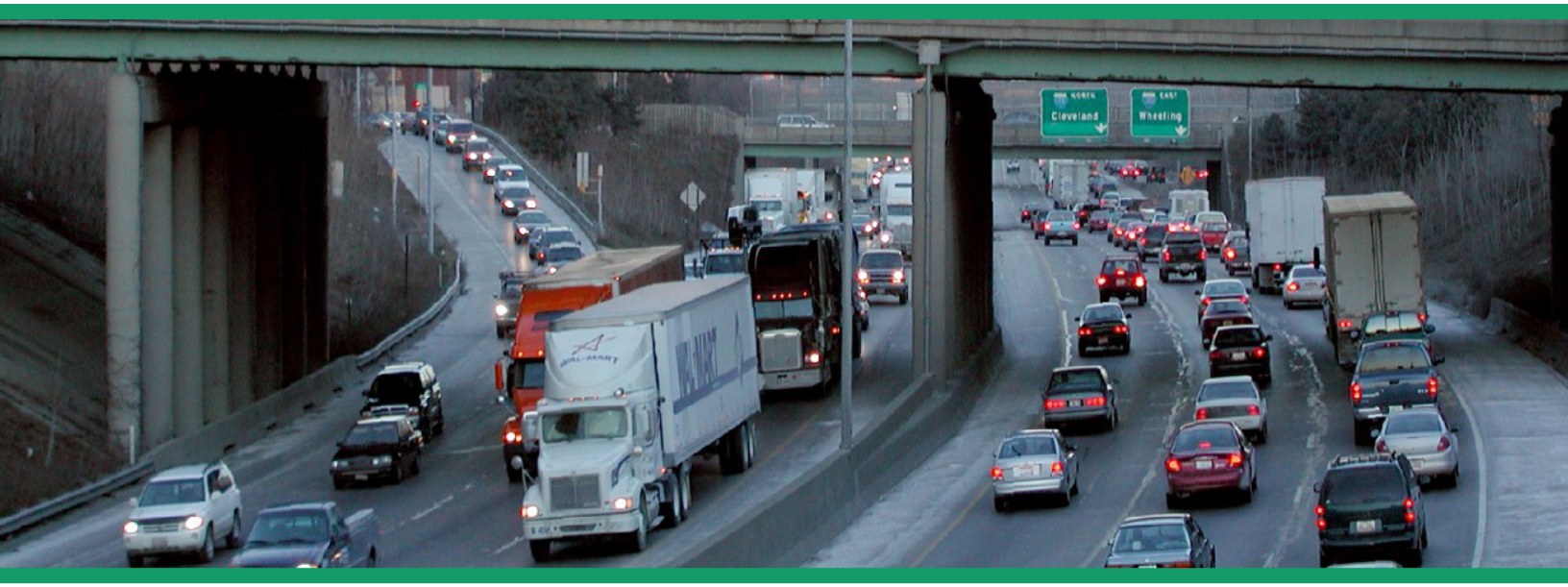

COLUMBUS CROSSROADS

Phase 4 INFRA Application | March 19, 2021

THE CITY OF COLUMBUS
ANDREW J. GINTHER, MAYOR

OHIO DEPARTMENT OF TRANSPORTATION

MID-OHIO REGIONAL PLANNING COMMISSION
MORPC

Basic Project Information:	
What is the Project Name?	Columbus Crossroads Phase 4
Who are the Project Sponsors?	1. City of Columbus, OH (Lead Applicant) 2. Ohio Department of Transportation (Co-applicant)
Was an INFRA application for this project submitted previously? (If Yes, please include title).	Yes, in 2020 & 2019. Both were titled "Columbus Crossroads Phase 4."
Project Costs:	
INFRA Request Amount	$45,000,000.00
Estimated Federal funding (excl. INFRA), anticipated to be used in INFRA funded future project	$78,500,000.00
Estimated non-Federal funding anticipated to be used in INFRA funded future project.	$123,700,000.00
Future Eligible Project Cost (Sum of previous three rows)	$247,200,000
Previously incurred project costs (if applicable)	$21,260,000.00
Total Project Cost (Sum of `previous incurred' and `future eligible')	$268,460,000
Are matching funds restricted to a specific project component? If so, which one?	No.
Project Eligibility: To be eligible, all future eligible project costs must fall into at least one of the following four categories:	
Approximately how much of the estimated future eligible project costs will be spent on components of the project currently located on National Highway Freight Network (NHFN)?	$213,300,000.00
Approximately how much of the estimated future eligible project costs will be spent on components of the project currently located on the National Highway System (NHS)?	$247,200,000.00
Approximately how much of the estimated future eligible project costs will be spent on components constituting railway-highway grade crossing or grade separation projects?	$0.00
Approximately how much of the estimated future eligible project costs will be spent on components constituting intermodal or freight rail projects, or freight projects within	$0.00

the boundaries of a public or private freight rail, water (including ports), or intermodal facility?	
Project Location:	
State(s) in which project is located.	Ohio
Small or large project	Large project
Urbanized Area in which project is located, if applicable.	Columbus, Ohio Urbanized Area
Population of Urbanized Area (According to 2010 Census)	1,368,035[1]
Is the project located (entirely or partially) in Federally designated community development zones	Yes, the project is partially in Opportunity Zone 39049005100, and it partially borders Opportunity Zones 39049004200 & 39049005000.
Is the project currently programmed in the:	Yes/no (*please specify in which plans the project is currently programmed).*
• TIP.	Yes[2]
• STIP.	Yes[3]
• MPO Long Range Transportation Plan.	Yes[4]
• State Long Range Transportation Plan.	No; Ohio's LRTP is a policy based plan that does not list specific projects. But it identifies I-70 and I-71 as part of the Interstate System, and this project is consistent with the goals and objectives of the plan.[5]
• State Freight Plan?	Yes[6]

[1] "A national 2010 urban area file containing a list of all urbanized areas and urban clusters (including Puerto Rico and the Island Areas) sorted by UACE code," United States Census Bureau, accessed March 9, 2021, https://www2.census.gov/geo/docs/reference/ua/ua_list_all.xls.

[2] Yes, the Local Transportation Improvement Plan identifies multiple projects that are included in this application, including: Phases 4A and 4B. The project IDs are 1333 (4A), 2874 (4B). "Detailed Project Listing Sorted by Agency & MORPC ID for the SFY 2018 to 2021 TIP," Mid-Ohio Regional Planning Commission (MORPC), accessed March 10, 2021, https://www.morpc.org/wordpress/wp-content/uploads/2017/12/Final-Draft-2021-2024-Transportation-Improvement-Program-TIP.pdf, pages 130-131.

[3] Yes, the State Transportation Improvement Plan includes Phases 4A, 4B, and 6A. The project IDs are 77372 (4A), 96053 (4B), and 89464 (6A). "Ohio Department of Transportation 2021-2024 STIP: Appendix 4: Highway Project List" Ohio Department of Transportation (ODOT), accessed March 10, 2021, https://www.dot.state.oh.us/Divisions/Planning/STIP/20212024/2021-2024-STIP-A04.pdf, pages 245, 249, & 246.

[4] Yes, MORPC's Long Range Transportation Plan identifies the entire I-70 & I-71 overlap as a single project. The project ID is 270. "Chapter 8: Summary of Strategies and Projects," MORPC, https://www.morpc.org/wordpress/wp-content/uploads/2020/10/8_StrategiesProjects.pdf, page 8-12.

[5] "Access Ohio 2045," ODOT, accessed March 19, 2021, https://www.transportation.ohio.gov/wps/portal/gov/odot/programs/access-ohio-2045/resources/ao45-plan

[6] Yes, Both Ohio's current State Freight Plan and the proposed update (which will be submitted to USDOT for approval by Jan. 2022), identifies I-70 and I-71 as part of the US Primary Highway Freight System (PHFS) as well identifies multiple projects that are included in or impacted by Phase 4, including: K-5, Reconstruct/reconfigure I-70/71 from SR-315 to the I-70/71 split east of downtown Columbus; K-6, Reconstruct/reconfigure I-70 from Front St. to Grant Ave.. "Transport Ohio: Statewide Freight Plan" ODOT, accessed March 19, 2021, http://www.dot.state.oh.us/Divisions/Planning/SPR/StatewidePlanning/Documents/ODOT_FreightPlan_Updated%203.7.19.pdf, p. 59.

NB: A copy of this application is available electronically at:
http://www.morpc.org/columbuscrossroads/

I. Project Summary

This application is requesting $45 million from the Infrastructure for Rebuilding America (INFRA) Discretionary Grant program to support Phase 4 of the Columbus Crossroads Project (Phase 4). The Columbus Crossroads Project, illustrated in **Figure 1** is a community-led $1.3 billion, multi-phase project to transform, reconnect and mitigate the great divide that I-70 and I-71 created in the heart of the City of Columbus during the early days of the interstate system. The project was developed by the Ohio Department of Transportation (ODOT) in close partnership with the City of Columbus (Columbus), the Mid-Ohio Regional Planning Commission (MORPC), and multiple local stakeholders. Current and future phases of work from this multi-phase project – including Phase 4 – are now integrated within ODOT's Downtown Ramp Up construction project. The project's regional impact and importance goes beyond addressing serious safety and congestion issues in one of the most congested and dangerous functionally obsolete interstate crossroads. The partners have leveraged this major infrastructure investment to support continued economic development in Central Ohio, while also reconnecting and restoring neighborhoods that were isolated and torn apart by the interstates' initial construction

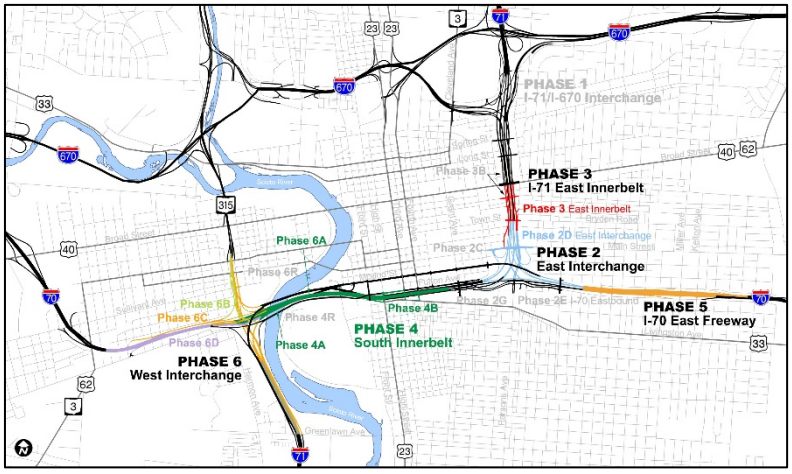

Figure 1 - Phasing for the Columbus Crossroads Project. Available at a larger scale in Appendix A.

A. Concise Project Description

The Columbus Crossroads is named for the intersection of two Primary Interstate Highways: I-70 and I-71. I-70 stretches from Cove Fort, UT to Baltimore, MD; and I-71 reaches from Louisville, KY to Cleveland, OH. As shown in **Figure 1 above**, the primary focus of Phase 4's freeway improvements is the 1.25 mile "overlap" of these nationally significant routes. The I-70/71 Overlap runs through the South Innerbelt Trench, which physically separates Downtown Columbus from neighborhoods to the south.

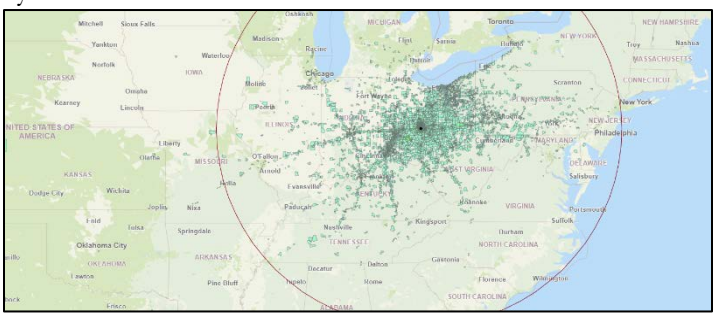

Figure 2 - Starting and ending census blocks of truck movements travelling through the I-70/71 Overlap in 2019. Red circle indicates approximately 500 miles from project area.

Phase 4 is necessary to relieve congestion and improve safety along a nationally and regionally important segment of the National Highway Freight Network's Primary Highway Freight System (PHFS).[7] As shown in **Figure 2**, freight from the South, Mid-Atlantic, and Midwest rely upon I-70/71 to move through Central Ohio.

Phase 4 is necessary regionally and locally to improve access to jobs and essential services in Downtown Columbus, and to restore neighborhood connections severed by the South Innerbelt Trench.

Due to funding limitations, ODOT has had to subdivide the original project phases. As referenced in this application, "Phase 4" will include the following subphases: 4A, 4B, and 6A. [8] Phase 4R had been a part of previous INFRA applications. But that subphase is now being combined with Phase 6R, and they will be sold and constructed prior to Phase 4. ODOT anticipates selling Phase 4 in early 2023, with an estimated construction start in Spring 2023. Phase 4 involves multiple elements impacting freeways and urban avenues, including:

- Reconstructing eastbound and westbound I-70 and northbound I-71 east from just west of the I-70/71/SR 315 West Interchange to just east of the Fourth Avenue Bridge, where Phase 2E begins, including three pairs of bridges carrying mainline traffic across SR-315, the Scioto River, and the CSX&NS Railroads

[7] "National Highway Freight Network Map," Federal Highway Administration, U.S. Department of Transportation, last modified March 5, 2020, https://ops.fhwa.dot.gov/freight/infrastructure/nfn/maps/nhfn_map.htm.

[8] 4A includes the reconstruction of the mainline, eastbound freeway; 4B includes the reconstruction of the High Street Bridge (previously identified as 4H in the 2019 INFRA application), the Third Street Bridge, and Fourth Street Bridge; and 6A includes the reconstruction of the mainline, westbound freeway.

- Adding an additional through lane for both eastbound and westbound traffic in the I-70/71 overlap ;
- Replacing three functionally obsolete bridges over I-70/71 at: High Street, Third Street and Fourth Street;
- Reconnecting Downtown Columbus and the neighborhoods immediately south through urban avenue improvements, bridge enhancements, and bridge caps on the High Street and Third Street bridges; and
- Facilitating innovative technology, including improved access to EV charging stations along the NHS.

