is a way of describing the amount of traffic congestion on a roadway by “grading” it on a letter scale from A (best) to F (worst). LOS A represents near ideal traffic flow, while LOS F represents a breakdown of traffic flow. LOS D is considered acceptable urban intersections such as those in downtown Cincinnati.



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## Access Points

The Westway Emails state that interstate entry and exit ramps should be simplified and consolidated while promoting lower speeds through the urban core. KYTC and ODOT recognize that the BSB Corridor Project must serve both long-distance interstate traffic and local trips. As a result, the Preferred Alternative includes a collector-distributor (C-D) system that serves local movements in both Cincinnati and Covington while minimizing access points on the freeway. Any further removal of access points would increase congestion on local streets and could substantially increase travel times for local traffic.

The Westway Email also advocates for a design that reduces intensive, high-speed design requirements in Cincinnati's urban core. All entrance and exit ramps now connect to the freeway through a C-D roadway system. The C-D roads will be lower-speed (45 mph) roadways, which will result in lower speeds on the entrance and exit ramps. The ramp connections with local streets are being designed as lower-speed urban intersections in accordance with City of Cincinnati design standards. In addition, recent refinements to the preferred alternative have lowered the design speed to match the posted speed limit (as opposed to 5 mph above the posted speed).

## Local Connectivity

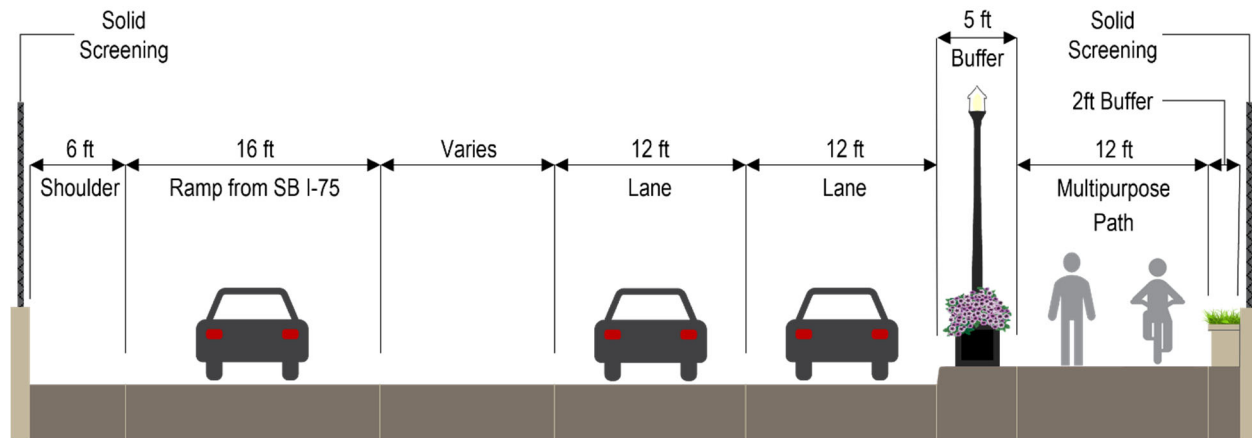
The Westway Emails advocate for improving connections across the interstate between local east-west streets and improving north-south connections between Queensgate and the West End. The preferred alternative for the BSB Corridor Project maintains or improves local connectivity for both vehicular and pedestrian/bicycle traffic. In Ohio, a system of C-D roads and ramps provide connections between the interstate highways and 4<sup>th</sup> Street, 5<sup>th</sup> Street, 6<sup>th</sup> Street, 7<sup>th</sup> Street and other streets in Queensgate, the Riverfront, and the CBD. In Kentucky, the C-D roads and ramps provide connections between I-71/I-75 and West 12<sup>th</sup> Street, West Pike Street, West 9<sup>th</sup> Street, West 5<sup>th</sup> Street, West 4<sup>th</sup> Street and other streets in Lewisburg, Westside, Mainstrasse, and the Covington CBD. The C-D roads also provide north-south interconnectivity between local streets and cross-river connectivity between Cincinnati and Covington. Furthermore, the east-west connectivity is maintained in both Cincinnati (US 50, West 6<sup>th</sup> Street, West 7<sup>th</sup> Street, West 9<sup>th</sup> Street, Linn Street, Winchell Avenue, Ezzard Charles Drive) and Covington (West 12<sup>th</sup> Street, West 9<sup>th</sup> Street, West 5<sup>th</sup> Street, West 4<sup>th</sup> Street, West 3<sup>rd</sup> Street). Attachment 3 includes a color-coded map illustrating the interstate and local roadway connections in the Cincinnati and Covington areas.



## Multi-Modal Design

The Westway Emails advocate for local streets that are “designed in a way that is safe and enjoyable for pedestrians and cyclists to navigate and in a way that is supportive of local businesses and conducive to urban development.” KYTC and ODOT fully support these priorities. To that end, the preferred alternative maintains existing sidewalk connections and adds new pedestrian and bicycle shared use paths parallel to and across I-71/I-75. Bike lanes will also be added in some locations (see Attachment 4). The multi-modal features incorporated into the BSB Corridor Project will connect to and enhance existing pedestrian and bicycle facilities in the Cincinnati and Covington areas. In addition, aesthetic guidelines developed for the project will guide the design of multi-modal facilities to provide a network that is not only safe and utilitarian, but enjoyable. Multi-modal facilities will help to create a “sense-of-place” for residents that will be compatible with local, urban land uses. Figure 2 shows an example of the multi-modal facilities that will be incorporated into the design of West 7<sup>th</sup> Street bridge over I-75 in Cincinnati.

**Figure 2: West 7<sup>th</sup> Street Bridge Over I-75 (Looking East)**



## Economic Development

KYTC and ODOT have been working collaboratively with local jurisdictions to design the BSB Corridor Project in a way that provides critical transportation infrastructure that is compatible with and supports local land use, zoning, growth, and development plans.

The Westwood Emails articulate goals for expanding the Cincinnati CBD west of I-75, elevating the highest and best use for land, creating new opportunities for economic and housing development, and implementing regional development priorities, among others. These goals are beyond the scope of a transportation project. Local jurisdictions are responsible for developing and approving Master Plans and other similar documents to guide local economic and land use goals. Nonetheless, KYTC and ODOT have worked collaboratively with local jurisdictions to design a project that is compatible with local Master Plans and initiatives and have refined the design in several locations in response to local requests.



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## Design-Build Process

The Westway Emails advocate for a design-build process that is flexible and encourages innovation. Given the current environment as it relates to project risk, inflationary trends, the need for ongoing engagement of the adjacent impacted communities, and interested third parties, KYTC and ODOT have made the decision to revise the procurement method from Value-Based Fixed-Price Design-Build (VBDB) to Progressive Design-Build (PDB).

Progressive Design-Build will allow the Design-Build Team (DBT), KYTC, and ODOT to collaboratively consider and address major project topics in a more open format which cannot be achieved with a VBDB contracting method.

Progressive Design-Build uses a best-value selection to determine the preferred DBT, followed by a process whereby the owner and DBT "progress" towards a design and contract price. The DBT is selected through a combination of technical qualifications and "competitive bidding elements" without necessarily a fixed price. The DBT collaborates with the owner to create/confirm the basis of design, overall project requirements, and final design intent. Project design decisions are based on cost, schedule, quality, operability, life cycle and other considerations. Alternative technical concepts will be developed and evaluated over the course of the progressive design-build contract. Alternative concepts that are consistent with the decisions made during the project's environmental process and offer substantial cost savings or additional benefits will be incorporated into the BSB Corridor Project, as appropriate.

## Local Agency Coordination

The Westway Emails propose designating the City of Cincinnati and Hamilton County as cooperating agencies for the BSB Corridor Project. Cooperating agencies are defined by federal law and are limited to federal agencies that have jurisdiction by law or special expertise with respect to any environmental impact involved in a proposed project. State and local agencies of similar qualifications can also be designated as cooperating agencies. The BSB project does not have any designated cooperating agencies, although several state and federal agencies have been designated as participating agencies, which are agencies with an interest in the project but a lower degree of authority than a cooperating agency. While not identified as participating agencies, the City of Cincinnati and Hamilton County have been involved in the Project Advisory Committee and Aesthetics Design Committee since the project's inception. In addition, ODOT regularly coordinates design details directly with these agencies and has refined the design in several locations in response to feedback received. This collaboration will continue through the procurement and construction phases of the project, with the City of Cincinnati being involved in the evaluation of the design-build teams.





