



Executive Summary

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).

Study Area Description

Innerbelt Corridor Sections – Since the project's inception, the Innerbelt Corridor has been divided into sections to facilitate the development and evaluation of alternatives. These sections, illustrated on the figure at left, consist of similar physical, topographical, and operational performance characteristics and issues that differ from the neighboring areas. The geographical sections of the Innerbelt from north to south are: Innerbelt Curve, Innerbelt Trench, Central Viaduct and Central Interchange, and Southern Innerbelt. In addition, with the inclusion of I-77 from the Central Interchange to south of the I-77/I-490 interchange, this geographical section is named I-77 Access.

Innerbelt Curve – The Innerbelt Curve is the Project's northern-most section, near the Burke Lakefront Airport and Lake Erie. The Innerbelt Curve section consists of a fully directional system interchange between I-90 and SR 2. South of the I-90/SR 2 interchange is the Lakeside Avenue interchange, where access is available from eastbound I-90 and to westbound I-90. Then, south of the Lakeside Avenue interchange is the Superior Avenue interchange. This interchange provides full access to Superior Avenue (via East 26th Street for westbound I-90) and to the CBD from both eastbound and westbound I-90.

Innerbelt Trench – The Innerbelt Trench section lies between the Innerbelt Curve section and the Central Viaduct and Central Interchange section. The Innerbelt Trench section consists of I-90 from approximately East 22nd Street, through the Carnegie Curve, and to Superior Avenue. This section of I-90 is trenched: the freeway is depressed and bordered by walls or slopes on both sides with the adjacent streets and surrounding neighborhoods on an elevation above the freeway.

The Innerbelt Trench distributes interstate traffic to the CBD and neighboring businesses and institutions through the city's east-west street grid. This is accomplished through service interchanges at Carnegie, Prospect, Chester, and Superior Avenues. The interchanges at Chester and Superior Avenues are complete interchanges (fully directional). The interchange at Prospect Avenue is missing one ramp, an exit from eastbound I-90. This ramp is located at Carnegie Avenue, one crossroad south of Prospect Avenue. Together, the ramps at Prospect and Carnegie Avenues provide a split, complete interchange with I-90.

Central Viaduct and Central Interchange – In previous documents, the Central Interchange and Central Viaduct Bridge were separated into individual sections to facilitate the development and evaluation of alternatives. As alternatives progressed for the Bridge, a northern and southern alternative was selected which required corresponding northern and southern Central Interchange alternatives. Therefore, they are combined for this document, due to their intertwined nature, into one section.

The Central Viaduct and Central Interchange section is located south of the Innerbelt Trench section, north of the Southern Innerbelt section, and west of the I-77 Access section. It includes 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 (fully directional system interchange), (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.

Southern Innerbelt – The Southern Innerbelt section is south of the Central Interchange and Central Viaduct section. It consists of I-71 from just north of the Fulton Road/West 25th Street to just north of the I-71/I-90/I-490 interchange. Heading northbound, I-71 climbs from being trenched (at an elevation below adjacent street and surrounding neighborhoods) through the C-D Roadways section (west of the Fulton/W. 25th interchange) to being elevated on fill and structure (above the adjacent streets and surrounding neighborhoods). At the I-71/I-90/I-490 interchange, the Innerbelt continues as I-90 on fill and structure until the Central Viaduct Bridge section. The Southern Innerbelt section consolidates traffic bound for the City of Cleveland's CBD from I-71 and the Jennings Freeway (SR 176) through a partial interchange. Additionally, partial access is provided at West 14th Street, complementing the partial access to the north at West 14th Street/Abbey Avenue in the Central Viaduct section. The Southern Innerbelt section also processes traffic between I-71, I-90, and I-490 through a single system interchange providing for all movements, except for westbound I-490 to eastbound I-90 and westbound I-90 to eastbound I-490. This movement is not currently provided at this location, but is provided via I-77.

I-77 Access – The I-77 Access section is east of the Central Interchange. This section consists of I-77 from approximately the Pershing Avenue partial interchange to the East 22nd ramp at the Central Interchange. For the length of this section, the freeway is elevated on fill and structure above the adjacent streets and surrounding neighborhoods. To the north are institutions such as Cuyahoga Community College, St. Vincent Charity Hospital, the Boy Scouts of America, and the Visiting Nurses Association. To the east is the Maingate area. To the south are a large regional U.S. Post Office and a state correctional facility.

The I-77 Access section consists of a fully directional service interchange at Woodland Avenue/Orange Avenue/East 30th Street. The functionality of this section is intertwined with the Central Interchange. I-77 feeds directly into and receives traffic from the Central Interchange, which serves interstate-to-interstate movements, interstate to/from local street grid movements, and local-to-local movements across the city street grid.

Purpose and Need

The purpose of the Innerbelt Freeway system is to collect and distribute traffic between the radial freeway system (I-71, I-90, I-77, SR 2, I-490, and SR 176) and the local street system, and to move traffic between each of the radial freeways, within the Cleveland CBD area. The purpose of the Cleveland Innerbelt action is to rehabilitate and reconstruct the Innerbelt Freeway system, and to address operational, design, safety, and access shortcomings that severely impact the ability of the Innerbelt Freeway system to function acceptably. Several circumstances prevent the Innerbelt Freeway from performing these functions at an acceptable level. These include deteriorating physical conditions of bridges and pavements, poor operational performance (congestion), design features that do not meet current standards, and accident rates exceeding the statewide average for similar facilities. Because the fundamental function described above includes the critical role of the freeway-to-local street connections, the Purpose and Need also includes a discussion of the issues related to local access.

Downtown Cleveland depends on the Innerbelt Freeway's ability to collect and distribute traffic between the radial freeway and interstate system and the local street system. During the morning peak period, the Innerbelt Freeway functions to collect traffic from the system of radial freeways and distribute that traffic to the local street system. During the evening peak period, the Innerbelt Freeway functions to collect traffic from the local street system and distribute that traffic to the system of radial freeways and interstates. Approximately 85 percent of the traffic using the Innerbelt Freeway has a destination within the study area during the AM peak period or an origin within the study area during the PM peak period. Because of this unique travel pattern, the interrelationship and connection between the city street grid and the Innerbelt Freeway becomes even more crucial. The Innerbelt Freeway also moves traffic between each of the radial freeways, thus allowing through traffic to bypass the local street system.

The Cleveland Innerbelt Project initially resulted from the need to address deteriorating bridges and pavements on the Innerbelt Freeway. The bridges and roadway pavements of the Innerbelt Freeway are approaching the end of their useful lives. Therefore, there is a need to replace or rehabilitate the bridges and roadway pavements.

- **Innerbelt Freeway Infrastructure Bridge Decks** – All the Innerbelt Freeway bridge decks are of similar age, construction and condition, and are in need of replacement prior to the design year 2035. Of particular concern is that 24 of the Innerbelt Freeway's 25 bridges are concentrated within the three-mile section of freeway that extends from the I-71 interchange with SR 176 to the I-90 interchange with I-77 (Central Interchange).
- **Innerbelt Freeway Infrastructure Roadway Pavements** – All the Innerbelt Freeway roadway pavements are of similar age, construction and condition, and need rehabilitation prior to the design year 2035.

