This Project is the second project in the Cleveland Innerbelt Project series as identified in the Record of Decision approved September 18, 2009. This Project will replace the existing Innerbelt non-redundant steel cantilevered deck truss with a new five lane delta girder structure, reconstruct one entrance ramp, three exit ramps and reconstruct several local streets and intersections, improving access into and out of the Central Business District of Cleveland, Ohio.

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I. PROJECT DESCRIPTION

Project Purpose:
The purpose of the Construction Contract Group 2 (CCG2) EB Innerbelt Bridge Project is to improve travel efficiency and safety on Interstate (I-90) across the Cuyahoga River and the industrial “Flats” area by demolishing the existing non-redundant steel cantilevered deck truss rated in “Serious Condition”, construct a new five lane delta frame girder structure carrying eastbound traffic only (westbound traffic will be carried on the new westbound structure currently being constructed under CCG1), modifying interchange ramp configurations along with improving the city street grid. The Innerbelt Corridor, including the Innerbelt Bridges, collects and distributes traffic between the radial freeway and interstate freeway system and the local downtown street system. This Project developed from the need to address the deteriorating bridges and pavements, which have met their useful lives. As part of the comprehensive planning study conducted to address the physical conditions of the Innerbelt Freeway, the Ohio Department of Transportation (ODOT) also identified issues with the operational performance, safety, freeway access and design deficiencies that need addressed.

Project Description:
The Cleveland Innerbelt is a high capacity, limited-access interstate highway extending from Cleveland’s Tremont neighborhood on the west side of the Cuyahoga River, across the Cuyahoga Valley, around the southern and eastern edges of downtown to the City’s lakefront district at Burke Lakefront Airport. The Innerbelt includes portions of I-71 and I-90, and connects to I-77, I-490, SR 2, and SR 176. The Innerbelt is an important segment of the federally designated interstate highway system that crisscrosses the United States to provide efficient movement of industrial goods and to link major metropolitan centers. The Innerbelt is designated as Interstate 90 (I-90) and serves as the northern terminus for two others, Interstate 71 (I-71) and Interstate 77 (I-77).

The CCG2 Innerbelt Bridge Project consists of the Central Viaduct Bridge and portions of the Central Interchange section located south of the Innerbelt...
Trench section, north of the Southern Innerbelt section, and west of the I-77 Access section. It includes the portions of the Central Interchange and the associated ramps on a triangular-shaped area of land bounded on the southwest by Broadway Avenue/Orange Avenue and the Cuyahoga River Valley, on the east by East 22nd Street, and on the north by Carnegie Avenue. The section continues along I-90 south of Broadway Avenue, across the Central Viaduct Bridge, to just north of the I-71/I-90/I-490 interchange.

Three distinct transportation functions occur within the Central Interchange: (1) interstate-to-interstate movements between I-90 and I-77, (2) interstate to/from local roadway movements for both I-90 and I-77 (service interchanges), and (3) local-to-local roadway movements (city street grid). The urban conditions and the Cuyahoga River Valley are constraining factors regarding physical space. Several ramps serve more than one movement, including ramps sharing interstate-to-interstate and local access movements.

The Central Viaduct Bridge is a primary river crossing, moving Interstate traffic from the south (I-71) and west (I-90) across the Cuyahoga River to the downtown distribution system of the Central Interchange and further east to the Innerbelt Trench. There are four other river crossings available: the SR 2 Main Avenue Bridge, the U.S. 6/20 Veterans Memorial Detroit Superior Bridge, the SR 10 Lorain Carnegie Hope Memorial Bridge, and the I-490 bridge. Of these, only I-490 serves interstate traffic.

**Project Location:**
The Project is located in north-central region of Cuyahoga County, Ohio in the Central Business District of Cleveland. The Project begins at the terminus of I-71, which occurs in the northern quadrant of a multilevel interchange with I-90 and I-490 south of downtown Cleveland, and ends in the Central Interchange (I-77 and I-90). The Project includes the demolition and replacement of the existing main Innerbelt Bridge, two mainline I-90 bridges and the widening and
superstructure replacement of two mainline I-90 bridges. The Project will also reconstruct four ramps and close two ramps to provide more efficient ingress and egress from downtown Cleveland. Several local streets will be realigned and reconfigured to allow for better traffic flow as a result of the ramp reconfigurations. The west end slope will also be stabilized by over-excavating and flattening the slope. As part of this regrading, the Ohio and Erie Canal Towpath Trail, a shared use path running from Cleveland through Akron, will be built into the contours of the excavation connecting future portions of the trail which will eventually connect all the way to Lake Erie. Another shared use path will be constructed along Ontario Street and the relocated East 9th street which serves as the final piece connecting the west of the river to the east side of the Flats.

Background Information Leading to Project Necessity and National Significance:
The Ohio Department of Transportation initiated the Cleveland Innerbelt Study in order to develop a strategy for the intelligent renewal of the transportation infrastructure. The condition of the Innerbelt Freeway’s infrastructure, consisting of bridge decks and roadway pavements, is a primary need and is approaching the end of its useful life.

Bridge No. CUY-90-1524, the Central Viaduct Bridge, carries I-90 over the Cuyahoga River Valley from Fairfield Avenue on the west to Ontario Street on the east. The overall structure is 5,079 feet long and has been in continuous service since opening in 1959. It spans the historic Cuyahoga River Valley and the Industrial Valley. Land uses under the bridge consist of commercial uses along the valley edge on sides of the river and sand and gravel storage/transshipment activities near the river. Just south of the Central Viaduct Bridge is the historic Tremont residential neighborhood which contains a large National Register Historic District adjacent to I-90. The Tremont neighborhood has struggled through an extended period of disinvestment and has recently emerged as a desirable urban residential neighborhood and destination entertainment area. The Central Viaduct Bridge is a primary river crossing, moving Interstate traffic from the south (I-71) and west (I-90) across the Cuyahoga River to the downtown distribution system of the Central Interchange and the Innerbelt Trench. There are four other river crossings available: the SR 2 Main Avenue Bridge, the U.S. 6/20 Veterans Memorial Detroit Superior Bridge, the SR 10 Lorain Carnegie Hope Memorial Bridge, and the I-
Of these, only I-490 serves Interstate traffic. The Central Viaduct Bridge is intertwined with the Central Interchange, in that several of the ramps in the Central Interchange connect directly to the Central Viaduct Bridge. The eight-lane Central Viaduct carries approximately 131,000 vehicles per day. The Central Viaduct is comprised of three structures. The rear approach structure spans over Fairfield Avenue, Abbey Avenue, and University Road. The main spans or truss spans pass over the Cuyahoga River, the Flats areas, the Norfolk-Southern trestle, Harrison Street, West Fourth Street, West Third Street, CSX System tracks and Canal Road. The forward approach structure spans over Commercial Road, Greater Cleveland Regional Transit Authority tracks.