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## Conclusion

KYTC and ODOT share many of the goals articulated in the Westway Emails, including:

- Minimizing the footprint of the highway;
- Maintaining and improving local access;
- Providing a network of safe, multi-modal streets for local traffic;
- Providing transportation infrastructure that supports local development goals and initiatives; and
- Engaging in a design-build process that provides flexibility and opportunities to maximize benefits and minimize costs.

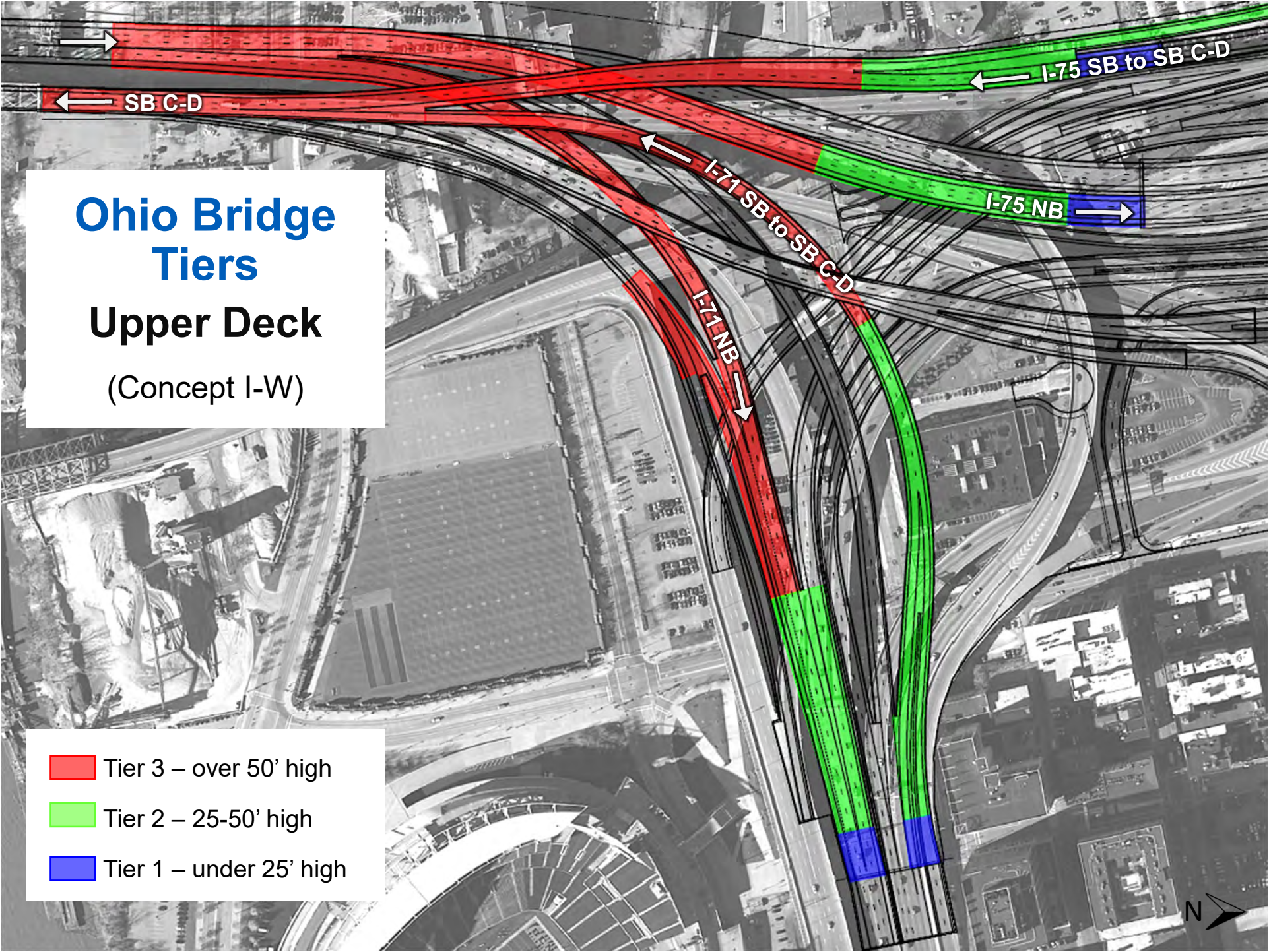
To accomplish those goals, KYTC and ODOT have developed a set of refinements to the preferred alternative since the approval of the project's Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) in 2012. These refinements reconfigured the river crossing to use the existing BSB for local traffic and a new double decker companion bridge to the west for through (interstate) traffic. In addition, performance-based design principles have been incorporated into the project, substantially reducing the project's footprint and associated impacts. Multi-modal facilities have been incorporated into the project, and KYTC and ODOT are continuing to coordinate the project with the cities of Cincinnati and Covington to address local concerns while further reducing the highway's footprint and impacts to the communities in the project area.

While the specific concepts presented in the Westway Emails are not feasible and, as such, will not be considered in the project's Supplemental Environmental Assessment, KYTC and ODOT will continue to incorporate the overriding principles championed in the Westway Emails as the BSB Corridor Project moves toward implementation.



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Attachment 1: BSB Corridor Project Tiered Bridge System