As part of the comprehensive planning study conducted to address the physical conditions of the Innerbelt Freeway, ODOT also identified other transportation needs within the corridor that impacted the ability of the Innerbelt Freeway to function acceptably. These other transportation needs include:

- **Innerbelt Freeway Operational Performance** – During the AM and PM peak periods, the travel demand exceeds the capacity on multiple portions of the Innerbelt Freeway. This results in a reduction in running speed, the queuing of traffic on the mainline and the diversion of traffic from the freeway to the local street system.
- **Innerbelt Freeway Design Deficiencies** – The existing Innerbelt Freeway predates the development of modern standards for the design of freeways. In particular, four types of design deficiencies have the most direct and adverse impacts on the operational performance and safety of the Innerbelt Freeway: (1) improper reduction in the basic number of lanes, (2) inadequate ramp configuration and spacing, (3) inadequate curve radii, and (4) inadequate shoulder width.
- **Innerbelt Freeway Safety** – ODOT analysis and ODPS crash data document that the Innerbelt Freeway is a congested freeway with a history of high crash frequency. Twenty-one of 30 half-mile sections that comprise the Innerbelt Freeway have crash rates above the statewide average. Furthermore, six locations have been, or currently are, ranked in the top 250 high crash locations in the State of Ohio. The majority of the study area is listed as a Safety Hot Spot, and one portion of I-90 from the east end of the Central Viaduct Bridge to the Innerbelt Curve has been ranked #1 Safety Hot Spot for the past two years (2004/2005).
- **Innerbelt Freeway Access** – There is a need to preserve the local roadway connectivity function of the Innerbelt Freeway and provide continued access and mobility to the CBD, adjacent neighborhoods, and commercial/industrial areas. Expressed another way, there is a need to preserve the local and interstate traffic functions throughout the Innerbelt Freeway to improve safety and operations on each element of the roadway system.

Alternatives

Under ODOT's Project Development Process (see Section 1.3), the alternatives for the Cleveland Innerbelt Project were developed through a series of steps. When limited design and environmental information was available early in the process, broad conceptual solutions were evaluated in the *Strategic Plan*, completed in 2004. Through each step, as more technical information was collected and public involvement was considered, the range of alternatives was narrowed until a small number of Feasible Alternatives were identified in the *Conceptual Alternatives Study*, published in August 2006.

The *Conceptual Alternatives Study* (CAS) concluded by identifying Feasible Alternatives, by section, for further development. For all but two of the sections of the Innerbelt, a single Feasible Alternative was identified. The two sections with more than one alternative were the Innerbelt Trench and the Central Interchange/Central Viaduct Bridge sections. Further refinements since the CAS yielded a compromise alternative for the Innerbelt Trench (discussed in detail in Section 3.4.2.2.) Therefore, the only area with more than one remaining alternative is the Central Interchange/Central Viaduct Bridge section. The alternatives for each section were combined to yield two Feasible Alternatives, Alternative A and Alternative B.

Alternative A is the entire project length, using the Northern Alignment Alternative within the Central Viaduct/Central Interchange area. Alternative A is shown on Exhibit A overview maps A-G, and in detail on Exhibits A-1 through A-44.

Alternative A includes full depth pavement replacement/reconstruction, widening where necessary to address capacity or lane continuity, 35 new mainline, ramp, and overhead bridges, and 16 mainline and ramp deck replacements. It includes construction of a new bridge north of the existing Central Viaduct to carry westbound traffic and replacement of the existing Viaduct on essentially existing alignment to carry eastbound traffic. The new westbound bridge over the Cuyahoga Valley would have a main span of 800 feet, with 1,028 feet of structure on the west approach and 3,371 feet on the east approach.

Alternative B is the entire project length using the Southern Alignment Alternative. Where Alternative B differs from Alternative A, it is shown on Exhibit B overview maps B-C, and in detail on Exhibits B-9 through B-22. Outside of the limits of these figures, Alternative B is identical to Alternative A.

Alternative B is generally identical to Alternative A, except it includes construction of a new bridge south of the existing Central Viaduct to carry eastbound traffic and replacement of the existing Viaduct on essentially existing alignment to carry westbound traffic. The new westbound bridge over the Cuyahoga Valley would have a main span of 900 feet, with 1,043 feet of structure on the west approach and 3,061 feet on the east approach.

Access changes as a result of each alternative are listed in Table 4-39 below.

Sidewalk widths for affected city streets have been determined in coordination with the City of Cleveland. Sidewalks will meet ADA standards and will generally match existing. The only area of new sidewalk is adjacent to the new Midtown Connector between Chester Avenue and Euclid Avenue, where a six-foot sidewalk is proposed per City guidelines.

Please note that the construction limits shown on the exhibits are preliminary. Where the project involves a local intersection, the work may also encompass necessary intersection work (re-striping, signal improvements, etc.) that is within the existing right-of-way.

Alternative A and Alternative B reduce the number of design deficiencies from 131 in the No Build condition to just 6 in the build condition. Deviations from design standards typically require a Design Exception approval from the Federal Highway Administration (FHWA). No formal submission or approval has yet occurred. However, FHWA has made a preliminary determination that the design and operational deficiencies that have been retained in the project area are minor, localized in nature, and the build condition in each case is substantially better than the existing conditions. Formal management of design exceptions will occur during detailed design.

Environmental Impacts & Comparison of Feasible Alternatives

Impacts of the Feasible Alternatives are summarized in Table 4-39. Noteworthy differences between the two alternatives are highlighted in the table and discussed below. Several issues result in impact differences in more than one category. They are grouped by issue below.

Historic Properties Alternative A impacts three stand-alone historic buildings that were recently determined to be eligible for the National Register: Broadway Mills, Marathon Gas, and the Distribution Terminal Warehouse. The Distribution Terminal Warehouse has been vacant for more than five years, it has been in foreclosure, and the owners have petitioned ODOT to request that it be purchased from them. (See Section 4.2.5 Property Impacts and Relocations.)

In comparison, Alternative B also affects the Broadway Mills building and Marathon Gas building, but in exchange for avoiding the Distribution Terminal Warehouse, this alternative has an adverse effect on the Tremont National Register Historic District, resulting in removal of two residences that are contributing elements and one non-contributing building, plus adverse access and proximity impacts to the Annunciation Greek Orthodox Church. (See Section 4.2.11 Cultural Resources and Section 4.5 Draft Section 4(f) Evaluation.)

Religious Facilities Alternative A is projected to have no impacts on religious facilities. Alternative B would have impacts on the Annunciation Greek Orthodox Church that also fall under the Visual, Access, and Historic Properties categories. Alternative B would introduce proximity impacts to the church, affect its access, block views to and from, and impact the attributes that make it a contributing element to the Tremont National Register Historic District. (See Section 4.2.1 Visual Resources, Section 4.2.3 Neighborhood and Community Access, Section 4.2.11 Cultural Resources, and Section 4.5 Draft Section 4(f) Evaluation.)

Maintenance of Traffic Alternative A and Alternative B have one important difference with regard to maintenance of traffic. The Northern Alignment for the Central Viaduct/Central Interchange, which runs continuously north of the existing alignment until its tie-in point, can be constructed almost entirely off-line, permitting traffic to use the existing alignment while the Northern Alignment is constructed. During a Maintenance of Traffic Alternatives Analysis (MOTAA), only one conflict area was found just north of East 22nd Street.

The Southern Alignment also contains this conflict point at East 22nd Street. In addition, it crosses the existing alignment near 9th Street, which restricts traffic from being maintained on the existing alignment at this point and continuing to the north. Maintaining traffic while the Southern Alignment is being constructed will require a crossover to be constructed to the north and west of existing I-90 to permit the contractor to work while traffic is being maintained. The only way to avoid the need for the cross-over would be to shift the Southern Alignment into the Cuyahoga County Juvenile Justice Center, a property eligible for the National Register of Historic Places.

The Southern Alignment would also require the concurrent construction of the westbound alignment to 22nd Street to maintain traffic in both the eastbound and westbound directions. The Northern alignment allows the westbound lanes to be constructed under a separate contract, which provides for better cash flow management for implementing the project. In addition, substantial additional costs would be required, not only to construct wider structures associated with the crossover, but for the additional fills, structures, and pavement. The specific cost cannot be estimated without detailed cross sections, but is expected to be in the millions of dollars based upon ODOT's experience with similar projects.