On August 1, 2007, the I-35 Bridge collapsed in Minnesota, prompting the Federal Highway Administration to call on all states to immediately inspect any steel deck truss bridges similar to the bridge that collapsed. As a result, the Central Viaduct was identified for more thorough inspection. While in progress, the inspection consultant reported concerns to ODOT and FHWA. The consultant highlighted that gusset plates, floor beams, stringers and floor beam cantilever tie plates were in considerably worse condition than during the previous year’s inspection. A joint ODOT and FHWA field visit was held on November 6, 2007, to discuss the problems. ODOT and FHWA agreed to the need for immediate repairs, and that an extensive rehabilitation was required earlier than previously planned to preserve safe and efficient utilization of I-90. ODOT issued a news release December 20, 2007, announcing the need for separate repair and several rehabilitation projects. Immediate repairs occurred in the winter of 2007-2008. Additional repairs occurred during winter of 2008-2009. And further repairs were completed in 2009-2010. During the repairs, a major rehabilitation project was prepared to begin construction in 2010. This major rehabilitation project (CUY-90-15.24, PID 83680) was cleared under its own environmental document on 3/28/08 with a preliminary estimate of $178 million. As ODOT and their design team worked to develop the plans for the major rehabilitation, it was concluded that rehabilitating the existing bridge under traffic would have created a number of risks. After understanding the risks and the higher traffic demand, ODOT decided to move forward first with construction of a new westbound bridge just north of the existing, followed by the replacement of the existing bridge to accommodate the eastbound traffic on essentially the existing alignment. Each bridge would carry five lanes of traffic.

The new westbound bridge is currently under construction as planned. Following the completion of the new westbound bridge, six (6) lanes of bi-directional traffic will be placed on the new westbound structure as soon as it is completed. This will enable work to begin on the demolition of the old structure and construction of the new eastbound bridge. Bi-directional traffic will consist of four (4) westbound lanes and two (2) eastbound lanes. This is a key component of the eastbound bridge maintenance of traffic scheme and will allow for the closure and
demolition of the existing I-90 Central Viaduct and construction of a new five (5) lane eastbound bridge. With the existing bridge experiencing rapid deterioration, a truck detour has been implemented which will remain in effect until the existing bridge is taken out of service and traffic is placed on the new westbound bridge currently under construction. Removal of the truck detour will allow people and goods to move freely across the bridge.

The Cleveland Innerbelt Study resulted into seven major construction segments, called Construction Contract Groups (CCG), with some being further sub-divided to allow for the logical sequence of construction. In order to understand how this bridge replacement project fits into the long-term Innerbelt reconstruction plan, the seven groups have been detailed below:

- **Construction Contract Group 1 (CCG1):** Construct new westbound bridge north of existing Central Viaduct along with the westbound approach pavement, ramps and structures from I-90/I-490 to East 9th Street.
- **Construction Contract Group 2 (CCG2):** Demolish the existing Central Viaduct and construct a new eastbound bridge in its place along with the eastbound approach pavement, ramps and structures from I-90/I-490 to East 9th Street.
- **Construction Contract Group 3 (CCG3):** Reconstruct the Central Interchange, where I-77 terminates into I-90 and associated ramps and streets.
  - CCG3a: Reconstruct I-90 westbound from East 9th Street to East 22nd Street as well East 22nd Street. This project will also remove the Cedar Avenue bridge over I-90.
  - CCG3b: Improve I-77 from north of Kingsbury Run Bridge through the Central Interchange.
  - CCG3c: Reconstruct I-90 eastbound from East 9th Street to East 22nd Street as well portions of Ontario Street and Orange Street.
- **Construction Contract Group 4 (CCG4):** Reconstruct the Innerbelt Curve along with associated bridges and ramps.
  - CCG4a: Relocated the Easterly Interceptor combine sewer.
  - CCG4b: Rebuild the CSX railroad bridge over I-90.
  - CCG4c: Rebuild the Norfolk Southern railroad bridge over I-90.
  - CCG4e: Reconstruct I-90 mainline from Superior Avenue through the Innerbelt Curve.
- **Construction Contract Group 5 (CCG5):** Reconstrucit I-90 from East 22nd to Superior Avenue, also known as the Innerbelt Trench.
  - CCG5a: Reconstruct overhead bridges through the Trench including Prospect, Euclid, Chester and Payne.
  - CCG5b: Reconstruct I-90 eastbound in the Trench from East 22nd to Superior Avenue.
  - CCG5c: Reconstruct I-90 westbound in the Trench from East 22nd to Superior Avenue.
- **Construction Contract Group 6 (CCG6):** Improvements to I-77 south of Kingsbury Run Bridge.
  - CCG6a: Widen the I-77 bridge over I-490.
  - CCG6b: Various I-77 improvements south of I-490.
- **Construction Contract Group 7(CCG7):** Reconstruction of I-71 south of I-490 including bridge deck replacements and the addition of an I-71 southbound deceleration lane to SR 176 (Jennings Freeway).
Local and Regional Significance:
An efficient interstate system provides economic and social opportunities, better access to markets, employment and additional investments. Interstate 90 is an important transportation corridor crossing the United States from Boston to Seattle routing through Cleveland. Cleveland is situated within 500 miles of a substantial portion of the major markets in the US and Canada, and serves as a maritime transportation hub for the Great Lakes region. The Port of Cleveland includes 6500 linear feet of dock space and has excellent connections to three major interstates (I-71, I-77 and I-90), as well as the Norfolk and Southern and CSX railroads. Cleveland’s port handles an average of 13.1 million tons of cargo per year. Additionally, 90 percent of the cargo is produced or consumed within a 75 mile radius, which in turn provides the Cleveland area with 11,000 good paying jobs, $882 million in business revenues, $570 million in personal incomes and $200 million in local, state and federal taxes. The Cleveland Port is also a Foreign Trade Zone promoting American competitiveness by encouraging companies to maintain and expand their operations in the United States. The Foreign Trade Zone has been the catalyst for the creation of thousands of jobs. The new eastbound Innerbelt Bridge is a crucial component of maintaining this transportation network. Without it, the transportation of freight between the many transportation hubs would be tremendously hindered.

II. PROJECT PARTIES
The Ohio Department of Transportation (ODOT) is responsible for maintaining the Innerbelt Bridge and all other Interstate facilities associated with the Project.

ODOT is joined by the Northeast Ohio Area Coordinating Agency (NOACA), the Federal Highway Administration (FHWA) and the City of Cleveland as Project partners. These public improvements have guided by these Project partners in all aspects of the Project from public involvement to aesthetic designs. The Project also engaged a 70-member Innerbelt Advisory Committee as discussed in section IV.D of this narrative.

III. FUNDING COSTS FOR THE PROJECT
To date, the Ohio Department of Transportation has spent and/or allocated $12,700,000 to detailed design for this Project. It has also committed over 60% of the construction dollars required.

The TIGER IV grant funding will close the gap in funding for the Project and allow ODOT to move forward with replacing the existing Innerbelt Bridge. Without the TIGER IV funding,
ODOT will be forced to close the exiting Bridge due to its rapid deterioration and move all 8 lanes of traffic to the westbound Innerbelt Bridge currently being constructed, which will only carry 2 lanes of traffic inbound and 4 lanes of traffic outbound, effectively reducing the capacity of traffic into downtown Cleveland by 2 lanes.