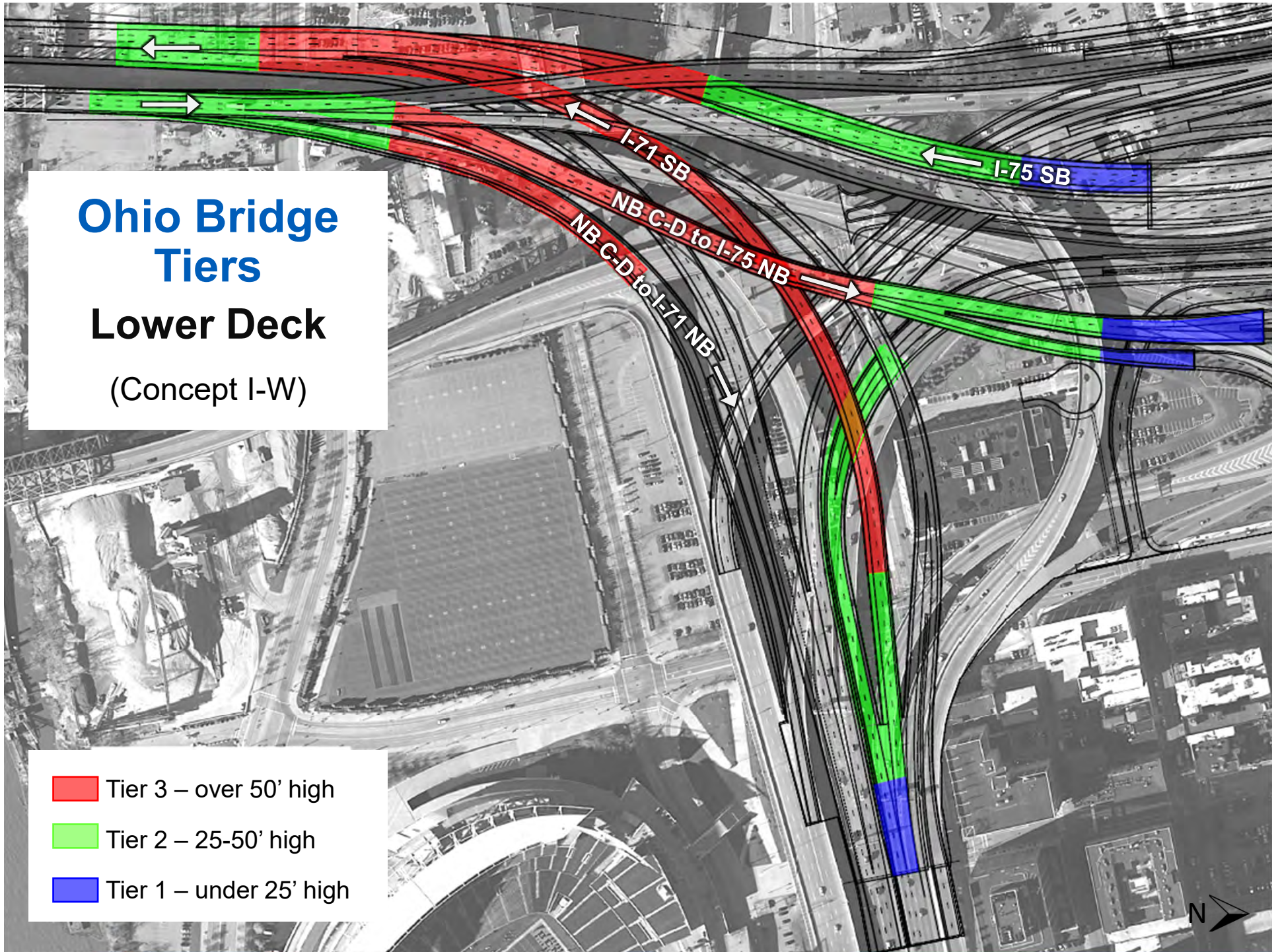


# Ohio Bridge Tiers

## Lower Deck

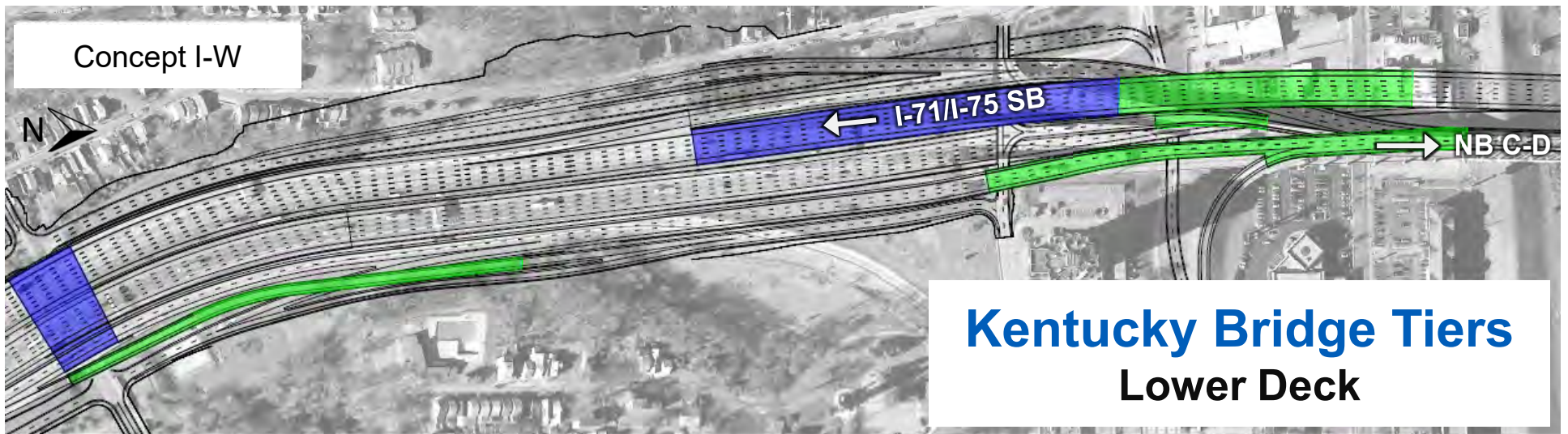
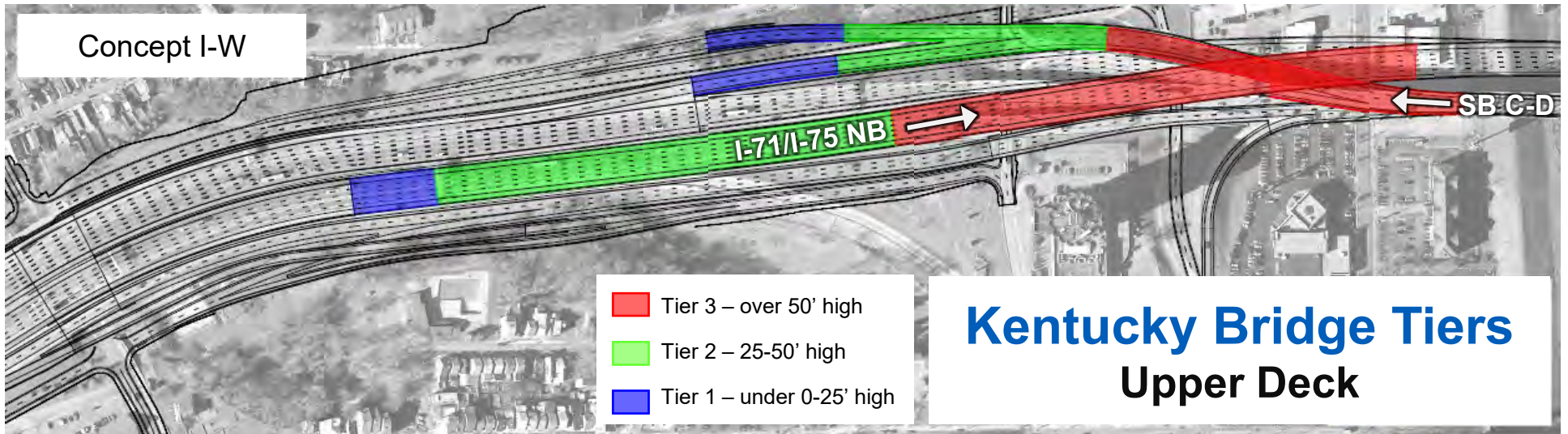
(Concept I-W)

-  Tier 3 – over 50' high
-  Tier 2 – 25-50' high
-  Tier 1 – under 25' high





# Project Overview





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Attachment 2: BSB Corridor Project Cross Sectional Views