Relocations Alternatives A and B would impact businesses and residences. Alternative A would have fewer impacts, with 25 commercial buildings (57 businesses) and 10 residential buildings (19 households) compared to 27 buildings (57 businesses) and 12 residential buildings (22 households) on Alternative B. (See Property Impacts and Relocations, Section 4.2.5.)

Table 4-39: Comparison of Feasible Alternatives	No-Build	ALTERNATIVE A (Exhibit A) Entire Project (using Northern Alignment Alternative)	ALTERNATIVE B (Exhibit B) Entire Project (using Southern Alignment Alternative)
PURPOSE AND NEED			
Operational Performance	<p>Ramps that do not operate at an acceptable level of service. AM Peak:</p> <ul style="list-style-type: none"> I-90 eastbound off-ramp to southbound Broadway Ave./Orange Ave. I-90 eastbound on-ramp from I-77 northbound I-90 eastbound off-ramp to E. 22nd St./Central Ave. I-90 eastbound off-ramp to Carnegie Ave. eastbound I-77 northbound off-ramp to Woodland Ave./E. 30th St. I-77 northbound on-ramp from Woodland Ave./E. 30th St. I-77 northbound off-ramp to I-90 eastbound <p>Ramps that do not operate at an acceptable level of service. PM Peak:</p> <ul style="list-style-type: none"> I-90 eastbound on-ramp from I-77 northbound I-90 eastbound off-ramp to Carnegie Ave. eastbound I-90 westbound on-ramp from Prospect Ave. I-90 westbound off-ramp to I-77 southbound I-90 westbound on-ramp from E. 14th St./I-77 northbound I-90 westbound on-ramp from E. 9th St./Carnegie Ave. I-90 westbound off-ramp to W. 14th St./Abbey Ave. I-71 southbound on-ramp from I-90/I-490 I-71 southbound off-ramp to SR 176 I-77 southbound on-ramp from Orange Ave./E. 30th St. <p>Roadway segments that do not operate at an acceptable level of service. AM Peak:</p> <ul style="list-style-type: none"> I-90 eastbound from I-71 to the westbound Chester on-ramp I-90 westbound from the East 55th on-ramp to the SR 2 on-ramp I-90 westbound from the Superior off-ramp to the Superior on-ramp I-71 northbound from the SR 176 on-ramp to the I-90 merge I-77 northbound from I-490 on-ramp to I-90/East 14th Street off-ramp <p>Roadway segments that do not operate at an acceptable level of service. PM peak:</p> <ul style="list-style-type: none"> I-90 westbound from the SR 2 off-ramp to the SR 2 on-ramp I-90 westbound from the Prospect off-ramp to the I-71 diverge I-71 southbound from the I-90/I-490 on-ramp to SR 176 off-ramp 	<p>Ramps that do not operate at an acceptable level of service. AM Peak:</p> <ul style="list-style-type: none"> None <p>Ramps that do not operate at an acceptable level of service. PM Peak:</p> <ul style="list-style-type: none"> Southbound I-71 at I-90/I-490 on-ramp, LOS F Northbound I-77 at I-490 off-ramp, LOS F <p>Roadway segments that do not operate at an acceptable level of service. AM Peak:</p> <ul style="list-style-type: none"> Northbound I-77, south of I-490 on-ramp, LOS E Northbound I-77, south of Woodland Ave on-ramp, LOS E Eastbound I-90, east of westbound SR 2 off-ramp, LOS F Eastbound I-90, east of eastbound SR 2 on-ramp, LOS F Weave, Westbound I-90, eastbound SR 2 to Superior Avenue, LOS E <p>Roadway segments that do not operate at an acceptable level of service. PM peak:</p> <ul style="list-style-type: none"> Eastbound I-90, west of eastbound SR 2 on-ramp, LOS E <p>All of the above locations will operate at equal to or better than existing conditions.</p>	<p>Ramps that do not operate at an acceptable level of service. AM Peak:</p> <ul style="list-style-type: none"> None <p>Ramps that do not operate at an acceptable level of service. PM Peak:</p> <ul style="list-style-type: none"> Southbound I-71 at I-90/I-490 on-ramp Northbound I-77 at I-490 off-ramp <p>Roadway segments that do not operate at an acceptable level of service. AM Peak:</p> <ul style="list-style-type: none"> Northbound I-77, south of I-490 on-ramp, LOS E Northbound I-77, south of Woodland Ave on-ramp, LOS E Eastbound I-90, east of westbound SR 2 off-ramp, LOS F Eastbound I-90, east of eastbound SR 2 on-ramp, LOS F Weave, Westbound I-90, eastbound SR 2 to Superior Avenue, LOS E <p>Roadway segments that do not operate at an acceptable level of service. PM peak:</p> <ul style="list-style-type: none"> Eastbound I-90, west of eastbound SR 2 on-ramp, LOS E <p>All of the above locations will operate at equal to or better than existing conditions.</p>
Safety	<ul style="list-style-type: none"> Twenty-one of the 30 half-mile sections that comprise the Innerbelt Freeway have crash rates above the statewide average. Six locations have been, or currently are, ranked in the top 250 high crash locations in Ohio. Majority of the study area is listed as a Safety Hot Spot. Safety issues are related to operational and design deficiencies 	<p>All design and operational deficiencies that did not meet the established project design and operational criteria were evaluated in more detail. All of the design and operational deficiencies retained provide for substantial improvement over the no build and were determined to be acceptable. For additional detail, refer to the <i>Draft Access Modification Study</i>.</p>	<p>All design and operational deficiencies that did not meet the established project design and operational criteria were evaluated in more detail. All of the design and operational deficiencies retained provide for substantial improvement over the no build and were determined to be acceptable. For additional detail, refer to the <i>Draft Access Modification Study</i>.</p>

Table 4-39: Comparison of Feasible Alternatives	No-Build	ALTERNATIVE A (Exhibit A) Entire Project (using Northern Alignment Alternative)	ALTERNATIVE B (Exhibit B) Entire Project (using Southern Alignment Alternative)
<p>Innerbelt Access</p> <ul style="list-style-type: none"> ○ Providing local access is a fundamental function of the Innerbelt Freeway. ○ Need to balance the demand for access with the demand for freeway and local street system safety and operational efficiency. ○ 38 Existing points of access. 		<p>Proposed Access Points:</p> <ul style="list-style-type: none"> ○ 3 No Change ○ 25 Redesigned ○ 9 Redirected ○ 1 Relocated <p>Local street closures:</p> <ul style="list-style-type: none"> ○ University Road ○ Crown Avenue ○ East 27th Street ○ East 33rd Street (open for pedestrians) ○ Orange Avenue to Woodland Avenue cross-over <p>Local street reconfigurations/redesign:</p> <ul style="list-style-type: none"> ○ West 15th Street ○ Commercial Road ○ Broadway Avenue ○ Carnegie Avenue ○ East 9th Street ○ East 14th Street ○ East 18th Street ○ East 22nd Street ○ Cedar Avenue ○ Chester Avenue ○ Superior Avenue ○ East 30th Street ○ East 38th Street ○ South Marginal Road ○ North Marginal Road ○ Airport Access Road ○ Woodland Avenue ○ Orange Avenue <p>New local roadways:</p> <ul style="list-style-type: none"> ○ Commercial Road Hill Connector from Canal Road to Ontario Street ○ Broadway Avenue from East 14th Street to East 9th Street ○ Cedar Avenue Extension from Cedar Avenue to Carnegie Avenue ○ Midtown Connector one-way pair from Carnegie Avenue to Chester Avenue ○ East 30th Street extension from St. Clair Avenue to Hamilton Avenue ○ Southbound Frontage Road from Broadway Avenue to Pershing Avenue 	<p>Proposed Access Points:</p> <ul style="list-style-type: none"> ○ 3 No Change ○ 25 Redesigned ○ 9 Redirected ○ 1 Eliminated <p>Local street closures:</p> <ul style="list-style-type: none"> ○ University Road ○ Crown Avenue ○ East 27th Street ○ East 33rd Street (open for pedestrians) ○ Orange Avenue to Woodland Avenue cross-over ○ 14th Street between Fairfield and Abbey Ave. <p>Local street reconfigurations/redesign:</p> <ul style="list-style-type: none"> ○ West 15th Street ○ Commercial Road ○ Broadway Avenue ○ Carnegie Avenue ○ East 9th Street ○ East 14th Street ○ East 18th Street ○ East 22nd Street ○ Cedar Avenue ○ Chester Avenue ○ Superior Avenue ○ East 30th Street ○ East 38th Street ○ South Marginal Road ○ North Marginal Road ○ Airport Access Road ○ Woodland Avenue ○ Orange Avenue <p>New local roadways:</p> <ul style="list-style-type: none"> ○ Commercial Road Hill Connector from Canal Road to Ontario Street ○ Broadway Avenue from East 14th Street to East 9th Street ○ Cedar Avenue Extension from Cedar Avenue to Carnegie Avenue ○ Midtown Connector one-way pair from Carnegie Avenue to Chester Avenue ○ East 30th Street extension from St. Clair Avenue to Hamilton Avenue ○ Southbound Frontage Road from Broadway Avenue to Pershing Avenue
<p>Maintenance of Traffic</p>	<p>Need to plan for a systematic phasing of the improvements such that traffic can be maintained to the greatest extent practical.</p>	<ul style="list-style-type: none"> ● Need to plan for a systematic phasing of the improvements such that traffic can be maintained to the greatest extent practical. Project is consistent with ODOT's Permitted Lane Closure Policy. ● Project able to be constructed primarily off-line to minimize need for cross-overs. 	<ul style="list-style-type: none"> ● Need to plan for a systematic phasing of the improvements such that traffic can be maintained to the greatest extent practical. Project is consistent with ODOT's Permitted Lane Closure Policy. ● Complex MOT due to cross-over through Central Interchange.