### IV. SELECTION CRITERIA

#### A. Long-Term Outcomes:

1. **State of Good Repair:**

   *Existing Innerbelt Bridge Condition:*

   The existing bridge is rated in “Serious Condition,” meaning the primary structural components have experience loss of section, deterioration or spalling and local failures are possible. The existing structure was constructed in 1959 with a fifty (50) year design life, which has been exceeded. With the extreme winters experienced in the greater Cleveland area and heavy salt usage, the existing bridge continues to rapidly deteriorate. In addition to the rapid deterioration, the existing bridge is structurally and functionally obsolete. By todays design standards, the existing structure is deficient in many areas; namely shoulder width, cross-slope, joint design and it is a non-redundant (critical fracture) structure. This steel cantilevered deck truss is the same structure type of the tragic I-35 structure collapse in Minneapolis, Minnesota.

   In order to maintain the structure, the Ohio Department of Transportation has spent **$13,302,358** in various repairs (see section V for list of repair projects) that resulted from an in-depth investigation that included a 3D finite element analysis of the entire truss span. These repairs were intended to only keep the structure in service until the end of 2013, when traffic will be shifted the new westbound structure. ODOT’s design consultant has recently performed an updated analysis of the existing structure. A report was prepared on the scope and cost to perform another round of repairs to possibly extend the life of the structure past 2013. The repairs, too numerous to list, totaled more than **$65,000,000** for a 5-year fix and over **$89,000,000** for a 10-year fix.
As a result of the “Serious Condition” rating, the Ohio Department of Transportation has elected to inspect the bridge on a quarterly (every three months) cycle. A collapse of this critical structure would lead to a serious reduction in highway capacity as well as have negative impacts to the Great Lakes freighter traffic that serves the bulk industries along the Cuyahoga River, the NS, CSXT and GCRTA rail lines, city streets and industrial businesses, all directly underneath the structure.

Proposed Eastbound Innerbelt Bridge:

The proposed eastbound Innerbelt Bridge and included interchange and other structure improvements will complete the second piece of the larger Innerbelt Project, which has been studied, reviewed and approved by the Ohio Department of Transportation, Federal Highway Administration, NOACA (MPO) and the local stakeholders. The structure will be designed to meet today’s design standards of 75 years with no design-exceptions. The Project will improve the overall capacity of the facility leading to greater access to the Central Business District of Cleveland. Proper design of elements such as the pavement, drainage, storm water management and structural steel coatings will not only increase the life of the Project but in turn, reduce the life-cycle costs of the Project based on its current condition. With the new structure in place, yearly inspections can resume, drastically reducing inspection costs. In order to improve accessibility and mobility, the Project goals are:

- Improve access to industrial and employment areas without routing traffic through downtown neighborhoods.
- Increase access to downtown and tourist venues.
- Improve through traffic on the Innerbelt.
- Provide pedestrian/bicycle facilities where feasible.
- Improve access into/out of neighborhoods.

2. Economic Competitiveness

The Eastbound Innerbelt Bridge is the critical “next step” to the ongoing economic recovery of the Greater Cleveland area. This economically depressed area has experienced a surge of current and planned reinvestment in the areas of world renowned health care, technological innovation, advanced manufacturing, higher education, arts and culture, mixed use
development and jobs ready reclamation sites. This section of Interstate 90 is the main artery that connects both national and regional business life to the heart of the Cleveland Urban Core. In its current condition, this main artery is severely blocked, preventing the flow of traffic needed to support such critical investments as the new Medical Mart and Convention Center. This $465,000,000 investment of a class A exhibition hall, state of the art conference facilities, meeting rooms and permanent show rooms, serves as the vital connection of Cleveland’s numerous health care providers (Cleveland Clinic, University Hospital, MetroHealth Medical Center) to its national and worldwide customers. Appropriate access to these facilities is needed in order for one of Ohio’s largest employers to continue its global leadership and job growth in the medical field.

The Greater Cleveland Rapid Transit Authority (GCRTA) recently partnered with various entities such as the Federal Transit Authority, Federal Highway Administration, Ohio Department of Transportation and other partners to complete the $170,000,000 Euclid Corridor project, which provided an integral multi-modal connection between downtown (the urban core) and University Circle (concentration of medical industry). To support the growing medical industry, over $300M is being invested in mixed-use residential and retail development, known as Uptown, as well as on Euclid Avenue, which is described as Cleveland’s “Main Street” by the Downtown Cleveland Alliance. The commitment to Cleveland’s economic recovery in the medical field is evident by the Cleveland Clinic’s $500M investment in the Sydell and Arnold Miller Family Pavilion, which provides heart surgery facilities and physicians’ offices. Also, University Hospitals completed their $250M investment in their new Cancer Center. The U.S. Department of Veterans Affairs has committed to the national significance of this healthcare hub with its $520M renovation and expansion of the Louis Stokes Medical Center. The medical center is expected to bring another 1,200 jobs to complement the existing 1,500 already at the current campus. Both public and private investments have been made and are planned in order to ensure the ongoing success of Cleveland’s economic recovery and rise to global significance. The new eastbound Innerbelt Bridge construction is necessary for providing safe and efficient access...
to the above amenities in order for the current and future investments to reach their full economic potential.

Sustaining and growing Cleveland’s global leadership in the medical field, as well as other technology and manufacturing areas, is dependent on investment in the future workforce. Major investments have been made along the Interstate 90 Corridor by educational institutions that are determined to attract, educate, and maintain an educated workforce locally, nationally and internationally. Cleveland State University recently invested over $150M in the construction of a new Student Center, College of Education & Human Services, Euclid Commons and College Town. Cuyahoga Community College opened its $30M Center for Creative Arts at its Metro Campus. It is become increasingly more difficult to provide adequate access to these new investments.

Access to the industrial Flats underneath the Innerbelt Bridge will be drastically improved by relocating and extending East 9th Street into the Flats to avoid one of the busiest intersections in Northeast Ohio, Carnegie and Ontario. Cleveland’s significance in arts, culture and entertainment fuel the congestion along Interstate 90 and its confluence with Interstates 77 and 71. The existing highway facility cannot adequately serve the numerous events currently occurring in the downtown area including the Cleveland Browns, Indians, Cavaliers, Orchestra, Playhouse Square, Rock and Roll Hall of Fame, Science Center and many others. This will be further exacerbated when the construction of the $350M Horseshoe Casino is complete. This new entertainment venue that is expected to draw nearly 5 million annual visits to downtown will create approximately 1,600 jobs if it can be properly accessed. Other major investments in the areas of arts, culture and entertainment dependent on visitation include the $350M renovation and expansion of the Cleveland Museum of Art, as well as the $60M renovation and expansion of the Cleveland Institute of Art’s Joseph McCullough Center for the Visual Arts.
Cleveland has a rich heritage that dates back to its early history. The city was settled, developed and prospered due to its significant location along Lake Erie and the Cuyahoga River. This ideal location adaptively served to connect the region and nation as the primary mode of transportation changed over the course of time between maritime, railroad, air and highways. The Cuyahoga River, which once served as a key element in accelerating Cleveland’s economic engine, may now threaten its recovery if the River Valley cannot safely and efficiently be crossed via the interstate. The various geographical districts, businesses and residents that populate both sides of the meandering, or “crooked” river, are dependent on each other for prosperity.