*BSB - CONCEPT I-W  
XS CUTS IN PLAN VIEW*

CENTERLINE XS

6TH ST

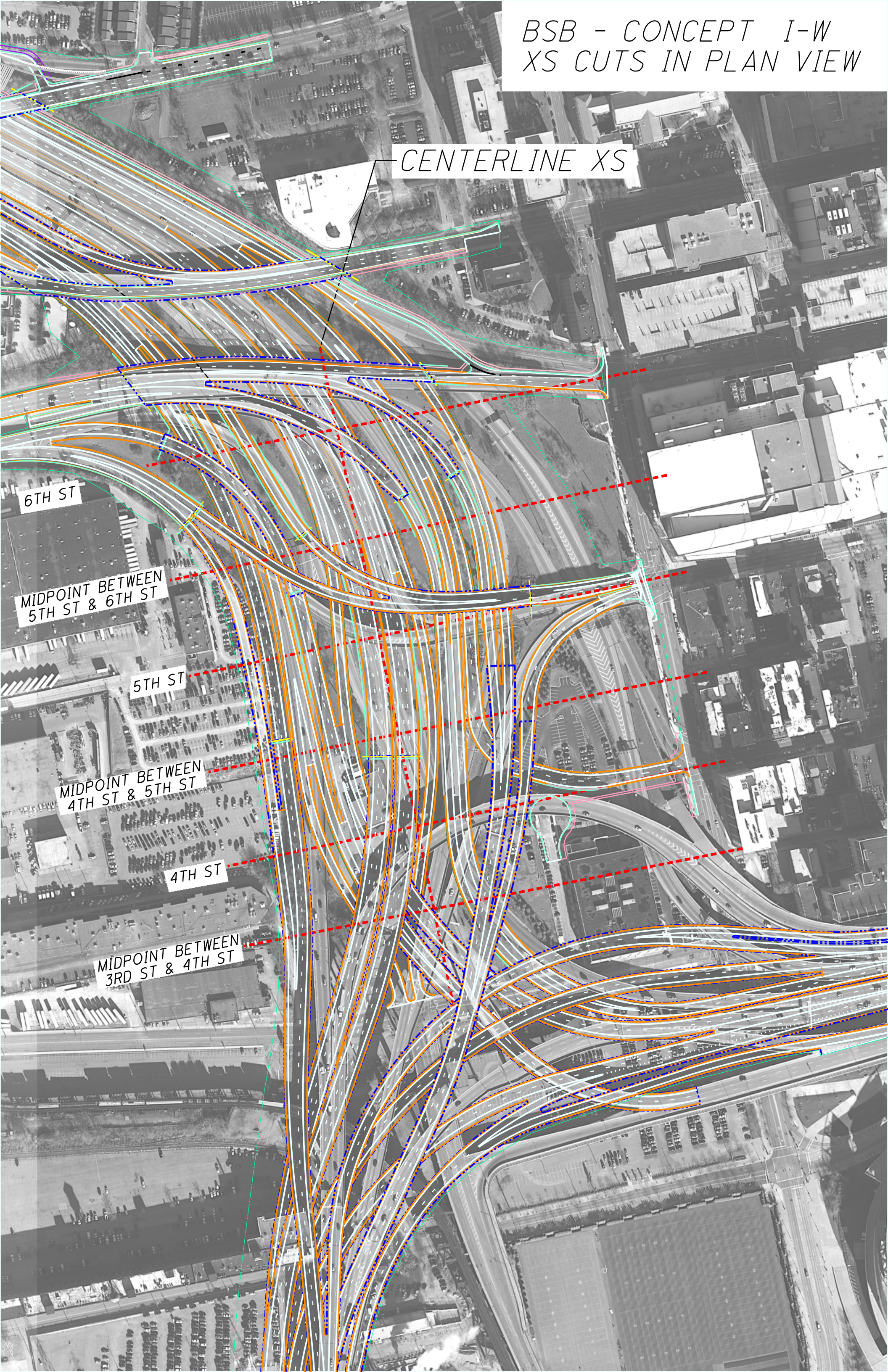
MIDPOINT BETWEEN  
5TH ST & 6TH ST

5TH ST

MIDPOINT BETWEEN  
4TH ST & 5TH ST

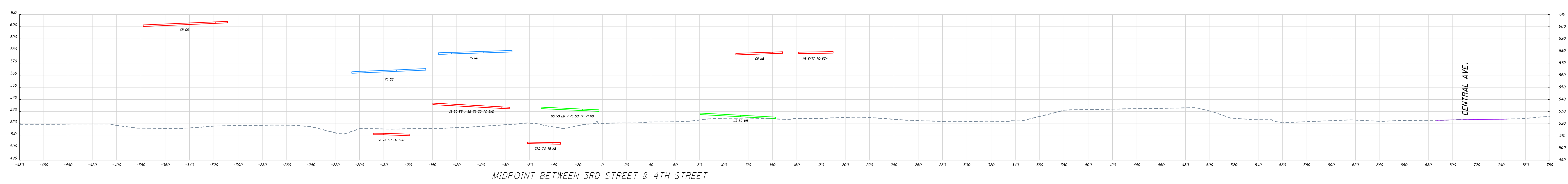
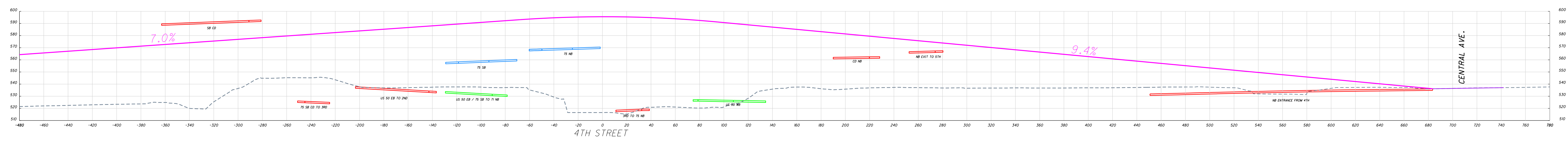
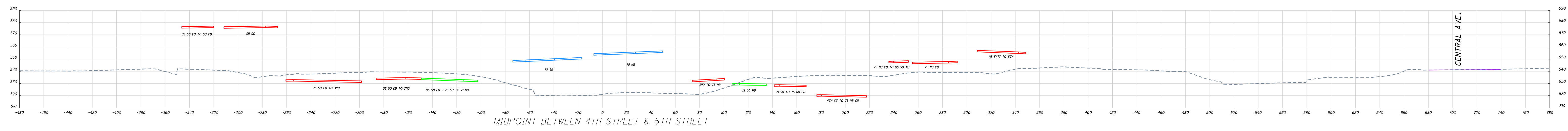
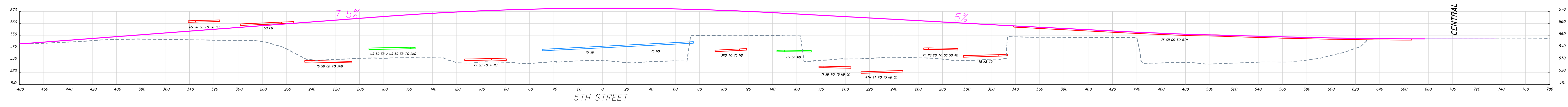
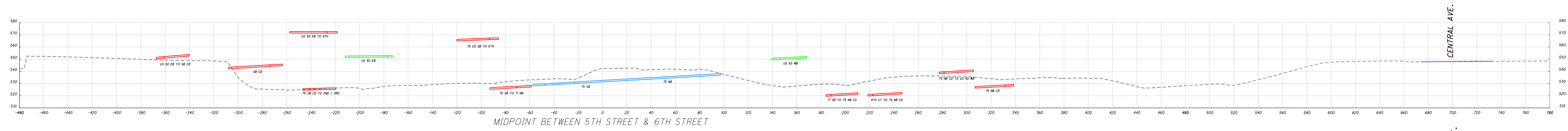
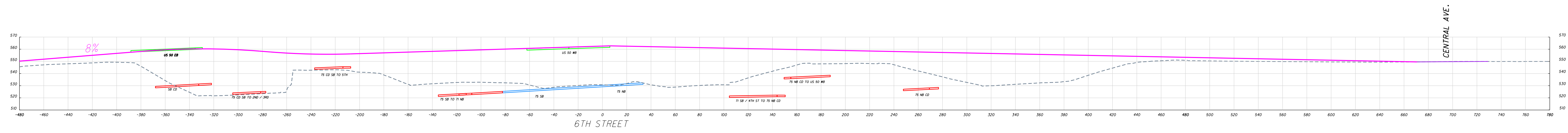
4TH ST