Table 4-39: Comparison of Feasible Alternatives	No-Build	ALTERNATIVE A (Exhibit A) Entire Project (using Northern Alignment Alternative)	ALTERNATIVE B (Exhibit B) Entire Project (using Southern Alignment Alternative)
Design Deficiencies	<ul style="list-style-type: none"> 131 Total Design Deficiencies 11 Locations that do not have full shoulders 2 Improper reductions in the basic number of lanes (freeway) <ul style="list-style-type: none"> WB I-90 and SR 2 & SB I-71 and SR 176 Inadequate ramp configuration and spacing <ul style="list-style-type: none"> 20 accel/decel deviations 5 inadequate ramp terminal spacing 9 operationally deficient weaves Inadequate curve radius (freeway mainline) <ul style="list-style-type: none"> 43 speed below posted 10 stopping sight distance below posted speed. 21 locations with inadequate vertical clearance 	<ul style="list-style-type: none"> 6 Total Design Deficiencies 3 Locations that do not have full shoulders <ul style="list-style-type: none"> I-77 NB and SB on Kingsbury Run Bridge Transition to existing shoulder width on I-71 Transition to existing shoulder width on I-90 Inadequate ramp configuration and spacing <ul style="list-style-type: none"> 1 operationally deficient weaves 	<ul style="list-style-type: none"> 6 Total Design Deficiencies 3 Locations that do not have full shoulders <ul style="list-style-type: none"> I-77 NB and SB on Kingsbury Run Bridge Transition to existing shoulder width on I-71 Transition to existing shoulder width on I-90 Inadequate ramp configuration and spacing <ul style="list-style-type: none"> 1 operationally deficient weaves
Pavement Conditions	<ul style="list-style-type: none"> Full-depth Pavement Replacement in kind Approximately 3.8 million sq. ft. of full-depth replacement 	<ul style="list-style-type: none"> Full-depth Replacement/Major New Construction Approximately 7.6 million sq. ft. of full-depth replacement 	<ul style="list-style-type: none"> Full-depth Replacement/Major New Construction Approximately 7.6 million sq. ft. of full-depth replacement.
Bridge Conditions	<ul style="list-style-type: none"> 25 mainline and ramp bridges deck replacements in kind. Approximately 1.2 million sq. ft. of existing bridge deck. Rehab or Replacement of Existing CV Bridge <ul style="list-style-type: none"> 1,226-foot long/approximately 0.14 million sq. ft. of deck, west approach. 2,722-foot long main truss /approximately 0.13 million sq. ft. of deck. 1,131-foot long/approximately 0.13 million sq. ft. of deck, east approach. 	<ul style="list-style-type: none"> 16 mainline and ramp bridge deck replacements in kind. Approximately 0.21 million sq. ft. of deck replacement. 35 new mainline, ramp, and overhead bridges. Approximately 1.55 million sq. ft. of new bridge deck area. Major New Westbound Bridge across Cuyahoga Valley <ul style="list-style-type: none"> Approximately 1,028 feet long/0.10 million sq. ft. of deck, west approach. Approximately 800-ft long main span/ 0.08 million sq. ft. of deck. Approximately 3,371-ft long/0.30 million sq. ft. of deck, east approach. Replacement of Existing CV Bridge <ul style="list-style-type: none"> 1,226-foot long/ 0.11 million sq. ft. of deck, west approach. 800-ft long main span/approximately 0.08 million sq. ft. of deck. 3,053-ft long/approximately 0.26 million sq. ft. of deck, east approach. 	<ul style="list-style-type: none"> 16 mainline and ramp bridge deck replacements in kind. Approximately 0.21 million sq. ft. of deck replacement. 35 new mainline, ramp, and overhead bridges. Approximately 1.53 million sq. ft. of new bridge deck area. Major New Westbound Bridge across Cuyahoga Valley <ul style="list-style-type: none"> Approximately 1,043-ft long/0.10 million sq. ft. of deck, west approach. Approximate 900-ft long main span/0.09 million sq. ft. of deck. Approximately 3,061-ft long/0.27 million sq. ft. of deck, east approach. Replacement of Existing CV Bridge <ul style="list-style-type: none"> 1,226-foot long/0.11 million sq. ft. of deck, west approach. 800-ft long main span/approximately 0.08 million sq. ft. of deck. 3,053-ft long/approximately 0.26 million sq. ft. of deck, east approach.
AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES			
Geology	<ul style="list-style-type: none"> Slope stability problems on west bank of Cuyahoga River remain for existing Central Viaduct Bridge, requiring periodic maintenance. Factor of safety for existing slope is 1.06 to 1.09. 	<ul style="list-style-type: none"> Slope stability improved by unloading of slope and removal of buildings. Building is historic property that is already impacted by the bridge construction. Factor of safety improved to 1.5. 	<ul style="list-style-type: none"> Slope stability improved by unloading of slope, requiring removal of two residential buildings that are contributing elements to the Tremont National Register Historic District and one non-contributing building that houses a restaurant. Factor of safety improved to 1.5.
Aquatic Resources	No impacts to streams or water quality.	No substantial long term impact on streams or water quality.	No substantial long term impact on streams or water quality.
Stormwater	I-90 in Tremont, Central Interchange, and I-77 north of I-490 drain into combined sewer system. Other areas drain to surface waters.	<ul style="list-style-type: none"> Potential for stormwater separation strategy to reduce volume and frequency of combined sewer overflows. Stormwater best management practices will be used as required by OEPA regulations. 	<ul style="list-style-type: none"> Potential for stormwater separation strategy to reduce volume and frequency of combined sewer overflows. Stormwater best management practices will be used as required by OEPA regulations.
Wetlands	No wetlands within project area.	No wetlands within project area.	No wetlands within project area.
Terrestrial Resources	No unique or high quality terrestrial areas within the project limits.	No unique or high quality terrestrial areas within the project limits.	No unique or high quality terrestrial areas within the project limits.
Floodplains	No impacts on floodplain of Cuyahoga River.	No piers anticipated within floodplain. No impacts.	No piers anticipated within floodplain. No impacts.

