

Illinois International Port Calumet River Bridges

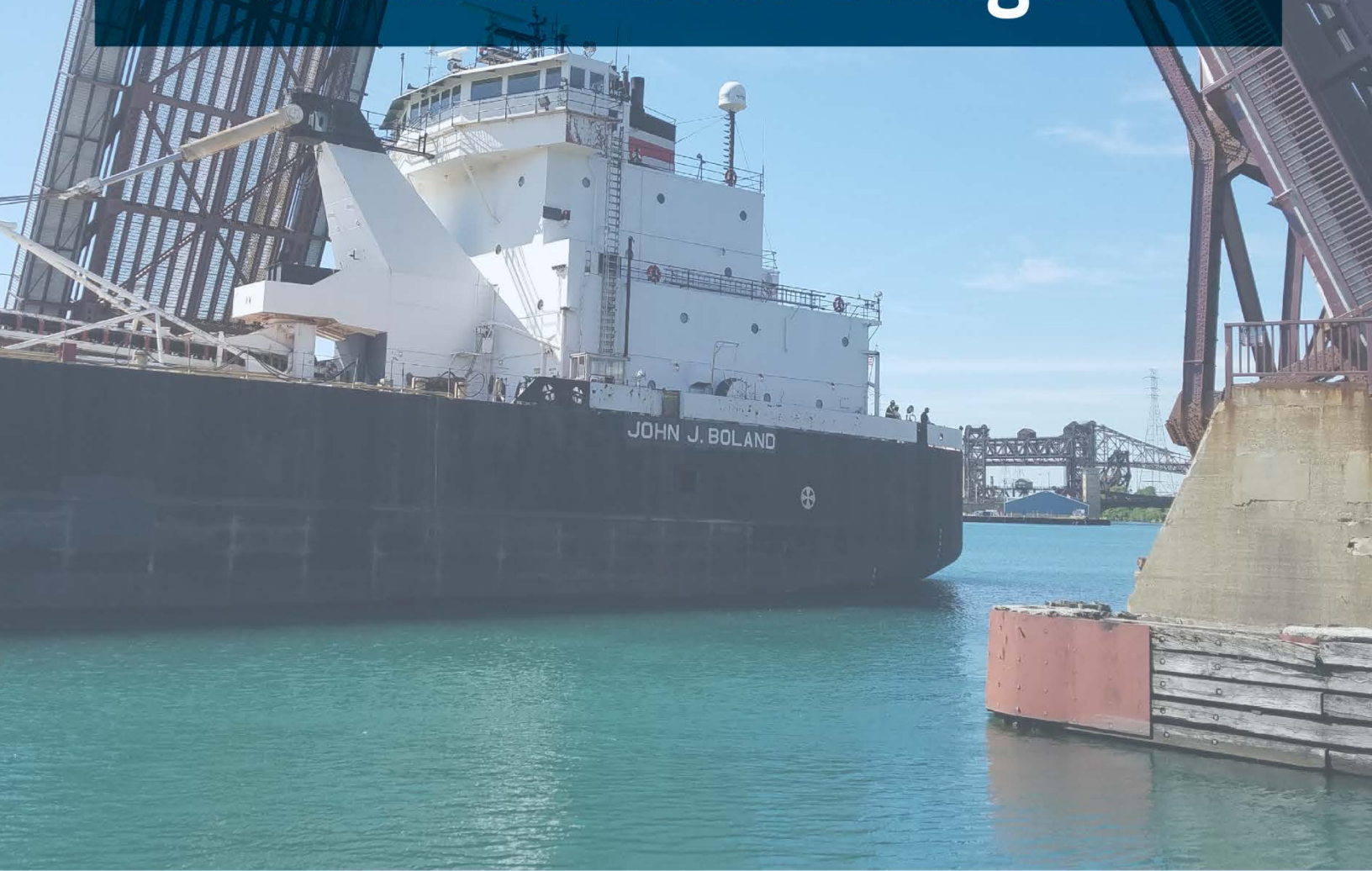


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I. Basic Project Information

Table I. Application Template - Basic Project Information

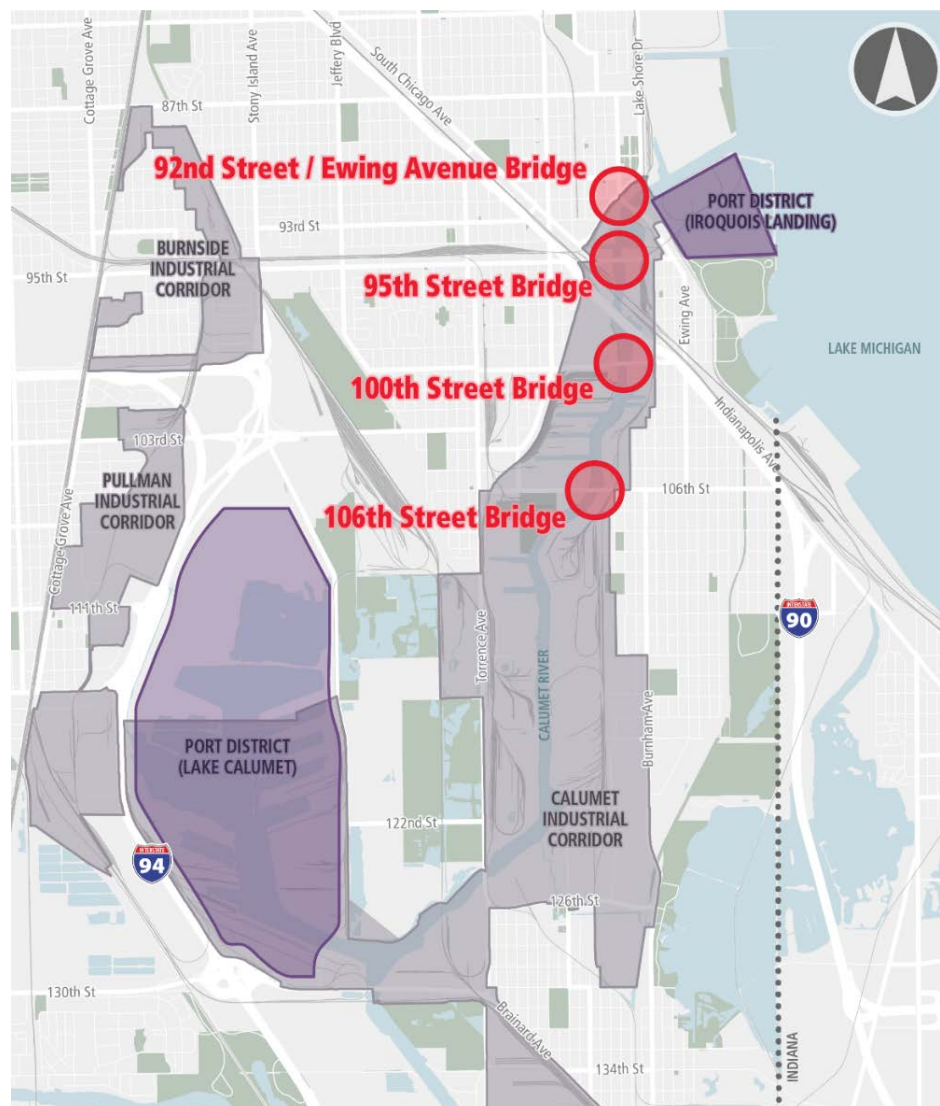
APPLICATION TEMPLATE - BASIC PROJECT INFORMATION	
Project Name	Illinois International Port – Calumet River Bridges
BIP Request Amount	\$144,000,000
Total Project Cost (Future Eligible Project Cost)	\$302,000,000 (\$288,000,000)
Who is the Project Sponsor?	A unit of local government or a group of local governments: City of Chicago, acting by and through its Department of Transportation (CDOT)
Maintenance Commitment	CDOT is committed to providing proactive maintenance on these complex structures. Please see <i>Criterion #1: State of Good Repair - Future Maintenance</i> for more information.
Bike and Pedestrian Accommodations required by 23 U.S.C. 217(e)	As part of the bridge rehabilitation, bike lanes are to be installed across all four of the bridges and completion of sidewalk network adjacent to the bridges is planned. Please see <i>Criterion #2: Safety</i> for more information.
State in which project is located	Illinois
Urbanized Area in which project is located	Chicago, IL-IN
Population of Urbanized Area (According to 2010 Census)	8,608,208
Lead Applicant	Chicago Department of Transportation (No Co-Applicants)
Any Previous Funding Applications	Illinois International Port – Calumet River Bridges Nationally Significant Freight & Highway Projects (INFRA), May 2022
Community Development Zones	Opportunity Zones: 17031520200, 17031838800 Empowerment Zone: Yes

Project Description

The Chicago Department of Transportation (CDOT) is pleased to submit an application for 2022 Bridge Investment Program funding for the Illinois International Port - Calumet River (IIPCR) Bridges. This project will rehabilitate four bascule bridges over the Calumet River: 92nd Street/Ewing Avenue Bridge (US Route 41), 95th Street Bridge (US Route 12), 100th Street Bridge and 106th Street Bridge. Please see the IIPCR Bridges project area in Figure 1.