The Tremont district, on the southeast end of the bridge, originally served as a community of the numerous workers who were employed at the once thriving steel mills along the Cuyahoga River. The area became economically depressed as the industry suffered. The neighborhood has survived and adapted to the devastating effects of the decline of the steel industry as well as the division of its community into four isolated sections by the state highway system. Now, approximately $40M per year is invested in the redevelopment of Tremont into a multi-cultural, mixed-use heritage community that provides a diverse workforce, restaurants, specialty shops, boutiques and shopping for the downtown businesses across the river. Delay in constructing the Innerbelt eastbound bridge will indefinitely close the main access ramp for the Tremont area. This ramp has been closed for significant durations numerous times due to repairs on the aging structure. The Tremont West Development Corporation estimates that many businesses in the area suffered an approximate 40 percent drop in business due to the closure. Once again, the highway system plays a critical role in the prosperity of this community. A long term delay in the bridge construction threatens current and future investments in this Neighborhood Stabilization Program (NSP) target zone community. Across the river on the East Bank of the Flats, an estimated $275M is being invested in the redevelopment of the deserted entertainment district into a mixed-use office, residential and entertainment area, including a 14 acre public park, riverfront boardwalk and office tower. Again, the success of this investment is dependent on the prosperity of the adjacent urban core, which is dependent on adequate access via Interstate 90.
The Project will also create a vital link to the Towpath Trail, which is a multipurpose trail connecting the Cuyahoga Valley National Park with downtown Cleveland at the proposed Canal Basin Park. The trail will also travel through the 600,000 sq. ft. Steelyard Commons retail development connecting economically distressed neighborhoods to retail options and jobs by modes other than vehicular.

The Port of Cleveland is situated within 500 miles of a substantial portion of the major markets in the US and Canada, and serves as a maritime transportation hub for the Great Lakes region. Cleveland’s port handles an average of 13.1 million tons of cargo per year. Additionally, 90 percent of the cargo is produced or consumed within a 75 mile radius, which in turn provides the Cleveland area with 11,000 good paying jobs, $882 million in business revenues, $570 million in personal incomes and $200 million in local, state and federal taxes. The Cleveland Port is also a Foreign Trade Zone promoting American competitiveness by encouraging companies to maintain and expand their operations in the United States. The Foreign Trade Zone has been the catalyst for the creation of thousands of jobs. The new eastbound Innerbelt Bridge is a crucial component in increasing the efficiency of exports. The Cleveland Port exported $36,264,409 of goods in 2010, which was an increase of 85.05% from 2009. Without the eastbound bridge, the export of goods from the port to consumers would increase costs and decrease efficiency. The Texas Transportation Institute estimates that the cost of congestion to the average commuter is $713 while wasting 14 gallons of fuel. Without the eastbound bridge, the average yearly cost of congestion for commuters using the Innerbelt Bridge would be $101,246,000, and would waste 1,988,000 gallons of fuel. The construction of the eastbound bridge would alleviate congestion therefore saving time, money and fuel.

Interstate 90 is not only an important national highway, it is vital to the current/future development in Cleveland. Cleveland is ranked in top 50 cities in the world, and top ten in the US for economic recovery according to the Brookings Institute. The Cleveland metropolitan area experienced the fastest job growth market in 2010 with a 7.6 percent unemployment rate through September 2011, which was the seventh lowest in the nation for areas over 1.5 million in population. These favorable ratings are due largely to location and accessibility. Cleveland is centrally located in the most populated region in the US; ranked first in the Midwest and fourth in the US as a prime location for logistics management; is within a one-day drive, or two hours of air travel, to 50 percent of the US population; and has an excellent highway infrastructure. Cleveland has approximately $5 billion in current or future projects. None of this would be possible without Interstate 90 and the eastbound Innerbelt Bridge; a vital transportation network.
3. Livability:

While this is predominantly a bridge project, the Project seeks to enhance the livability of the adjacent neighborhoods. This will be achieved by increasing neighborhood access to Interstate 90, providing a vital link to the Towpath Trail, creating the connection between neighborhoods with a shared use path and providing aesthetic enhancements. This Project will also complete a multi-use path along Carnegie/Orange and E. 9th Streets to provide access to the east bank of the Cuyahoga River. There are several neighborhoods that will directly benefit from these enhancements: Tremont, Ohio City and the Industrial Valley. The Tremont and Ohio City neighborhoods are served by a split diamond interchange with one half located on the south end of the neighborhood near the SR 176 (Jennings Freeway) and I-71 merge. The other half of the interchange is located at the north end of the neighborhood at the Abbey Avenue and West 14th Street intersection near the southern end of the Central Viaduct Bridge. While the southern half of the interchange is important to the Industrial Valley Neighborhood, the northern half is important to the Tremont neighborhood. The existing pattern of redevelopment within the Tremont and adjacent Ohio City neighborhoods has taken advantage of the access to and from the Innerbelt Freeway and Central Business District that this northern half of the interchange provides. Within the interchange, local roadway connections are provided that directly connect the Tremont and Ohio City neighborhoods. Ease of access has enabled the development of a large concentration of infill housing, restaurants and businesses that cater to Central Business District workers. Abbey Avenue provides access to businesses and attractions in Ohio City for both Central Business District and Tremont travelers. Loss of connectivity to these important resources is inconsistent with current development patterns.

The Towpath Trail has become a defining feature in the Cuyahoga Valley landscape. Constructed 175 years ago as part of the Ohio & Erie Canal, it began as a simple dirt path on which to lead animals pulling canal boats. Today it has become an extraordinary recreational amenity highlighting Cleveland’s industrial river valley, and serving both its surrounding neighborhoods and the region. The National Park Service converted approximately 20 miles of the towpath into a multi-use trail that receives more than 1.7 million users per year. The
success of the towpath has sparked the Cuyahoga County Planning Commission to sponsor several projects to complete the last six miles. The Innerbelt Bridge Replacement Project will provide the vital link between stage four and five of the overall multi-staged project. This will provide much needed multimodal access to introduce new visitors to these distinct historical neighborhoods, and be a catalyst for economic revitalization. This multi-modal trail will:

- Provide economic stimulus to neighboring communities through increased neighborhood connectivity, providing increased access to restaurants and shopping.
- Provide additional access to green space through environmental regeneration.
- Integrate the Towpath Trail into Cleveland’s citywide bicycle plan which will provide bicycle connectivity throughout the entire metropolitan area, strengthening the connections between communities.
- Protect waterways, wetlands and other natural resources through environmental regeneration and the creation of additional green space.

During the extensive public involvement throughout the NEPA process, a noise analysis determined that this Project was eligible for noise abatement, but the majority of residents preferred vegetative screening in lieu of noise barriers. While this does not provide noise abatement, it enhances the visual appeal of the neighborhoods, and the harmony between humans and their environment. As part of the overall Project development, the Ohio Department of Transportation has received considerable input from local residents, community groups, Project stakeholders, local officials and other groups regarding Project aesthetic preferences to be incorporated into the final design of the Project which will encourage economic and urban development opportunities. This Project will integrate the use of public art in the design.

4. Environmental Sustainability

Air Quality

Given that air pollutants are not predicted to exceed the National Ambient Air Quality Standards in the future as a result of this Project, no impacts are anticipated and mitigation measures for air quality are not necessary for the Project.
**Storm Water Management**
The existing drainage within the Project area is primarily conveyed through various combined sewer systems. As a result of the coordination with the Northeast Ohio Regional Sewer District (NEORSD), this Project will reduce the flow into the combined sewer system outfalls (CSO’s) by removing four (4) acres of runoff. Other measures will be taken to design storm-only drainage systems to further reduce the storm water flows into the CSO system. Storm water will be treated using appropriate Best Management Practices (BMP’s). Storm water will be treated with underground detention systems vegetated bio-filters and exfiltration trenches.