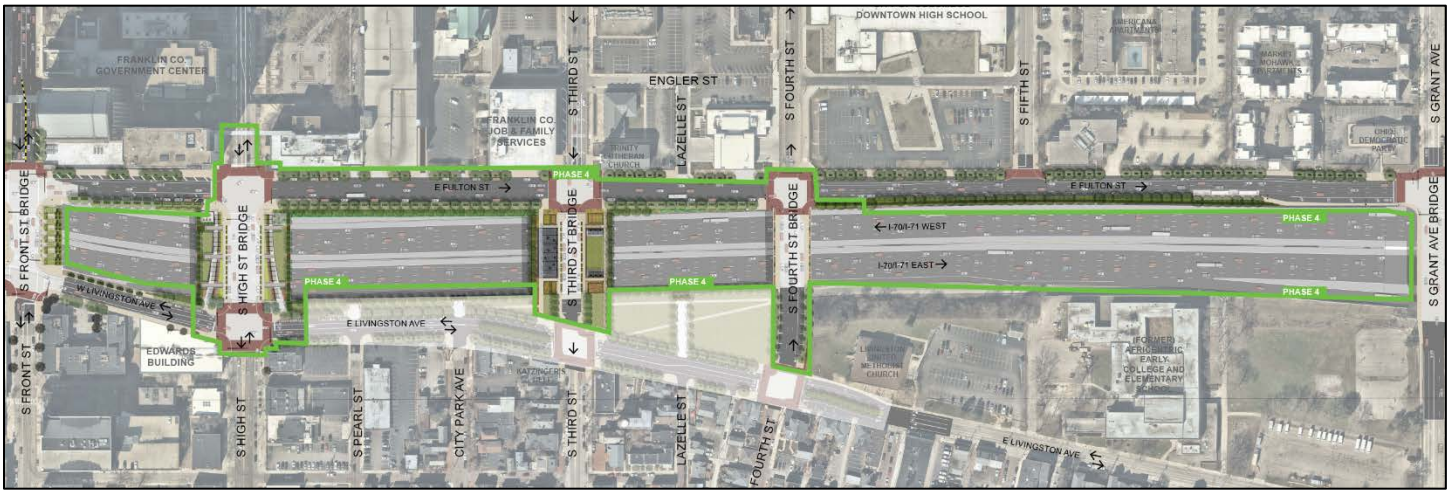

Figure 3 – Phase 4 improvements within the South Innerbelt Trench. Available at a larger scale in Appendix A.

B. Transportation Challenges for Phase 4

Phase 4's transportation challenges arise from the I-70/71 Overlap's location at the heart of both freight and commuter traffic in Central Ohio. It serves as the southern leg of the Columbus Innerbelt (I-70/71/I-670/SR 315) that encompasses Downtown Columbus, and is one of the busiest and most vital sections of highway for freight and commuters in the region. Congestion and safety are the two most significant daily challenges confronting commuters and freight in the I-70/71 Overlap. The I-70/71 Overlap is measured as the **2nd worst freeway segment for travel time performance in Ohio[9] and third worst overall in the state**. It earned this third overall ranking by performing poorly consistently in the following categories: Bottlenecks, Travel Time Performance, Safety Performance, Volume per Lane, Freight corridors, Incident Clearance, and Secondary Crashes.

The I-70/71 Overlap is at the epicenter of national freight movement between the East Coast and Midwest. Columbus has emerged as a logistics nexus because of its strategic location within 500 miles or a one-day truck trip of: **58% of the U.S. population, 50% of the Canadian population, 61% of U.S. manufacturing capacity, and 80% of U.S. corporate headquarters.** The I-70/71 Overlap lies directly between national industrial manufacturing hubs, such as Cleveland and Pittsburgh, and national distribution centers, such as Louisville and Chicago. However, congestion and safety issues limit freight's ability to move efficiently through this important PHFS section.

Moreover, the I-70/71 Overlap is at the center of significant regional and local growth. Central Ohio has grown significantly, and population estimates for the Columbus, Ohio MSA now exceed 2 million. People throughout the region use the I-70/71 Overlap to commute to or through the city center for work, healthcare, essential services, or entertainment. The Columbus Innerbelt, which includes Downtown Columbus, is the largest job center in the region,[10] with more than 100,000 jobs located inside and directly adjacent to the Innerbelt.[11] It provides access to essential medical services for the entire region from both OhioHealth's Grant Medical Center and Nationwide Children's Hospital (NCH). Grant Medical Center is one of eleven Level 1 Trauma Centers in Ohio, and one of the

[9] ODOT defines Travel Time Performance as the Percent of Time motorists can travel at or near (90%) of the reference speed (free-flow/uncongested speed defined by data provider).

[10] Major employers such as Nationwide Insurance, Huntington Bank, Nationwide Children's Hospital, PNC Bank, American Electric Power, OhioHealth, and Columbia Gas are all situated in and around the city core. Other major employers including the Ohio State University, JP Morgan Chase, Limited Brands, Defense Logistics Center, and Alliance Data are on the fringe of the city center core.

[11] MORPC calculated the downtown workforce using LEHD (Longitudinal Employer-Household Dynamics); for the selected geography inside and directly adjacent to the Columbus Innerbelt (I-70/71/I-670/SR 315), the estimated population was 107,125.

closest Level 1 Trauma Centers to Southeastern Ohio.[12] NCH is one of only four Level 1 Pediatric Trauma Centers in Ohio.[13] It is the closest children's hospital for much of southeastern Ohio, and NCH offers a range of important health services to the rural communities. At its primary campus alone, NCH estimates approximately 99,880 emergency department visits and 255,094 outpatient visits in 2019. In addition to local patient care, both facilities offer significant medical care to rural Central and Southeastern Ohio, including many counties in the Appalachian Region of Southern and Eastern Ohio. In addition to medical services, the seats of government for the State of Ohio, Franklin County, and the City of Columbus are all situated within Downtown Columbus and offer many essential services. Downtown Columbus' federal building and federal courthouses provide a wide range of essential services to people in Central and Southeast Ohio. However, regional and local access to and through this area is limited due to significant congestion and safety issues in the I-70/71 Overlap.

Today, the corridor serves approximately 145,169 vehicles per day, including approximately 18,194 trucks per day – approximately 12 trucks per minute. Traffic has long surpassed the original design. Today, the highway exceeds its design capacity by about 50,000 vehicles per day, making it one of the top congestion locations in Ohio.

The entire Columbus Crossroads project area is also one of the most hazardous. Although it makes up only 6% of the Columbus area freeway system, it is the site of 25% of all freeway crashes in the region, with an average of two crashes per day. Crashes are caused by congestion and characteristics of an outdated highway design, including:

- Intense weaving caused by the overlapping freeways. Motorists on I-71 are forced to cross several lanes of traffic to continue north or south through the overlap.
- Closely spaced interchanges add to the weaving and merging problems. This includes 21 ramps to and from city streets and three system interchanges within the 3.5-mile freeway.
- Insufficient lengths at ramps for acceleration, deceleration, and merging.
- Substandard horizontal curves.

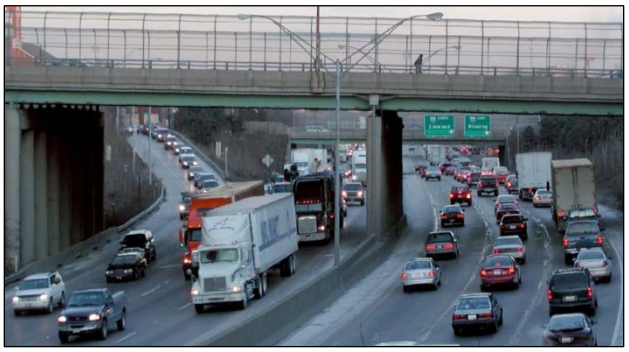

Figure 4 – Freight and commuters vying for lane position during rush hour congestion.

The initial freeway construction not only created a physical and psychological divide between communities within the project area, it also created a significant transportation challenge of how to safely reconnect the divided neighborhoods and city surface streets within the entire Columbus Crossroads project area. Columbus' High Injury Network, which was recently developed as part of the city's Vision Zero initiative,[14] has identified multiple street segments immediately adjacent to the Columbus Crossroads project area, including Livingston Avenue, High Street, and Third Street, as well as multiple bridges. See VZ HIN map **Appendix D**. Within the Phase 4 project area, the Fourth Street Bridge is part of the High Injury Network.[15] Vehicles travelling locally across the Phase 4 bridges must contend with vehicles entering or exiting I-70/71. Pedestrians and bicyclists trying to cross the South Innerbelt Trench bridges must contend not only with vehicles entering or exiting I-70/71, but also with poor pedestrian and bicyclist facilities. Uncontrolled vehicular turning movements conflict with pedestrian movements along Fulton Street and Livingston Avenue, making particularly difficult and uncomfortable for older adults and persons with disabilities.

Properly addressing these transportation challenges creates an additional transportation challenge of managing a project of this magnitude while minimizing disruption to primary freight routes, essential commuter connections to the city and through the region, and neighborhood connections.

C. Phase 4's approach to transportation challenges within the project area

This project will improve safety and reduce congestion challenges by adding lanes and consolidating the number of ramps to Downtown Columbus. Reducing congestion will improve the flow of freight through the I-

[12] The Ohio State University Medical Center is also a Level 1 Trauma Center in Columbus, Ohio. But the remaining nine Level 1 Trauma Centers are located in Akron, Cincinnati, Cleveland, Dayton, Toledo, and Youngstown. "Trauma Centers," Ohio Department of Public Safety, last modified March 9, 2021, https://www.ems.ohio.gov/links/ems_tc_alphaorder.pdf.

[13] The other three are located in Cincinnati, Cleveland, and Dayton.

[14] "Vision Zero Columbus," City of Columbus, accessed March 10, 2021, https://vision-zero-columbus.hub.arcgis.com/.

[15] "Vision Zero Columbus – Crash Data," City of Columbus, accessed March 10, 2021, https://columbus.maps.arcgis.com/apps/MapSeries/index.html?appid=0ff6f8f1fa134b848959ba4fc3c35bbb

70/71 Overlap, save time and money for commuters, emergency services, and support the emerging on-demand economy of the national logistics industry. Safety will be improved as consolidating the number of eastbound ramps into the downtown will reduce the number of necessary lane changes. Improved safety will also have a positive impact on congestion, as the high number of rear-end collisions that occur along this corridor decrease. In addition, by including accommodations for pedestrian and bicycle traffic on the reconstructed bridges to connect with similar facilities on adjacent urban avenues, safety for bicycle and pedestrian traffic will improve. Including these accommodations on the reconstructed bridges and adjacent urban avenues will reconnect neighborhoods, as well as improve pedestrian mobility and accessibility.

D. Project history and previously completed components

A good faith effort has been made to construct the Columbus Crossroads Project. The need to fix this congested, high-crash corridor has never been more critical. As one of the fastest growing regions in the Midwest, **MORPC estimates that by 2040 Central Ohio could have: 25% population growth, 20% job growth, and 13% increase in regional vehicle trips.** The proposed improvements – which are documented in the approved Interchange Modification Study (IMS), Environmental Assessment (EA), and Finding of No Significant Impact (FONSI) – are needed to improve safety and reduce congestion of this critical regional corridor.[16] The following project phases, which are mapped in **Figure 1** and **Appendix A**, have either been completed or are currently underway using funds committed by ODOT, Columbus and MORPC:

- Phase 1 – The I-71/I-670 Interchange reconstruction was completed in 2014.
- Phase 2C, The Mound Street Connector – completed in 2015
- Phase 2B, I-70/71 Storm Sewer Outlet upgrade – completed 2017
- Phase 2G, Grant Avenue Bridge Replacement & Fulton Street Reconstruction –completed 2019
- Phase 2E, Eastbound I-70 Reconstruction – under construction, open to traffic in 2021
- Phase 3B, Broad Street Bridge Replacement & I-71 Reconstruction – under construction
- Phase 4R & Phase 6R, New Downtown Freeway Exit Ramp (for eastbound traffic) and Entrance Ramp (for westbound traffic), and Front Street Bridge Replacement – construction anticipated to start in Spring 2022.

Funding availability has limited how quickly project phases have been implemented, including Phase 4. Limited funding forced ODOT to (1) divide Phase 4 into 4R, 4B, and 4A; and (2) delay construction for 4B and 4A. Phase 6 was subdivided into subphases, including 6A and 6R. The COVID-19 pandemic further complicated construction funding and schedules. However, this subdivided approach is not the preferred approach. Phase 4 was initially developed as a single phase to be constructed prior to Phase 6. All of its improvements work together as a system to optimize the national, regional, and local benefits. **This optimization is only possible once all the Phase 4 improvements have been constructed.** A successful INFRA application would allow the partners to leverage the INFRA funds into the full funding necessary to complete Phase 4 and 6A. Columbus, ODOT, and MORPC have provided a commitment letter that verifies their share of the funds necessary to complete Phase 4 would be available if the project receives INFRA funding, and it is included in **Appendix C**.

E. Additional Context - the Great Divide and COVID-19

It is difficult to overstate the negative impact that the initial construction of I-70 and I-71. Within already established neighborhoods, the freeways were often constructed within trenches. The East Innerbelt Trench and the South Innerbelt Trench within the Columbus Crossroads project limits are examples of these trenches in Columbus. The trenches – including the East Innerbelt Trench and South Innerbelt Trench – were often intentionally routed through neighborhoods that the Home Owners Loan Corporation had previously rated as Third Grade and Fourth Grade lending risks in the 1930's. See Home Owners' Loan Corporation map in **Appendix D**. The trench construction devastated these neighborhoods, and the impact of the "Great Divide" is still felt and remembered today.[17] ODOT has acknowledged that it cannot undo the past, but it can work to mitigate it.[18] Understanding the

[16] Please see **Appendix B** for copies of the approved IMS and FONSI documents. The Columbus Crossroads Project's Environmental Assessment can be found here: http://www.dot.state.oh.us/projects/7071/environmental/Documents/EN-02%20Environmental%20Assessment.pdf.

[17] See, e.g., Andrew Kinsey, "The great divide: the rise and fall of a Black business mecca in Columbus," 10TV WBNS, February 16, 2021, https://www.10tv.com/article/news/local/the-rise-and-fall-of-a-black-business-mecca-in-columbus/530-feec17b8-b86a-41ab-a578-820c04408ede.

[18] Id. video at 4 minutes and 33 seconds.

context of the Great Divide and its destructive impact on the neighborhoods within the Columbus Crossroads project area is essential to understanding the project's restorative and transformational nature at the neighborhood level. All of the bridge improvements and surface street enhancements that are part of this project are part of the effort to heal the civic scars created by the initial freeway construction.

The COVID-19 pandemic has shown the vital importance of strong, resilient supply chain logistics. The efficient movement of freight – both medical and household supplies – became essential as medical facilities provided essential medical care and Ohioans worked from home and sheltered in place. Traffic counts show that after an initial decline in truck numbers during the first quarter of 2020, the rest of the year saw monthly truck numbers across the state exceed the 2019 monthly numbers by 4%-13%, depending on the month. See **Appendix E**. Understanding the importance of being able to move freight quickly during a time of emergency and strained supply chains is essential to understanding the project's importance to (1) providing improving access to essential logistics hubs in Central Ohio (including Rickenbacker FTZ 138), and (2) creating a more reliable Primary Highway Freight Network.