The 95th, 100th, and 106th Street Bridges are each on the National Highway System. The 92nd Street/Ewing Avenue Bridge is not on the National Highway System, but carries US Route 41 over the Calumet River and plays a critical role with this network of bridges in facilitating intermodal access into and out of the Illinois International Port District and the Calumet Industrial Corridor. All four bridges are in the National Bridge Inventory. Three of the bridges are currently in *Poor* condition and the fourth is in *Serious* condition as detailed in *Section IV Project Outcome Criteria, Criterion #1: State of Good Repair*.

Figure 1. Illinois International Port - Calumet River Bridges Project Area



These historic bridges are vital to the local community, region, and nation and meet the goal of BIP to “improve the safety, efficiency, and reliability of the movement of people and freight over bridges.” They are critical components of the [Illinois International Port](#), which is an international hub, and allows freight access along the [Illinois Waterway](#) between Lake Michigan and the Gulf of Mexico, as seen in Figure 2. These bridges function as an interconnected surface network, providing access to crucial industries and local jobs, and supporting economic stability in the underserved South Chicago and Calumet areas. The bridges are within two miles of one another and carry a combined average of over 40,000 vehicles per day, 3,000 of which are trucks.

Each bridge lifts an average of 5,000 times per year, providing continuous and safe access for marine traffic to and from the Port and surrounding industrial uses, but resulting in aged infrastructure for freight and local surface transportation traffic. The bridges have reached the end of their useful life, and are in need of major rehabilitation in order to continue serving local and regional needs.

Project Elements

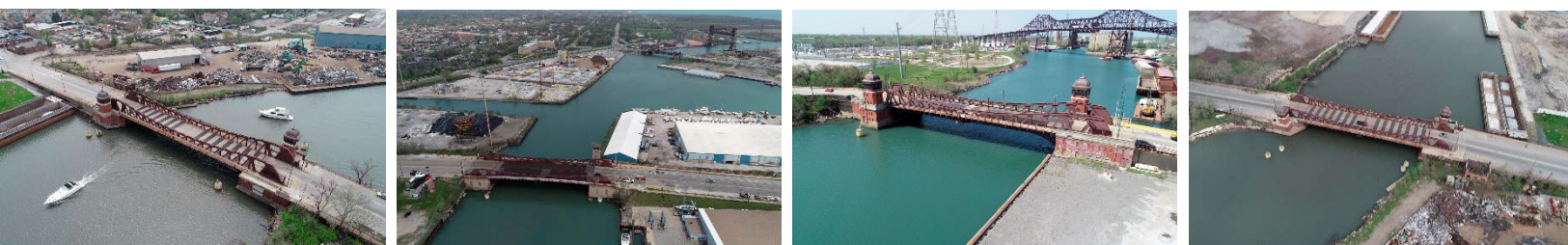
Given the historical significance of the bridges, each of the bridges is to undergo a major rehabilitation, rather than a full replacement. This is defined in a multi-agency Programmatic Agreement regarding Chicago’s historic bascule bridges. Among the nine project signatories are the FHWA, US Coast Guard, and the US Army Corps of Engineers. The rehabilitation has the advantage of preserving the historic character of the bridges and reducing overall project cost while still creating a new 50-year service life for the bridges. Pedestrian and bicyclist facilities will be introduced and improved as part of the rehabilitation, consistent with regional plans for trail connections over the bridges, and accelerated bridge construction (ABC) techniques are to be used. The bridge benefits and techniques are elaborated in the following sections of this application. Previously incurred design and pre-construction costs total \$14,000,000.

Figure 2. Navigable Waterway Connections to the IIPD from the [IIPD Master Plan Existing Conditions Report](#)



Illinois International Port - Calumet River Bridges: Connecting History and Modern Industry

The Illinois International Port - Calumet River (IIPCR) Bridges represent a significant period in Chicago history. Developed at the turn of the century (early 1900's) by the City's Bridge Division, the Chicago Type Bascule Bridge was the culmination of a study to determine the most suitable type of movable bridge based on the conditions and navigational needs of the Chicago River and its branches as well as cost and practicality. The main feature of the design was the bridge rotating around a fixed shaft or trunnion located at the design center of gravity of the movable span or leaf. In opening, the bridge rotates about this shaft and raises its leaves to a nearly vertical position, giving a clear, open passage for river vessels¹. There are 44 movable bridges in Chicago today, 41 of which are bascule bridges. Aesthetically, these bridges reflected the new focus on civic beauty for bridges, according to City Beautiful ideas.



These bridges are identified in *Chicago's Moveable Bridge Preservation Plan (2019)*. CDOT developed the plan to provide historic and engineering documentation of the movable bridges, and to encourage the preservation of bridges that are eligible for, or listed in, the National Register of Historic Places (NRHP). Critical to the preservation of these movable bridges is the City of Chicago's commitment to maintenance of the bridge elements, prolonging the life and usefulness of these structures. The City is committed to the goals, objectives and recommendations for the management of this important group of movable bridges. The IIPCR Bridges project and BIP funding play a key role in furthering these goals.

The IIPCR Bridges are all determined to be NRHP-Eligible by the State Historic Preservation Office, but they are not national register listed. Each of these bridges contributes to Chicago history while supporting modern industry needs for the region and nation. For more details on the history of each of the four bridges, see Appendix J. These bridges should not become relics of Chicago's history but should be rehabilitated to bring historic significance up to modern standards.

Calumet Industrial Corridor and the Illinois International Port District

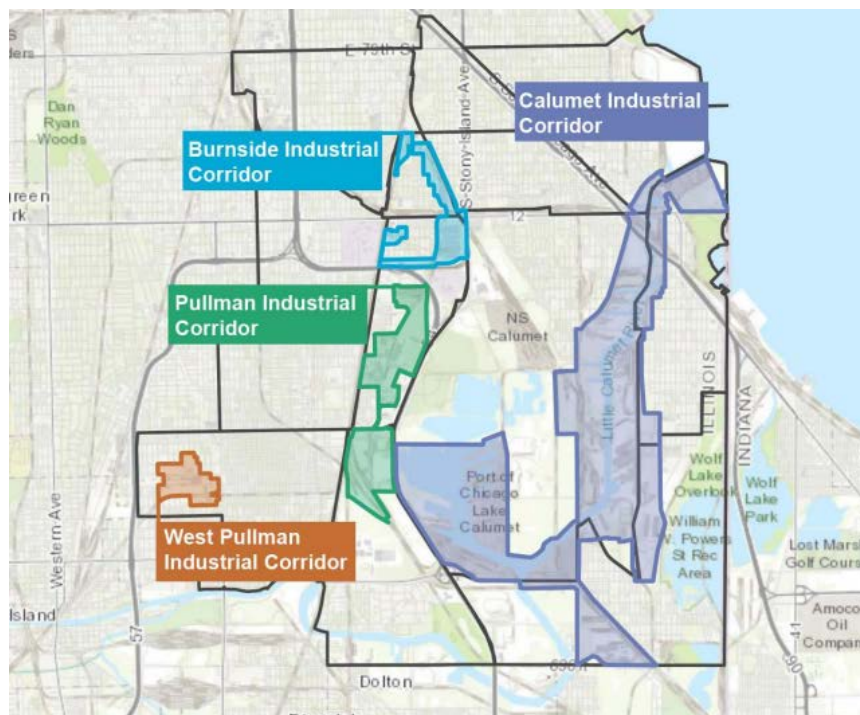
The IIPCR Bridges are located within the designated Calumet Industrial Corridor (see Figure 3), which is the largest industrial corridor in Chicago with more than 4,000 acres dedicated to manufacturing and other industrial uses. Within this corridor lies the Illinois International Port District. Providing essential access to the Port supports the economic vitality provided by this multimodal transportation hub. Benefits of the Port are outlined below:

- IIPD is strategically located at the junction of two links in the [national Marine Highway System](#) (MHS), along a route ultimately connecting the St. Lawrence Seaway with the Gulf of Mexico: M-90 (Great Lakes) and M-55 (Illinois River to Mississippi River).
- IIPD is advantageously located at the convergence of the 3 largest interstate highways in the nation, making it **the most accessible port for multi-modal distribution** in the heartland of America.
- Unlike any other port in the world, the IIPD is **served by six of the seven Class I railroads**.

¹ <https://www.chicago.gov/content/dam/city/depts/cdot/bridge/2021/il.fhwa.il%20div.preservation%20of%20movable%20bridges%20in%20chicago.pa.2021.pdf>

- IIPD moves **more general cargo than any other port on the Great Lakes**, with an annual total waterborne tonnage of over 19 million tons, and there is projected to be growing demand for the type of commodities handled through the IIPD.
- **6,381 jobs in Illinois** are supported by cargo moving via the maritime terminals in the Port.
- The direct business revenue received by the firms directly dependent on cargo handled at the marine terminals located at the Port of Chicago was **\$479.5 million**.
- The **2,904 individuals directly employed** as a result of the cargo handled at the maritime terminals at the Port of Chicago received **\$129.1 million in wages and salaries**.
- A total of **\$192.5 million in state and federal taxes** were generated by cargo and vessel activity at the Port of Chicago, with \$56.6 million generated at the state level and \$135.0 million generated at the federal level

Figure 3. Industrial Corridors from the [IIPD Master Plan Existing Conditions Report](#)



Source: Goodman Williams Group, Esri Business Analyst

Illinois International Port Calumet River Bridges Highlights

- Advances Regionally and Nationally Significant Activity
- Serves Freight
- Provides Multimodal Connections
- Invests in Economically Disadvantaged Area
- Allows for Necessary and Timely Infrastructure Rehabilitation

Neighborhood Context and Recent Planning Efforts

In addition to the freight moving importance associated with the Calumet Industrial Corridor and the Port, this project also represents an equity-focused investment in South Chicago and the Calumet area. There has been a significant focus on advancing and developing the Calumet area and connecting communities evidenced by the many recent planning efforts, such as the [Southeast Chicago Area-Wide Plan \(2017\)](#), [African American Heritage Water Trail](#), [Calumet Rivers Communities Planning Framework \(2019\)](#), and the formation of local partnerships such as the [Calumet Collaborative](#) and the [Calumet Heritage Partnership](#).