**Green Bulkheads**
The area of the river that crosses underneath the Innerbelt Bridge is part of a shipping channel that is maintained as a Federal Navigation Channel and approximately 5.6 miles long. Virtually the entire length of the channel is comprised of armored vertical bulkhead. This current configuration creates a very hostile habitat for larval fish due to higher temperatures, lower dissolved oxygen levels and lack of food and shelter.

This Project will reconstruct the portions of bulkhead within the Project limits and include two green bulkhead additions in order to provide larval fish habitats during migration. These green bulkhead additions shall be self-sustainable and require minimal maintenance. The pocket habitat shall utilize aquatic plantings and design elements that will provide cover for the fish and increase dissolved oxygen levels.

**Sustainability Plan**
As part of the construction contract, the contractor shall submit a Sustainability Plan to ODOT that will describe the contractor’s approach and commitment to sustainable construction practices. The plan shall, at a minimum, describe the contractor’s approach to the following:
A. **Energy and Energy Efficiency:** Minimizing energy and fuel usage during construction. Innovative ideas for incorporation of energy generation and use of renewable energy sources.

B. **Community Environment.** The Sustainability Plan shall describe the contractor’s commitment to environmental quality and enhancement, including: a. Minimizing air quality degradation during construction. b. Proposals for quantifying and minimizing the Project’s carbon footprint.

C. **Green Building.** The contractor shall locate the construction field office in existing, currently unused office space. The contractor may propose the use of a LEED (Leadership in Energy and Environmental Design) certified Green Building for the construction field office. If the contractor makes this commitment, certification will be required per the third party independent certification procedures defined by the U.S. Green Building Council.

D. **Waste Reduction and Recycling.** The Sustainability Plan shall describe the contractor’s approach to minimizing the amount of waste generated by the Project. The plan shall also describe the contractor’s plans for maximizing the re-use of materials, including construction material from structures and facilities demolished as part of this Project. The contractor may also include plans to incorporate into the Project recycled materials generated off site.

In addition, the contractor shall demonstrate a commitment to sustainability and shall propose additional efforts to maximize the implementation of sustainable practices in all aspects of the Project.

**Energy Saving Technologies**
The eastbound Innerbelt Bridge will feature low-energy color changing LED aesthetic lighting on the steel framing and piers of the bridge. The city street grid will also feature aesthetically pleasing LED street lighting.
5. Safety

The Innerbelt Construction Contract Groups will improve safety in multiple aspects. Just as demolition of the rapidly deteriorating existing bridge and construction of the new bridge address the structural safety issues, the design of roadway elements to current design standards along with the increase in capacity will improve safety by reducing accidents both along the I-90 mainline and in the segments of the various connecting highways.

There is a direct correlation between the system configuration, operational performance, and safety. Based on crash analysis, safety problems associated with the design (design deficiencies) and operational performance of the freeway have been identified. The crash rate for eastbound I-90 (2.76/MVM) is 2.3 times higher than the regional freeway average of 1.2/MVM and 3.1 times higher than the statewide urban Interstate average of 0.877/MVM. Rear-end crashes account for 66.3 percent and 63.9 percent of crashes in the eastbound and westbound directions, respectively. These rates are approximately 2.5 times the statewide average of 26 percent. In the eastbound direction, the elevated crash rate can be attributed primarily to the inability of drivers to safely adjust their travel speed in response to the daily recurring congestion that results from the numerous closely spaced entrance and exit ramps. The Project will include crash reduction countermeasures such as congestion relief, increased capacity, ramp elimination, and ramp adjustments. These countermeasures are expected to produce an annual reduction of approximately 26 crashes per year in this segment. However, the improvements made in this construction group will reach far beyond the project limits, as the current congestion backs up traffic along multiple freeway segments that merge with I-90 just upstream. Improvements in capacity in the project area will allow the connecting freeway segments to flow more freely. For example, ODOT has initiated a project (CUY-90-14.08, PID91530) that has analyzed and will design an improvement to the I-90 eastbound, State Route (SR) 176, and I-71 interchange. The crash analysis for this project indicates an expected annual reduction of 10.33 accidents per year in a segment that annually experiences around 70 crashes per year. It is expected that the other freeway segments which converge with I-90 will also realize significant improvements in safety when the capacity issue of the I-90 mainline section is addressed with CCG2.

Two segments, located within the project limits, are ranked in the top ten on the safety priority list for Interstates in Ohio. The major contributing elements to the high crash rate are the inadequate acceleration, deceleration, weave and ramp terminal spacing lengths. Ramps will be reconfigured to meet design standards and future traffic demands. Since operational performance and safety are directly linked to the roadway configuration, improving them includes correcting the existing freeway configuration to modern standards. During the Planning Phase of the Project, the Study determined three types of design...
deficiencies in particular contribute to safety and operational performance problems along the Innerbelt Freeway: (1) improper reductions in the basic number of lanes (freeway); (2) inadequate acceleration, deceleration, weave or terminal spacing lengths (freeway ramps); and (3) inadequate curve radius (freeway mainline).

The new Innerbelt bridge will be 100% design compliant (i.e. no design exceptions necessary) and meet all current design standards. Proper shoulder width, cross-slope and drainage will be provided as well as slope stabilization. These improvements will allow for improved reaction distance for drivers, emergency break down areas for motorists reducing the rate and consequences of crashes and giving ODOT the confidence on the stabilized slope supporting the new bridge. The construction of CCG2 will result in substantial safety improvements that are quantified in more detail in section E.

B. Job Creation & Near-Term Economic Activity

Job Creation and Retention

The eastbound Innerbelt Bridge Project schedules fall perfectly into the requirements set forth in the Notice of Funding Availability of obligating the TIGER IV funds no later than June 30, 2013. With the design and award of these projects, over 4,700 job-years will be created, using the Executive Office of the President, Council of Economic Advisers September 2011 methodology to estimate the economic impact of government investment. Job creation will begin as early as February 2013, when the demolition contract is awarded and will last for over four 4 years while the Projects are completed.

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demolition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jobs</td>
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<td>10</td>
<td>10</td>
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<td>108</td>
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<tr>
<td>EB Innerbelt Bridge</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
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<td>100</td>
<td>100</td>
<td>100</td>
<td>60</td>
<td>19%</td>
</tr>
</tbody>
</table>

In addition to the direct job creation, the Innerbelt Bridge Project is critical to Cleveland’s Central Business District (CBD) and the Tremont and Ohio City neighborhoods adjacent to the southern terminus of the Project. With over $5,000,000,000 of economic development currently under construction and planned (see Economic Competitiveness section) in the CBD which plan to create 25,870 jobs, efficient highway access to and from the CBD is a huge part of the success of these investments to the region. The Project will also complete more direct Interstate access to the industrial Flats via the new eastbound exit ramp to the realigned East 9th Street, preserving the bulk freight business (see Local and Regional Significance section).
Equal Opportunity

The eastbound Innerbelt Bridge Project will set a Disadvantaged Business Enterprise Program (DBE) goal of 15 percent. This same goal was set and is being achieved on the current westbound Innerbelt design-build Project; see report CCG1 DBE Report. To assist in achieving this goal, the contractor will be required to hire a Diversity and Inclusion Consultant familiar with the Disadvantaged Business Enterprise (DBE) Community in the area to specifically communicate employment opportunities including on the job training opportunities, consulting opportunities, contracting opportunities and materials supply opportunities. This consultant should have experience with the DBE program and dealing with DBE eligibility and certification issues. The consultant should develop innovative and aggressive strategies to attract and retain a diverse pool of vendors, consultants, contractors and suppliers for the Project’s procurement opportunities, and to recruit potential DBEs eligible for certification.