II. Project Location

Phase 4 is located in the City of Columbus, in the federally designated Columbus, Ohio Urbanized Area. The geographical coordinates are: 39°57'10"N, 83°00'33"W.

Phase 4 will extend along I-70 from just west of the I-70/71/SR 315 West Interchange to the I-70/71 overlap, and then east along eastbound I-70/71 to east of the Fourth Street bridge. Both eastbound and westbound of the I-70/71 overlap will be reconstructed within the project – including freeway pavement and three pairs of bridges – and an additional through lane on 70/71 overlap in each direction. The project will also eliminate both the 3rd Street entrance ramp to westbound I-70/71, and the 4th street exit ramp from eastbound. I-70/71. As shown previously in **Figure 3**, the High Street, Third Street, and Fourth Street bridges will be replaced along with the adjacent intersections along Fulton Street, as well as the intersection of Livingston Avenue and High Street.

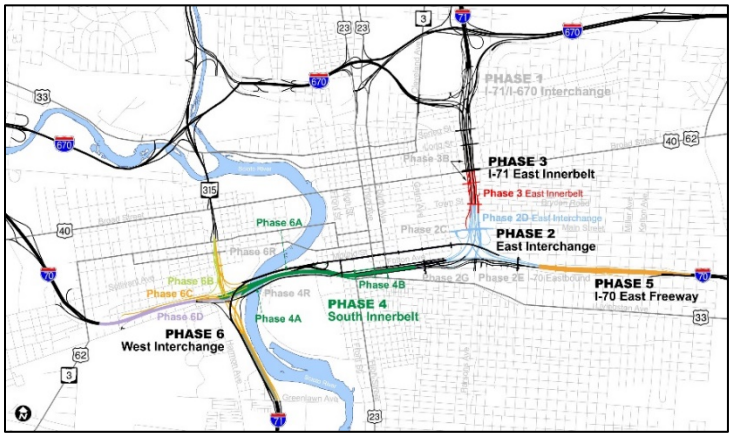

Figure 5 - Project location in relation to existing infrastructure. Map included in Appendix A.

III. Project Parties

The Columbus Crossroads Project is the result of more than a decade of partnership, planning, and public involvement involving Columbus, ODOT, and MORPC.

A. The City of Columbus, lead-applicant

Columbus is the municipality in which the Columbus Crossroads Project is located. It is responsible for maintaining the Minor Collectors, Major Collectors, and Arterials within its corporate limits. The City has worked closely with ODOT on the Columbus Crossroads Project since the project's inception, and it has committed significant funds to the project, including **$23.2 million** towards Phase 4. City staff from multiple departments have coordinated with ODOT during the Columbus Crossroads Project.

Columbus is also closely coordinating its Livingston Avenue project with ODOT. This City project is a three-phase, $28.3 million project to improve mobility and connectivity on Livingston Avenue that ties-in directly with the Phase 4 work on the High Street Bridge, Third Street Bridge, and Fourth Street Bridge, as well as work from other phases on the Front Street Bridge and Grant Avenue Bridge. Livingston Avenue runs parallel to the I-70/71 Overlap, and portions of this city project are dependent upon a new retaining wall that will be constructed during Phase 4. Close coordination with ODOT will ensure a seamless streetscape, regardless of a section's lead agency.

B. The Ohio Department of Transportation, co- applicant and proposed award recipient

ODOT is the administrative department of the state government responsible for developing and maintaining all state and federal roadways in Ohio with the exception of the Ohio Turnpike. It is the lead agency responsible for the Columbus Crossroads Project.

ODOT's primary source of transportation funding in Ohio is gas tax revenue, which by statute can be used for highway construction, traffic enforcement and certain other activities. Each year there are more capital needs for

passenger and freight improvements than there is funding available. The Ohio Revised Code in 1997 established the nine-member Transportation Review Advisory Council (TRAC) to assist in developing a project selection process for ODOT's largest investments and is chaired by ODOT's Director. This project is an ODOT priority, and TRAC has funded portions of the Columbus Crossroads Project. However, TRAC funds alone are insufficient to fund all of Phase 4. This is why ODOT is pursuing an INFRA award to complete the funding and construct all Phase 4 improvements in the near term.

C. The Mid-Ohio Regional Planning Commission

MORPC serves as the local Metropolitan Planning Organization and has been involved in prior planning for all phases of the Columbus Crossroads Project, including Phase 4. Across all phases, MORPC has committed $20 million in funding to provide design enhancements including Complete Streets facilities to the city streets reconstructed as part of the Columbus Crossroads Project. This project was identified as a regional priority through the Competitive Advantage Projects (CAP) initiative. CAP is an initiative of Columbus 2020 and MORPC that prioritizes and advances strategic infrastructure investments across Central Ohio.[19]

IV. Grant Funds, Sources and Uses of all Project Funding

ODOT, Columbus, and MORPC have already invested nearly $648 million in the Columbus Crossroads Project, including planning, engineering, right of way acquisition and construction of all phases that have either been completed or are currently under construction.

The future eligible project cost for Phase 4 of the Columbus Crossroads Project is estimated to be approximately $247.2 million. This includes a $35,000,000 contingency, which is based on the amounts of design development that have already been completed.

Category	Total Cost	INFRA	%	Other Fed.	%	Non-Fed.	%
Project Inspection fees	$16,000,000	$0.00	0.00%	$6,200,000	38.75%	$9,800,000	61.25%
Construction & Contingencies	$231,200,000	$45,000,000	19.46%	$72,300,000	31.27%	$113,900,000	49.26%
Total:	$247,200,000	$45,000,000	18.20%	$78,500,000	31.76%	$123,700,000	50.04%

This INFRA application is seeking to obtain an award of **$45 million** for construction costs for Phase 4. This award would be leveraged to ensure Phase 4 is fully funded. ODOT would commit an additional **$175 million** in State and Federal Transportation funds for Phase 4's future eligible costs; Columbus would commit **$23.2 million** in local funding towards future eligible costs; and MORPC would commit **$4 million** of federal Surface Transportation Block Grant (STBG) funding through MORPC towards future eligible costs. ODOT, the City of Columbus, and MORPC have provided a joint commitment letter is included in **Appendix C**.

V. Merit Criteria

A. Support for National or Regional Economic Vitality.

Phase 4 of the Columbus Crossroads sits at the epicenter of significant growth in Columbus and Central Ohio. Between 2017 and 2018, the Columbus, OH Metropolitan Statistical Area's gross domestic product grew by 4.24% to approximately $129.3 billion,[20] and its population grew by 1.2% to approximately 2,082,475.[21] According to 2019 Census information, Columbus has experienced the eleventh largest numeric population increase (10,770) between July 1, 2017, and July 1, 2018 for cities with a population of 50,000 or more; and the City's total population is estimated to be 892,533, and it is the fourteenth largest city in the country.[22] This growth is significant nationally, regionally, and locally; and Phase 4 will continue to support this growing economic vitality by: (1) addressing significant roadway safety concerns for all travel modes in the I-70/71 Overlap and city streets; (2) improving interactions between roadway users by significantly reducing the need for lane changes in the I-70/71 Overlap; (3) restoring the good condition of infrastructure that supports freight movement and economic growth; and (4) supporting a vital sector of the Ohio economy, while also helping sustain and advance economic development in Central Ohio.

[19] "Columbus Crossroads," MORPC, Competitive Advantage Projects, last accessed March 19, 2021, https://www.morpc.org/wordpress/wp-content/uploads/2017/12/FRA_Columbus_Crossroads.pdf

[20] "CAGDP1 Gross Domestic Product (GDP) summary by county and metropolitan area," Bureau of Economic Analysis, U.S. Department of Commerce, last accessed March 19, 2021, https://apps.bea.gov/itable/iTable.cfm?ReqID=70&step=1 .

[21] "Fastest-Growing Cities Primarily in the South and West," U.S. Census Bureau, last accessed March 19, 2021, https://www.census.gov/newsroom/press-releases/2019/subcounty-population-estimates.html.

[22] "Census Bureau Reveals Fastest-Growing Large Cities," U.S. Census Bureau, May 23, 2019, https://www.census.gov/newsroom/press-releases/2019/subcounty-population-estimates.html.

1. Phase 4 addresses significant roadway safety concerns for all roadway users.

a. Phase 4 will improve freeway safety.

The freeway improvements planned for Phase 4 of the Columbus Crossroads Project will have a dramatic impact on an area that consistently experiences a high number of crashes and has ranked within the annual top 10 high crash locations in Ohio for most of the last decade. Between 2017 and 2019 (most recent certified data), 669 crashes were reported along portions of I-70 and I-71 identified for improvement in Phases 4A, 4B, and 6A of the Columbus Crossroads Project. The majority (more than 70%) of these reported crashes resulted in property damage only (PDO), however at least one person was injured in 27.7% of crashes. This includes four individuals who were seriously injured. See **Appendix F**, for complete safety data.

A review of the data indicated an unanticipated, significant decrease (around 23%) in the total number of crashes along the Phase 4 freeway focus area from 2017 to 2018. This decrease is likely due to construction that was initiated along the I-71 NB segment just south of the I-70/71 interchange toward the end of 2017 that continued throughout 2018. Substantial construction activity, ramp and lane closures, and heavy back-ups at peak hour resulted in traffic detours to parallel routes. The risk factors that have contributed to unsafe driving conditions in the Phase 4 freeway focus area remain unchanged, and will remain unchanged until Phase 4 is complete.

As shown in **Table A**, rear-end and sideswipe crashes (crash types typically associated with excess congestion) were the two most prevalent crash types along the Phase 4A, 4B, and 6A freeway focus area. Together they accounted for more than 85% of all crashes. The proposed freeway improvements will provide additional traffic lanes on the I-70/I-71 Overlap, reducing congestion and traffic backups that likely contribute to the high number of rear-end crashes (55% of crashes were attributed to either following too closely or failing to leave assured clear distance ahead). Also, by consolidating the eastbound ramps to downtown streets, the project will allow vehicles to exit the freeway with fewer lane changes – a likely action contributing to the high number of sideswipe crashes (18.5% of crashes were attributed to improper lane changes).

Table A: Freeway crash type by severity

Crash Type	Total Crashes	% Total	Injury Rate
Rear End	381	57.0%	31.8%
Sideswipe - Passing	189	28.3%	20.1%
Fixed Object	73	10.9%	26.0%
Other Non-Collision	6	0.9%	33.3%
Right Turn	4	0.6%	50.0%
Other Object	4	0.6%	0.0%
Head On	3	0.4%	66.7%
Angle	3	0.4%	0.0%
Unknown	2	0.3%	50.0%
Parked Vehicle	2	0.3%	0.0%
Left Turn	1	0.1%	0.0%
Animal	1	0.1%	0.0%
Grand Total	669	100.0%	27.7%

PDO: Property Damage Only Crash

The impacts of these proposed freeway improvements will be felt throughout the larger freeway system, as they will eliminate the current weaving and congestion that occurs through the Overlap and emanates back through the approaches to the Overlap section. This includes I-70 EB from west of downtown, I-71 NB from south of downtown, and I-70 WB from east of downtown. Between 2017 and 2019, these three approach segments experienced a total of 307 crashes, of which rear end and sideswipe crashes comprised more than 90%. Approximately 50% of those rear end and sideswipe crashes resulted in some form of injury, and nearly 80% of all crashes that occurred were attributed to either following too closely, or improper lane change.

The I-70/I-71 corridor provides both north-south and east-west linkages critical to the national logistic network connecting the Midwest and East Coast markets. In addition, Central Ohio is a key freight distribution center, dependent on efficient truck movement into and through the region. Between 2017 and 2019, more than 17% of crashes along the corridor involved at least one commercial vehicle. These crashes involving commercial vehicles, as well as overall crashes along the corridor, delay freight delivery and undermine the reliability of the national freight system.

Table B: Surface Street Crash Type by Severity

Crash Type	Total Crashes	% Total	Injury Rate
Sideswipe - Passing	68	41.2%	11.8%
Rear End	36	21.8%	19.4%
Angle	28	17.0%	21.4%
Right Turn	15	9.1%	13.3%
Backing	4	2.4%	0.0%
Parked Vehicle	4	2.4%	0.0%
Left Turn	3	1.8%	33.3%
Fixed Object	2	1.2%	0.0%
Pedestrian	2	1.2%	100.0%
Unknown	1	0.6%	0.0%
Head On	1	0.6%	0.0%
Other Non-Collision	1	0.6%	100.0%
Grand Total	165	100.0%	16.4%

PDO: Property Damage Only Crash

b. Phase 4 will improve city street safety.

Phase 4 of the Columbus Crossroads Project will also work to improve safety conditions along several surface streets adjacent to and across the affected freeway segments. As shown in **Table B**, between 2017 and 2019, 165 crashes were reported at intersections and along segments of surface streets identified for improvements in Phase 4B.

Approximately 16.4% of these crashes resulted in injury. See **Appendix F**, for complete safety data.

The project will not just address vehicle-specific safety concerns, however; this project will ultimately increase the ability of all roadway users to navigate to and from Downtown Columbus and neighborhoods to the south. With the recent adoption of Vision Zero Columbus, Columbus is focused on improving roadway safety for the most vulnerable road users: people walking and bicycling.

Risks associated with these non-motorized crashes will be reduced through improvements to bicycle and pedestrian facilities on all associated surface streets. Wider bridges will allow ODOT and Columbus to implement Complete Streets principles to make bridge crossings safer and more comfortable for bicyclists and pedestrians, particularly older adults and individuals with disabilities. ODOT is incorporating bike lanes along city streets that are parallel to the Crossroads and connect into other components of the I-70/I-71 project phases that have been built.

Construction of wider sidewalks on both sides of the bridges associated with the project, and the addition of sidewalk bulb-outs and brick crosswalks at intersections will shorten crosswalks and make pedestrians more visible to motorists.[23] Turning movements that currently flow uncontrolled through intersections or in conflict with pedestrian movements along Fulton Street will be redesigned as part of this project to allow for safer pedestrian crossings.