MIDPOINT BETWEEN  
3RD ST & 4TH ST



- INTERSTATE
- CD / RAMPS
- US 50
- LOCAL ROADS

# BSB CONCEPT I-W CROSS SECTIONS 4TH ST TO 6TH ST CINCINNATI



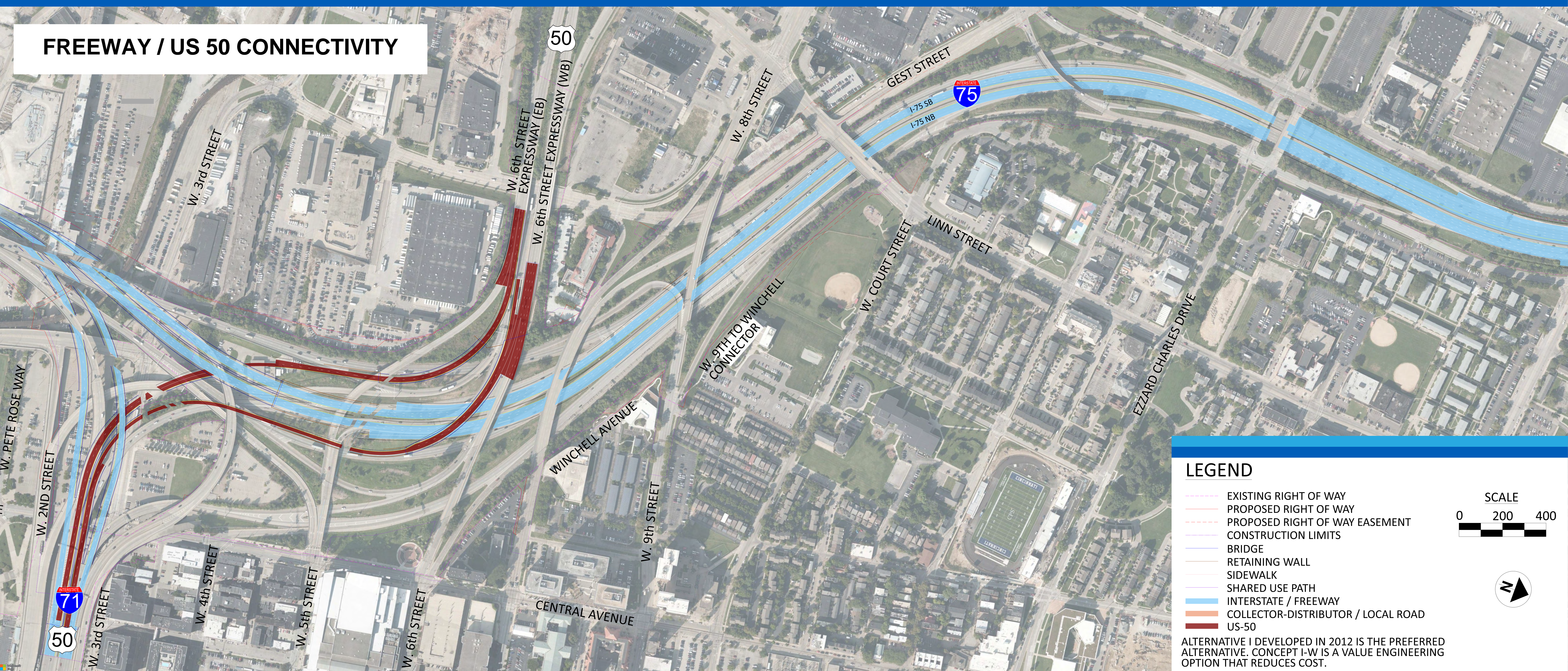









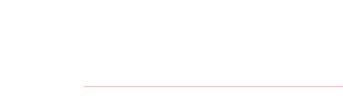

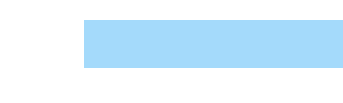



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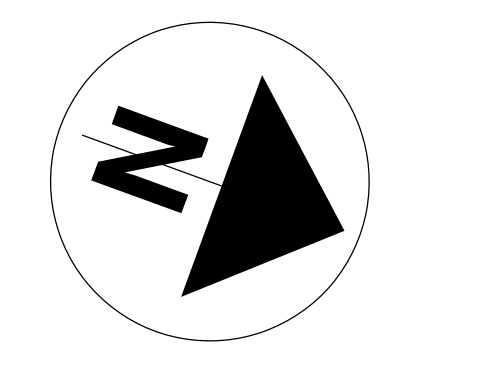
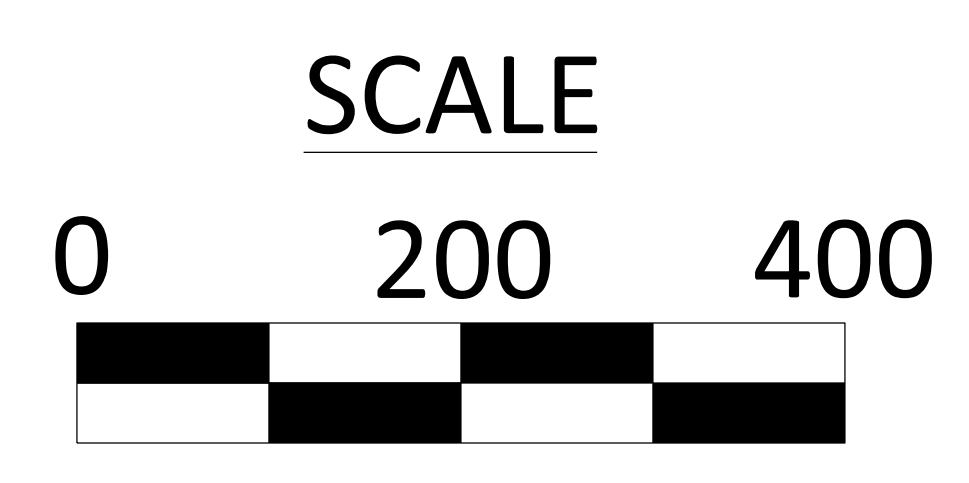
Attachment 3: BSB Corridor Project Interstate and Local Continuity

## FREEWAY / US 50 CONNECTIVITY



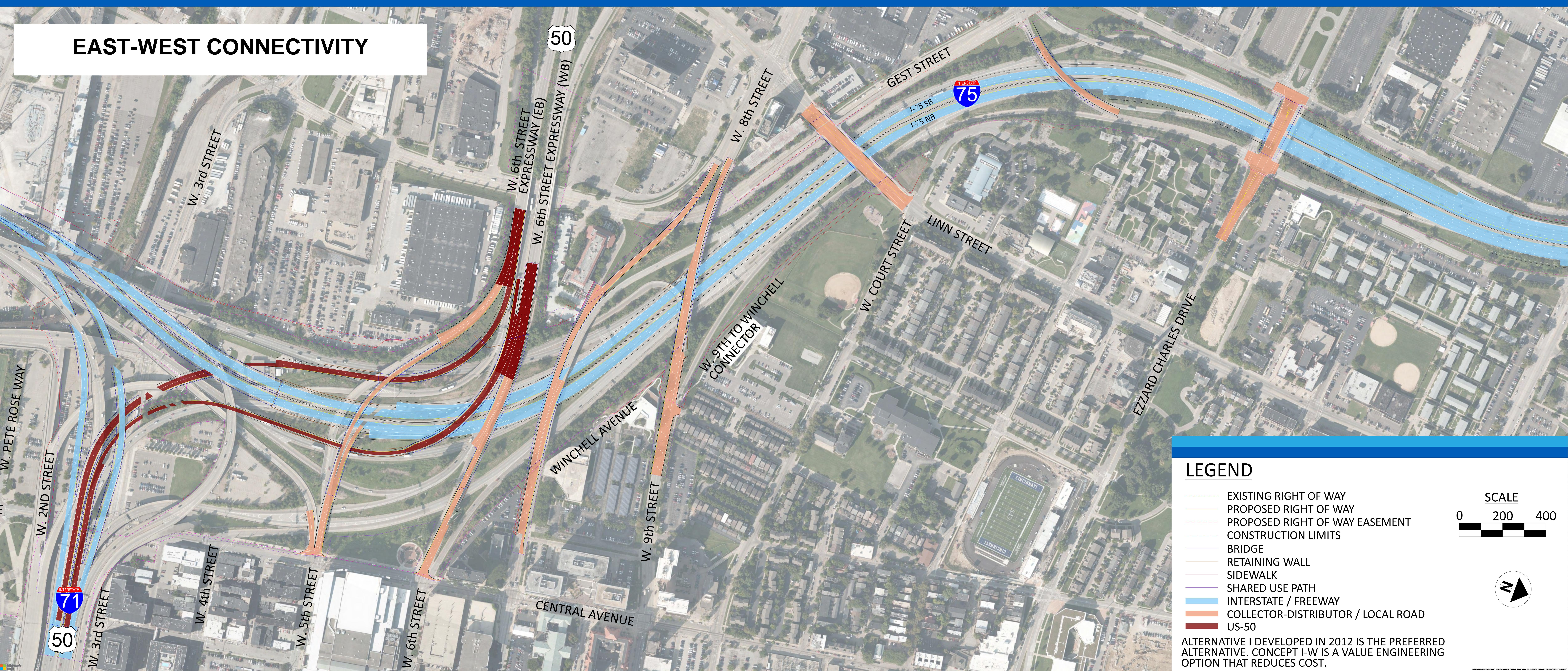
### LEGEND

-  EXISTING RIGHT OF WAY
-  PROPOSED RIGHT OF WAY
-  PROPOSED RIGHT OF WAY EASEMENT
-  CONSTRUCTION LIMITS
-  BRIDGE
-  RETAINING WALL
-  SIDEWALK
-  SHARED USE PATH
-  INTERSTATE / FREEWAY
-  COLLECTOR-DISTRIBUTOR / LOCAL ROAD
-  US-50