C. Innovation

Due to the rapid increase in deterioration of the existing bridge, congestion in the corridor causing accidents, construction inflation continuing to climb, and funding becoming scarcer, the Ohio Department of Transportation aggressively sought innovative means to deliver the proposed Construction Contract Groups (CCGs) to address the needs of the I-90 corridor. The West Bound Bridge (CCG1) was established as a value based design build contract in order to create a highly competitive bidding environment that emphasized speed, innovation, quality, and cost effectiveness. The submitted construction bids were subject to an adjustment factor specifically weighted in the categories of sustainability, design management, proposed design, construction management, construction, quality management, schedule, community relations, on the job training, and bridge aesthetics. As a result, CCG1 was awarded at approximately $105M lower than the engineer’s estimate.

One of the most significant innovations introduced by the design build contractor was the implementation of Super H-Piles for bridge foundations. The Innerbelt was one of the first bridge projects in the United States to incorporate the HP 18x204 section, which was introduced to the market in 2011. Previously, the largest H-Pile shape was an HP 14x117 using 50 ksi steel. Usage of these larger piles with Grade 60 steel resulted in tremendous savings for the Contractor. The Contractor estimated that the HP 18x204 resulted in a savings of 65,300 linear feet of pile and 40% savings in material cost, or approximately $3.2M. Additional labor savings were
realized. The Contractor also incorporated an innovative pile load test program that allowed for a production hammer of reduced size. The GRL APPLE IV dynamic load testing system allowed for proving of pile capacities during re-strike.

Other innovations included a modification in the profile design that allowed a reduction of more than ten (10) feet in the elevation of the roadway section, thereby creating a more efficient balance of earthwork, structures, and approaches. The successful contracting team answered the invitation for innovation by implementing the delta frame girder design for the new bridge. This structure type achieved an ideal balance in construction cost efficiency while creating a bridge of significance that complemented the numerous other structures within the valley, respected the industrial past of Cleveland, and created a unique identity that represented Cleveland’s progress and revitalization into the 21st century.

Since the eastbound bridge in CCG2 will match CCG1, the innovations used by the design build team in CCG1 will be realized again in CCG2. For example, the slope on the west bank of the river will be unloaded for both structures, allowing the bridge spans to be reduced from 900 feet in length to a maximum of 380 feet.

Another critical element in the success of the projects is the maintenance of traffic on an already under capacity system. An in-depth traffic model was developed during the project development phase to best understand and manage the traffic impacts on the connecting street grid. This model was handed over to the successful bidder and used to make real time adjustments, in partnership with the City of Cleveland Traffic Department, to the local traffic system during the various construction phases of CCG1. The investment made during preliminary development continues to pay dividends during construction, and will again be used to optimize traffic on the street grid for Construction Contract Group 2. Innovative approaches in traffic management both on the downtown urban core street as well as on the freeway system is critical with these construction contracts in order to minimize impacts on access and user costs incurred due to delayed travel times.

**Intelligent Transportation Systems (ITS)**

ODOT is in the process of installing a regional freeway management system that incorporates multiple ITS devices, including Highway Advisory Radio, closed circuit television, dynamic message signs, vehicle detectors and related support technologies. The system covers portions of Cuyahoga, Lake, Lorain, Medina, Portage and Summit Counties. This system shall be used in conjunction with the portable changeable message signs to inform drivers of relevant travel information during the project. The eastbound Innerbelt project will be designed to accommodate and utilize the ITS to effectively distribute traffic around the Central Business District.
D. Partnership

The public involvement process as outlined in ODOT’s Project Development Process and its Public Involvement Guide has been an integral part of the Project from its inception, and will continue to guide public involvement activities as the process moves through the remaining Project Development Process steps. Public involvement efforts included: coordination with the City of Cleveland and the Cleveland Urban Core Projects Advisory Committee, consisting of 70 stakeholder organizations; stakeholder meetings; public meetings; newsletters; and a Project website.

Advisory Committee

- AAA East Central
- Burton Bell Carr Development Corporation
- Campus District Inc.
- City of Cleveland
- City of Cleveland Chief of Staff (Mayor’s office)
- City of Cleveland Engineering & Construction
- City of Cleveland Planning Commission
- City of Cleveland Public Service
- City of Cleveland Traffic Engineering
- Cleveland Cavaliers/Quicken Loans Arena
- Cleveland City Council
- Cleveland Industrial Retention Initiative
- Cleveland Landmarks Commission
- Cleveland-Cuyahoga County Port Authority
- Cleveland Neighborhood Development Coalition
- Commission on Catholic Community Action
- Cuyahoga County Engineer
- Cuyahoga County Planning Commission
- Cuyahoga Metropolitan Housing Authority
- Detroit Shoreway CDC
- Downtown Cleveland Alliance
- Federal Highway Administration
- Greater Cleveland Regional Transit Authority
- Greater Cleveland Partnership
- GreenCityBlueLake Institute
- Historic Gateway Neighborhood Corp.
- Historic Warehouse District Development
- Maingate Business Development Corp.
- Mid Town Cleveland, Inc.
- Mt. Sinai Ministries
- Northeast Ohio Areawide Coordinating Agency
- Northeast Ohio Regional Sewer District
- Ohio & Erie Canalway Association
- Ohio City Near West Development Corp.
- Old Brooklyn Community Development Corp.
- Slavic Village Development
- St. Clair Superior Development Corp.
- St. Augustine Church
- Stockyard, Clark-Fulton & Brooklyn Centre
- Tremont West Development Corporation

The Project is fully supported by the community and community leaders have provided letters of support for the replacement of the Innerbelt Bridge.
E. Results of Benefit-Cost Analysis

Executive Summary:

A benefit-cost analysis was performed for the eastbound Innerbelt Bridge replacement Project TIGER IV grant application. The benefit-cost analysis spreadsheet shows exactly how benefits and costs were calculated for the project. The summary tab is a summary of the net present value of both benefits and costs. Analysis was completed with a discount rate of both 3% and 7%.

The benefits of the project are clear and will be discussed in more detail below. Figure 1 shows a summary of the issues the project solves and the benefits that arise from those solutions.