2. Phase 4 will improve interactions between roadway users.

Phase 4 will significantly improve interactions between roadway users by eliminating 95% of eastbound lane changes through the I-70/71 Overlap. I-71 Northbound is currently reduced to a single lane as it enters the I-70/71 Overlap. Vehicles that want to continue northbound on I-71 must make two lane changes through eastbound I-70 traffic in order to resume travelling on I-71 at the I-70/71 Overlap's eastern end. This weaving creates dangerous interactions between roadways users, which contribute significant to the I-70/71 Overlap's safety and congestion problems. Work on fixing this weave has begun, but cannot be fixed without Phase 4. As **Figure 6** shows, I-70 will receive an additional through lane and I-71 will only have to make one lane change once Phase 2E is complete. However, even this single lane change still creates significant hazards for vehicles. Phase 4R continues the work to resolve the weave by providing new ramps for northbound traffic from I-71 entering the I-70/71 Overlap headed east towards Downtown. However, the weave remains a problem until Phase 4 is completed. Phase 4 is necessary (1) to finish replacing the surface street bridges that constrict the mainline freeway configuration, and (2) to construct the additional travel lane necessary to complete the I-70/71 Overlaps' final lane configuration, which is illustrated in **Figure 7**. **Appendix F** includes a graphic based on INRIX data showing the speed bearing east on I-70 between Exit 97/W Broad St and I-71, average by 15 minutes. This illustrates current congestion created in this weave area, and the impact it has on the entire corridor. Completing all of Phase 4 will significantly improve congestion and safety in the I-70/71 Overlap. Phase 4 will help eliminate one of the top freight bottlenecks in the country; and improve access to employment centers in both Columbus and Central Ohio.

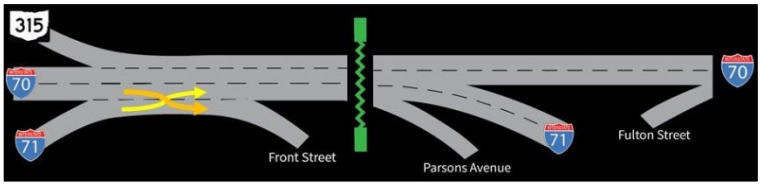

Figure 6 - Lane configuration once Phase 2E is complete

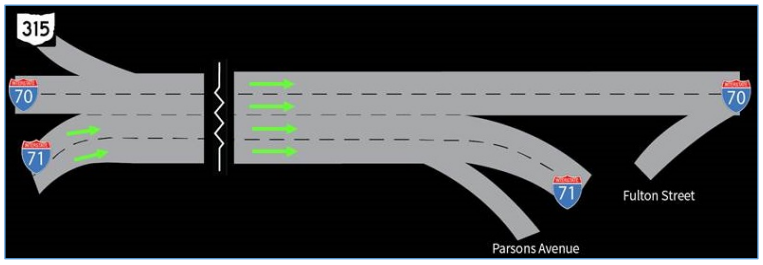

Figure 7 - Lane configuration after Phase 4.

3. Phase 4 supports economic vitality by restoring the good condition of infrastructure.

Phase 4 will replace existing infrastructure that is in need of reconstruction – including three functionally obsolete bridges – and it will restore the good condition of roadways and bridges that support freight movement and economic growth. The I-70/71 Overlap was constructed in 1963. Since that time, the pavement has received asphalt overlays every 10-12 years. The pavement within the project area has exceeded its service life and is in need of replacement and reconstruction. Construction will reset the maintenance cycle, saving $20.6 million over the life of the project.

Phase 4 will replace nine existing bridges: three pairs of bridges that carry the I-70/71 Overlap and three overhead bridges that carry city streets. The current condition of the at-grade bridge structures carrying I-70/71 range

[23] See **Appendix G**, pages 12-15, for planned pedestrian improvements on Front Street, High Street, Third Street, and Fourth Street.

from "poor" to "good" condition, and include a structure that recently required short-term maintenance work. The overhead bridges range from "poor" to "fair". The three city street structures date back to the original construction in 1963 and are now functionally obsolete. As a result, all three overhead bridges need substantial maintenance including deck replacement and structural steel painting within the next 5 years. ODOT was forced to make interim repairs to the three overhead bridges including placing debris containment on the superstructure to protect vehicles traveling below on the interstate until the bridges can be replaced. Incorporating these replacements as part of Phase 4 will save approximately $20 million in system preservation costs.

Figure 8 - Fourth Street Bridge current conditions.

4. Phase 4 supports key sectors of the state, regional, and local economies.

The I-70/71 Overlap is a vital transportation link that supports freight movements across the state and Midwest, while also supporting and advancing regional and local economies in Central Ohio and Columbus. However, its current design creates a nationally significant bottleneck that hampers the movement of freight and people moving through and into the area. Phase 4 will help resolve the existing bottleneck and congestion, which will (a) improve movement of freight, (b) improve access to employment centers in Downtown Columbus and Central Ohio, and (c) support additional economic development opportunities in and around Central Ohio.

a. Phase 4 supports freight and trucking, vital sectors of the Ohio economy.

Truck transportation is a $7 billion industry in the State of Ohio. At 4.8% of the national gross domestic product for truck transportation, **Ohio is the fourth largest state for truck transportation**.[24] It is the sixth largest freight destination in the United States, with 314 million tons of goods, valued at $193 billion, shipped to Ohio from international and out-of-state markets.[25] **Ohio has the fifth highest number of miles on the PHFS,[26] and both I-70 and I-71 are important Central Ohio freight corridors on the PHFS.** However, the I-70/71 Overlap creates a bottleneck that significantly hampers freight movement on both corridors.

The I-70/71 Overlap is measured as the **2nd worst freeway segment for travel time performance in Ohio**. This bottleneck is a long-standing issue, and one of the original focal points of the Columbus Crossroads project. In 2021, ATRI ranked the I-70/71 Overlap as the 67th worst truck bottleneck in the nation, with the average speed (47.8 mph), peak average speed (45.2 mph), and nonpeak average speed (48.8 mph).[27] Earlier Columbus Crossroads phases have resulted in some modest congestion improvements. But the ultimate elimination of the bottleneck is only possible with the completion of all Phase 4's planned improvements.

A Streetlight Data analysis of commercial vehicle data shows the geographic scope of vehicles passing through the I-70/71 Overlap. This analysis looked at the start and end points of the specific trip through the I-70/71 Overlap and not necessarily the freight's ultimate origin point or destination. The analysis showed commercial trips that started and ended at points across the Midwest, with at least one trip point as far west as Kansas and another one as far east as New Hampshire. The analysis also the wide range of trip lengths of national, regional, and local freight moving through the I-70/71 Overlap: 14.0% of trips were 0-5 miles; 21.6% of trips were 5-10 miles; 18.1% of trips were 10-20 miles; 17.8% of trips were 20-50 miles; 12.4% of trips were 50-100 miles; and 16.0% of trips were 100+ miles. Please see Streetlight Data in **Appendix G**. This data indicates that improving the intersection of I-70 and I-71 will not only benefit freight connecting to points beyond Central Ohio on I-70 or I-71, but also freight connecting to points within Central Ohio.

Improving the I-70/71 Overlap will also improve connections to important freight destinations and intermodal facilities in the Central Ohio Region. Columbus and Central Ohio are emerging logistics centers in the

[24] "Gross Domestic Product from Ohio, January 2020," Ohio Development Services Agency, last accessed March 11, 2021, https://development.ohio.gov/files/research/E1001.pdf.
[25] "Transport Ohio Statewide Freight Plan (updated 2019)" http://www.dot.state.oh.us/Divisions/Planning/SPR/StatewidePlanning/Documents/ODOT_FreightPlan_Updated%203.7.19.pdf, p. 8
"[26] Transport Ohio Statewide Freight Plan," pg. 6.
[27] "Columbus, OH: I-71 at I-70," 2021 Top 100 Truck Bottlenecks, American Transportation Research Institute, last accessed March 2, 2021, https://truckingresearch.org/wp-content/uploads/2021/02/bn067-2021.pdf.

Midwest. The Streetlight Analysis revealed noticeably higher volume of commercial vehicle traffic within census block groups with important distribution centers. As **Table C** highlights, just four census blocks accounted for 6.6% of the total volume of commercial vehicle trips.

Table C - Major Origin/Destination Distribution Centers

BlockGroup	Urban/ Rural	Location	Tot. Vol.	Facilities include:
390490082102	Urban	Columbus	3.2%	Big Lots, Walmart
390490083403	Urban	Columbus	2.1%	XPO Logistics
390970404001	Mix	West Jefferson	0.8%	Amazon, Target, FedEx
390897574001	Mix	Etna	0.5%	Amazon

Central Ohio is also served by two internationally significant airports – John Glenn International Airport (CMH) and Rickenbacker International Airport (LCK); and Ohio's two largest intermodal facilities – Rickenbacker and Buckeye Yard. During the last statewide freight study in 2012, these two facilities completed 330,000 lifts in 2012, which was more than **37% of all lifts in the entire state**. Lifts have continued to increase at both facilities. According to tracking by MORPC, intermodal lifts exceeded 400,000 in 2015 and have increased each year after capacity expansion at both facilities. The Streetlight Analysis also revealed noticeably higher volumes of commercial vehicle traffic within (1) census block groups containing these airports and intermodal facility, and (2) census block groups immediately adjacent to those intermodal facilities. The Streetlight Data analysis indicates 4.3% of all commercial trips passing through the I-70/71 Overlap either originated or ended at the census block groups containing these intermodal facilities as well as the neighboring census block groups: On an average day in 2019, CMH enplaned 7,453 pounds of cargo and deplaned 10,180 pounds; while LCK enplaned 260,578 pounds of cargo and deplaned 440,687.[28] Rickenbacker International Airport (FTZ 138) is a major gateway for domestic and international freight shipments, with regular service to destinations such as Hong Kong, Luxembourg, Dubai, and Moscow. International cargo increased 65% in 2017 and is projected to increase by 900% in the latest airport masterplan. The Rickenbacker free trade zone was ranked 7th out of 195 active zones for the amount of merchandise received in 2018; and approximately $10.4 billion worth of goods moved through FTZ 138 in 2018.[29]

b. Phase 4 will sustain and advance regional and local economic development.

Phase 4 will sustain and advance regional economic development in Franklin County and Downtown Columbus, which is Central Ohio's largest job center. Approximately, 299,260 people commuted daily to Franklin County for work in 2017; approximately 152,202 people from counties within the Columbus MSA, and 147,058 come from counties beyond Central Ohio, with significant commuting numbers from the counties surrounding Cincinnati and Cleveland. Please see **Appendix G** for additional commuting information and trip maps. As illustrated in **Figure 9**, a significant number of personal trips through the project start or end in areas outside the urbanized area and urban clusters. Phase 4's improvements are critical for rural residents and other people travelling to and through Columbus for employment and essential services to services located in Downtown Columbus; as well as supporting general economic growth in Downtown Columbus. MORPC predicts jobs in Downtown Columbus to increase by 13% and the residential population to grow by 120% between 2015 and 2040. This growth has resulted in significant private and public investment in Downtown Columbus. In 2019 alone, 12 projects ($193 million) were completed; 30 projects ($1 billion) were under construction; and 40 projects ($1.7 billion) were proposed.[30]

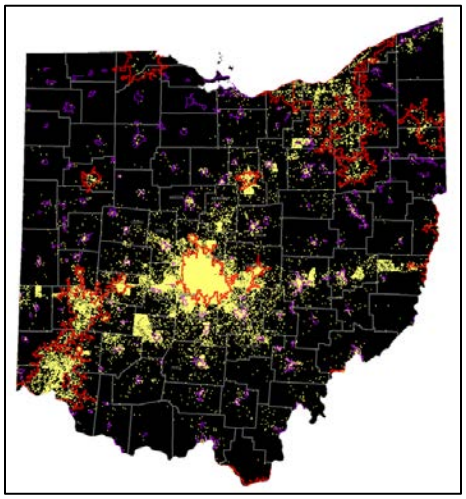

Figure 9 - Yellow dots indicate ends of personal trips. Red borders indicate Urban Areas & Clusters.

Phase 4 will support continued economic development by reconnecting Downtown Columbus to the neighborhoods south of the I-70/71 Overlap's trench. The current bridges across the South Innerbelt Trench are not inviting to pedestrians or bicyclists. Phase 4 significantly improves these conditions, as described in greater detail in

[28] Please see Columbus Air Cargo information provided by the Columbus Regional Airport Authority, which is provided in **Appendix G**.
[29] Hayleigh Colombo, "Rickenbacker's foreign-trade zone climbs in national ranking, clears $10B mark for goods passing through," Columbus Business First, December 17, 2019, https://www.bizjournals.com/columbus/news/2019/12/17/rickenbackers-foreign-trade-zone-climbs-in.html
[30] "State of Downtown Columbus, Year End 2019," Capital Crossroads & Discovery Special Improvement Districts, last accessed February 16, 2021, https://downtowncolumbus.com/wp-content/uploads/2020/03/2019-State-of-Downtown-Report.pdf.

Section V.B.2. These improvements will encourage additional pedestrian and bicyclist traffic between Downtown Columbus and the neighborhoods immediately around it, and encourage additional economic development in the neighborhoods south of the I-70/71 Overlap. **Appendix H** provides additional pictures and information regarding current conditions and Phase 4's improvements. The Phase 4 improvements combined with Columbus's Livingston Avenue improvements will significantly improve access for sites in and around the project, and support multiple economic development opportunities. **Appendix G** includes maps of multiple economic opportunities, including:

- **Nationwide Children's Hospital (NCH) Campus Expansion** - One of the top-ranked children's hospitals in the nation, NCH is in the midst of a **$1.25 billion reconstruction and expansion of its campus**, including the area directly south of the trench. Multiple phases of the Columbus Crossroads Project are providing essential support for NCH's expansion. Phase 4 will improve freeway access and ease congestion for staff and patients at NCH's main campus. Phase 2E will construct a new ramp directly serving the complex, and it will realign Mooberry Street. **Appendix G** includes the Master Facilities II map. NCH has also acquired the **former Columbus Africentric High School site**, which is a 3.7 acre site just to the east of Phase 4.
- **Commercial Cap over I-70/71** – Columbus' High Street Cap over I-670 was one of the very first commercial caps constructed in the country. This cap, which seamlessly reconnected Downtown Columbus to the Short North neighborhood, has become a case study for other cities looking for creative ways to restore and reconnect neighborhoods.[31] The High Street Cap over I-670 also provides Columbus with its own case study on how to develop additional commercial caps across the South Innerbelt Trench, including how to navigate some of the related legal challenges such as obtaining title to the land beneath the commercial cap and leasing the air space to be developed as a commercial cap. Columbus is targeting the Third Street Bridge for the development of a commercial cap in conjunction with the development of new land fronting Livingston Avenue.

Figure 10 - High Street Cap over I-670.

- **Livingston Avenue, between Third Street and Fourth Street** – The construction of a retaining wall on the southern edge of I-70/71 during Phase 4 will create 1.5 acres of newly developable land on Livingston Avenue, shown in **Figure 11**, and made accessible by Phase 4's urban avenue improvements to the Third Street Bridge, the Fourth Street Bridge; and Columbus' related Livingston Avenue projects. The site is between German Village and Downtown Columbus, near Nationwide Children's Hospital, and next to the potential commercial cap on the Third Street Bridge. This location is highly desirable for development. A site to the east sold for nearly $15 million, roughly $4 million an acre.

