



# CHAPTER II Alternatives

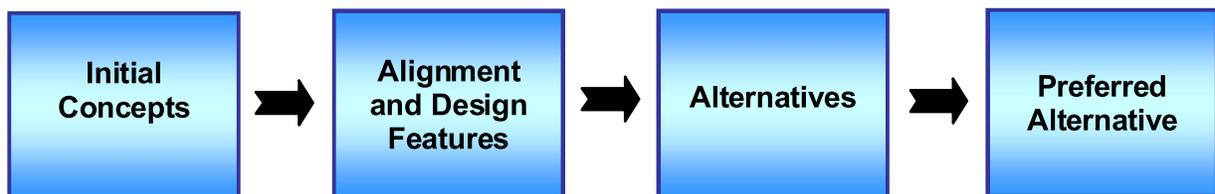
This chapter summarizes the alternatives considered for rebuilding and modifying the I-29/35 roadway and bridge corridor. The alternatives are defined to the level of detail needed for the analysis and evaluation of the potential effects of the various alternatives on the affected environment. The design characteristics for the I-29/35 roadway and bridge corridor, the alignments of the various alternatives, traffic projections and cost estimates are included as a part of the chapter.

## A. Overview of the Alternatives Development Process

A process to evaluate alignment alternatives was completed for the proposed action. It began by defining a broad list of **Initial Concepts** to address transportation needs in the study corridor. An initial screening was completed which described the effectiveness of each concept to address the project purpose and need. Based on the analyses of these factors, those concepts carried forward in the EIS were defined in greater detail as **Alternatives**. These alternatives were evaluated with regard to the environmental and social impacts, as presented in Chapter IV – Environmental Consequences. The alternative that best accomplished the purpose and need for the proposed action while avoiding, minimizing or mitigating impacts to both the natural and social environments is identified as the **Preferred Alternative**. The alternatives development process for the project is shown in Figure II-1.

The process of alternative screening and its ascending level of detailed evaluation assures decision-makers of the fulfillment of the goals of the project, at a national, regional and local level, while developing informed consent with the reviewing agencies, stakeholders and general public. This screening process was performed in collaboration with the public and agency coordination program as defined in Chapter V – Comments and Coordination.

Figure II-1  
Alternatives Development Process



## B. Description of Proposed Action

The proposed action consists of rebuilding and modifying the existing I-29/35 roadway and bridge corridor from the northern terminus just north of M-210/Armour Road to and including the north side of the CBD freeway loop (I-35/70) which encompasses Downtown Kansas City, Missouri – the southern terminus. Included in the proposed action is the widening of the

existing Paseo Bridge crossing which currently carries I-29/35 over the Missouri River. This proposed action includes the corridor's connection to the CBD Loop and examines the connection of the Broadway Extension (US 169) with I-35/70.

## C. Initial Concepts

Initial Concepts for the I-29/35 Study Corridor included the following:

- **No-Build Concept** – Maintain the existing pavement and bridges in the corridor.
- **Reconstruction Concept** – Reconstruct the existing corridor in-kind.
- **Parallel Arterials Concept** – Rebuild or modify other Downtown river bridges and approaches.
- **Transportation System and Travel Demand Management Concept** – Reduce cross-river traffic through car pools, low-cost transit service, and improved traffic flow with low-cost projects.
- **High Capacity Transit Concept** – Construct fixed guideway or other higher capacity transit service extending from Downtown, over the Missouri River, into the Northland. The KCATA has the responsibility for development of this concept. The Northland~Downtown MIS (Major Investment Study) had identified a light rail transit alignment over the Missouri River near the Heart of America Bridge. A light rail project was not pursued further when the funding initiative failed. The KCATA is now developing plans to provide bus rapid transit service between downtown and the Northland.
- **Bicycle and Pedestrian Concept** – Provide bicycle and pedestrian facilities across the Missouri River, better connecting Downtown with the Northland. The Northland~Downtown MIS had identified including a bicycle/pedestrian crossing as part of a proposed new light rail transit bridge over the Missouri River, a project which was not pursued when the funding initiative failed. This concept would examine a bicycle and pedestrian crossing as part of a new Missouri River Crossing at I-29/35 or at the Heart of America Bridge.
- **Build Concepts** – Construct highway and bridge widening within the study corridor.