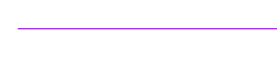
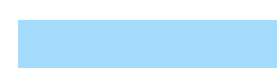



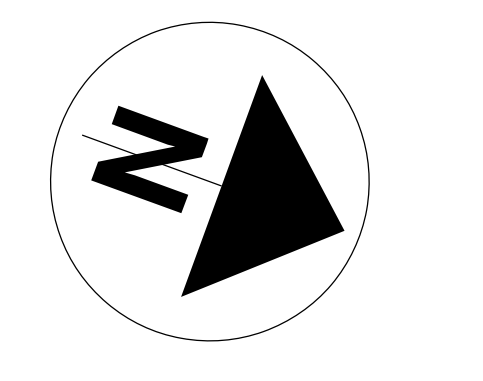
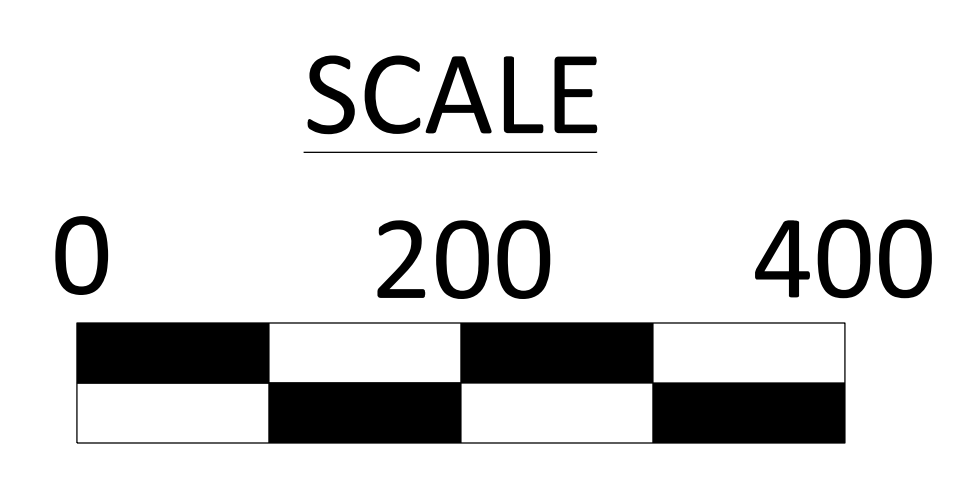
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## EAST-WEST CONNECTIVITY



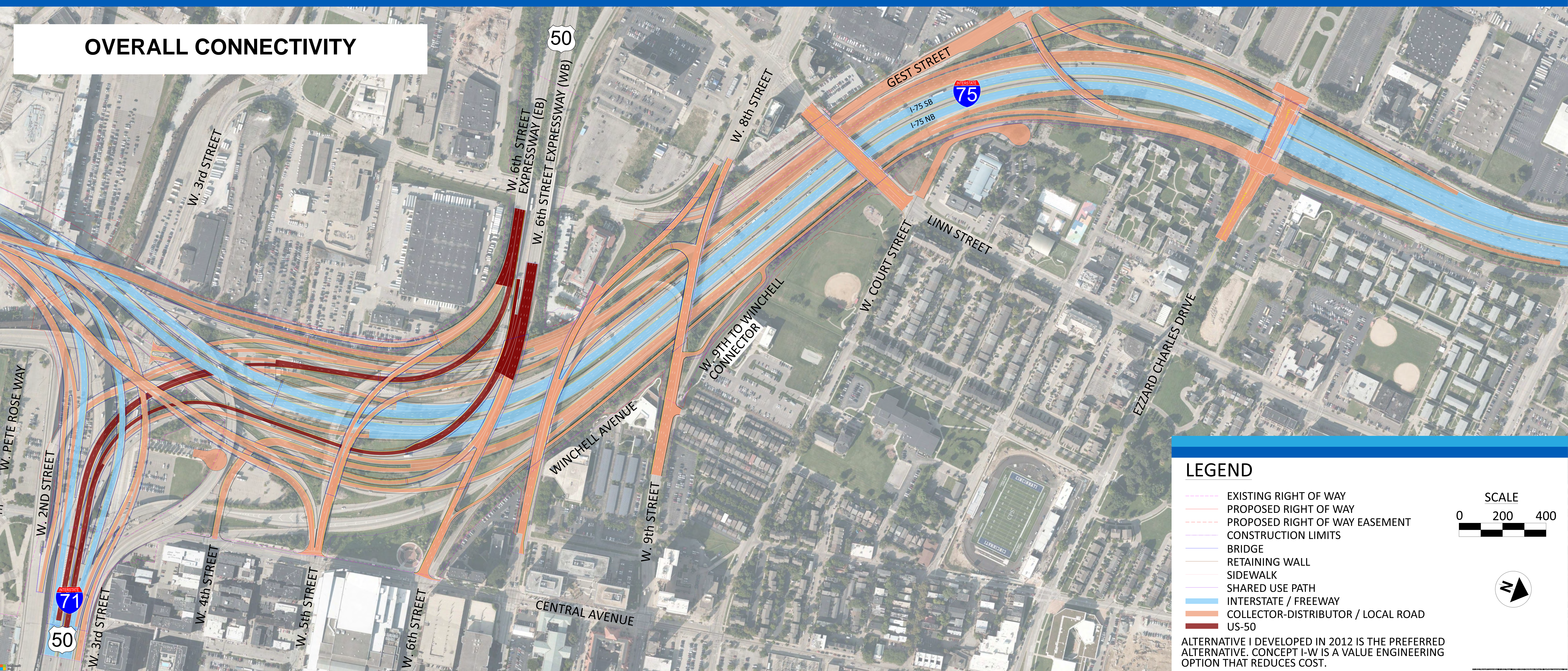
### LEGEND

-  EXISTING RIGHT OF WAY
-  PROPOSED RIGHT OF WAY
-  PROPOSED RIGHT OF WAY EASEMENT
-  CONSTRUCTION LIMITS
-  BRIDGE
-  RETAINING WALL
-  SIDEWALK
-  SHARED USE PATH
-  INTERSTATE / FREEWAY
-  COLLECTOR-DISTRIBUTOR / LOCAL ROAD
-  US-50









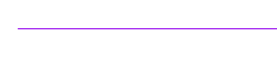
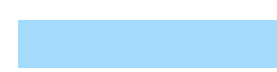



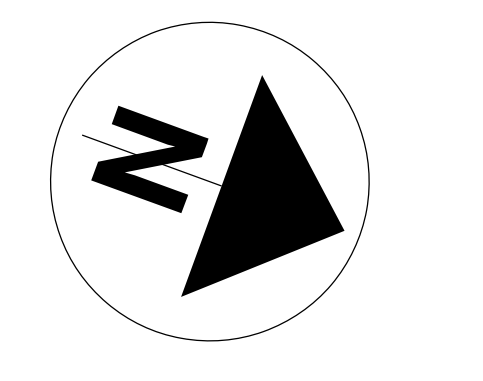
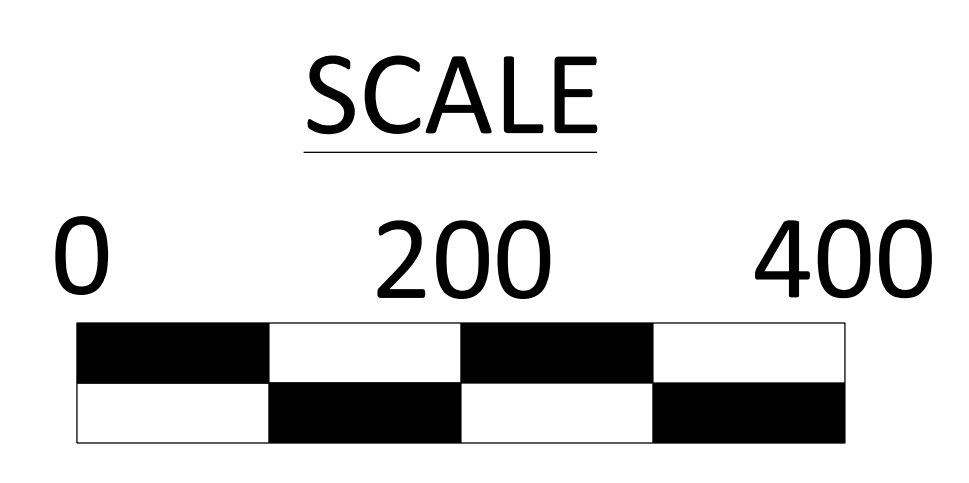
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## OVERALL CONNECTIVITY