Figure 11 - New acreage available for development.

- **Former Wasserstrom Site** – A former brewery on 1.24 acres, this property has been underutilized since October 2017. The property recently sold for $6.4 million and is targeted for a major redevelopment. The quality and success of this development will be heavily impacted by Phase 4. Dwight McCabe, a developer for the property has told the Brewery District Commission that ODOT's planned improvements would "make the property's location a 'front door' to Downtown that could boost his plans for ground-floor retail along with a hotel and offices.[32] He has continued to push forward with his redevelopment efforts, and the project received $5 million in state historic preservation tax credits in June 2019.[33]

[31] "The Cap at Union Station," ULI Development Case Studies, https://casestudies.uli.org/the-cap-at-union-station-5/.
[32] Marla Matzer Rose, "Brewery District attracting more interest from developers," *The Columbus Dispatch*, December 23, 2017, http://www.dispatch.com/news/20171223/brewery-district-attracting-more-interest-from-developers.
[33] Jim Weiker, "Plan to turn Hoster Brewing complex into hotel, offices, restaurants gets preservation tax break from Ohio," *The Columbus Dispatch*, last updated June 27, 2019, https://www.dispatch.com/business/20190626/plan-to-turn-hoster-brewing-complex-into-hotel-offices-restaurants-gets-preservation-tax-break-from-ohio.

5. Benefit Cost Analysis Summary

A Benefit-Cost Analysis (BCA) has been performed to determine the value of quantifiable benefits that would be generated by Phase 4 of the Columbus Crossroads Project. It is contained in **Appendix I-ColumbusCrossroadsBCA**. Analysis was completed with a discount rate of 7% except for CO2 benefits, which were calculated with a discount rate of 3%. The table below shows a summary of the project benefits and costs, and **Appendix J** provides a summary of the methodology used for the following impacts:

Project Benefits and Costs

Type of Impacts	Benefits (7% Discount Rate)	Costs (7% Discount Rate)
Travel Time Savings	$140,076,627	
Crash Reduction	$20,203,516	
Operations and Maintenance Savings	$20,619,457	
Operating Cost Savings	$10,857,241	
Mode Shift VMT Reduction	$8,724,072	
Emissions Reduction	$6,301,181	
Property Value Increase	$6,227,497	
Street Tree Benefits	$5,357	
Quality of Life Benefits	Qualitative	
Project Cost		$193,812,652
TOTAL	**$213,014,951**	**$193,812,652**
Benefit-Cost Ratio	**1.10**	

The results of the benefit-cost analysis demonstrate that the benefits of the project exceed the costs. With a 7% discount rate, the quantifiable benefits exceed the cost of the project by more than $19 million, providing a benefit-cost ratio of 1.10. **Appendix J** goes into more detail on the methodology for calculating both costs and benefits for this project. A summary of the benefits follows.

a. Travel Time Delay Reduction and Operating Cost Savings Benefit:

Delay reduction benefits and operating cost savings for the Columbus Crossroads Project were estimated using the Ohio Statewide Travel Demand Model. The detailed results for these benefits are included in **Appendix L**. Over the life of the project, the improvements provide the following travel time reduction, operating cost reduction, and associated monetized benefit:

Car Delay Reduction (Veh-Hr)	Passenger Delay Reduction	Truck Delay Reduction (Veh-Hr)	Passenger Delay Reduction (7%)	Truck Delay Reduction (7%)	Operating Cost Reduction	Vehicle Operating Cost Reduction (PV) (7%)
12,682,177	21,179,236	818,647	$131,619,841	$8,456,786	$29,140,792	$10,857,241

b. Safety Benefits:

Safety benefits were calculated via ODOT's Economic Crash Analysis Tool (ECAT), which uses methodology from the AASHTO Highway Safety Manual (HSM) for calculating the expected crash reduction associated with roadway improvements. The predicted yearly crash reduction from implementing this project are:

Expected Annual Crash Adjustment	
Number of Fatal & Incapacitating Injury Crashes	**-1.009**
Number of Injury Crashes	**-1.443**
Number of Total Crashes	**-65.202**

When monetized utilizing the values provided in the USDOT benefit-cost analysis guidance, these crash reductions provide a benefit of $20,203,516 at a 7% discount rate over the life of the analysis. Other safety elements of this project, such as greatly reducing weaving traffic and stopped traffic, are not countermeasures for which HSM/ECAT can quantify crash reductions. As they cannot be quantified at this time, the safety benefits will be much larger. The ECAT analysis is provided in **Appendix K.**

c. Operations and Maintenance Benefits:

Annual maintenance expenses in the Build scenario were subtracted from the No Build scenario to quantify the annual maintenance benefit of the project. The existing bridges in the corridor are reaching the end of their

lifespan. If they are not replaced, it is assumed that bridge redecking will be required to keep the bridges functional over the next 20 years. By completing this project, the bridge redeckings will not be required which provides a benefit of $20,677,091. Once additional maintenance costs are subtracted out, the overall positive maintenance benefit for the project is $20,619,457 at a 7% discount rate.

a. Mode Shift VMT Reduction:

Existing sidewalks on High Street, Third Street, and Fourth Street will be upgraded, providing a better connection between Downtown and neighborhoods to the south. Due to the improved facilities, a mode shift to walking and biking was estimated utilizing an analysis from Streetlight data, the National Household Travel Survey, and the MORPC travel demand model. A more detailed methodology is found in **Appendix J.**

A recent economic impact analysis completed as part of ODOT's Walk.Bike.Ohio plan estimated the benefits of reducing VMT from mode shift. Those benefits per VMT reduced were applied to the VMT reduction estimate. When monetized at a 7% discount rate (3% for CO2 benefits) over the life of the project, mode shift provides $8,724,072 in benefits.

b. Emissions Reduction:

Based on the traffic volume results from the Ohio Statewide Travel Demand Model, as well as emission factors generated from USEPA MOVES, emissions reduction from the project were estimated. The detailed results for these benefits are included in **Appendix L**. The emissions reduced over the life of the project as well as the monetary value of those reductions are presented below.

NOx Reduction (Metric Tons)	PM Reduction (Metric Tons)	SOx Reduction (Metric Tons)	CO2 Reduction (Metric Tons)	Non-CO2 Emissions Reduction Value (7%)	CO2 Emissions Reduction Value (3%)
21.83	2.17	0.72	126,115.60	$1,123,035	$5,178,147

c. Property Value Increase Benefits:

As part of the project, 2.5 acres of previously undevelopable land will become available. The High Street Bridge will include a half acre (.25 acres on each side) of park land, the Third Street Bridge will include a half acre (.25 acres on each side) of developable space, and the construction of a retaining wall on the southern edge of I-70/71 during Phase 4 will create 1.5 acres of newly developable land on Livingston Avenue. All three of these locations are not developable without the Phase 4 improvements. The adjacent site to the east of the newly developable land on Livingston Avenue recently sold for nearly $15 million, roughly $4 million an acre. Applying $4 million an acre to the 2.5 newly developable acres that result from this project provides a benefit of $10 million. After discounting this benefit at a 7% rate the newly developable land provides a $6,227,497 benefit. See **Appendix J**.

d. Street Tree Benefits:

Plan sheets included in **Appendix K** indicate 90 street trees will be planted. Utilizing the National Tree Benefit Calculator, these trees will reduce 8,521 pounds of CO2 and 10,370 gallons of storm water runoff on an annual basis. When monetized at a 7% discount rate over the life of the project, the street trees provide $5,357 of benefit.

e. Quality of Life Benefits

Additional quality of life benefits arise from reconnecting underserved communities. While not quantifiable, the Long Street Cultural Wall that was completed as part of a previous phase of Columbus Crossroads is an excellent example of the benefits that arise from reconnecting communities.

B. Climate Change and Environmental Justice Impacts

1. Phase 4's planning included a systematic approach to Environmental Justice.

ODOT considered environmental justice and climate change during the Columbus Crossroads project planning efforts. The project received its FONSI in 2009, approximately one year before the US EPA began developing the EJScreen tool in 2010.[34] While EJScreen was not available to use when ODOT was planning the Columbus Crossroads project, ODOT has used a systematic approach to identify and address environmental justice issues and concerns during this project. This approach is demonstrated by the Environmental Site Assessment

[34] "How was EJSCREEN Developed?" United States Environmental Protection Agency, as of January 19, 2017, https://19january2017snapshot.epa.gov/ejscreen/how-was-ejscreen-developed_.html#:~:text=Development%20of%20EJSCREEN%20began%20in%20late%202010%20and,annually%20with%20the%20newest%20and%20best%20data%20available.

Screening that was completed in February 2007.[35]

2. There are multiple design components with outcomes addressing climate change.

The ODOT and Columbus anticipate Phase 4's surface street improvements will promote a significant mode shift in people travelling into and/or through Downtown Columbus from both the Brewery District and German Village. The current bridges across the South Innerbelt Trench are not inviting to pedestrians, cyclists, or scooters. Sidewalks are narrow, pushed up next to driving lanes, and in poor condition. Visual separation between the pedestrians and the interstate below is non-existent. Crosswalks are limited because of vehicles entering and exiting I-70/I-71. There are no dedicated bike facilities. As **Appendix H's** pictures and information sheets help illustrate, Phase 4 will dramatically improve this situation by adding new and improved pedestrian and bicycling connections across the High Street Bridge, Third Street Bridge, and Fourth Street Bridge:

- **High Street Bridge:** The new bridge will be a civic gateway between Downtown, German Village, and the Brewery District. It will feature sidewalks at least 10 feet wide and 60 foot wide green caps on both sides with significant public green space and enhanced pedestrian accommodations.
- **Third Street Bridge:** The new bridge will be a gateway between Downtown and German Village. It will feature sidewalks at least 10 feet wide and, if this application is successful, Columbus would work to identify a developer to develop the 60 foot wide caps on both sides of the bridge as commercial cap space.
- **Fourth Street Bridge:** The new bridge will feature enhanced accommodations for pedestrians and bicyclists. It will feature sidewalks at least 10 feet wide, and planters on both sides. It will connect to improved development opportunities on Livingston Avenue.

Figure 12 - High Street Bridge on bridge's eastern sidewalk (existing).

Figure 13 - High Street Bridge on bridge's eastern cap (proposed).

ODOT is currently developing Ohio's first statewide bike and pedestrian plan, Walk.Bike.Ohio. A demand analysis was performed as part of this process, and it shows significant demand for improved pedestrian and bicyclist accommodations in and around the Columbus Crossroads project area, particularly from residents in the Brewery District and German Village. MORPC's analysis for the BCA shows that this pent-up demand should translate into significant mode shift once the Phase 4 improvements are complete. This shift will provide a 1.3% reduction in VMT, and a savings of $8.7 million. **See Appendix D's** Walk.Bike.Ohio Demand analysis, and **Appendix J** for BCA Methodology. In addition to promoting mode shift, Phase 4 has multiple design components that help address climate change in other ways.

The project supports the installation of electric vehicle charging stations along the National Highway System. Electric vehicle DC Fast Chargers are being installed on Fulton Street, just east of Fourth Street. The consolidation and relocation of Exits 100A and 100B during Phase 4R, combined with Phase 4's improvements at Fulton's intersections with High Street, Third Street, and Fourth Street will provide NHS drivers travelling eastbound through the I-70/71 Overlap with quick, direct access to these charging stations.

The project promotes energy efficiency through the use of LED technology. Phase 4 will replace existing incandescent street lights with LED streetlights throughout the project area. It will also install new, energy efficient LED traffic signal infrastructure at the following intersections: Fulton Street at High Street, Third Street, and Fourth Street; and Livingston Avenue at High Street.

The project improves disaster preparedness and resiliency in two ways. The first way is the project will improve the reliability of essential freight moving within the PHFS. This section of the PHFS is an essential link on both I-70 and I-71; but travel reliability is hampered by a nationally significant freight bottleneck. This project will significantly improve existing conditions and make travel through I-70/71 much more reliable. The second way is Phase 2B already

[35] "Environmental Site Assessment Screening: FRA-70-8.93, PID 23318" Ohio Dept. of Transportation, last accessed March 14, 2021, https://www.dot.state.oh.us/projects/7071/environmental/Documents/Appendix%20H/Technical%20Reports/77369_ESA%20Screening_0207.pdf

improved the I-70/71 Storm Sewer Outlet in 2017. This means that Phase 4 improvements and other improvements will tie into a modern trunk line. The use of modern Best Management Practices for storm water quality and quantity to construct this trunk line – as well as to design and construct all Columbus Crossroads phases – will make the I-70/71 Overlap more resilient as weather continues to become warmer and wetter.

The project proposes both (1) the recycling of materials, and (2) the use of materials known to reduce carbon emissions. First, ODOT's current specifications allow the use of recycled materials (asphalt and concrete) in the construction of new pavement. The construction phasing will be done in a way that soil excavated from the project will be reused in areas where the elevation is being increased. Second, the use of street trees and green spaces on the new bridges and surface streets surrounding the freeway will limit the impact of exhaust pollution from the vehicles travelling through the South Innerbelt Trench. Recent research demonstrates that green barriers on the edges of roadways can help reduce air pollution in the immediate areas surrounding the roadways. According to the US EPA, "Studies have shown that noise and vegetative barriers can reduce downwind pollutant concentrations near roads."[36]

C. Racial Equity and Barriers to Opportunity

As mentioned earlier in the narrative, the construction of I-70 and I-71 was an extremely traumatic event in the histories of the neighborhoods bisected by these freeways. While neither ODOT nor Columbus can undo the past, both recognize that not only can they take steps to mitigate the damage but also the Columbus Crossroads project has offered a unique opportunity to do so. The Columbus Crossroads project demonstrates a commitment to using this project to address equity concerns and remove barriers to opportunity created by the interstate construction.

1. Planning and policies related to racial equity and barriers to opportunity

a. Project enhancements intended to restore and reconnect neighborhoods.

ODOT began its community engagement process for the Columbus Crossroads when it began its South Innerbelt Study in 2001. It an Advisory Committee composed of a broad range of public and private community stakeholders representing national, state, county, city, and neighborhood interests for both the East Corridor and South Corridor. Members of the Advisory Committee also served as the I-70/I-71 South Innerbelt Stakeholders Group, and it provided public oversight of the project's formal Design Enhancement Process that began in 2006. The Stakeholder Group received recommendations from a working group and two constituent committees that had been created to provide technical guidance and community input during the Design Enhancement Process. **Appendix L** provides a complete list of Advisory Committee and constituent committee members. Additional public feedback solicited from interested businesses and individuals. **The public involvement process included more than 500 community meetings, and thousands of public comments.**

This process recognized that the bridges across I-70 and I-71 are essential neighborhood and civic connections and should be designed with that in mind. Each crossing was viewed as an opportunity to design a structure that reflected the context and character of the surrounding community. The planning process focused on efforts to enhance, improve, and reinforce each connection; including hiding or screening the freeway from city streets, and ensuring the connections themselves were broad, inviting, pedestrian-friendly, and safe.[37] This process culminated in the creation of the I-70/I-71 South Innerbelt Project Design Enhancement Manual in 2010.[38] This manual ensures project's design enhancements (1) reflect the input and needs of the surrounding neighborhoods and businesses, and (2) are consistently implemented throughout the project area. It was an intentional engagement process focused on listening to the neighborhoods, addressing equity concerns, and removing barriers to opportunity.

b. Policies that support equity and remove barriers in contracting opportunities.