In 2019, Chicago Mayor Lori Lightfoot launched the [INVEST South/West initiative](#), which is a community development initiative to marshal the resources of multiple City departments, community organizations, and corporate and philanthropic partners toward 12 commercial corridors within 10 South

and West Side community areas.² The initiative is providing support for small businesses, creating public realm improvements, restoring historic buildings, and fostering equity and resilience where it is needed most. Two of the bridges (92nd Street/Ewing Avenue and 95th Street) border the INVEST South/West community of South Chicago. Initial discussion with the community noted maintenance of public infrastructure as a primary concern³. Additionally, extensive community engagement in the [Calumet River Communities Planning Framework \(2019\)](#), revealed that by focusing on the location advantages of the Calumet River industrial corridor, the community hopes to attract stable, future-proof jobs in sustainable industries that will benefit the community for many generations to come⁴.

Mayor Lori E. Lightfoot City of Chicago

“Our residents enjoy world-class parks, an unparalleled Lakefront Trail, and many open space assets along the river and our historic boulevards. An expansion of trails and open spaces is sorely needed across our neighborhoods to benefit existing residents and for the city to achieve health, economic, climate, and transportation goals,” said Mayor Lori E. Lightfoot. *“This vision and investment also positions Chicago very well to receive federal funding to complete many of these projects over the coming years.”*

Commissioner Gia Biagi Chicago Department of Transportation

“Trails and parks are key to meeting many of CDOT’s Strategic Plan goals around mobility,” said Commissioner Gia Biagi. *“I am excited to partner with communities and provide CDOT’s expertise to get more projects funded, create local jobs, and bring vital economic development opportunities to more neighborhoods in the city. This vision will also greatly enhance the biking and pedestrian experience in Chicago as we invest in on- and off-street connections that create a seamless network around our city that is connected by our historic boulevard system.”*

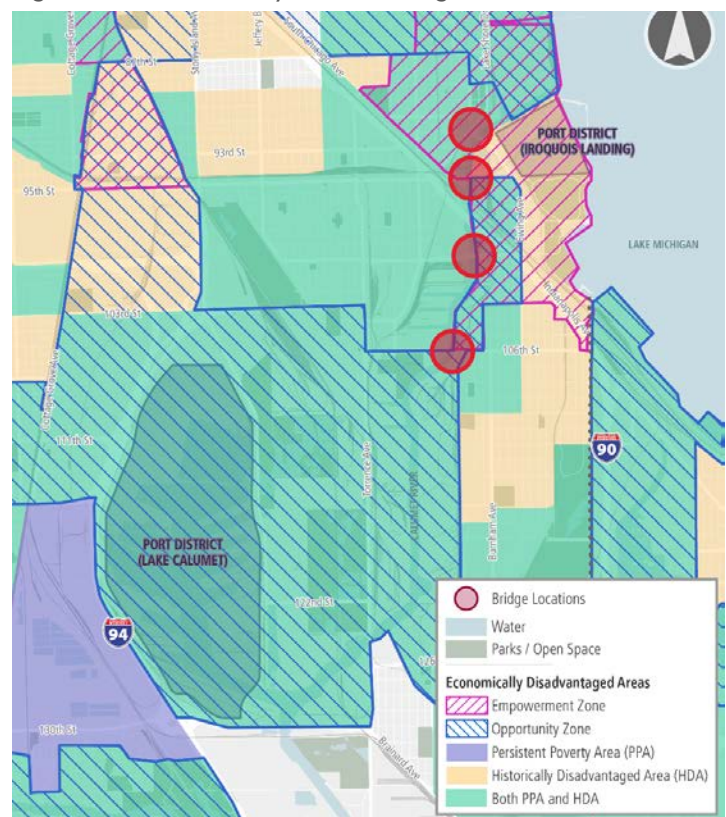
Project Location

The project is located along the Calumet River in the southeast side of Chicago within the South Chicago, East Side and South Deering community areas. The project directly intersects with five census tracts: 4610, 5101, 5201, 5202 and 8388, within Cook County, Illinois. All four of the bridges are either completely or partially in Historically Disadvantaged Communities, Areas of Persistent Poverty and Empowerment Zones. And three of the four bridges are partially in Opportunity Zones. See Figure 4 and Table 2.

Existing transportation infrastructure to which the bridges connect include bike routes on 92nd, 95th, and 100th Street. The bridges span over navigable waterways that connect to the Port District of Lake Calumet and Iroquois Landing. Additionally, numerous rail freight lines pass through and converge in this area at an intermodal facility.

The project is contained within the Chicago IL-IN Urbanized Area. The metropolitan planning organization with jurisdiction over the project location is the Chicago Metropolitan Agency for Planning (CMAP).

Figure 4. Economically Disadvantaged Areas



² https://www.chicago.gov/city/en/sites/invest_sw/home/about.html

³ https://www.chicago.gov/content/dam/city/depts/dcd/general/invest_sw/south_chicago/south_chicago_kickoff_summary.pdf

⁴ https://greatcities.uic.edu/wp-content/uploads/2019/05/CalumetRiverCommunitiesPlan_Web.pdf

The City of Chicago has designated this area as the Lake Calumet Planning Manufacturing District to encourage industrial investment. The bridges are adjacent to former industrial sites, including the US Steel South Works Site, Wisconsin Steel/International Harvester Site, and Republic Steel Site. While the bridges are within industrial zoned areas, they are also within a few blocks of a mix of residential and commercial land uses.

Table 2. Economically Disadvantaged Areas by Bridge

Bridge	Census Tracts	Historically Disadvantaged?	Area of Persistent Poverty?	Opportunity Zone?	Empowerment Zone?
92nd St/Ewing Ave (US Rt 41)	4610, 5201	Yes	Yes* (Census Tract 5201 is not)	No	Yes
95th St (US Rt 12/20)	4610, 5201, 5101, 5202	Yes	Yes* (Census Tract 5201 is not)	SE Quadrant: 17031520200	Yes
100th St	5101, 5202	Yes	Yes	East side: 17031520200	East side
106th St	5101, 5202, 8388	Yes	Yes	All but NW quadrant: 17031520200 17031838800	NE quadrant

Project Parties

This BIP application exemplifies a coordinated effort, led by the Chicago Department of Transportation (CDOT) and supported by numerous agencies and local organizations, to ensure safe access to vital industrial corridors and connectivity through multiple neighborhoods, many representing underserved communities.

Project Lead

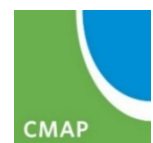
CDOT will lead the BIP project. CDOT is responsible for public way infrastructure in Chicago, including planning, design, construction, maintenance and management. CDOT manages over 4,000 miles of streets within the City and maintains and operates more than 300 bridge and viaduct structures.

CDOT has extensive experience in managing Federal-aid highway program funds. In a typical year, CDOT manages a federal program valued at approximately \$100 million but which can exceed \$200 million. This includes/has included STP, CMAQ, TAP, Major Bridge, HPP, NHFP, and TIGER. Projects range from resurfacing of arterial streets to major structure reconstructions such as Wacker Drive, the Canal Street Viaduct, and the Wells Street Bridge. In addition to its federal program, CDOT also manages a state funded program of over \$100 million per year and a local program in excess of \$200 million. The department works closely with its partners at IDOT and the FHWA to ensure projects are delivered on time and within budget.

Project Supporters

The IIPCR Bridges are essential to local, regional and national access and connectivity. This is recognized by the many project supporters who have provided letters of support (see Appendix A). Some of these agencies and organizations are listed below.

- Illinois International Port District
- Cook County Department of Transportation and Highways
- Chicago Metropolitan Agency for Planning
- Metropolitan Planning Council
- Delta Institute



II. National Bridge Inventory Data

Please see Appendix D for the National Bridge Inventory data for the four IIPCR Bridges.

III. Project Costs - Grant Funds, Sources and Uses of Project Funds

Table 3. Application Template - Project Costs

APPLICATION TEMPLATE – PROJECT COSTS	
BIP Request Amount	\$144,000,000
Estimated Total of Other Federal funding (excluding BIP Request)	Program: STP Amount: \$86,400,000
Estimated non- Federal funding	Source: State funding (State Only Chicago Commitment, SOCC) and / or Tax-Increment Financing (TIF) funding Amount: \$57,600,000
Future Eligible Project Cost (Sum of BIP request, Other Federal Funds, and non-Federal Funds, above.)	\$288,000,000
Previously incurred project costs	\$14,000,000 In-Progress and Planned for Preliminary and Design Engineering
Total Project Cost (Sum of 'previous incurred' and 'future eligible')	\$302,000,000
If more than one bridge, will bridge bundling be used to deliver the Project?	Yes. Bundling of these four bridges streamlines the engineering and community engagement processes, and supports the way the bridges act as a network for the industrial and residential areas spanning the Calumet River near Lake Michigan. Furthermore, given the specialized nature of these historic movable bridges, advancing their construction together and in a coordinated fashion can reduce fabrication, erector, and equipment costs.
If proposed project utilizes bundling, Cost of Unbundled Projects	\$316,800,000 (total for four bridges) \$79,200,000 (per bridge)
Amount of Future Eligible Costs by Project Type: Bundled [Unbundled]	Bridge Major Rehab Str. 0166037: \$72,000,000 [\$79,200,000] Bridge Major Rehab Str. 0166038: \$72,000,000 [\$79,200,000] Bridge Major Rehab Str. 0166042: \$72,000,000 [\$79,200,000] Bridge Major Rehab Str. 0166043: \$72,000,000 [\$79,200,000]

The total project cost for the IIPCR Bridges project is \$302 million, including previously incurred design and pre-construction costs.