### LEGEND

-  EXISTING RIGHT OF WAY
-  PROPOSED RIGHT OF WAY
-  PROPOSED RIGHT OF WAY EASEMENT
-  CONSTRUCTION LIMITS
-  BRIDGE
-  RETAINING WALL
-  SIDEWALK
-  SHARED USE PATH
-  INTERSTATE / FREEWAY
-  COLLECTOR-DISTRIBUTOR / LOCAL ROAD
-  US-50



ALTERNATIVE I DEVELOPED IN 2012 IS THE PREFERRED ALTERNATIVE. CONCEPT I-W IS A VALUE ENGINEERING OPTION THAT REDUCES COST.



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Attachment 4: BSB Corridor Project Multi-Modal Facilities

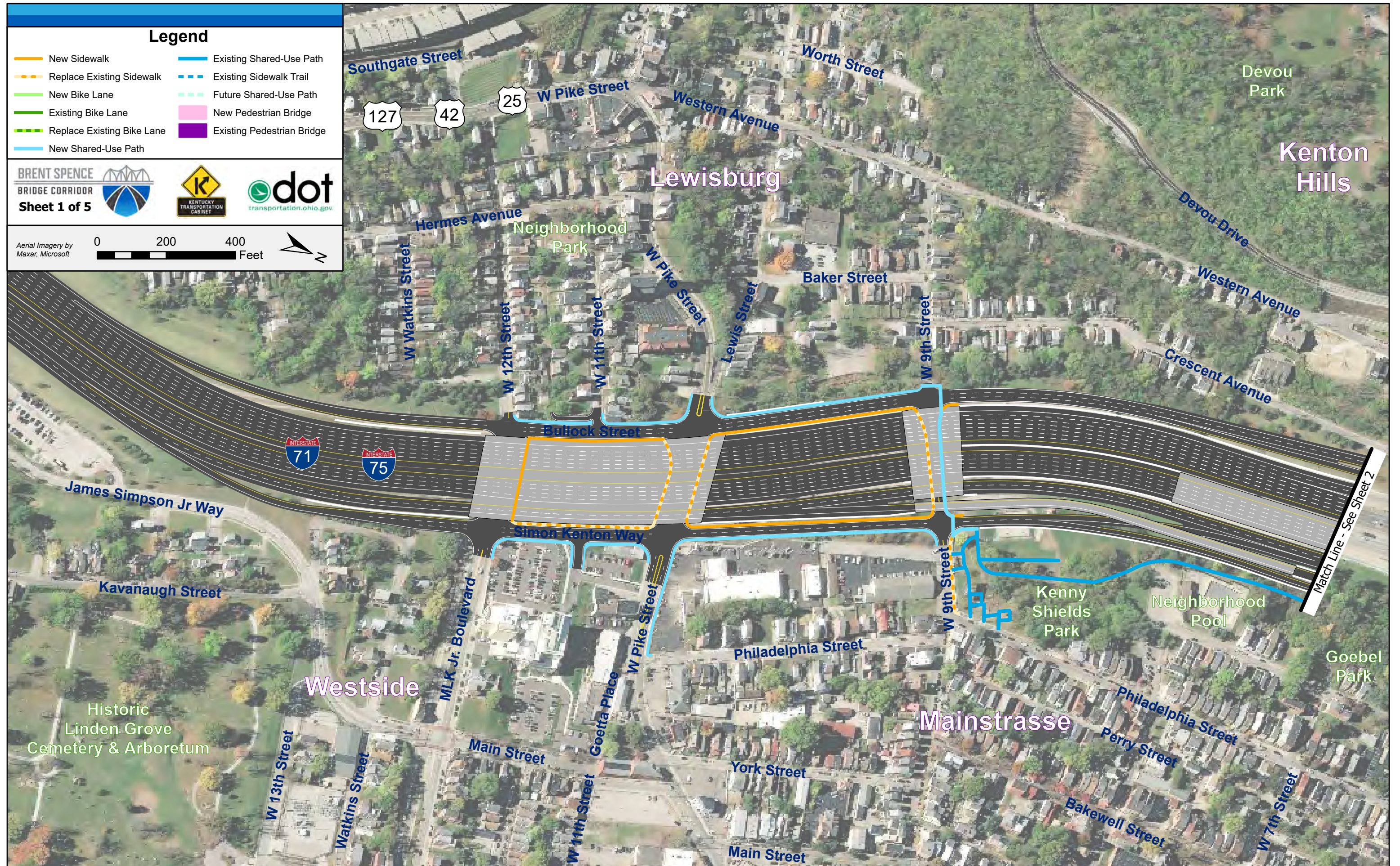
### Legend

- New Sidewalk
- Replace Existing Sidewalk
- New Bike Lane
- Existing Bike Lane
- Replace Existing Bike Lane
- New Shared-Use Path
- Existing Shared-Use Path
- Existing Sidewalk Trail
- Future Shared-Use Path
- New Pedestrian Bridge
- Existing Pedestrian Bridge

BRENT SPENCE  
BRIDGE CORRIDOR  
Sheet 1 of 5



Aerial Imagery by Maxar, Microsoft



### Legend

- New Sidewalk
- - - Replace Existing Sidewalk
- New Bike Lane
- - - Existing Bike Lane
- - - Replace Existing Bike Lane
- New Shared-Use Path
- Existing Shared-Use Path
- - - Existing Sidewalk Trail
- - - Future Shared-Use Path
- New Pedestrian Bridge
- Existing Pedestrian Bridge