Figure 1: Project Benefit Matrix:

<table>
<thead>
<tr>
<th>Current Status/ Baseline &amp; Problem to be Addressed</th>
<th>Change to Baseline/ Alternatives</th>
<th>Type of Impacts</th>
<th>Population Affected by Impacts</th>
<th>Economic Benefit</th>
<th>Summary of Results (3% Discount)</th>
<th>Page Reference in BCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insufficient number of travel lanes/Vehicle Delay Reduction</td>
<td>New Structure with additional capacity</td>
<td>Added capacity, new alignment, design standards met</td>
<td>131,000 (Average Daily Traffic)</td>
<td>Monetized value of reduced travel times and delay</td>
<td>$2,793,324,382</td>
<td>‘Delay Reduction’</td>
</tr>
<tr>
<td>Insufficient number of travel lanes/Emissions Reduction</td>
<td>New Structure with additional capacity</td>
<td>Added capacity, reduced delay</td>
<td>2,150,000 (Regional Population)</td>
<td>Monetized value of reduced vehicle emissions to the region</td>
<td>$525,272,991</td>
<td>‘Other Emissions Reduction’ &amp; ‘CO2 Emissions Reduction’</td>
</tr>
<tr>
<td>Insufficient shoulder width, drainage and number of travel lanes/ Crash Reduction</td>
<td>New Structure on new alignment designed to current standards</td>
<td>Improved geometrics, drainage and ramp configurations; reduced delay and travel time</td>
<td>131,000 (Average Daily Traffic)</td>
<td>Monetized value of reduced crash rates</td>
<td>$7,604,970</td>
<td>‘Safety Summary’</td>
</tr>
<tr>
<td>Insufficient shoulder width, drainage and number of travel lanes/Operating Cost Savings</td>
<td>New Structure on new alignment designed to current standards</td>
<td>Improved geometrics, drainage and ramp configurations; reduced delay and travel time</td>
<td>131,000 (Average Daily Traffic)</td>
<td>Monetized value of reduced operating costs</td>
<td>$12,581,829,326</td>
<td>‘Operating Cost Savings’</td>
</tr>
</tbody>
</table>
In addition to the benefits of the project, the costs can be seen in the cost benefit analysis spreadsheet. The total construction cost of the project is $317,000,000 and is broken down by year in the cost benefit analysis spreadsheet. Little maintenance of the structure is expected, but $50,000 has been budgeted for 2023 and 2033.

**Project Benefit Measurement**

The measurable benefits of the Innerbelt Bridge project fall into four major categories: Vehicle Delay Reduction, Emissions Reduction, Crash Reduction, and Operating Cost Savings. The monetary values of these benefits can be found in the cost benefit analysis spreadsheet. There are a few separate inputs into the cost benefit analysis. The key input is from the Ohio Statewide Travel Demand Model (OSWTDM). More information on the modeling procedure used can be found under the Modeling Procedure section below.

A second source of inputs into the analysis is a crash analysis. The crash analysis took existing crashes at the intersection and applied transportation improvements to the corridor to calculate the reduction in crashes if the project is built. The transportation improvements used were congestion relief, increase number of lanes, ramp elimination, and ramp adjustment. These transportation improvements correspond with crash adjustment factors that figure out a reduction in crashes. The attached cost benefit analysis spreadsheet shows the steps in the crash reduction analysis. Crashes severity was initially rated using KABCO, but was transferred into AIS using the guidance provided by USDOT.

**Modeling Procedure**

Highway user benefit analysis was conducted comparing the highway road user costs with and without the improvements associated with the Cleveland Innerbelt project. The analysis was conducted with the Ohio Statewide Travel Demand Model (OSWTDM) and the Congestion Management/Air Quality Analysis (CMAQ) post processor as documented below. The OSWTDM is a peer reviewed advanced travel demand model incorporating the latest innovations including integrated econometric/land use modeling, disaggregate microsimulation of both passenger and local service/delivery/business travel and an aggregate commodity based approach to long distance freight movements.

The CMAQ process is ODOT’s standard tool for conducting planning level congestion analysis and air quality conformity analysis and can also be adapted to provide user benefits analysis. This tool has been approved via inter-agency consultation with the various transportation stakeholders for these uses. It’s primary function is to take travel demand model volumes by model period (usually daily volumes, sometimes peak periods) and disaggregate them to individual hours/directions, calculate revised hourly average speeds for each road segment based on these volumes and then apply emissions rates and conduct capacity/level of service analysis and summarize the results.
The analysis of this project previously conducted for ODOT’s TRAC scoring was used and modified as discussed here. The previous model was modified to include the full “Build” condition. To begin, the current base models of record (the model of record is a time series of model runs into the future using the official demographic/employment forecasts and ODOT’s STIP/LRP highway projects in the future) for years 2015 and 2030 were used as the basis of the analysis (OSWTDM is only run on even 5 year increments, these 2 analysis years were chosen as most representative of the project opening/out years). From these, subarea origin-destination trip tables and networks were extracted. The project was coded to the network. Additionally, for this analysis (unlike the original TRAC analysis) the no build condition was changed to reflect the new westbound Innerbelt Bridge (6 lane) already under construction and removal of the existing bridge (8 lane). Then high convergence assignments were run for each analysis year for build and no build. The subarea extraction was necessitated by the extremely high convergence needed to compare build/no build for the benefit cost analysis which takes too long to run on the full statewide model (500 model iterations were used which would take about a week for each scenario). The subareas were selected by first conducting a low convergence run on the full model and then extracting those areas with exhibiting non-trivial volume change.

The volumes from the travel models were then input to the CMAQ process. To generate the requested emissions, emission factors generated in the USEPA MOVES program were used. These emission factors were generated using the inputs/methodology approved by for use in Ohio conformity/State Implementation Plan analyses by the transportation/air quality stakeholders via inter-agency consultation. Statewide emission factors do not exist since the required inputs to MOVES are region specific because normal conformity/SIP analyses are conducted for non-attainment regions only, not the entire state. Therefore, for this analysis, emission rates generated for the Akron area were used since they have already been generated and have a similar climatic profile to Cleveland. Vehicle based emissions were ignored for this study, since there was no proposal to change the size of the vehicle fleet (this assumption thus provides a conservative estimate of project benefits since we are not taking credit for a vehicle fleet reduction that could occur if the project were built). Because the approved processes in Ohio have slightly different inputs for Ozone versus PM2.5 pollutants, 2 sets of emission factors were used for each analysis year. The CMAQ process generates various outputs. The MOVES emissions summary report was used to obtain the daily emissions in tons.

<table>
<thead>
<tr>
<th>Benefit Summary</th>
<th>3%</th>
<th>7%</th>
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<tbody>
<tr>
<td>Construction Cost</td>
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<td>$272,160,238</td>
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<tr>
<td>Evaluated Benefits</td>
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</tr>
<tr>
<td>Vehicle Delay Reduction</td>
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<td>$1,837,576,612</td>
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<tr>
<td>Emissions Reduction</td>
<td>$525,272,991</td>
<td>$428,921,430</td>
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<tr>
<td>Crash Reduction</td>
<td>$7,604,970</td>
<td>$5,410,220</td>
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<tr>
<td>Operating Costs Savings</td>
<td>$12,581,829,326</td>
<td>$8,204,446,997</td>
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<td>Total Evaluated Benefits</td>
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<td>$10,476,355,259</td>
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<td>Net Present Value</td>
<td>$15,611,616,635</td>
<td>$10,204,195,021</td>
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<tr>
<td>Benefit Cost Ratio</td>
<td>52.67</td>
<td>37.49</td>
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</table>
V. PROJECT READINESS

Project Schedule

The Projects will be able to obligate the TIGER IV funds prior to June 30, 2013 according to the most current Project Schedule. The contractor would begin the creation and approval of the demolition plan in February of 2013 with actual demolition to begin by October 2013 taking about six months to complete. Upon completion of the demolition, construction of the new eastbound Innerbelt Bridge would begin (anticipated April 2014) and take about four 4 years to complete.