The total future eligible project cost for the IIPCR Bridges BIP grant project is \$288 million, consisting entirely of construction and construction-related expenses. CDOT is requesting \$144

million in BIP grant funding to complete the IIPCR Bridges project. This represents 50% of the future eligible project cost. Federal funding for this project includes BIP funds and federal dollars dispersed through the Surface Transportation Program (STP). The City of Chicago is committed to funding the remainder should BIP funds be awarded, as detailed in the Letter of Funding and Maintenance Commitment (Appendix B), though the City will pursue state or federal funding sources as they are available.

Table 4 presents a breakdown of the total project costs by design and construction items, along with the source of each line item. This displays the cost per bridge, and the total cost. Table 5 presents a summary of construction funding by source. The City of Chicago will be responsible for any costs which exceed the estimated total shown in these tables.

As detailed throughout, this application consists of a network of four bridges. However, the project eligibilities and benefits detailed in this application apply to each of the independent bridges. In the event of partial funding, the rehabilitation of any one of these individual bridges can proceed as a stand-alone project, and still meet the independent utility requirements of the grant program. The primary difference would be in the loss of network benefits associated with the rehabilitation of all four of the deficient bridges.

Table 4. Project Budget

Phase	Cost Item	Cost		Funding Source		
		Per Bridge (Bundled Cost)	Total	Fed-BIP	Fed-STP	Non-Federal
Design	Phase I Engineering	\$1,500,000	\$6,000,000	-----	-----	\$6,000,000
	Phase II Engineering	\$2,000,000	\$8,000,000	-----	-----	\$8,000,000
	Design Subtotal	\$3,500,000	\$14,000,000	0%	0%	100%

Construction (Future Eligible Costs)	Arch and engr fees	\$6,000,000	\$24,000,000	\$12,000,000	\$7,200,000	\$4,800,000
	Other arch and engr fees	\$700,000	\$2,800,000	\$1,400,000	\$840,000	\$560,000
	Project inspection fees	\$300,000	\$1,200,000	\$600,000	\$360,000	\$240,000
	Demolition and removal	\$4,000,000	\$16,000,000	\$8,000,000	\$4,800,000	\$3,200,000
	Construction	\$47,500,000	\$190,000,000	\$95,000,000	\$57,000,000	\$38,000,000
	Equipment	\$3,500,000	\$14,000,000	\$7,000,000	\$4,200,000	\$2,800,000
	Miscellaneous	\$3,000,000	\$12,000,000	\$6,000,000	\$3,600,000	\$2,400,000
	Contingencies	\$7,000,000	\$28,000,000	\$14,000,000	\$8,400,000	\$5,600,000
	Construction Subtotal	\$72,000,000	\$288,000,000	50%	30%	20%

Total Project Costs	\$75,500,000	\$302,000,000	47.7%	28.6%	23.7%
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Table 5. Construction Funding by Source

Source	Funding Amount	Percent of Total
Federal - BIP	\$144,000,000	50%
Other Federal - STP	\$86,400,000	30%
Non-Federal	\$57,600,000	20%

IV. Project Outcome Criteria

Criterion #1: State of Good Repair

The primary state of good repair benefits of the IIPCR Bridges include:

- › The project will restore four historically significant bascule bridges through major rehabilitation. All of these bridges are in Poor Condition and have reached the end of their useful life.
- › It will incorporate modern and more durable materials while respecting historic integrity.
- › It will reduce repair costs and bridge closures, which have local, regional and national impacts.

Ensuring that the transportation system is operating in a state of good repair is a primary driver of the IIPCR Bridges project. Three of the four bridges included in the IIPCR Bridges project were constructed before the Great Depression. The oldest of the bridges is 108 years, and when taken together the average age of the four bridges is over 90 years.

A notable factor with these bridges is that they are movable bascule bridges. Under current conditions, each bridge is raised and lowered on average 5,000 times per year in order to accommodate maritime trade traffic. It is only through the dedicated long-term maintenance efforts of the City of Chicago that these bridges have continued to serve their function well past their intended 50-year design life.

However, the bridges are reaching a point where maintenance and repairs alone will not be sufficient to keep them in service. Even now, each of the bridges is limited in the loads that can safely be carried⁵. It is anticipated that without major rehabilitation, on average at least one of the bridges will be out of service for a three to four-month period each year for emergency repairs.

In order to ensure that these bridges can continue to serve as vital connectors for the surrounding disadvantaged communities and as last-mile connectors for the Illinois International Port District and the Calumet Industrial Corridor, while not impeding the national maritime trade network that runs beneath them, the bridges are in need of major rehabilitation.

Past Rehabilitation

Each of the bridges was last rehabilitated in the 1990's. These were considered minor rehabilitations and while they extended the overall service life of the bridges, the impact of these rehabilitations is near its end. At this stage, minor rehabilitation will no longer suffice to keep the bridges in safe operating condition. A major rehabilitation is required to restore the bridges and provide a new 50-year service life.

Current Condition

A table showing the bridge condition based upon the latest round of inspections in 2021, is below. The inspection reports are included in Appendix I. In addition to these biennial routine inspections, each bridge undergoes a Fracture Critical inspection every year and an underwater inspection every 5 years.

Table 6. Condition Rating by Bridge, 2021

Bridge	Year Built	Sufficiency Rating	Condition Rating			Overall Condition
			Deck	Superstructure	Substructure	
92 nd St (US Rt 41)	1914	47.9	6	4	5	Poor
95 th St (US Rt 12/20)	1958	47.4	6	4	5	Poor
100 th St	1927	47.6	5	3	4	Serious
106 th St	1928	61.7	5	4	5	Poor

⁵ While three bridges are still able to carry the standard legal load limit, none of the bridges are suitable for the many special load requests that are routine within the region and particularly within this Calumet Industrial Area. As a result, these special load trips must be detoured around the area, with the associated additional trip miles, time and inefficiencies. Major bridge rehabilitation will significantly increase their load carrying capability.

Below is an accounting of some recent emergency repairs that involved extended bridge closures:

- 92nd Street – Machinery and truss emergency repairs: Bridge was closed to vehicular traffic from June 2017 to February 2018 (8 months).
- 100th Street – Machinery emergency repairs: Bridge was closed to vehicular traffic from September 2018 to October 2018 (>1 month).
- 106th Street – Machinery emergency repairs: Bridge was closed to vehicular traffic in July 2018, and again from November 2018 to July 2019 (7 months).

Impact of Bridge Closures

As detailed earlier in the Project Description section, by virtue of their location on an international Marine Highway trade route, and their role as connectors in a multimodal trade area, the bridges play an outsized role in the region's operations. Any incident in which a bridge is stuck in the down position blocks this international route. If a bridge is stuck, there are no practical detours for waterway traffic. Given the critical nature of the bridge functioning, the default position when a bridge needs repair is in the up position. However, this impacts adjacent communities as well as last-mile freight movement. In the end, the reliable functioning of these bridges is of regional and national importance.

Bridge Rehabilitation

The bridge rehabilitation is being conducted in accordance with [Chicago's Movable Bridge Preservation Plan](#) and the associated multi-agency Programmatic Agreement. The plan and agreement were undertaken to provide guidance on the rehabilitation of these historic structures. The plan involved significant outreach in its development and signatories to the agreement include CDOT, IDOT, FHWA, US Army Corps of Engineers, US Coast Guard, Illinois State Historic Preservation Officer, Landmarks Illinois, Historic Bridges.org, and Advisory Council on Historic Preservation. Given the historic significance of these bridges, the bridge reconstruction is designed as a major rehabilitation rather than full replacement, to maintain the historic integrity of the structures, although modern materials and methods are employed.

An example of modern materials is the use of stronger steel than was available at the time of the original construction (e.g. newer 50 ksi vs original 33 ksi steel). The stronger steel allows for less material and a lighter truss structure, which is of great importance in a delicately balanced bascule bridge. The lighter structure in turn allows for the addition of concrete infill for the bike lanes and parts of the motor vehicle travel lanes, with the associated safety, structure, and drainage benefits highlighted in the previous and succeeding sections.

An example of the modern construction methods is the use of accelerated bridge construction techniques as promoted by the FHWA through the [Every Day Counts](#) program. In this case, the bridge components are planned to be prefabricated and floated to the site, to allow for rapid installation that reduces the bridge downtime. Components of the bridge that can remain while still contributing to a renewed 50+ year life span are salvaged. This not only honors the historical nature of the bridge, but it also reduces the overall cost and energy footprint of the bridge rehabilitation project.