Table 4-39: Comparison of Feasible Alternatives	No-Build	ALTERNATIVE A (Exhibit A) Entire Project (using Northern Alignment Alternative)	ALTERNATIVE B (Exhibit B) Entire Project (using Southern Alignment Alternative)
Threatened and Endangered Species	<ul style="list-style-type: none"> No potential for impacts to federally threatened or endangered species. No impacts to state-threatened plant species. Rehabilitation work that would be necessary under the No Build condition would require relocation of Peregrine Falcon nest by ODNR prior to construction. 	<ul style="list-style-type: none"> No potential for impacts to federally threatened or endangered species. No impacts to state-threatened plant species. Peregrine Falcon nest to be avoided during nesting season. ODNR will move peregrine falcons prior to construction. No impacts expected. 	<ul style="list-style-type: none"> No potential for impacts to federally threatened or endangered species. No impacts to state-threatened plant species. Peregrine Falcon nest to be avoided during nesting season. ODNR will move peregrine falcons prior to construction. No impacts expected.
Drinking Water Resources	Public water source intake is in Lake Erie, 3 miles off-shore. No community or non-community public drinking water sources use ground water within the project area.	Public water source intake is in Lake Erie, 3 miles off-shore. No community or non-community public drinking water sources use ground water within the project area.	Public water source intake is in Lake Erie, 3 miles off-shore. No community or non-community public drinking water sources use ground water within the project area.
Farmland	No farmland within project limits.	No farmland within project limits.	No farmland within project limits.
Parks (Section 4(f))	No impacts to parks or recreation areas.	De minimis impact to recreation area within Chester Avenue loop ramp. Trail to be realigned and area revegetated.	De minimis impact to recreation area within Chester Avenue loop ramp. Trail to be realigned and area revegetated.
Hazardous Waste	No impacts.	ESA Phase II investigations required for 23 properties, with types of waste that are commonly managed by ODOT.	ESA Phase II investigations required for 18 properties, with types of waste that are commonly managed by ODOT.
Air Quality	No change.	The project has been found to be in conformance with NOACA's air quality implementation plan, maintenance plan, and NAAQS.	The project has been found to be in conformance with NOACA's air quality implementation plan, maintenance plan, and NAAQS.
Noise	Existing noise levels range from 48-78 dBA. Majority of receivers will continue to exceed Noise Abatement Criterion of 67 dBA.	<p>Future noise level changes are minor (-3 dBA to +5 dBA); however, majority of receivers already do, and will continue to, exceed the Noise Abatement Criterion of 67 dBA.</p> <p>Noise walls are recommended:</p> <ul style="list-style-type: none"> Region 3 – westbound I-90 from Abbey Ave to I-90/I-71/I-490 Interchange – maximum reduction 12 dBA – benefitted receivers 64 (>5dBA) Region 4 – eastbound I-90 from I-90/I-490 interchange to Abbey Ave – maximum reduction 9 dBA – benefitted receivers 75 (>5dBA), 7 (3-5dBA) I-77 Broadway to Pershing – west side of I-77 – benefitted receivers 11 (>5dBA), 3 (3-5 dBA) <p>Southern Innerbelt areas eligible for consideration under Type II Retrofit Noise Barrier Program, independent of the project</p> <p>Vegetative screening to be offered, if feasible to install, for east side of I-90 from Superior to St. Clair</p> <p>Public input will be conducted during design to determine if the noise walls are desired by affected residents.</p>	<p>Future noise level changes are minor (-3 dBA to +5 dBA); however, majority of receivers already do, and will continue to, exceed the Noise Abatement Criterion of 67 dBA.</p> <p>Noise walls are recommended:</p> <ul style="list-style-type: none"> Region 3 – westbound I-90 from Abbey Ave to I-90/I-71/I-490 Interchange – maximum reduction 10 dBA – benefitted receivers 52 (>5dBA), 12 (3-5dBA) Region 4 – eastbound I-90 from I-90/I-490 interchange to Abbey Ave – maximum reduction 10 dBA – benefitted receivers 79 (>5dBA), 3 (3-5dBA) I-77 Broadway to Pershing – west side of I-77 – benefitted receivers 11 (>5dBA), 3 (3-5 dBA) <p>Southern Innerbelt areas eligible for consideration under Type II Retrofit Noise Barrier Program, independent of the project</p> <p>Vegetative screening to be offered, if feasible to install, for east side of I-90 from Superior to St. Clair</p> <p>Public input will be conducted during design to determine if the noise walls are desired by affected residents.</p>
Vibration	No change.	No long-term impacts. Short-term impacts during construction possible from impact pile-driving and vibratory rollers near Annunciation Greek Orthodox Church and Samuel Mather Mansion. Alternative construction measures for these areas to be investigated during design.	No long-term impacts. Short-term impacts during construction possible from impact pile-driving and vibratory rollers near Annunciation Greek Orthodox Church and Samuel Mather Mansion. Alternative construction measures for these areas to be investigated during design.
Visual Resources	No change.	<ul style="list-style-type: none"> Enhanced view of Lake Erie from the ramp in the Innerbelt Curve, improved visual harmony through the Innerbelt Trench due to a reduction in access points and signing, and improved visibility of businesses along the Innerbelt Trench. Negative impacts will include wider pavement and less vegetation through the Innerbelt Trench and introduction of new ramps and structures across from the Cuyahoga Community College. 	<ul style="list-style-type: none"> Enhanced view of Lake Erie from the ramp in the Innerbelt Curve, improved visual harmony through the Innerbelt Trench due to a reduction in access points and signing, and improved visibility of businesses along the Innerbelt Trench. Negative impacts will include wider pavement and less vegetation through the Innerbelt Trench, introduction of new ramps and structures across from the Cuyahoga Community College, blocking of views of and from the Annunciation Greek Orthodox Church.