ODOT and Columbus have policies and procedures to promote racial equity in project contracting and subcontracting. ODOT's Opportunity, Diversity, & Inclusion (ODI) Division works with district offices to hold Matchmaker Events to "match" Prime Contractors with Small/Minority/Disadvantaged Businesses. ODOT initiated this program in response to feedback from subcontractors and subconsultants requesting assistance connecting with

[36] "Recommendations for Constructing Roadside Vegetation Barriers to Improve Near-Road Air Quality," Environmental Protection Agency, last modified August 9, 2016, https://www.epa.gov/sites/production/files/2016-08/documents/recommendations_for_constructing_roadside_vegetation_barriers_to_improve_near-road_air_quality.pdf.

[37] "I-70/71 Innerbelt Project Design Enhancement Process, East and South Corridors (I-70/71) Public Open House, Dec. 5, 2006" pg. 15 https://www.dot.state.oh.us/projects/7071/Study/PublishingImages/Design%20Enhancements/DesignPresentationDecember2006.pdf

[38] "I-70/I-71 South Innerbelt Project Design Enhancement Manual," ODOT, last accessed March 16, 2021, https://www.dot.state.oh.us/projects/7071/enhancements/Documents/7071DesignEnhancemetManual.pdf

prime contractors and prime consultants. The Matchmakers events are held for ODOT federally funded construction projects with a value over $20 million; and are usually held regionally or in conjunction with a mandatory pre-bid meeting, which potential subcontractors and subconsultants are encouraged to attend. The events begin with ODOT District staff giving an overview of the project details, followed by a question and answer session. ODI staff then move to the "Matchmaker event" which includes a review of schedules for the Prime Contractors and Subcontractors. The schedule includes 10-minute appointments for each subcontractor and everyone rotates every 10 minutes until they have met with all Prime Contractors. The Matchmaker events help provide businesses that are ready, willing, and able to work with Prime Contractors. The subcontractors are DBE certified and therefore are able to help meet DBE goals on ODOT construction projects. Matchmakers also help to alleviate the issue of Prime Contractors having difficulty finding new subcontractors to work on ODOT projects. Additionally, the presentation and attendee listing information are hosted on ODI's website for access by attending DBEs and those who could not attend.[39] A matchmaker event is currently being prepared for Phase 4R and 6R of the Columbus Crossroads Project, and another event will be prepared for Phase 4 once the project is ready for construction.

Columbus has an established policy to provide business concerns owned by minority and female persons the maximum practicable opportunity to participate in contracts awarded by the City. Its Office of Diversity and Inclusion (ODI) is responsible for tracking City Department utilization of minority and female business enterprises (M/FBEs). The city also offers free gender and race-based certification to make it easier to identify those ready, willing, and able to perform on city contracts.[40] Columbus will also local preference when awarding construction contracts.[41]

c. Subsequent equity analyses show the local need for the planned enhancements.

Equity analyses as they are performed now were not included as part of the planning process for the Columbus Crossroads project when planning first began at the start of the 21st century. However, subsequent equity analyses by both ODOT and Columbus have shown significant equity needs in portions of the project area, particularly (1) the communities east of I-71 and north of I-70, and (2) the communities east of Parsons Avenue and south of Livingston Avenue. Many of these areas are also within, or immediately adjacent to, Opportunity Zones, Empowerment Areas, and CDBG eligible block groups. Please see related maps in **Appendix D**. These analyses show the need for planned enhancements that restore neighborhood connections across the freeway and remove barriers to opportunity.

ODOT completed a statewide equality analysis while preparing its plan, Walk.Bike.Ohio. This analysis was performed in an effort to identify and understand areas where individuals are more likely to walk and bike due to economic necessity. This analysis identified high need indicators in significant portions of the project area, particularly the above mentioned areas. Columbus' equity analysis indicated similar areas of high need. As part of its Vision Zero Columbus initiative, the city is using data to identify Communities of Interest (COI), which are block groups where people may have fewer choices about how, when, and where they travel, putting them at higher risk as they travel. One COI spanning I-71's East Corridor includes three enhanced bridges included in the Columbus Crossroads Project: the Broad Street Bridge (under construction) is on the COI's southern edge; while both the Long Street Bridge and Cultural Wall and the Spring Street Bridge (complete) are completely within this COI.

ODOT and Columbus use similar methodology based American Community Survey (ACS) block group data. Both analyses include data for: (1) minority groups, (2) youth, (3) older adults, (4) poverty, (5) limited English proficiency, and (6) no access to a motor vehicle. ODOT's analysis also includes a seventh data point on persons with no high school diploma, while Columbus' analysis includes a seventh data point on persons with disabilities.

2. Project investments that support racial equity and remove barriers to opportunity.

ODOT, Columbus, and MORPC have invested millions of dollars in (1) mitigating physical barriers to opportunities; and (2) creating new and improved walking, biking, and rolling access for the disabled.

This investment is best exemplified in the Long Street Bridge transformation.[42] Before I-71 was built in the 1960s, the King-Lincoln District bustled with 63,000 people and was the center of culture, commerce, civic life, and

[39] For more information about the Matchmaker initiative and other ODI events, please see "Outreach," ODOT, accessed March 14, 2021, https://www.transportation.ohio.gov/wps/portal/gov/odot/programs/outreach#page=1.

[40] "Minority, Women, and Veteran Business Enterprise Certification: Policy" City of Columbus, last accessed March 16, 2021, https://www.columbus.gov/odi/supplier-diversity/Business-Certifications/

[41] See Columbus City Code § 329.212

[42] For more information on the wall itself: "The Making of the Long Street Wall," ODOT, last access March 18, 2021, https://www.youtube.com/watch?v=hQlQANefmnQ

church in the African American community. By 2000, the neighborhood had dwindled down to just 16,000 residents, only 21 percent of the people in this area owned their homes, one in 5 were out of work, and nearly half lived in poverty. In 2014, Phase 1 of the Columbus Crossroads project restored the connection to the King/Lincoln District with the Long Street Bridge and Cultural Wall. A bridge that was once a barrier to opportunities on the other side of I-71, has now reconnected the neighborhood and become one of city's most revered pieces of infrastructure. It features park space; broad sidewalks; a bike lane; and a cultural wall featuring 139 images honoring 142 people, places and institutions, past and present, who have made a positive, lasting impact related to the King-Lincoln and Discovery Districts. Thousands attend the dedication of the Long Street Bridge, and it has even inspired an annual Cultural Wall Music Festival. In the FY2017 USDOT Budget Highlights, then Secretary Anthony Foxx, lauded the Long Street Bridge and Cultural Wall, "This effort to reconnect and revitalize a community divided by past transportation policies is a compelling example of how transportation can create or eliminate opportunity gaps in our Nation."[43]

In addition to the Long Street Bridge (**Appendix H** includes an example from Long Street), earlier phases have added significant pedestrian and/or bicycle enhancements to bridges serving historically underrepresented communities on the Near East Side: the Spring Street Bridge, and the 18th Street Bridge, and the Broad Street Bridge (under construction). All of the bridges remove the historical barriers to opportunity created by poor pedestrian and bicycle facilities. An additional four more bridges serving the Near East Side will be constructed in future phases after Phase 4: the Main Street Bridge, the Parsons Avenue Bridge, the Town Street Bridge, and the Oak Street Bridge.

Past, current, and future phases significantly improve walking, biking, and rolling access and help reverse the disproportional impacts of crashes on people of color. In addition to the previously mentioned eight bridges, five bridges across the South Innerbelt Trench are also being replaced: the Grant Avenue Bridge (completed); the Front Street Bridge (included in Phase 4R & 6R); and the three Phase 4 bridges of High Street, Third Street, and Fourth Street. eight of these thirteen bridges are on Columbus' High Injury Network: Front Street, Fourth Street, Grant Avenue, Spring Street, Long Street, Broad Street, Main Street, and Town Street; and three of these are within a Vision Zero COI: Spring Street, Long Street, and Broad Street.[44] Safety improvements on these bridges will make it safer for all community members to cross these bridges, while helping reverse the disproportional impact of crashes on people of color. ODOT is also using vertical retaining walls to reduce the distance the bridges must cross over the freeway. In addition to providing a shorter crossing, this technique is allowing ODOT to create new land that can be used for development or land that ODOT itself can use for planned urban avenue improvements in future phases to minimize impact on existing homes and businesses. Examples from earlier phases are included in **Appendix H**.

Columbus has also invested significantly in surface street improvements that (1) directly tie into the Columbus Crossroads project, and (2) extend the benefits of that project further into/towards historically underserved communities. The City's Long Street project (approximately $1.8 million) extended the improvements on Long Street from Elijah Pierce Avenue to Hamilton Avenue and the historic King-Lincoln Theater. The City's Parsons Avenue project (approximately $8.2 million) will ultimately connect to the improvements at Broad Street and the improvements at Franklin Avenue. The City's Livingston Avenue project (approximately $28.3 million) will extend the project's benefits east to Livingston Avenue, and provide significantly improved access to Nationwide Children's Hospital, as well significantly improved access from historically underserved communities east of Parsons Avenue to access essential services, jobs, and educational opportunities in Downtown Columbus via the Grant Avenue Bridge, Fourth Street Bridge, Third Street Bridge, High Street Bridge, and Front Street Bridge. As the **Appendix D** maps help illustrate, these three city projects also (1) help connect the current ODOT work with additional, older city project projects on Parsons, Livingston, and 18th, and (2) extend the Columbus Crossroads' benefits as far as possible.

D. Leveraging of Federal Funding

This application requests a **$45 million** INFRA program grant award for Phase 4 of the Columbus Crossroads Project. The total request is less than 19% of Phase 4's total future eligible costs, and less than 3.5% of the estimated combined cost (**$1.3 billion**) of all phases of the Columbus Crossroads project. ODOT would leverage the INFRA award to complete Phase 4's funding package. Based on feedback received from USDOT regarding a previous INFRA application, ODOT has worked to find ways to significantly increase the percentage of non-federal funding.[45] For the

[43] "Transforming Communities in the 21st Century," USDOT, last access Mar. 16, 2021, https://www.transportation.gov/sites/dot.gov/files/docs/DOT_BH2017_508%5B2%5D.pdf, pg. 2

[44] Please see maps in Appendix D

[45] The FY2019 Columbus Crossroads Phase 4 INFRA application had a funding balance of 71.21% federal and 27.29% non-federal.

eligible future costs, Phase 4's balance of federal and non-federal funds is approximately **49.96% federal and 50.04% non-federal**. Other federal sources include State-designated Federal program funds, and MPO delegated funds. Non-federal funding sources include State Surface Transportation Preservation funding and Columbus local funding.

ODOT has used local partnerships to provide significant non-federal funding into Phase 4 of the Columbus Crossroads projects. Columbus is contributing $23.2 million towards Phase 4's future eligible costs, which is 9.39% of Phase 4's future eligible costs. This local contribution is quite significant and reflects not only the strong partnership on this project, but also the commitment to the project's vision. The Columbus Crossroads project has leveraged a necessary maintenance and reconstruction project into a transformational project for the city and region. The funding partners have provided a joint commitment letter in **Appendix C.**

E. Potential for Innovation

1. The accelerated deployment of innovative technology

ODOT and Columbus look for ways to incorporate new and innovative technologies in their roadways. Inside the city limits, ODOT has installed a Queue Warning System (QWS) that informs drivers of the presence of downstream stop-and-go traffic so that drivers can anticipate emergency braking or slow down, avoid erratic behavior, and reduce queuing-related collisions. For drivers headed east on I-70 towards the I-70/71 Overlap, the QWS is able to provide congestion warnings on overhead dynamic message signs based on real-time traffic detection, as ODOT has three radar detection sites between the QWS sign on I-70 EB and the conflict area at the I-70/71 Overlap. Phase 4 of the Columbus Crossroads Project will support the delivery of three additional innovative technologies: (a) the I-70 Truck Automation Corridor (b) signal preemption technology; and (c) DC Fast Chargers for Electric Vehicles.

a. The I-70 Truck Automation Corridor

Phase 4 is in the heart of The USDOT Motor Carriers nationally selected technology deployment corridor. ODOT's DriveOhio, which is the single point of contact for all of Ohio's smart mobility initiatives and advancements was selected to implement the I-70 Columbus-to-Indianapolis freight corridor as a smart logistics testbed for truck automation technology. DriveOhio partnered with the Indiana Department of Transportation (INDOT), to secure a federal ATCMTD grant: "The I-70 Truck Automation Corridor." ODOT and INDOT, are partners with USDOT to create a technology "guidebook" for roadway infrastructure based on this pilot project and audit to examine deployment of technology within a host fleet tractors, existing deployments and studies. The information and "lessons learned" from this effort will enable a variety of truck automation technologies to be tested across a major east/west freight corridor in the US. While this initiative is separate from the I-70 Phase 4 project, it will certainly test the challenges of smart truck automation within heavy urban construction zones. Phase 4 also supports delivery of this emerging automation by addressing one of the US's most significant freight bottlenecks by providing safety and capacity improvements that will greatly facilitate truck automation technology deployment.

b. Signal preemption technology

The installation of signal preemption technology on Fulton Street and Mound Street is part of the improvements planned for the Columbus Crossroads Project as a whole. Earlier phases have installed signal preemption equipment at signals on Fulton Street for the benefit of emergency vehicles responding from Columbus Fire Station 2, which is at the intersection of Fulton Street and Fourth Street, and transporting patients to OhioHealth Grant Medical, which is a Level 1 Trauma Center in Downtown Columbus. Phase 4 supports this technology by completing the physical intersection improvements necessary for traffic to flow as intended. This technology will significantly improve the safety, efficiency, and reliability of the movement of people and emergency vehicles.

c. DC Fast Chargers for Electric Vehicles

Columbus recently installed the infrastructure necessary for electric vehicle DC fast chargers on Fulton Street.[46] The infrastructure is situated just outside of Phase 4's project area on Fulton Street as part of Phase 2G. Greenspot privately installed the DC fast chargers. However, installing and maintaining the DC fast chargers will not be economically viable unless there is a critical mass of users who can easily reach these stations. Phase 4's intersection improvements on Fulton Street enable eastbound traffic on I-70 to easily access Fulton Street's DC fast chargers, thereby helping ensure a critical mass of users are able to access the DC fast chargers while travelling eastbound through the Downtown. This will improve the safety, efficiency, and reliability of the movement of people on the

[46] Dean Narciso, "Quick, easy fill-up available for Downtown Columbus electric vehicle users," *The Columbus Dispatch*, last updated January 14 2020, https://www.dispatch.com/news/20200114/quick-easy-fill-up-available-for-downtown-columbus-electric-vehicle-users.