Future Maintenance

As detailed in the Benefit-Cost Analysis, the rehabilitation of the bridges is anticipated to result in greater than \$400,000 in average annual maintenance cost savings over the course of the 30-year analysis period. While maintenance costs will decrease, in large part through prevention of unavoidable emergency repairs and bridge outages due to the advanced age of the bridges, CDOT is committed to continue providing proactive maintenance on these complex structures once rehabilitated. In addition to the routine scheduled inspections, these structures are staffed 24 hours per day, 365 days per year in order to accommodate waterway demand. The permanent presence of staff enables CDOT to monitor and assess the bridges on a continual basis, and make proper maintenance decisions that keep the bridges

in optimal condition. All structure, inspection, and other related information is maintained in the City's bridge management system, Atom. Building upon this existing bridge management system [CDOT's Strategic Plan](#) outlines developing an agency-wide asset management system in the next few years.

Criterion #2: Safety

The primary safety benefits of the IIPCR Bridges include:

- › The project will improve pedestrian and bicycle infrastructure on the bridges as well as the approaches to and from the bridges, thus improving multimodal safety.
- › It will improve the motor vehicle travel lane surface, thus reducing potential skidding on the bridges.

The IIPCR Bridges project is centered on the critical major rehabilitation of historically significant bridges. There is an opportunity to improve safety while restoring full functionality of the bridges and avoiding any critical failures and continued deterioration that would necessitate full closure of the bridges.

Review of the historical crash data for the five-year period 2016-2020 reveals a relatively low crash rate related to the bridges. On average fewer than two crashes occurred per bridge per year. In sum there were 25 property-damage-only crashes, two C-injury crashes, three B-injury crashes, three A-injury crashes, and no fatal crashes spread between the four bridges over the five-year period. There was a single pedestrian-related incident (B-injury) and no recorded bicyclist-related incidents in spite of evidenced usage of the bridges by pedestrian and bicyclists. The crash data and reports will be fully analyzed as part of the design and countermeasures incorporated based upon the analysis.

Although there is not a significant crash history in the area, the absence of recorded crashes does not mean a bridge is a safe facility to cross on foot or by bike. Furthermore, crash history does not necessarily capture the true safety and the perception of safety of a location. Near misses can be common without resulting in actual crashes. The perception of an unsafe environment can motivate drivers, bicyclists, and pedestrians to avoid a location, which can have particularly dire consequences in further limiting connectivity in disadvantaged communities where transportation options may already be limited.

Safety in the transportation system is and has been a top priority for the City of Chicago as evidenced through its many planning and policy initiatives over the past decade including: [Chicago Pedestrian Plan](#), [Chicago Streets for Cycling Plan](#), [Complete Streets Design Guidelines](#), [Make Way for People Initiative](#), [Make Way for Play Guide](#), [High Crash Corridors Framework Plan](#), [Vision Zero Chicago Action Plan](#) and most recently its new [Strategic Plan for Transportation](#) with a major focus on safety and equity in the transportation system.

Implementation of these diverse planning efforts has been at the forefront. In 2021, the City completed an unprecedented number of projects to improve safety for people who walk and ride bikes, including 400 pedestrian safety projects and more than 45 miles of new and upgraded bike lanes, and two major pedestrian and bike infrastructure projects, the Navy Pier Flyover and 312 RiverRun.

In short, every infrastructure project is viewed as an opportunity to improve safety, even projects where that is not the original focus, and the IIPCR Bridges project is no exception. Among the improvements to be incorporated in the project are the following:

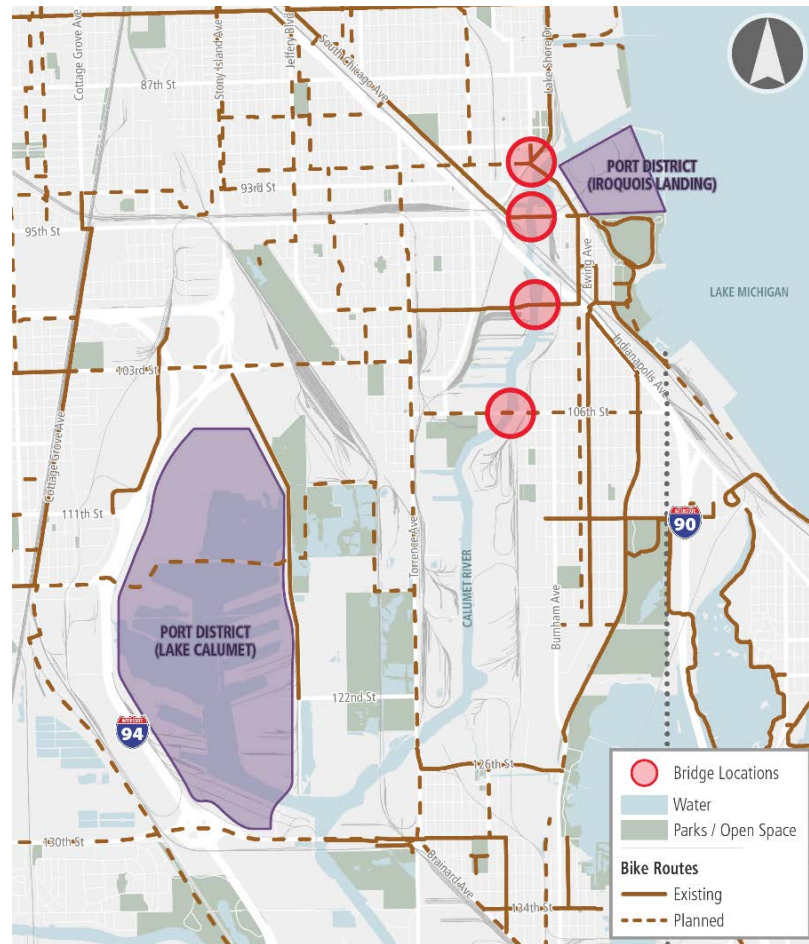
- **Pedestrian Improvements.** Under existing conditions, each of the bridges has sidewalks on both sides across the bridge. However, there are deficiencies and gaps in the sidewalk network on the approaches to some of the bridges that result in pedestrians having to walk on shoulders or uneven parkways. Improvement of the sidewalk network adjacent to the bridges is planned coincident with the bridge rehabilitation planning, including the installation of nearly 3,000 feet of new sidewalk to close gaps on each side of the 100th Street bridge.

- **Bicycle Improvements.** Under existing conditions, the 92nd Street bridge has shared lane markings, and the 95th Street and 100th Street bridges have conventional bike lanes. The 106th Street bridge does not have any bicycle facilities. See Figure 5 for current and planned bike routes. As part of the bridge rehabilitation, bike lanes are to be installed across all of the bridges. And each of the bridges and approaches will be evaluated for the potential for barrier separated bike lanes (on the approach) and flexible delineators (on the bridge), as space permits. Another improvement over the current condition is that concrete infill will be used along the bike lanes over the bridge, providing a more stable and bike friendly surface for bicyclists, versus the existing open metal grating.

These improvements will enhance community connectivity. While all of the bridges are important for bicycle network connectivity, it is worth noting that the 100th Street and 106th Street bridges have been identified in the [City's Priority Trails and Corridors plan](#) as important connections to be maintained and improved. The improvements to the bridges will complement future improvements to these corridors and will be forward compatible.

- **Motor Vehicle Travel Lane Surface Improvements.** Under existing conditions most of the bridge decking consists of open metal grating. While the metal grating provides adequate skid resistance for motor vehicles, concrete infill of the metal grating represents an improvement over the metal grating alone. Full concrete infill through the motor vehicle travel lanes is often not possible due to the weight involved and the delicate balance required with bascule bridges. However, there are strategies, such as alternating bands of concrete infill that can be utilized. This will be investigated as part of the final bridge design.
- **Lighting Improvements.** Lighting of bascule bridges is challenging because the frequent movement and vibration of the bridge results in the premature failure of lighting, even with modern LED fixtures. Therefore, lighting of the bridge is typically provided from the bridge approaches, rather than on the bridge itself. Each of the bridges has existing lighting at each approach. However, this lighting will be improved with modern LED lighting that is able to be directed in a manner that provides desirable light levels along the bridge while at the same time minimizes light pollution. This will improve both visibility and safety for pedestrians and bicyclists.