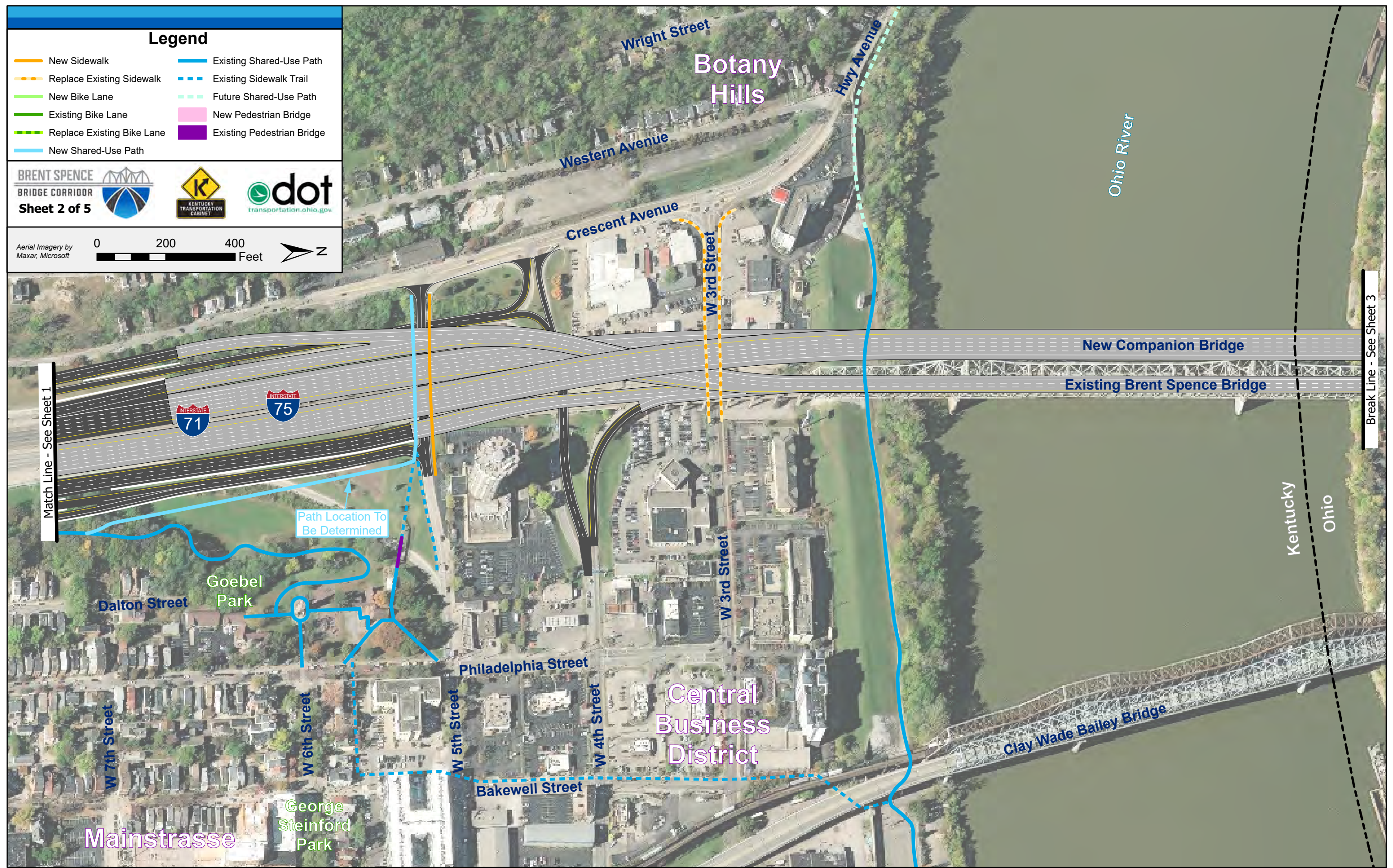




Sheet 2 of 5

Aerial Imagery by Maxar, Microsoft

0 200 400 Feet

Match Line - See Sheet 1

Path Location To Be Determined

Break Line - See Sheet 3

### Legend

- New Sidewalk
- Replace Existing Sidewalk
- New Bike Lane
- Existing Bike Lane
- Replace Existing Bike Lane
- New Shared-Use Path
- Existing Shared-Use Path
- Existing Sidewalk Trail
- Future Shared-Use Path
- New Pedestrian Bridge
- Existing Pedestrian Bridge

BRENT SPENCE  
BRIDGE CORRIDOR  
Sheet 3 of 5

dot  
transportation.ohio.gov

Aerial Imagery by  
Maxar, Microsoft

0 200 400  
Feet





**Legend**

- New Sidewalk
- - - Replace Existing Sidewalk
- New Bike Lane
- - - Existing Bike Lane
- · - · - Replace Existing Bike Lane
- New Shared-Use Path
- Existing Shared-Use Path
- - - Existing Sidewalk Trail
- · - · - Future Shared-Use Path
- New Pedestrian Bridge
- Existing Pedestrian Bridge

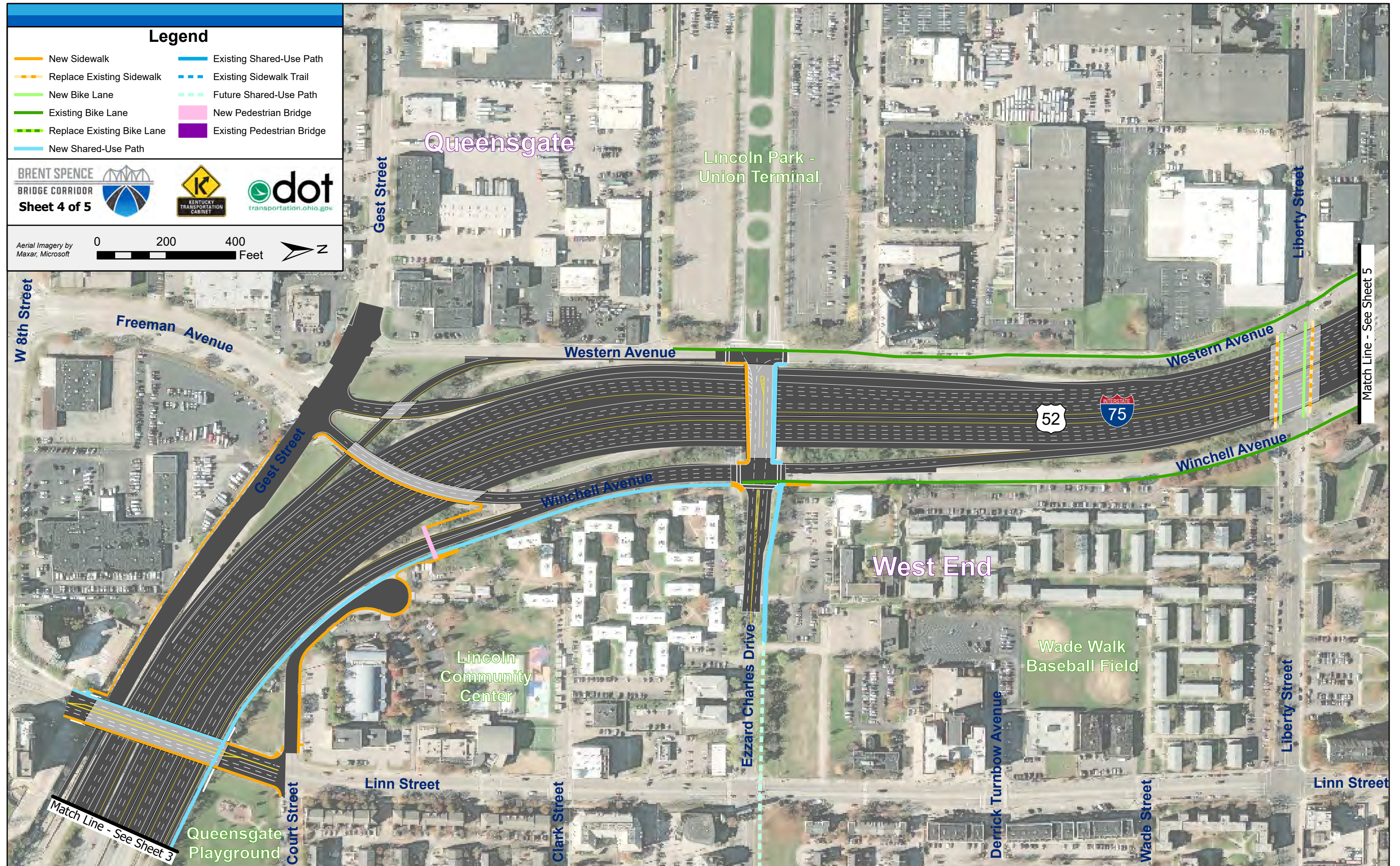




**Sheet 4 of 5**

Aerial Imagery by Maxar, Microsoft

0 200 400 Feet

Queensgate

Lincoln Park - Union Terminal

West End

W 8th Street

Freeman Avenue

Western Avenue

Western Avenue

Gest Street

Winchell Avenue

Winchell Avenue

Lincoln Community Center

Wade Walk Baseball Field

Ezzard Charles Drive

Derrick Turnbow Avenue

Wade Street

Linn Street

Linn Street

Court Street

Clark Street

Liberty Street

Liberty Street

Match Line - See Sheet 3

Queensgate Playground

Match Line - See Sheet 5

### Legend

- New Sidewalk
- - - Replace Existing Sidewalk
- New Bike Lane
- - - Existing Bike Lane
- - - Replace Existing Bike Lane
- New Shared-Use Path
- Existing Shared-Use Path
- - - Existing Sidewalk Trail
- - - Future Shared-Use Path
- New Pedestrian Bridge
- Existing Pedestrian Bridge





Aerial Imagery by Maxar, Microsoft  
 0 200 400 Feet 



Match Line - See Sheet 4