Table 4-39: Comparison of Feasible Alternatives	No-Build	ALTERNATIVE A (Exhibit A) Entire Project (using Northern Alignment Alternative)	ALTERNATIVE B (Exhibit B) Entire Project (using Southern Alignment Alternative)
Land Use and Development	No change.	Primary conversion of land to highway purposes will be heavy and light industry/office. Impact is small compared to overall availability these uses. Project is consistent with City of Cleveland 2020 Comprehensive Plan.	Primary conversion of land to highway purposes will be heavy and light industry/office. Impact is small compared to overall availability these uses. Project is consistent with City of Cleveland 2020 Comprehensive Plan.
Neighborhood/ Community Access	No change.	<ul style="list-style-type: none"> • See Innerbelt Access above for summary of access changes. • All access points maintained or mitigated through ramp and/or local street improvements 	<ul style="list-style-type: none"> • See Innerbelt Access above for summary of access changes. • No off-ramp to Broadway Avenue is provided, resulting in traffic rerouting by St. Vincent's and Cuyahoga Community College. All other access points maintained or mitigated through ramp and/or local street improvements.
Community Facilities and Services	No impacts to community facilities. With continued traffic congestion and high crash rates, there is potential for increased emergency response times and burden on response providers.	<ul style="list-style-type: none"> • No impacts to schools, universities, or hospitals. • Relocation of mounted police stables. Potential impact to fire training facility. Modification of access to Fire Station No. 28 (Tactical Rescue Station). No impacts to services are expected. Reduced congestion and improved response times. • No impacts to religious facilities. • Access to main post office maintained via relocated off-ramp to Broadway Ave. 	<ul style="list-style-type: none"> • No impacts to schools, universities or hospitals. • Relocation of mounted police stables. Potential impact to fire training facility. Modification of access to Fire Station No. 28 (Tactical Rescue Station). No impacts to services are expected. Reduced congestion and improved response times. • Access and proximity impacts to Annunciation Greek Orthodox Church. • Access to main post office altered – routed via East 22nd Street, past St. Vincent's and Cuyahoga Community College
Property Impacts and Relocations	No property impacts.	<ul style="list-style-type: none"> • Business impacts: 25 buildings/57 businesses. No issues anticipated with relocations, if adequate lead time is available. • Residential impacts: 10 buildings/19 households. No issues anticipated with relocations. 	<ul style="list-style-type: none"> • Business impacts: 27 buildings/57 businesses. No issues anticipated with relocations, if adequate lead time is available. • Residential impacts: 12 buildings/22 households. No issues anticipated with relocations.
Demographic Conditions	No change.	No changes anticipated	No changes anticipated
Economics	Minimal change. Potential for minor economic benefits related to spending on maintenance activities.	<ul style="list-style-type: none"> • Positive regional economic benefits expected due to improved facility, reduced congestion, efficient access. • Positive economic benefits during construction period • Minimal impacts on tax base due to property acquisitions, as many may relocate within the area • No substantial negative impacts anticipated in sensitive local areas. Access changes are mitigated. 	<ul style="list-style-type: none"> • Positive regional economic benefits expected due to improved facility, reduced congestion, efficient access. • Positive economic benefits during construction period • Minimal impacts on tax base due to property acquisitions, as many may relocate within the area • No substantial negative impacts anticipated in sensitive local areas. Access changes are mitigated.
Environmental Justice	No change.	<ul style="list-style-type: none"> • No impacts anticipated. Improvements will occur within same general corridor as the existing freeway. All properties within this area fall within census tracts of the same general demographic conditions. • Impact to residences is small, with adequate replacement housing available within same census tracts. • No EJ issues raised during 9 years of public involvement. 	<ul style="list-style-type: none"> • No impacts anticipated. Improvements will occur within same general corridor as the existing freeway. All properties within this area fall within census tracts of the same general demographic conditions. • Impact to residences is small, with adequate replacement housing available within same census tracts. • No EJ issues raised during 9 years of public involvement.
Other Transportation Modes	No change.	<ul style="list-style-type: none"> • Bus – Routes using Cedar Avenue will be modified to use connector from Cedar Ave to Carnegie Ave. No impacts to bus operations. • Pedestrians – On modified local streets, sidewalks will be provided where they exist today and will be ADA compliant. Midtown connector will provide new pedestrian connection. • Bicycles – The bike route along North Marginal Road will be realigned along with the roadway. No impacts to bicycle facilities are expected. • Rail – No impacts. Coordination will continue for maintenance of rail traffic. • Aviation – No impacts to airport operations 	<ul style="list-style-type: none"> • Bus – Routes using Cedar Avenue will be modified to use connector from Cedar Ave to Carnegie Ave. No impacts to bus operations. • Pedestrians – On modified local streets, sidewalks will be provided where they exist today and will be ADA compliant. Midtown connector will provide new pedestrian connection. • Bicycles – The bike route along North Marginal Road will be realigned along with the roadway. No impacts to bicycle facilities are expected. • Rail – No impacts. Coordination will continue for maintenance of rail traffic. • Aviation – No impacts to airport operations

Table 4-39: Comparison of Feasible Alternatives	No-Build	ALTERNATIVE A (Exhibit A) Entire Project (using Northern Alignment Alternative)	ALTERNATIVE B (Exhibit B) Entire Project (using Southern Alignment Alternative)
Historic Properties (Section 106 and 4(f))	No impacts.	<p>No Adverse Effect, No Use (temporary right-of-way):</p> <ul style="list-style-type: none"> • Walker Weeks Building • Superior Avenue Historic District • Lorain-Carnegie Bridge • Tremont National Register Historic District <p>No Adverse Effect, de minimis Section 4(f):</p> <ul style="list-style-type: none"> • Loft Building • Samuel Mather Mansion • Ohio Boxboard Company • Cuyahoga County Juvenile Justice Center • Tactical Rescue Station <p>Adverse Effect, Individual Section 4(f):</p> <ul style="list-style-type: none"> • Broadway Mills • Marathon Gas Station • Distribution Terminal Warehouse <p>All other properties are No Historic Properties Affected/No Use</p>	<p>No Adverse Effect, No Use (temporary right-of-way):</p> <ul style="list-style-type: none"> • Walker Weeks Building • Superior Avenue Historic District • Lorain-Carnegie Bridge <p>No Adverse Effect, de minimis Section 4(f):</p> <ul style="list-style-type: none"> • Loft Building • Samuel Mather Mansion • Ohio Boxboard Company • Cuyahoga County Juvenile Justice Center • Tactical Rescue Station <p>Adverse Effect, Individual Section 4(f):</p> <ul style="list-style-type: none"> • Broadway Mills • Marathon Gas Station • Tremont National Register Historic District <ul style="list-style-type: none"> ○ Adverse access impact to Annunciation Greek Orthodox Church ○ Demolition of 1103 University Road ○ Demolition of 1107 University Road ○ Demolition of 1 non-contributing structures <p>All other properties are No Historic Properties Affected/No Use</p>
Construction Impacts	Minimal construction impacts related to maintenance activities.	<ul style="list-style-type: none"> • Temporary air and noise impacts due to construction activities will be minimal. Contractors will be required to follow local ordinances and the ODOT <i>Construction and Materials Specifications</i> • Stormwater Pollution Prevention Plan will be required 	<ul style="list-style-type: none"> • Temporary air and noise impacts due to construction activities will be minimal. Contractors will be required to follow local ordinances and the ODOT <i>Construction and Materials Specifications</i> • Stormwater Pollution Prevention Plan will be required
Secondary and Cumulative Impacts	No impacts.	No secondary or cumulative impacts are anticipated. Traffic analyses for the project have taken into account committed transportation and development projects in the area. Other projects not likely to have substantial impacts on areas of greatest concern for the Innerbelt, such as business relocations and historic properties.	No secondary or cumulative impacts are anticipated. Traffic analyses for the project have taken into account committed transportation and development projects in the area. Other projects not likely to have substantial impacts on areas of greatest concern for the Innerbelt, such as business relocations and historic properties.
IMPLEMENTATION COST AND SCHEDULE			
Estimated Project Cost	<ul style="list-style-type: none"> • \$ 400 Million to \$ 600 Million 	<ul style="list-style-type: none"> • \$1,500 Million to \$2,000 Million • Potential project cost under review. • Revenue sources/availability under review. • Draft Fiscal Plan to be available to be made available in FEIS 	<ul style="list-style-type: none"> • \$1,500 Million to \$2,000 Million • Potential project cost under review. • Revenue sources/availability under review. • Draft Fiscal Plan to be available to be made available in FEIS
Schedule	<ul style="list-style-type: none"> ▪ Begin in kind work: 2010 ▪ End in kind work: continuum through the design year 2035 	<ul style="list-style-type: none"> ▪ Begin in kind work: 2010 ▪ End work: 2028 ▪ Draft Project Management Plan under development which will take into account fiscal realities associated with the implementation of the project. 	<ul style="list-style-type: none"> ▪ Begin in kind work: 2010 ▪ End work: 2028 ▪ Draft Project Management Plan under development which will take into account fiscal realities associated with the implementation of the project.

Access and Neighborhood Street Impacts. Alternative B will require the elimination of 14th Street between Fairfield Avenue and Abbey Avenue, requiring vehicles to go around the block to gain access. Alternative A retains 14th Street in its current location. In addition, Alternative A would provide for a relocated access from I-90 eastbound to Broadway Avenue southbound, while Alternative B would not provide this access. The Broadway ramp provides access to the main post office. Without this connection, vehicles will be route via East 22nd Street, past St. Vincent Hospital, and through Cuyahoga Community College. (See Neighborhood and Community Access, Section 4.2.3.)