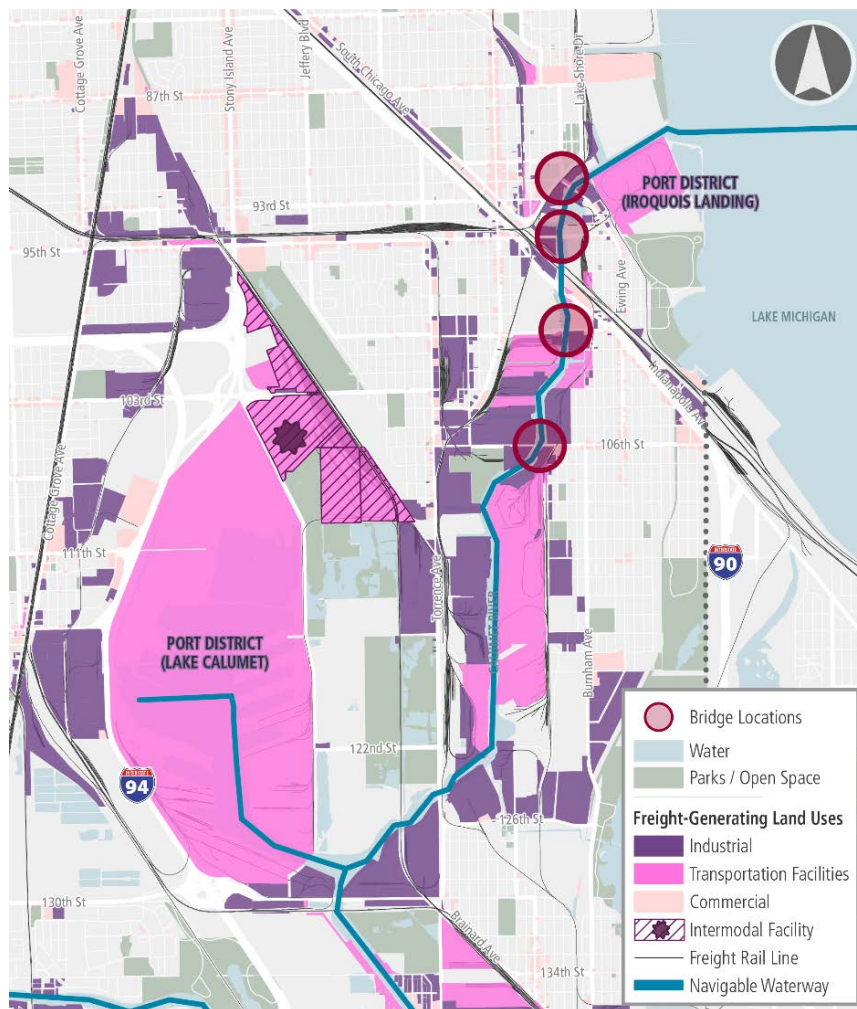
Figure 5. Existing and Planned Bike Routes



limits, it is a “last mile” connection linking the corridor to the IIPD and important industrial areas and industrial development opportunities. The efficient movement of truck traffic is important to maintain in this area as all of the proposed bridges are located within and connecting to significant freight-generating land uses, such as industrial areas, transportation facilities, commercial areas and intermodals. The Cook County Freight Plan identifies the Greater Calumet Region as a place to focus infrastructure investments to support the industrial uses.

The bridge updates will improve access to job opportunities, as the adjacent industrial areas are also major employers (see Figure 7). Improving multimodal connectivity better connects workers to job opportunities on either side of the bridges.

Figure 7. Freight-Generating Land Uses



The multimodal improvements are also important in providing increased connectivity for community members, as there are residential areas and commercial corridors within a quarter mile of each of the bridges. On-street bikeways currently exist on each of the bridges except for 106th, with conventional bike lanes on 95th and 100th. As detailed in Criterion #2 Safety, bike facilities will be improved as a part of these projects and the City has planned and programmed projects that connect to these bridges.

As illustrated in Figure 8, Chicago Transit Authority bus routes #26 and #30 cross the 92nd Street/Ewing Avenue bridge (collectively 190 scheduled buses per weekday), while bus routes #26 and #100 cross the 106th Street bridge (collectively 139 scheduled buses per weekday). Any disruptions to these bridges

affect bus riders all along these three routes, which extend through Chicago’s South and Southeast sides as well as up the lakefront to downtown. Additionally, four other bus routes operate within a half mile of the bridges, and there is also a Metra commuter rail station (South Chicago/93rd Street Station on the Metra Electric Line) a few blocks west of the 92nd Street/Ewing Avenue bridge. The Metra Electric Line serves 10,000 passenger trips on weekdays and connects the Central Business District in Chicago to South Chicago. As seen in Figure 8, there are 200+ weekday boardings at this station. The proposed improvements will enhance connections by foot and by bike between the nearby transit stops and stations and the residential and employment areas.

Connectivity for all modes is important in this area as there are limited large supermarket grocery stores. Improved bridges will better connect the nearby residential areas to grocery stores. The [Great Cities Institute Calumet Rivers Communities Planning Framework](#) mentions that this area is considered a food desert, with only one “supermarket.” Additionally, 92nd and 106th were recommended on-street bike lanes in the 2018 Great Cities Institute asset map.

Improved bridges at 92nd/Ewing, 95th and 100th will also provide connectivity to the lakefront, a key recreational asset in the City, by enhancing access to Calumet Park and Calumet Beach, which are about a half mile from the two most northern bridges. The project would also provide connectivity between the lakefront and the Big Marsh Park and Lake Calumet recreational area to the south, as well as the U.S. National Park Service’s recently opened Pullman National Monument to the southwest.

The project itself will also have economic benefits for the community. In the past, to further enhance local project benefits, the City of Chicago has used local hiring agreements when permitted by the funding agency. They have also required contractors to maximize use of U.S. Department of Labor-registered apprenticeship programs and have negotiated labor agreements that work to ensure that graduates of Chicago Public Schools (CPS) and City Colleges of Chicago have access to apprenticeships for these good-paying jobs. This apprenticeship program benefits low income students of color; 21 percent of CPS students are bilingual and nearly 70 percent qualified for free or reduced lunch in the 2021-2022 school year. At the City Colleges, nearly 70 percent of students identify as students of color.

Figure 8. Transit/Weekday Ridership



Criterion #4: Climate Change, Resiliency, and the Environment

The primary environmental sustainability benefits of the IIPCR Bridges include:

- › The project will integrate sustainable features, such as LED lights and reduced emissions from construction equipment
- › It will improve active transportation options that support a just transition to a thriving green economy

CDOT has a deep commitment to designing and developing projects that consider climate change impacts. CDOT has integrated climate change mitigation measures into the anticipated design and construction of the IIPCR Bridges projects.

In July 2013, CDOT released its [Sustainable Urban Infrastructure Guidelines \(SUIG\)](#), which established an agency and citywide approach with 80 requirements, standards, and policies for integrating environmental performance goals into infrastructure design. SUIG recognizes that the design of the city’s infrastructure can help reinforce our health and the health of our environment, that climate resilience embedded in design philosophy reduces maintenance costs and liability over the lifetime of the infrastructure improvement, and ultimately that sustainable infrastructure is not only good for the environment, but is a good investment.

Due to the visibility of the IIPCR Bridges and their historic nature, implementation of sustainable features is especially important. Among the features anticipated to be included are:

- **Use of LEDs and other energy efficient lighting:** LED lights will be installed on the approaches to all of the bridges. This will improve visibility for pedestrians and bicyclists and also enhance visibility of pedestrians and bicyclists to motor vehicle drivers.
- **Increase capture of stormwater runoff:** Concrete infill is to be used in the metal grating of the bridge both in the new/existing bike lanes, and in parts of the motor vehicle travel lanes. This concrete infill will allow more runoff from the bridge in this heavily industrial area to be captured and then directed through a treatment plant, rather than running directly into the Calumet River.
- **Reduce emissions from construction equipment:** Accelerated Bridge Construction, as outlined further in Criterion #6: Innovation Areas, reduces the construction time and mobility impacts associated with bridge construction. Through the “float-in” methodology, sections of the bridges are constructed offsite and then floated in via the river. This reduces construction time and associated mobility impacts.

This year, the City of Chicago released the [2022 Chicago Climate Action Plan \(CAP\)](#). The CAP provides a strategic framework to “reduce Chicago’s contribution to global climate change, prepare our communities for the effects of a changing climate, and support a just transition to a thriving green economy.”

Within the CAP, one strategy is to make walking, biking, or transit viable options for all trips. It is recommended to “prioritize sidewalk and road maintenance by using an equity lens along with condition assessments to address historic imbalances in the upkeep of City infrastructure”. Improving bicycle and pedestrian infrastructure on the IIPCR Bridges, as detailed in Criterion #2 Safety, is aligned with this recommendation. Improving bicycle and pedestrian infrastructure is also consistent with [CDOT’s Strategic Plan](#) goal of eliminating 15 miles of gaps in the citywide bikeways network.

Additionally, the IIPCR Bridges project will reduce emissions compared to a No-Build scenario, as outlined in the Benefit-Cost Analysis (see Appendix E and F). If the project were not to take place and



the bridges were to close, significant diversions and rerouting would occur, causing increased Vehicle Miles Traveled (VMT) and emissions.

With regard to resiliency, the IIPCR bridges are not currently prone to flooding because the Calumet River is open to Lake Michigan at the near east, and so water levels along the river do not quickly fluctuate during storm events. At the same time, bridges are far enough west of Lake Michigan that they are not subject to direct shoreline wave and wind action during storms affecting the lake. Not only do the bridges not flood, they serve as reliable local ingress/egress routes during times of flooding when other lower bridges in the area may be impacted by flooding, thus increasing their importance to the region. Additionally, when water levels do rise, commercial traffic is still maintained on the Calumet River since the bridges are movable and can lift as needed, versus static bridges that can suffer reduced clearance during flood events. Note that lifting operations are of short duration and sequenced such that both roadway and waterway traffic are able to be accommodated.

These improvements would directly impact an underserved community. According to the Environmental Protection Agency's EJScreen, the population within a half mile of the project location is between the 80th the 100th percentile on the Demographic Index, meaning it is in an area with a disproportionately large population of low-income and minority populations. In addition, this population ranks in the 80th percentile or above in all but two (Hazardous Waste Proximity and Wastewater Discharge) of the EJSCREEN's Environmental Justice Indices. See Appendix L for more details.

Criterion #5: Equity, Partnership, and Quality of Life

The primary equity, partnership and quality of life benefits of the IIPCR Bridges include:

- › The project will improve multimodal opportunities in an underserved community.
- › It will support connectivity to schools, health resource facilities and grocery stores.