NHS by allowing drivers to easily exit I-70, access the Fulton Street DC Fast Chargers, and return quickly to I-70.

2. Use of innovative permitting, contracting, and other project delivery practices

ODOT has incorporated three innovative aspects regarding Phase 4's project delivery: (a) ODOT's Performance Based Project Development (PBPD) process, (b) ODOT's NEPA Assignment, (c) Contractor Assisted Design Review. The use of innovation in project delivery will allow ODOT to deliver Phase 4 and other capital more efficiently, thereby supporting projects that support multiple goals listed in 23 USC § 117(a)(2), including: (A) improving the safety, efficiency, and reliability of the movement of freight and people; and (C) reducing highway congestion and bottlenecks.

a. Performance Based Project Development (PBPD)

ODOT has adopted PBPD as a planning and design philosophy that proposes targeted, right sized improvements based on a project's specific needs. PBPD techniques were used in the development of phases for the Columbus Crossroads Project. This philosophy places less emphasis on strict adherence to design standards and more significance on safety and operational performance, which is consistent with 23 USC § 117(a)(2)(A).

b. NEPA Assignment

The Environmental Assessment for the Columbus Crossroads Project was approved and a **Finding of No Significant Impact (FONSI) was issued on July 8, 2009**. A reevaluation is currently being prepared for Phase 4 of the Columbus Crossroads Project to address construction access and the multi-year construction schedule along the Lower Scioto Bikeway that crosses the project area. ODOT is one of a handful of states nationwide that has, under NEPA Assignment, the authority to assume the FHWA's NEPA responsibilities. ODOT's NEPA Assignment ensures a single point of contact that understands both project details and the regulatory process. This innovative delivery method allows ODOT to streamline the environmental approval process for this reevaluation. When ODOT entered into the NEPA Assignment Program, it estimated the reduction would equate to approximately 20% time savings for our overall program. Since implementation of NEPA Assignment in Ohio, ODOT has saved approximately 8,550 days of review time and approximately $32.42 million dollars. This assignment allows ODOT to efficiently deliver projects that are consistent with 23 USC § 117(a)(2)'s goals.

c. Contractor Assisted Design Review

ODOT successfully implemented design-build on the first major portion of the Columbus Crossroads, and Phase 4, with multiple items of work and construction phases, appears to be well-matched to pilot other methods to promote contractor innovation such as Contractor Assisted Design Review (CADR) during final design and Alternative Technical Concepts (ATC) during bidding. Both are methods for contractors to provide written, confidential comments to the design. The individual contractors receive feedback on their suggestions in order to incorporate them into their bids, but written comments' origination remains confidential until after contract award. In addition to saving project costs, these suggestions could also address high risk areas, potential change of condition items, opportunities for improvement, and plan accuracy. ODOT will explore methods such as these to efficiently deliver projects that are consistent with 23 USC § 117(a)(2)'s goals.

3. Innovative financing

State and local governments have been working diligently to implement innovative funding and financing for future projects, including (a) gas tax increases at the state level, (b) additional vehicle registration fees at the county level, and (c) tax increment financing at the local level. These funding sources have allowed ODOT, Columbus, and local agencies to raise significant new revenue for transportation investment across their programs.

a. Innovative financing – state efforts

The State of Ohio has prioritized raising additional non-federal revenue for transportation infrastructure investment. Governor DeWine created the Governor's Advisory Committee on Transportation Infrastructure in January 2019. The Governor instructed the committee to "study the current conditions of Ohio's roadways and recommend options for maintaining and enhancing the state's transportation infrastructure."[47] The Advisory Committee recommended increasing the gas tax.[48] Governor DeWine adopted the committee's recommendation, and was instrumental in guiding a significant fuel tax increase through the state legislature. The Ohio General Assembly

[47] "Governor DeWine Announces Creation of Governor's Advisory Committee on Transportation Infrastructure," Office of the Governor, State of Ohio, January 28, 2019, https://governor.ohio.gov/wps/portal/gov/governor/media/news-and-media/012819b.
[48] Marty Schladen, "Governor's panel recommends Ohio gas tax hike, but no amount given," *The Columbus Dispatch*, February 15, 2019, https://www.dispatch.com/news/20190215/governors-panel-recommends-ohio-gas-tax-hike-but-no-amount-given.

approved to increase the state tax on gasoline by 10.5-cents per gallon and the state tax on diesel fuel by 19-cents per gallon. The full increase went into effect July 1, 2019 and was projected generate an estimated **$865 million** in additional gas tax revenue, with 55% of the funds going to the state and 45% going to local government entities.[49] The increase enjoyed broad support from a range of stakeholders. It has proven vital in mitigating COVID-19' budgetary impact, and allowing ODOT to continue plans to construct various Columbus Crossroads project phases.

b. Innovative financing – regional efforts

Efforts to create new non-federal revenue for transportation infrastructure investment are not limited to Columbus' corporate limits. Regional efforts in Franklin County, where the Columbus Crossroads is located, have included enacting an additional $5 fee to vehicle registration costs in 2018, as well as the recent creation of a Transportation Improvement District (TID). A TID is an innovative and collaborative government body authorized by Ohio Revised Code 5540, and it is able to provide funds to be leveraged with other federal resources to complete larger, more impactful projects on a shorter timeframe. These efforts have provided Franklin County with significant new revenue across its program, which is a benefit to the entire region. This revenue will allow the county to improve the safety, efficiency, and reliability of the movement of freight and people on the county roads.

c. Innovative financing – local efforts

Columbus actively seeks to identify and create new non-federal revenue for transportation infrastructure investment. Local efforts include (1) tax increment financing, (2) parking benefit districts, (3) private contributions and public-private partnerships, and (4) lease revenue.

Tax Increment Financing (TIF) allows the city to redirect new property tax revenues to invest in infrastructure that supports ongoing development. Since January 1, 2015, Columbus has created more than seventeen TIFs, which are expected to generate significant local revenue for transportation infrastructure by December 31, 2027.[50]

Columbus has begun to use portions of its parking revenue to augment local investment in neighborhood transportation and mobility improvements. It created a Parking Benefit District (PBD) for the Short North Arts District, which has generated approximately $300,000 in its first year alone; and discussions are currently underway to create a PBD for Downtown Columbus.[51]

Columbus also works regularly with developers and other private entities that benefit from transportation infrastructure projects to identify ways for these entities to contribute to these projects. For example, Nationwide Children's Hospital will benefit significantly from Columbus' Livingston Avenue Phase C project, which directly connects to the Phase 4 improvements. NCH agreed to contribute $1,000,000 towards design costs, and it also agreed to donate land for right of way valued at $320,000. Columbus has also used public-private partnerships to create non-federal revenue for local infrastructure projects.

Finally, Columbus believes it will be possible to use lease revenue generated by any future commercial cap on the Third Street Bridge and place the revenue in a fund for transportation improvements. The precise timeframe for this depends on how quickly Columbus is able to identify a developer and approve a lease agreement.

These efforts will provide Columbus with significant new revenue across its program, which is a benefit both the city and the entire region. This additional funding revenue for its program is particularly important as the City adopts its Vision Zero action plan. The revenue will allow it to take on Vision Zero related projects that not only (1) improve the safety, efficiency, and reliability of the movement of freight and people throughout the city, but also (2) advance racial equity and reduce barriers to opportunity caused by limited or failing infrastructure.

F. Performance and Accountability

ODOT commits to start construction for the future eligible portions of Phase 4's by December 31, 2023. This is well in advance of the required September 2024 obligation deadline. It also commits that construction will be substantially complete by December 31, 2027. Based on previous feedback received from USDOT, ODOT expressly acknowledges that if it fails to meet either this construction start or construction end date, the project will be subject to forfeit or return of up to 10% of the awarded funds, or $10 million, whichever is lower.

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[49] Jim Siegel, "Ohio legislature approves 10.5 cent gas-tax increase, 19 cents for diesel," *The Columbus Dispatch*, last updated April 3, 2019, https://www.dispatch.com/news/20190402/ohio-legislature-approves-105-cent-gas-tax-increase-19-cents-for-diesel

[50] Seven TIFs were created in 2019 alone: Grandview Crossing TIF (2019), Hyatt Regency TIF (2019), Jaeger 2 (2019), Marriott AC TIF (2019), North Market TIF (2019), Quarry Trails (2019), and Vine TIF Area No. 1 (2019)

[51] See, e.g., Brent Warren, "Group to Decide How to Spend Downtown Parking Meter Revenue," *Columbus Underground*, January 29, 2020, https://www.columbusunderground.com/group-to-decide-how-to-spend-downtown-parking-meter-revenue-bw1.

Once construction is complete, ODOT commits to measuring project success by comparing the following two factors at regular intervals before and after construction: (1) travel time performance, and (2) bottlenecks. Travel Time Performance is the percent of time motorists can travel at or near (90%) of the reference speed (free-flow/ uncongested speed defined by data provider). The 70/71 Overlap was measured as the 2nd worst freeway segment for travel time performance in Ohio. A potential bottleneck is detected when speeds on a segment drop to 65% of reference speeds and cause at least a two-minute delay. The segment of I-71 approaching the overlap is expected to improve most in this measure. These metrics are already part of ODOT's Traffic Operation Assessment Systems Tool (TOAST), which it uses to make data-driven decisions and determine operationally sensitive corridors.[52]

Once construction is complete, the facilities will be maintained by both ODOT and Columbus. Maintenance agreements will be executed to clearly establish each entity's roles and responsibilities. These agreements will ensure that neither party diverts funds or services that they are obligated to provide. In addition to these formal protections, both entities have significant experience coordinating maintenance and preservation tasks, individually and jointly. Both entities have established processes and guidelines for maintaining assets, and ODOT has developed a Transportation Asset Management Decision Support Tool (TAM_DST)[53] to aid in its preservation and maintenance efforts statewide. Finally, parties have the funding sufficient for the maintenance and preservation needs. ODOT can draw funds from multiple sources, including its State Surface Transportation Preservation funds. Columbus can also draw funds from multiple sources, including its Street and Highways Bond Fund. The total maintenance expenditures over the project lifecycle are expected to be $14.8 million.

VI. Project Readiness

A. Technical Feasibility

The Columbus Crossroads Project is proposed to improve safety and reduce congestion at the crossroads of I-70 and I-71. The proposed improvements were recommended based on operational efficiency, local accessibility, mobility, safety, environmental and community issues, constructability, cost effectiveness and cost. The Columbus Crossroads Project will reconfigure the freeway system interchanges and add lanes for improved route continuity, reducing the amount of lane changes in the I-70/71 Overlap. Additionally, the project will consolidate ramps serving the downtown area through the use of one-way urban avenues. This will reduce the number of freeway access points and minimize the amount of weaving traffic on the freeway. Even though the number of access points will decrease, the urban avenues will allow easy access to all city streets that cross the freeways.

Phase 4 will reconstruct the pavement and bridges along approximately one mile of I-70 and 71 on the south side of Downtown Columbus as well as three overhead bridges. More specifically: The pavement will be replaced with an additional through lane provided in the I-70/71 overlap. Major bridges carrying I-70/71 over the Scioto River, along with bridges over SR-315 and the CSX&NS Railroads will be rebuilt and restored to a state of good repair. Deteriorated bridges carrying High Street, Third Street and Fourth Street over the freeway will be replaced to accommodate the freeway lanes below. These bridges and adjacent intersections will be upgraded to provide safer pedestrian use and reconnect neighborhoods with Downtown Columbus. These improvements will improve safety and reduce congestion along the overlap of I-70/71. The South Innerbelt Trench renderings in **Appendix A** help illustrate Phase 4's planned improvements.

Based on the Aug. 10, 2010 Revised Interchange Modification Study, the project is expected to obtain a Level of Service (LOS) of D or better for all freeways and ramps within the Columbus Crossroads Project area in the 2035 design year. Additionally, a LOS of D or better will be obtained at all the urban avenue intersections with city streets.

Improvements proposed in Phase 4 for the High Street, Third Street, and Fourth Street bridges over I-70/71 are necessary to improve mobility along the corridor. As shown in **Figure 3** and **Appendix A**, intersections with Fulton Street will be reconstructed with sidewalks that have bulb-outs at intersections for shorter pedestrian crossings, enhanced crosswalks that will be more visible to drivers, and new traffic signals that will control vehicle traffic to

[52] "TOAST: Traffic Operation Assessment Systems Tool," ODOT, last visited March 1, 2019, http://www.dot.state.oh.us/Divisions/Operations/Traffic-Management/Documents/TOAST%20One-Pager.pdf.

[53] TAM_DST is a web based application that lets users extract relevant information on ODOT assets, roads, bridges, culverts, etc. for display in reports and on maps. The application is broken down into 5 areas of reports: Inventory, Performance, Planning, Asset Expenditures, and Maintenance. The application also works in companion to TIMS (Transportation Information Mapping System) allowing the user to run a report and render the results into the TIMS application with full utilization of the mapping tool. This is a one of kind Business Intelligence (BI) application that will further enhance the decision making and return efficiencies to ODOT's investment portfolio.

allow for pedestrian crossings at intersections. These improvements complement a new bike lane along Fulton Street and bus pads for new Central Ohio Transit Authority bus stops. The city street bridges over the freeway will be rebuilt with wider, 10 foot sidewalks, along with adjacent greenspace, to encourage pedestrians crossing the freeway corridor between downtown and the adjacent neighborhoods. These proposed features of the project will improve safety for pedestrians and bicyclists, along with encouraging the use of alternative modes of transportation through the corridor. These features will also tie-in with the urban avenue improvements that Columbus is completing during related projects along Livingston Avenue.

Phase 4 includes the construction of new retaining walls along both sides of the freeway in order to minimize the environmental impact and right of way acquisition needed. These walls will reduce the effect on the Brewery District and German Village, which are both listed on the National Register of Historic Places.