Identification of Preferred Alternative

Based upon information presented in this **Environmental Impact Statement** and summarized in Table 4-39, Alternative A satisfies the project’s purpose and need and best minimizes impacts to the natural and human environment. Based upon the comparison of Feasible Alternatives above, Alternative A is the recommended Preferred Alternative because of:

- Fewer Adverse Effects under Section 106 and least net harm under Section 4(f)
- Ability to incorporate off-ramp to Broadway Avenue to maintain direct access to Quadrangle area, including main post office
- Ability to maintain 14th Street between Fairfield and Abbey Avenues to avoid impacting access the the Annunciation Greek Orthodox Church
- Fewer relocations of residences and businesses
- More straightforward maintenance of traffic, which permits smaller construction segments and improves cash flow

Summary of Key Issues

Although hundreds of comments were received and numerous meetings held, the majority of the concerns revolved around a small number of key issues. These major issues are listed in the Table 5-5 with references to locations where more detail is available.

Table 5-5: Summary of Key Issues

Issue	Summary	Reference
Access Changes	Many comments and concerns focused on the impact of changes in access to and from the freeway, particularly in the Trench Area.	<ul style="list-style-type: none"> • Access, Section 4.2.3 • Economic Effects, Sections 4.2.7 and 4.2.8
Chester Interchange	Two options were considered in the CAS for the Chester Interchange. One option provided the interchange at Chester. A second option split the interchange at Chester and at Payne Avenue. Public concerns were received regarding the change in character to Payne Avenue if an interchange were connected to that street. A hybrid option, the Chester Avenue Interchange with cut-off ramps was chosen.	<ul style="list-style-type: none"> • CAS recommendations, DEIS Section 3.3.2 • Feasible Alternatives, DEIS Section 3.4.2 • Exhibits A-25 and A-26
Carnegie Access	Concerns included: loss of companies in the MidTown Corridor area; a negative impact on the economic development efforts of the neighborhood; reduced access to the Cleveland Clinic and University Circle; shifting traffic to Chester Avenue from Carnegie Avenue; the negative impact of a traffic incident at the Chester Avenue interchange; and increased congestion on local streets. A number of alternatives were evaluated to try and keep existing access points. Testing of the Prospect and Carnegie ramp alternatives showed that none achieved the minimum level of service and safety as documented in the Conceptual Alternatives Report. Access to Carnegie Avenue is to be provided via East 22 nd St., two blocks west of the current termini. Additional surface street improvements are proposed to mitigate the impacts of the loss of the ramp. This includes the construction of a pair of one-way local streets, northbound on the east side and southbound on the west side, of the Trench.	<ul style="list-style-type: none"> • Access, DEIS Section 4.2.3 • Alternatives, DEIS Section 3.4.2 • Exhibits A-23 and A-24
Broadway Off-ramp	Concerns were expressed about the closure of the westbound I-90 ramp to Broadway Avenue, changing traffic patterns, access to the US post office regional distribution center and traffic on East 30 th Street. The Northern Alignment Alternative is able to provide this connection. The Southern Alignment Alternatives does not.	<ul style="list-style-type: none"> • Access, DEIS Section 4.2.3 • Alternatives, DEIS Section 3.4.3 • Exhibits A-17 and B-17
Carnegie/Ontario Intersection and Ontario on-ramp	The design for the Ontario/Carnegie Intersection as shown in the CAS was found to not function based upon updated traffic volumes. Three options were considered for this location: a fly-over ramp, a split at-grade intersection, and a single at-grade intersection.	<ul style="list-style-type: none"> • Alternatives, DEIS Section 3.4.3
Bicycle Facilities on the Central Viaduct	Questions were asked about providing a pedestrian/bicycle lane across the new Central Viaduct Bridge. ODOT evaluated this request and concluded that no bike facilities would be provided on the bridge due to safety and the availability of other routes.	<ul style="list-style-type: none"> • Other Transportation Modes, DEIS Section 4.2.10

Issue	Summary	Reference
Bridge Alignment	Much discussion in public comments and in the media concerned the Northern Alignment versus the Southern Alignment for the new bridge. These issues are explored in detail throughout the document. References are provided to sections with key decision-making factors.	<ul style="list-style-type: none"> • CAS Alternatives, DEIS Section 3.3.4 • Alternatives, DEIS Section 3.4.3 • Comparison of Alternatives, DEIS Section 4.6
Bridge Type	A bridge subcommittee recommended a cable-stay bridge type for the main span of the Central Viaduct. ODOT originally accepted the committee's recommendation on January 2, 2007. However, due to fiscal limitations and recent lane closures due to build-up of ice on cables (such as on the Maumee River Crossing in Toledo), the preferred alternative does not include the signature bridge type recommended by the committee. ODOT remains committed to working with an aesthetics committee to focus on the appearance of the structure, such as lighting, fencing and various treatments.	<ul style="list-style-type: none"> • Bridge subcommittee, DEIS Section 5.2
Interstate-to-Interstate Movements	FHWA Policy on Design Standards Interstate System requires that all movements be provided at interstate-to-interstate connections. However, the movement from I-77 northbound to I-90 westbound is redundant, as this connection is provided via I-490 immediately to the south. Providing this movement would have required sacrificing connectivity to the local street system, which is contrary to the Innerbelt's primary function of collecting and distributing traffic from the radial freeway system to the local street system and vice versa. Based upon comparison of the seven performance criteria in the CAS (the practical aspects of the project), FHWA determined that it was appropriate to consider an exception to the Policy on Design Standards Interstate System.	<ul style="list-style-type: none"> • Conceptual Alternatives Study, Chapter 6
Implementation Issues	<p>The total cost estimate for the project, including engineering, right-of-way and construction, is approximately \$1.5 - \$2.0 billion and will require a long-term investment strategy. An Annual Financial Plan will be required.</p> <p>The size and complexity of the Cleveland Innerbelt Project, its extensive cost, and the need to maintain traffic require that the improvements be systematically phased. Early in project development, it was anticipated that the Innerbelt Curve would be constructed first. Based upon bridge conditions for the Central Viaduct, the construction of a new bridge over the Cuyahoga River is now a higher priority. The phases for improvements, their preliminary cost estimates, funding sources, and proposed construction contract groups are currently being evaluated. This phasing plan will be part of the financial plan described above.</p> <p>The public has also expressed concerns about maintenance of traffic (MOT) during construction. This issue has come to the forefront as bridge conditions have necessitated some lane closures.</p>	<ul style="list-style-type: none"> • Implementation, DEIS Chapter 6 • Maintenance of Traffic, DEIS Section 4.3.1

Implementation Plan and Cost Estimates

The total cost estimate for the project, including engineering, right-of-way and construction, is approximately \$1.5 - \$2.0 billion. As a major project of over \$500 million, a Project Management Plan and Annual Financial Plan will be required. These documents will be prepared following completion of the Draft Environmental Impact Statement but before the Record of Decision, currently anticipated for late summer/fall 2009.

The size and complexity of the Cleveland Innerbelt Project, its extensive cost, and the need to maintain traffic require that the improvements be systematically phased. The phases for improvements, their preliminary cost estimates, funding sources, and proposed construction contract groups are currently being evaluated. This phasing plan will be part of the financial plan described above.

Environmental Commitments

Geology: Soil and Bedrock

The Contractor is required to follow best management practices for temporary sediment and erosion control during construction in accordance with 2005 ODOT Construction and Material Specifications Section 107.19 and Supplemental Specification 832. Plan notes and estimated quantities in accordance with Supplemental Note 832 will be included in the plans to handle erosion control. In addition to the current CMS, SS, plan notes, and SWPPP stipulations, all the regulations and conditions associated with the required NPDES permit will require the Contractor's full compliance.