All four of the bridges are in Historically Disadvantaged Communities and Areas of Persistent Poverty. The multimodal improvements to the bridges as described in Criterion #2 Safety will improve affordable transportation options by making it easier for people who live on either side of the Calumet River to connect on foot or by bike. Improvements that benefit people using different modes, including driving trucks, riding bikes and walking across the bridge, is one of the action items in the [Chicago Metropolitan Agency for Planning ON TO 2050](#) comprehensive plan to balance quality of life concerns with economic impacts when investing in freight development and infrastructure.

All four of the bridges are located within Empowerment Zones. These improvements align with the equity goals in the [City's Strategic Plan for Transportation](#), which includes improving access to opportunities and bringing infrastructure into a good state of repair, including bridges.

Additionally, Southeast Area Elementary School and St. Francis de Sales High School are located between 100th St and 106th Street and the bridges would provide better connectivity to the schools. Improved multimodal conditions will increase equitable access to community resources. There are clusters of general and specialized health resource facilities, banks and other financial institutions, and commercial nodes east of the 106th St bridge at Ewing Ave and west of the 92nd/Ewing Ave bridge concentrated around Commercial Ave. The majority of grocery and food stores are concentrated in these areas, as well. As the Commercial Ave corridor is a regional commercial center, and was the focus of the [2016 Commercial Avenue Revitalization Plan](#), improved access of all modes can better bolster the economic vitality of the community areas. The discussion in Criterion #3 Mobility and Economic Competitiveness addresses congestion in the area, and the importance of each of the bridges in the bundled network, along with the importance of the multi-modal improvements being incorporated into the project.

Community Engagement

In a survey for the [Illinois International Port District Master Plan](#), participants indicated that connecting communities (biking and walking) is a priority. As a result of the planning process a goal was developed to enhance quality of life for the surrounding community, including connectivity. Lack of public access to Port facilities, the desire for recreational trails, and the importance of the Port as a job center were also key findings during engagement.

The [Calumet River Communities Planning Framework](#) by the Great Cities Institute (GCI) gained information from residents, community organizations and business owners in the area. As a part of the engagement efforts, respondents “wanted greater unity between study area communities, which are divided socially and physically by the Calumet River and transportation facilities.” A key issue area that emerged from the community engagement process was achieving social equity and the study area neighborhoods receiving a fair share of infrastructure resources. Resulting principles include expanded connectivity and transportation options and creating communities that are accessible for all. Community members asked for fewer cars near the Ewing Ave bridge and for the bridges to be fixed faster when they break.

As part of the project, CDOT will adhere to NEPA requirements for public engagement. This includes holding public meetings and conducting outreach to local communities for input on the final designs and to review the construction schedule. The surrounding communities are active in multiple revitalization plans in the area. Previous engagement aligns with the goals of the IIPCR Bridges project, as outlined above and represented through the Letters of Support in Appendix A.

Criterion #6: Innovation

The primary innovative components of the IIPCR Bridges include:

- › The project will utilize Accelerated Bridge Construction (ABC) to reduce the onsite construction time and mobility impacts.
- › It will streamline the Phase I and Phase II processes to accelerate project delivery and achieve improved outcomes for the communities.

The use of twin mono-truss structures in the design of each bridge not only will allow the structures to maintain their historical integrity, but it also allows CDOT to execute an innovative approach to project delivery that will minimize construction impacts on roadway congestion and will improve worker safety. The innovative approach of accelerated bridge construction (ABC) provides numerous local and regional benefits. ABC is defined as, “bridge construction techniques that use innovative planning, design, materials or construction methods in a manner to specifically reduce the onsite construction time and mobility impacts that occur when building or replacing bridges.”⁷

Each bridge span will be individually assembled off-site, then moved into place and installed in a single week. This technique will keep much of the overhead work away from active transportation corridors. Lane closures will be limited to periods when critical bridge work is taking place. Roadway closure will be three to four months per bridge. Only one bridge will be closed at a time. This minimizes disruptions for travelers, and allows workers to do most of their work on the spans away from live traffic. While innovative, this approach is familiar to CDOT, which has recently executed similar build-and-move work on the Wells Street Bridge over the Chicago River and the 4.3 million-pound Torrence Avenue rail bridge built as part of the CREATE project. Other innovations in the design include the use of LED lighting at the bridge approaches to be more energy efficient, and placement of lighting to minimize light pollution.

In addition to innovative technologies, CDOT will utilize innovative project delivery through streamlining Phase I and Phase II processes to accelerate project delivery and achieve improved outcomes for the communities. Traditionally Phase I and II design take years to complete, often delaying the project

⁷ <https://abc-utc.fiu.edu/wp-content/uploads/sites/52/2020/01/paper-10-IS-ABC-A-GOOD-FIT.pdf>

benefits to the community. The project will follow all NEPA processes, allowing for comprehensive public feedback, while accelerating a traditional timeline to reach construction. This is outlined further in Project Readiness and Environmental Risk: Project Schedule.

Bundling of these four bridges further helps streamline the engineering and community engagement processes, and flows naturally from the way the bridges act as a network for the industrial and residential areas spanning the Calumet River near Lake Michigan. The greatest benefit, as outlined in the Benefit-Cost Analysis below, is to the public. The bundling provides a significant reduction in disruptions and detours to the local community and to freight traffic accessing local industry and the Illinois International Port. It ensures these bridges are completed in an efficient and timely manner. Furthermore, given the specialized nature of these historic movable bridges, advancing their construction together and in a coordinated fashion can reduce fabrication, erector, and equipment costs.

V. Benefit-Cost Analysis

The Benefit-Cost Analysis is documented in Appendix E and F and demonstrates a positive return on the investment of this project. The total costs, including operation and maintenance, are **\$205.6 million**, discounted to 2020 dollars.

Benefits over the 30-year period of analysis are anticipated to amount to **\$494 million**, discounted to 2020 dollars, a **benefit-cost ratio of 2.4**. These benefits include travel time savings, vehicle operating cost savings, safety benefits (crash reductions), emission reduction benefits and residual asset value. Many of the benefits result from avoiding significant diversions and rerouting of auto and truck traffic if the bridges were to close. These IIPCR Bridges provide crucial connectivity to the Port and other industrial areas, in addition to multimodal connectivity for local communities.

Table 7. Benefit-Cost Analysis Summary Table

Costs and Benefits	Nominal Total Value	NPV Discounted to \$2020 (7%)
Costs		
Capital Construction	\$288,000,000	\$205,653,467
Total Costs	\$288,000,000	\$205,653,467
Benefits		
Travel Time Savings	\$962,033,812	\$239,011,098
Vehicle Operating Cost Savings	\$357,176,740	\$93,899,869
Safety Crash Cost Benefits	\$566,587,111	\$150,192,092
Environmental Sustainability Benefits	\$1,317,604	\$696,395
Maintenance & Operations Savings	(\$13,500,000)	(\$3,993,625)
Residual Asset Value	\$132,480,000	\$14,206,453
Total Benefits	\$2,006,095,267	\$494,012,281
Net Present Value (NPV)	\$1,718,095,267	\$288,358,814
Benefit Cost Ratio (BCR)	7.0	2.4

VI. Project Readiness and Environmental Risk

Table 8. Application Template - Project Readiness and Environmental Risk

APPLICATION TEMPLATE – PROJECT READINESS AND ENVIRONMENTAL RISK	
Other Federal Funding and Non-Federal Funding Secured	Yes
NEPA Status	Please see Table 9 below. For each bridge, it is anticipated that the determination will be the result of a Categorical Exclusion.
Is the project currently programmed in the: TIP, STIP, MPO Long Range Transportation Plan, State Long Range Transportation Plan	The Calumet River Bridges Project will be added to the TIP in October of 2022. To date, the project has not had federal funds programmed for it, therefore it was not included in the TIP. However, the project is now included in CDOT’s proposed 2023-2027 STP Program. Per the Regional MPO’s policies and procedures, the project will be added to the TIP for consideration at the September 2022 MPO Transportation Committee meeting with final approval made at the October 2022 MPO Policy Committee. Additionally, the project is a priority project for the region, as described in the letter from the Regional MPO, the Chicago Metropolitan Agency for Planning, in Appendix C.
Is right-of-way acquisition necessary?	No
Design Status	Please see Table 9 below
Anticipated Construction Start Date	Please see Table 9 below
Anticipated Project Completion Date	Please see Table 9 below
Maintenance and Preservation Costs	Cost: \$500,000/year Source: General City of Chicago Operating Revenue
The summary on project readiness and environmental risk demonstrates that the IIPCR Bridges project is well positioned to utilize Bridge Investment Program funds.	

Technical Feasibility

Engineering and Design Studies and Activities

Contracts for completion of the Phase I: Preliminary Engineering for the IIPCR Bridges project are in progress and to be executed in early Quarter 3 of 2022. Phase II: Contract Plan Preparation will occur concurrently to streamline the review process and ensure benefits to the community can be realized sooner. Local and state funds are secured to complete Phase I and Phase II between Q4 2023 and Q1 2025, depending on the bridge. These projects and associated construction will be staggered as noted in the Project Schedule. No right-of-way acquisition will be needed.

This timeline is consistent with recent CDOT bridge rehabilitations, including the recent Wells Street bridge project. The cost estimate for the project in this application is based on recent CDOT

experience rehabilitating similar bridges in similar environments, as CDOT maintains and operates over 300 bridges and viaducts, 42 of which are movable bascule bridges. This cost estimate also includes a 10% construction contingency. Contingencies will be updated as design work progresses.