B. Cost Estimate

Preliminary 50% design complete cost estimates were developed for Phases 4A, 4B, and 6A and will be updated as the project planning and design is further developed. Costs for roadway and pavement quantities were determined using ODOT's Estimator software with unit prices generated by ODOT's interactive Bid History Catalog. Costs for erosion control, traffic control, maintenance of traffic, and utility work were established using ODOT's Procedure for Construction Budget Estimating spreadsheet and/or input from specific manufacturers. The preliminary cost estimates include costs for the relocation of public utilities that will be included with the project, but do not include costs for private utility relocations that will be necessary. Varying rates of contingency were applied to the construction costs for non-itemized pay items and for the uncertainty associated with the preliminary plans available at this time. Design engineering costs have largely been encumbered and are based on actual and anticipated figures. Construction engineering was estimated as 7%, based on ODOT's historical average for this type of work. The costs were converted from current year dollars to forecast construction year (2023) dollars using ODOT's Office of Estimating Construction Cost Inflation Spreadsheet tool. The total project cost for Phase 4 is estimated $268,460,000 million, including $247.2 million in future eligible costs.

C. Risk Mitigation

As part of the planning and preliminary engineering process, alignments, profiles and preliminary cross sections have been prepared for all of Phase 4, along with type studies for bridges and retaining walls. These were used to develop project construction limits for the NEPA documentation, which determined environmental commitments for the project. The right of way has been certified for Phase 4 components, as of December 2020. The planning for railroad and utility coordination is under way and will be completed in advance of the project's construction start. A significant amount of the work has already been completed for the project, making delays going forward less likely. Design plans for the remaining subphases that will be recombined with INFRA funding are already at advanced stages: 4A and 4B design plans are at 70% and 6A plans are at 50% complete. This project is ideally suited for quick progression to construction. The known risks to scope, schedule, and budget are minimal. It is the applicants' understanding that the project was determined to be low risk during previous evaluations of a 2018 BUILD application, 2019 INFRA application, and 2020 INFRA application for a similar scope

D. Environmental Risk Mitigation

The NEPA Environmental Assessment (EA) has been completed and a FONSI has been obtained for the project. Petroleum contaminated soils and other buried regulated materials are present at some locations along the project corridor and will need to be disposed of according to ODOT standard procedures. The necessary provisions are being included in the project construction plans for this work. Freshwater mussels were found in the Scioto River and, in order to avoid harming these species, ODOT will relocate the all mussels prior to project construction. The minimal impacts to the Scioto River are known as they were identified in the EA. Stream mitigation will be developed as part of the Army Corps of Engineers' (ACE) Section 404 permitting process. A 408 permit required for construction impacts to flood control infrastructure has been submitted and is under review by the ACE. The approval is expected by mid-2021.

1. Utility Relocation Risk Mitigation

The location of existing utilities and ownership has already been identified using Level B subsurface utility location techniques throughout the project corridor. Public water, and sewer, electric and telecommunication utilities are proposed to be relocated as part of the construction contract and have been planned to the level of detail matching

the rest of the project improvements. In addition, there have been regular coordination meetings held with private utility owners with facilities along the corridor regarding their facilities, including AEP overhead and underground electric lines, AT&T overhead and underground telecommunication lines, Columbia Gas lines. Columbia Gas has already relocated its facilities and is clear of the proposed project. AEP has already relocated most of the utilities in and around the project area; and it has begun the permitting process for its final relocations, which are expected to start late 2021/early 2022. If INFRA grant funds are obtained, then final planning and relocation will occur prior to the sale date in Spring 2023. AT&T is currently preparing relocation plans for their facilities.

2. Construction Cost Mitigation

Inflation is an important element of risk to account for within the estimate of cost. Annual construction cost inflation in the past 15 years has been as high as 12% in FY 2006 and as low as -3% in FY 2010. For ODOT, inflation over the past 15 years has averaged approximately 3.5%. ODOT has developed a process of updating an inflation forecast in January and July to stay on top of any inflationary developments.

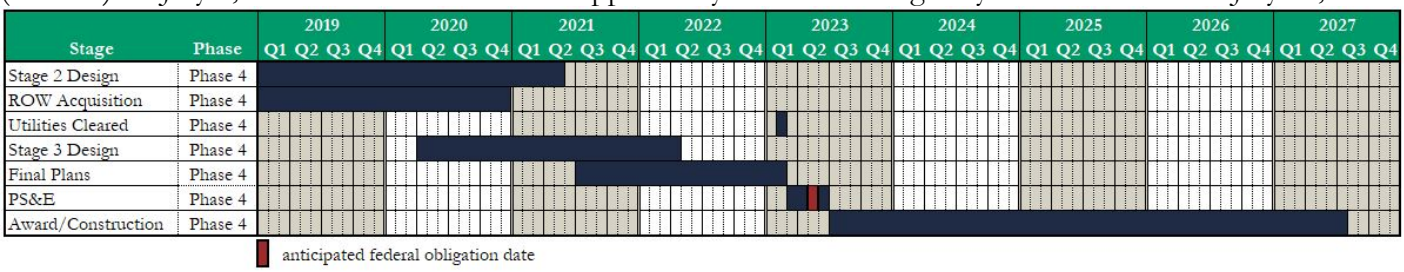
Inflation is not a discount rate. Inflation is applied to an estimate of cost because we expect the price of inputs into a construction project to change over time. Federal Highway Administration guidance suggests calculating year of expenditure costs for all the major elements of a project, accounting for differing inflation rates for each. ODOT's construction cost mitigation process, which incorporates applicable FHWA guidance, is being followed for Phase 4 to minimize the risk of escalating construction costs.

3. Right of Way Risk Management

Phase 4 will require the acquisition of permanent right of way and temporary construction easements. Most of the right of way acquisition necessary for Phase 4 was completed with Phases 4R and 6R. Right of Way including the components for Phase 4 was certified in December 2020.

E. Project Schedule

The project has completed the NEPA process and has received the Finding for No Significant Impact (FONSI) on July 8, 2009. It also received IMS approval by the Federal Highway Administration on July 10, 2009.



As shown in the schedule above, Phase 4 is currently in Stage 2 Design, and the anticipated federal obligation date is more than one year before the September 2024 obligation deadline. The project is included in local and state transportation plans as noted in the following Required Approvals section. The project is moving forward with the design, utility coordination, and construction per the detailed project schedule. All necessary activities to complete Phase 4 will allow the INFRA funds to be obligated in advance of the September 30, 2024 obligation deadline, and for construction to commence well before the March 30, 2026 construction start deadline.

F. Required Approvals

The Columbus Crossroads Project has completed the NEPA process and gained approval of the following documents on the dates noted:[54]

- On Jul. 8, 2009, the Federal Highway Administration issued a Finding of No Significant Impact (FONSI) for the I-70/71 South Innerbelt Project, FRA-70-8.93 PID 77369. The FONSI was based upon an Environmental Assessment (EA) from December 2008 and a Final Section 4(f) Evaluation from June 2009.
- On Sept. 22, 2010, the FHWA approved the Environmental Reevaluation prepared to confirm the 2009 FONSI was applicable to the first of the six smaller projects: Phase 1 – I-71/I-670 Interchange (FRA-71-17.76 PID 77369).
- On May 20, 2015, the FHWA approved the Environmental Reevaluation prepared to confirm the 2009 FONSI was applicable to Phase 2 – I-70/71 East Interchange, Phase 3 – I-71 East Trench, and Phase 6 – I-70/71/SR

[54] All of the NEPA documents associated with the project can be found at the following link: https://www.dot.state.oh.us/projects/7071/environmental/Documents/Forms/AllItems.aspx

315 West Interchange. At that time, Phase 6 included construction of new eastbound and westbound bridges over the Scioto River, CSX&NS Railroads, and Short Street. It also involves reconstruction of the Mound Street and High Street bridges over I-70/71, a new off-ramp bridge to Fulton Street, and work on portions of Fulton and Front Streets.

- IMS was approved by FHWA on July 10, 2009.

The EA, which can be found at the link above, includes discussions with the appropriate agencies and the link contains the approval showing compliance with NEPA and the applicable Federal environmental reviews and approvals. Chapter 4 of the EA includes a summary of the agency coordination and a description of public engagement about the project that has occurred and the commitments made.

As described on page ii, the primary components of this project are already included on the following: (1) MORPC's 2020-2050 Metropolitan Transportation Plan, (2) MORPC's 2021-2024 Transportation Improvement Program, (3) ODOT's 2021-2024 Statewide Transportation Improvement Program, and (4) ODOT's Statewide Freight Plan. Also, as described on page ii, both ODOT's Long Range Transportation Plan and its Statewide Freight Plan identify I-70 and I-71 as part of the interstate system and the PHFS. If INFRA funding is awarded, ODOT will work with Columbus and MORPC to ensure these documents reflect the most current project scope and limits.

G. Assessment of Project Risks and Mitigation Strategies

With the completion of the NEPA document, FONSI approval and IMS approval, risks moving forward with the Phase 4 of the Columbus Crossroads Project have been minimized. As previously detailed in Section V under Technical Feasibility, Risk Mitigation, the potential for encountering petroleum contaminated soils and other regulated materials during construction are known as they were identified in the NEPA document and will be addressed as part of construction contract provisions. The relocation of freshwater mussels will be completed prior to the project construction and stream mitigation will be developed as part of the COE Section 404 permitting process. Preparation of a COE 408 permit is currently underway and is expected to be obtained well in advance of the project construction start. The planning and coordination necessary for relocating the remaining utilities in Phase 4 is underway. Project costs have included a contingency percentage and have been escalated for inflation using ODOT's process, which has been developed to stay on top of fluctuations in construction pricing. Phase 4's right of way acquisition has been certified. If the requested INFRA funds are committed to Phase 4, the right of way acquisition will be completed well before the construction deadline of March 30, 2026.

A joint funding commitment letter from Columbus, ODOT, and MORPC is included in **Appendix C**. This demonstrates the commitment to funding the balance of the Phase 4's costs as well as to the legislative approval if the INFRA funds are made available.

VII. Large/Small Project Requirements

1. Does the project generate national or regional economic, mobility, or safety benefits?

Yes. The project generates economic, mobility, and safety benefits on both a national scale and a regional scale.

2. Is the project cost effective?

Yes. According to the BCA in **Appendix I**, the project will cost $193,812,652 using a 7% discount over the life of the project (2046). The benefits are estimated to be $213,014,951 at 7% discount over the life of the project.

3. Does the project contribute to one or more of the Goals listed under 23 U.S.C. 150 (and shown below)?

(1) Safety. Yes. In 2015, three of the top ten freeway crash locations in Ohio were segments situated in the I-70/71 overlap. Phase 4 completes changes that are projected to **eliminate 95% of the weaving that has made this public road so dangerous.**

(2) Infrastructure condition. Yes. The pavement within the project area has exceeded its service life and is in need of replacement and reconstruction. The current condition of the at-grade bridge structures carrying I-70/71 are in "good" condition and the three overhead bridges range from "fair" to "poor". Phase 4 will restore the good condition of roadways and bridges that supports freight movement and economic growth, and will reset the maintenance cycle, saving $20 million over the life of the project.

(3) Congestion reduction. Yes. Phase 4 eliminates one of the top truck bottlenecks in the country by adding capacity and completes changes that reduce travel time delays in the I-70/71 Overlap by 97% during the AM peak hour.

(4) System reliability. Yes. Addressing significant congestion and safety issues will improve the travel time reliability

by reducing the trip duration and trip speed differentials between peak and non-peak hours. See **Appendix F** for Safety and Congestion information.

(5) Freight movement and economic vitality. Yes. This project will improve national, regional, and local freight movement by removing one of the top truck bottlenecks in the county; it will support economic growth in Central Ohio; and it will make it easier for workers to use I-70/71 to commute to employment centers in Downtown Columbus and across the region, especially workers commuting from surrounding counties who are unable to use local surface roads to avoid congestion.

(6) Environmental sustainability. Yes. The NEPA Environmental Assessment has been completed and a FONSI has been obtained for the project. The inclusion of pedestrian and bicycle facilities on the bridges spanning the I-70/71 trench will increase bicycle and pedestrian trips and provide an estimated 1.3% VMT reduction. The planting of street trees on Phase 4's bridge caps and urban avenues will improve air quality in and around the trench.

(7) Reduced project delivery delays. Yes. As mentioned in the Potential for Innovation section, Ohio is already a leader in reducing project delivery time. In addition to further refining existing NEPA models on this project, ODOT will consider new innovations or partnerships with USDOT or local partners to quickly deliver the improvements.

4. Is the project based on the results of preliminary engineering?

Yes. Preliminary Engineering has already been completed for all project components; the NEPA EA has been completed; and a FONSI has been obtained for the project.

5a. With respect to non-Federal financial commitments, does the project have one or more stable and dependable funding or financing sources to construct, maintain, and operate the project?

Yes. This project has multiple stable and dependable sources to construct, maintain, and operate the infrastructure, as detailed in the Leveraging of Federal Funding merit criteria section. Construction of the project is backed by significant non-federal funds committed by both the State of Ohio ($100.5 million) and Columbus ($23.2 million) towards the total future eligible costs. ODOT and Columbus will maintain and operate the infrastructure once it is constructed. Both entities have the technical expertise, financial resources, and program experience necessary to operate the infrastructure and maintain it in a state of good repair. See Joint Commitment Letter in **Appendix C**.

5b. Are contingency amounts available to cover unanticipated cost increases?

Yes, the current construction cost figures include a $35,000,000 contingency. This contingency is based on the amounts of design development that have already been completed. Additionally, ODOT and Columbus will absorb any additional cost overruns that exceed the contingency.

6. Is it the case that the project cannot be easily and efficiently completed without other Federal funding or financial assistance available to the project sponsor?

Yes, the Columbus Crossroads Phase 4 cannot be easily and efficiently completed without other Federal funding or financial assistance. Limited funding on an annual basis forced ODOT to divide Phase 4 into subphases. However, this is not the preferred approach. Subdividing Phase 4 is financially inefficient because it increases the costs for each sub-phase due to contractor mobilization and coordination, as well as inflation. All of its improvements work together as a system to optimize the national, regional, and local benefits. This optimization is only realized once all the Phase 4 improvements have been constructed. Increased state fuel tax revenues have allowed ODOT to continue earlier phases, but it is still not significant enough to complete all of Phase 4 in the near future. ODOT is willing to commit $175 million from its statewide system preservation fund to this project; but that is almost the entire annual $180 million allocated to keep major infrastructure in good repair throughout the entire state, and it is still not enough to complete project in a way to allow the state and region to enjoy the project's full benefits. It will be very difficult financially to complete all the phases without the additional influx of INFRA Grants program funding, and the financial strain would force ODOT to delay some of Phase 4's components.

7. Is the project reasonably expected to begin construction not later than 18 months after the date of obligation of funds for the project?

Yes. ODOT expects to obligate funds in Fall/Winter 2022 and begin construction within six months of obligation. Phase 4 will be ready for construction in spring 2023, well in advance of the statutory construction deadline, and ODOT has committed to starting construction well before the deadline in the Performance and Accountability Section.