Aquatic Resources

A Coast Guard Section 9 permit and an ODNR Coastal Consistency Determination will be required for the project. If during the waterway permit application process, it is determined that a Section 404 permit and/or a Section 401 Water Quality Certification is required, stream mitigation will be provided in accordance with the USACE and OEPA current stream mitigation rules and guidelines. If in-stream work is required, it should not be conducted from March 15 to June 30, to reduce impacts to aquatic species and their habitat.

Storm Water

This project will require an OEPA NPDES Phase 2 General Construction Permit. Plan notes, along with a Storm Water Pollution Prevention Plan (SWPPP), will be needed to address project soil erosion control measures. It is anticipated that the project will install appropriate best management practices. Coordination with OEPA and Northeast Ohio Sewer District will continue.

Threatened and Endangered Species

Additional coordination will be conducted with ODNR regarding the Peregrine Falcon prior to demolition activities for the existing Central Viaduct bridge. ODNR has obtained a permit from the US Fish and Wildlife Service to relocate the falcon to safe habitat in advance of construction.

Floodplain Impacts

Coordination will be conducted with the local community floodplain administrator during development of the preferred alternative. A description and mapping of the preferred alternative, including available details on any fill material to be placed in the floodplain, will be provided to the local community Floodplain Administrator for review and comment. This coordination will determine if a Flood Hazard Development Permit will be required prior to construction activities.

Parks and Other Green Spaces

Impacts to the infield of the loop ramp on Chester Avenue will continue to be coordinated with Cleveland State University. The walking trail will be restored and the area will be revegetated to retain the current recreational use of the right-of-way. The path adjacent to the North Marginal Road will be realigned along with the roadway to provide continuity of the path.

Hazardous Waste

Phase II Environmental Site Assessments will be conducted for recommended properties. For any property determined to be contaminated with regulated substances, environmental plan notes will be developed and incorporated into the construction contracts to ensure that regulated substances are properly managed and disposed during construction.

Air Quality

Given that air pollutants are not predicted to exceed the NAAQS in the future as a result of implementing the Build Alternative, mitigation measures for air quality are not necessary for the project. Standard emission minimization measures for construction activities are recommended.

Noise Analysis

Three noise barrier locations are recommended. These locations are within the Central Viaduct and I-77 Access locations. A public meeting will be held in these areas during the design phase to determine if the residents wish to have a noise wall. Although not a noise abatement measure, vegetative screening will be offered to residences along the east side of I-90 between Superior Avenue and St. Clair Avenue, if feasible to install, in accordance with ODOT noise policy.

Barrier optimization will be performed during the detailed design phase of the project after final profiles are established. A final check of elevation consistency between those used in barrier design model and those in the stage three roadway plans will be completed. A table will be provided showing barrier segments, distance from centerline or baseline, barrier height, and top elevation for the project design consultant as stated in the ODOT-OES IOC dated February 2, 2007 found in Appendix D.

Vibration Analysis

No long-term vibration impacts have been identified for the Cleveland Innerbelt project and therefore no mitigation measures are required with regard to ground-borne traffic vibration. During the construction period, however, there is the potential for short-term vibration impact from impact pile driving and the use of vibratory rollers adjacent to the Annunciation Greek Orthodox Church and the Samuel Mather Mansion. In addition to minimizing the use of such equipment near the vibration-sensitive buildings, potential mitigation measures include use of alternative construction methods, such as the use of drilled piles or pressed piles in place of impact piling. The feasibility of such measures will be investigated during project design to avoid vibration impact during construction.

Historic Architecture Sites/ Section 4(f)/Section 106 Consultation

Based upon coordination with the Ohio Historic Preservation Office, the following commitments are known for properties where there is "no adverse effect":

- Cuyahoga County Juvenile Justice Center – Relocate approximately 200' of sidewalk and stone wall; maintain vehicular access to courtyard
- Samuel Mather Mansion – Alternative construction methods will be evaluated to minimize vibration during construction.

Additional commitments will be developed through the consultation process to mitigate for adverse effects.

Archaeological Resources

Additional coordination will be conducted with OHPO regarding Archaeological Resources when the work limits for the Preferred Alternative have been determined. The results will be reported in the Final EIS.

Traffic Maintenance

As part of the detailed design studies, a maintenance of traffic plan will be prepared in accordance with ODOT standard specifications (ODOT, 1997) for Maintenance of Traffic (ODOT Item 104.04), Public Convenience and Safety (ODOT Item 107.07) and Maintaining Traffic (ODOT Item 614). Public involvement will be conducted during the construction phase according to ODOT District 12's communication plan for major projects.

Public Notifications

To ensure that the public is notified of construction activities, lane closures, and/or road closures, the following plan note will be added to the project plans: The Contractor will advise the Project Engineer a minimum of fourteen (14) days prior to the following: the start of construction activities, lane closures, and road closures. The PIO will, in turn, notify the public, the local emergency services, affected schools and businesses, and any other impacted local public agency of any of the above mentioned items via media sources.

Residential/Business Relocations and Property Impacts

The acquisition and relocation for all residences displaced for right-of-way will be conducted in accordance with all applicable state and federal laws.

Construction Impacts

Final mitigation measures developed during detailed design will be incorporated into final project design plans.

Utility Relocations

All utility relocations shall be coordinated between the Contractor and the utility owners in such a way as to avoid and/or minimize any inconvenience to potentially affected customers. All utility relocations not included in this contract shall be performed by the affected utility owner or its contractor and will be compliant with ODOT roadway design standards. Utility work will be ongoing throughout construction of the project. Upon the contract award, the coordination of all necessary relocations with the utilities shall become the responsibility of the Contractor. A list of all utility owners located within the project work limits shall be located in the General Notes section of the project plans.

Design Commitments from Public Involvement

- Input from the Innerbelt Bridge and Urban Design Aesthetics Sub-committees will be considered prior to the selection of aesthetic treatments and urban design details, including wayfinding, gateway, overpass and underpass treatments.
- Designing the retaining walls between E 22nd St and Carnegie Ave to support a freeway cap or deck will be considered during detail design. This commitment does not include the funding for the design and construction of the freeway cap or deck.
- ODOT will coordinate with the Cuyahoga County Engineer and the City of Cleveland to accommodate the proposed Cleveland Towpath Trail multi-purpose trail as it crosses beneath I-90.
- Upper Commercial Road will be reconfigured to accommodate fire trucks and buses serving Cleveland Fire Department Station No. 28 and the Western Reserve Fire Museum.
- Ontario entrance ramp structure will be designed to provide the vertical clearance necessary to accommodate fire trucks serving Cleveland Fire Department Station No. 28.
- Adjusting the alignment of East 9th Street slightly toward the west, immediately south of Carnegie Avenue will be considered during detail design in an effort to further minimize impacts.
- Adjusting the alignment of the I-90 westbound bridge slightly toward the south, near downtown, will be considered during detail design in an effort to further minimize impacts.

- Adjusting the curb return radius slightly in the northeast corner of Carnegie Avenue and East 14th Street will be considered during detail design in an effort to further minimize impacts.
- Adjusting the alignment of the East 30th Street extension slightly toward the west will be considered during detail design in an effort to further minimize impacts.

Actions Required from Other State and Federal Agencies

There are no unresolved issues remaining from project development that are required for the NEPA decision. However, as part of the implementation of the project, additional state and federal actions are anticipated at future stages of project development. These may include:

- U.S. Coast Guard – Section 9 permit
- Ohio Department of Natural Resources - Coastal Consistency Determination; additional coordination regarding Peregrine Falcon
- U.S. Army Corps of Engineers – Section 10 permit; Section 404 permit, if required
- Ohio Environmental Protection Agency – Section 401 Water Quality Certification, if required; coordination regarding disposition of results from ongoing Phase II ESA, if required
- Ohio Historic Preservation Office – additional coordination regarding archaeological resources; resolution of Programmatic Agreement for impacts to historic properties