While contracts to complete the Phase I Study for each of the bridges are being executed in Q3 of 2022, the Environmental Assessment and “other work needed to establish the parameters for the final design” for the bridges began with the initiation and November 2020 execution of the multi-agency Programmatic Agreement and associated *Chicago’s Moveable Bridge Preservation Plan* (2019) included as Appendix K with the application. Signatories to the agreement include CDOT, IDOT, FHWA, US Army Corps of Engineers, US Coast Guard, Illinois State Historic Preservation Officer, Landmarks Illinois, Historic Bridges.org, and Advisory Council on Historic Preservation.

Given the historic nature of the movable bridges, the biggest obstacle to major repair and reconstruction of the bridges had been the State Historic Preservation Office (SHPO) review and determination of acceptable actions for these historic bridges. The multi-agency Programmatic Agreement resolved the unknowns and delay associated with the historic and other reviews, and thus cleared the way for the Calumet River Bridges project as proposed. In accordance with the Agreement, the scope of the proposed bridge projects consists of a major rehabilitation within the parameters of the Agreement, rather than a full bridge replacement. Therefore, the scope is already defined and the bridges’ proposed plans and specifications will be developed to meet the Secretary of the Interior’s “Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings”⁸. The Western Avenue bridge over the South Branch of the Chicago River utilized this process, resulting in a more streamlined process for Phase I and II design.

In addition, CDOT has performed HEIR reports for these bridges and extensive cultural coordination, thus the Cultural clearance process has already been clearly outlined.

Design Criteria

The project will comply with all current American Association of State Highway Transportation Officials (AASHTO) design provisions including *LRFD Bridge Design Specifications* and *LRFD Movable Bridge Design Specifications*. The design also complies with CDOT’s *Design Standards for Chicago Bascule Bridges* (Rev. 2019).

Statement of Work

The 92nd (SN 016-6037), 95th (SN 016-6038), 100th (SN 016-6042), and 106th (SN 016-6043) Bascule Bridges of the Calumet River are double-leaf, trunnion-type Bascule Bridges. The structures each have an overall average length of approximately 350 feet, a roadway width of approximately 38 feet and an overall width of 62 feet. The movable leaves of the bridge are operable. The bridges are operable and were built between 1914 thru 1958.

The work includes replacement of electrical operation systems, mechanical gears, full replacement of the trusses, selective replacement of counterweight system and floor beam system, and civil and safety improvements to the roadway.

The City of Chicago Department of Transportation (CDOT) operates its programs without regard to race, color, and national origin in accordance with [Title VI](#) of the Civil Rights Act. CDOT assures that no person shall, as provided by Federal and State civil rights laws, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity. CDOT further ensures every effort will be made to ensure non-discrimination in all programs and activities, whether those programs and activities are federally funded or not.

⁸ <https://www.nps.gov/tps/standards/rehabilitation.htm>

Project Schedule

The IIPCR Bridges project is prepared to begin construction in 2024. The hallmark of this Bridge Investment Program proposal is its urgency and priority for Chicago, the metropolitan region, and State of Illinois. CDOT recognizes that the bridges are at the end of their useful lives and are in need of major rehabilitation. CDOT has moved as quickly as possible to prioritize funding, review all the viable options from a Benefit-Cost Analysis perspective, and proceed with engineering design. CDOT is committed to obligating Bridge Investment Program funds and putting that money to work with the same urgency and priority. Project milestones are shown on the schedule presented in Table 9.

As noted below, the bridge design and construction will be staggered. Noteworthy schedule milestones include Phase I approval between Q1 2023 and Q2 2024. Phase II approval between Q4 2023 and Q2 2025. Construction will be staggered and will begin in Q1 2024, with the bridge rehabilitation complete between Q3 2025 and Q1 2027.

Table 9. Project Schedule

Milestone	92 nd St	95 th St	100 th St	106 th St
Phase I/II Start	Q3 2022	Q3 2022	Q3 2022	Q2 2023
Phase I Approval	Q1 2023	Q2 2023	Q2 2023	Q1 2024
Phase II Approval / Letting	Q4 2023	Q2 2024	Q2 2024	Q1 2025
Construction Start	Q1 2024	Q3 2024	Q1 2025	Q2 2025
Construction Complete	Q3 2025	Q1 2026	Q3 2026	Q1 2027

Required Approvals

For the first bridge (92nd Street bridge), all federal, state, and local approvals are expected to be received by end of year 2023, with construction to commence in Q1 2024. For the last bridge (106th Street bridge), all approvals are expected to be received by Q1 2025, with construction to commence in Q2 2025. Environmental permitting will begin with Phase I Engineering in Q3 2022. The IIPCR Bridges project is anticipated to qualify for a Categorical Exclusion under 23 CFR 77.1.117 C (28).

There are two factors that contribute to the efficient permitting of this project. The first is that the proposed project involves the major rehabilitation, rather than full replacement of the bridges, due to their historical significance. As a result, no right-of-way is needed, and the impact of the rehabilitated bridges is predictable and consistent with current conditions. Second, the City of Chicago engaged in the multi-year Movable Bridge Preservation Plan effort with key local, state, and federal stakeholder agencies that culminated in the 2020 Programmatic Agreement outlining the process for the rehabilitation of these historic bascule bridges.

The Calumet River Bridges Project will be added to the TIP in October of 2022. To date, the project has not had federal funds programmed for it, therefore it was not included in the TIP. However, the project is now included in CDOT's proposed 2023-2027 STP Program. Per the Regional MPO's policies and procedures, the project will be added to the TIP for consideration at the September 2022 MPO Transportation Committee meeting with final approval made at the October 2022 MPO Policy Committee. Additionally, the project is a priority project for the region, as described in the letter from the Regional MPO, the Chicago Metropolitan Agency for Planning, in Appendix C.

Match funds are anticipated to come from the City's annual State Only Chicago Commitment (SOCC) allocation from the State of Illinois. SOCC funds are allocated to the City by the Illinois

Department of Transportation (IDOT) for improvements on the state system and for match to federal funds for improvements on structures. Additionally, three of the bridges (95th, 100th, and 106th) are within designated TIF districts. TIF funds may be used in addition to or in place of SOCC funds for match for the project.

Public engagement descriptions are included in Criterion #5: Equity, Partnership, and Quality of Life and letters of support are in Appendix A.

Assessment of Project Risks and Mitigation Strategies

CDOT has prepared a matrix of potential project risks and mitigation strategies below.

Table 10. Assessment of Project Risks and Mitigation Strategies

Risk	Description	Mitigation Strategy
Labor and Materials Cost	Increased costs associated with labor and materials. With continued global uncertainty having changing impacts on costs, it is challenging to appropriately budget for a project that will begin construction in 2024.	A 10 percent contingency line item was included in the budget. Beyond this contingency, given the importance of these bridges, the City of Chicago is committed to funding unforeseen overages to see this project to completion.
Public Concerns	Public concerns related to the closure of bridges. As there are 4 bridges close to one another, there may be concerns about re-routed traffic, and access to industrial facilities.	Ensure full transparency and active engagement throughout design and construction. Closures will be limited due to the ABC approach, which will allow staggering of the bridge construction such that only one bridge is closed at a time.

VII. Project Priority Considerations

The IIPCR Bridges project supports the following priority considerations:

1. The application demonstrated a need for a BIP grant of not less than \$100 million.

As noted in *III. Project Costs* (see Table 4), the IIPCR Bridges project future eligible cost is \$288,000,000. The BIP request amount is \$144,000,000.

2. The project readiness evaluation demonstrates that the project can distribute a BIP grant of not less than \$100 million over a four-year period if a multi-year grant is awarded to the project.

The IIPCR Bridges project can distribute a grant of \$144,000,000 over a four-year period if a multi-year grant is awarded. As noted in *VI. Project Readiness and Environmental Risk* (see Table 9), construction of the four bridges is staggered and accommodates a multi-year agreement.

3. The project is or will be ready to proceed to the next stage of project delivery within 12 months of a Categorical Exclusion Determination, Finding of No Significant Impact, or Record of Decision.

As noted in *VI. Project Readiness and Environmental Risk* (see Table 9), the IIPCR Bridges project will be ready to proceed to the next stage of project delivery within 12 months of a Categorical Exclusion Determination, Finding of No Significant Impact, or Record of Decision. The IIPCR Bridges project is anticipated to qualify for a Categorical Exclusion under 23 CFR 77.1.117 C (28).

4. The project has national or regional economic significance.

As noted in *I. Project Description*, the IIPCR Bridges are critical components of the Illinois International Port, which is an international hub, and allows freight access along the Illinois Waterway between Lake Michigan and the Gulf of Mexico, as seen in Figure 2. These bridges function as an interconnected surface network, providing access to crucial industries and local jobs, and supporting economic stability in the underserved South Chicago and Calumet areas. The bridges are within two miles of one another and carry a combined average of over 40,000 vehicles per day, 3,000 of which are trucks.

5. Without a FY 2022 BIP grant, construction of the project is unlikely to commence before September 30, 2025.

The IIPCR Bridges project cannot be easily and efficiently completed without other Federal funding or financing available to CDOT. While planned and needed, the project had not previously advanced due to lack of sufficient construction funding from local sources alone. BIP funding would allow this project to proceed through construction.