Environmental Approvals

Prior to the authorization of detailed design for these Projects Federal, State and local environmental regulations and policies were met and the National Environmental Policy Act (NEPA) process was completed in July 2009 with completion of the Draft Environmental Impact Statement (DEIS) and the Final Environmental Impact Statement (FEIS). Federal approval of the Record of Decision (ROD) was obtained on September 18, 2009. In addition to the ROD, further coordination with Federal and State regulatory agencies for Army Corps of Engineers Section 404 Permit, Army Corps of Engineers Section 10 Permit, U.S. Coast Guard Section 9 Permit, and Ohio EPA Section 401 Water Quality Certification are required and will be completed by October 1, 2012.

State and Local Planning

This is a high priority Project for the City of Cleveland. The City continues to be an involved partner, as is the case on the westbound bridge currently under construction. Mayor Jackson has provided a letter of support that is included in the Partnership section of this application. Also, the 44 local public officials that make up the NOACA Governing Board passed resolution 2012-011 on February 10, 2012, recognizing the Innerbelt Bridge Project as vitally important to Greater Cleveland, is a crucial transportation link to statewide & national significance, is essential to economic development in Greater Cleveland, and that delay of this Project would undoubtedly create extraordinary safety and congestion problems. The Board urged ODOT to find a solution to the funding problem for the bridge to ensure that this critical infrastructure Project is completed as originally scheduled. The Board pledged to partner with the state to help address these fiscally challenging times. Both the Demolition and New Eastbound Bridge Projects are on the Transportation Improvement Program (TIP).
Technical Feasibility

The CCG2 EB Innerbelt Project has been broken down into its two respective Projects for reasons of detailed design and construction sequencing; (1) demolition of the existing bridge and (2) construction of the new eastbound bridge. Right of way is currently being acquired for demolition of the existing bridge and a conditional right of way certification will be issued in order to sell the Projects on time. With the current design schedules for both parts of the Project and current construction schedule of the new westbound Innerbelt Bridge, both Projects are technically feasible to construct on schedule with funding obligated no later than June 30, 2013.

Previous Investments:
Beginning in 1998, the Ohio Department of Transportation began studying the Cleveland Innerbelt. Continued development of the environmental document occurred through 2007, when the I-35 Bridge collapse prompted FHWA and ODOT to take a closer look at the existing Innerbelt Bridge. This more detailed inspection prompted several emergency repairs of the past 5 years, including one currently under construction, in order to maintain the structure is safe operating condition. In the past 15 years alone, there have been 10 repair projects consisting of stabilizing Pier 1 due to slope movements on the west end slope, raising and jacking of spans 1 and 2 due to the slope movements (two times), and several steel repair projects totaling $13,302,358. In 2010, a design-build project was sold for $287,400,000 to construct a new structure, north of the existing, to move traffic off of the existing as soon as possible. This bridge will be open in the fall of 2013.

The Ohio Department of Transportation has spent just under $110,000,000 in preliminary design and advanced right of way acquisition on the Innerbelt Corridor projects over the past 15 years.

To date, $3,192,604 has been spent for design development of the proposed eastbound bridge and demolition of the existing bridge. Another $9,075,756 has been authorized to complete the design.

<table>
<thead>
<tr>
<th>PID</th>
<th>SALE DATE</th>
<th>CONSTRUCTION COST</th>
<th>PER/W</th>
<th>PROJECT DESCRIPTION</th>
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<tr>
<td>PID 12674</td>
<td>6/19/1997</td>
<td>$ 6,790,894.82</td>
<td>$ 65,260,661.55</td>
<td>Stabilization Structure &amp; Span Jacking</td>
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<tr>
<td>PID 77729</td>
<td>N/A</td>
<td>$ 2,648,407.00</td>
<td>$ 123,824.94</td>
<td>Deck replacement on the east approach &amp; initial gusset plate repairs</td>
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<tr>
<td>PID 77731</td>
<td>7/22/2009</td>
<td>$ 18,198,200.00</td>
<td>$ 2,688,073.89</td>
<td>District 17 ITS - Freeway Management System</td>
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<tr>
<td>PID 77750</td>
<td>N/A</td>
<td>$ 10,106,520.82</td>
<td>$ 10,106,520.82</td>
<td>Environmental documentation and preliminary development</td>
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<td>PID 82699</td>
<td>9/16/2009</td>
<td>$ 2,512,530.00</td>
<td>$ 1,025,525.83</td>
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<td>PID 82072</td>
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<td>PID 85049</td>
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<td>$ 2,151,910.00</td>
<td>$ 17,131.57</td>
<td>Widen &amp; extend ramp 77 to create additional temporary lane for Innerbelt MOT</td>
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<tr>
<td>PID 88431</td>
<td>8/5/2010</td>
<td>$ 297,400,000.00</td>
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<td>New WB Innerbelt Bridge - Design Build (CCG1)</td>
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<td>PID 90029</td>
<td>2/24/2012</td>
<td>$ 260,000.00</td>
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TOTAL: $ 321,642,466.82 $ 100,987,517.58
Project Management Plan:
The Ohio Department of Transportation, together with the Federal Highway Administration, developed a comprehensive Project Management Plan for the Cuyahoga Interstate Route (IR) 90 Cleveland Innerbelt Project in accordance with the requirements of Section 106, Title 23, and the Management Plan Guidance issue by the Federal Highway Administration. The plan provides detailed management processes and policies related to design, right of way and plan preparation, along with construction to complete a quality project within schedule, scope and budget for all of the construction contract groups. The Project Management Plan is a living document will be continuously evaluated and revised as the project progresses.

Construction Cost Estimates:
The cost estimates provided in this application are based on the following:

- **Demolition of the existing Innerbelt Bridge** - Stage 2 (60% Complete) estimate of $29,176,149 including 10% design contingency appropriate for this level of design detail and 10.30% contingency for inflation.
- **Eastbound Innerbelt Bridge** - Stage 1 (30% Complete) estimate of $287,685,791 including 20% design contingency appropriate for this level of design detail and 20.73% contingency for inflation.

Financial Feasibility:
The State of Ohio has already committed $97.5 million to the design and right of way for this Project. The TIGER IV grant, for construction, in the amount of $125 million will allow for the Project to be advanced and proceed to avoid future cost increase due to inflation, remove the outdated and deteriorating existing Innerbelt Bridge and allow for the construction of the five lane eastbound Innerbelt Bridge to improve safety and reduce congestion. That State of Ohio is committed to the Project with will seek creative and innovative funding sources to fund the remainder of the project.

VI. FEDERAL WAGE RATE CERTIFICATION
In response to section VII, subparagraph (G) of the Federal Register (74.115), entitled Federal Wage Rate Requirement: The Ohio Department of Transportation respects and complies with the Federal Wage Rate requirements set forth in subchapter IV of Chapter 31 of Title 40, U.S. Code provided this certification signed by an officer of ODOT.