## D. Screening of Initial Concepts

The first step analyzed how each of the initial concepts would generally achieve the project goals identified in the purpose and need. Concepts were reviewed and further refined through coordination with stakeholder groups, public officials, and others who had an interest in a particular element of the project. Based on the review of the Initial Concepts, the following were carried forward for further consideration within the alternatives analysis. Table II-1 provides a summary of the generalized screening evaluation completed for the Initial Concepts.

### 1. NO-BUILD CONCEPT

While the No-Build Concept does not address the purpose and need for the proposed action, it was carried forward for comparison purposes. In cases where other alternatives would result in adverse social, economic or environmental effects, a No-Build Alternative would remain a valid option.

**Table II-1\*  
Screening of the Initial Concepts**

Initial Concepts	Purpose and Need							Other Impacts				
	Roadway Deficiencies	Traffic Safety	System Linkage	Transportation Capacity	Traffic Operation	Economic Development	Intermodal/NAFTA	Built Environment	Natural Areas	Social Environment	Section 4(f) Properties	Project Cost
<b>No-Build</b>	X	X	o	X	X	-	-	o	o	o	o	L
<b>Reconstruction</b>	X	o	o	X	X	o	o	o	o	o	o	L
<b>Parallel Arterials</b>	X	o	o	X	-	-	X	-	o	o	o	M
<b>Travel Demand Management</b>	X	X	o	X	o	o	o	o	o	o	o	L
<b>Transportation System Management</b>	X	●	o	X	o	o	o	o	o	o	o	L
<b>High Capacity Transit</b>	X	X	o	X	X	o	X	o	o	o	o	M
<b>Bicycle and Pedestrian</b>	X	X	o	X	X	o	X	o	o	o	o	M
<b>1 Widen to Six Lanes **</b>	●	●	●	◐	◐	◐	●	-	o	o	-	H
<b>2 Widen to Six Through Lanes / Reserve Two Additional**</b>	●	●	●	●	●	◐	●	-	o	o	-	H
<b>3 Widen to Six Through Lanes / Reserve Two additional for HOV</b>	●	●	●	●	◐	◐	●	-	o	o	-	H
<b>4 Reversible Lanes</b>	●	◐	●	●	◐	◐	●	-	o	o	-	H
<b>5 New Alignment</b>	●	●	●	o	●	◐	●	X	-	-	-	H
<b>6 Geometric Changes</b>	●	●	●	X	X	o	◐	o	o	o	-	M

BUILD CONCEPTS

\* Table II-2 in DEIS page II-9.

\*\* Auxiliary lanes located between some interchanges.

o = Neutral, - = Negative Impact, ◐ = Moderately Addresses Needs, ● = Substantially Addresses Needs,

x = Determined Not to Meet Purpose and Need; Project Cost: L = Low, M = Medium, H = High.

 Shaded concepts carried forward for further consideration.

**2. BUILD CONCEPTS**

**a. Build Concept 2  
(Widen to Six Lanes/Reserve for Two Additional Lanes)**

This concept was carried forward as it addressed the purpose and need of this project currently and in the long-term. Initially only a six-lane wide section would be constructed; however, the concept would allow for the ultimate widening of I-29/35 to eight lanes sometime in the future. The traffic analysis indicated that beyond the year 2030, that a section comprised of eight through lanes would achieve a LOS D. This concept would provide sufficient right-of-way to enable the future widening of I-29/35 to eight through lanes in the future if warranted and if funding was available. This concept would facilitate better system linkage, transportation capacity and traffic operations in both the short- and long-term.

**b. Build Concept 3  
(Widen to Six Through Lanes/Reserve for Two Additional HOV Lanes)**

This concept was carried forward as it addressed both the short and long-term needs of this project. This concept was determined to potentially have similar benefits to the Build Concept 2. A more detailed evaluation of this concept may be warranted if this concept is included as part of a larger HOV (High Occupancy Vehicle) system network. Traffic analysis of this concept within the I-29/35 Study Corridor is provided in Chapter II, G. 2. The analysis indicates that the travel time savings from HOV lanes for this section of I-29/35 would lead to a small increase in HOV trips. This small increase alone is not considered to be sufficient to warrant the construction of two additional lanes at this time. However, when a future widening of I-29/35 from six lanes to eight lanes is considered, the HOV lane concept for the element of Kansas City's transportation system could be reevaluated.

## **E. Design Characteristics**

Design criteria and standards have been used in the definition of the alternatives defined under the build concepts and for determining the footprint for the build alternatives in order to complete the impacts analysis. It is understood that these guidelines are desired criteria, reflecting the maximums and minimums that may be adjusted for an economical and efficient design. Context sensitive design will be considered during design. The sources of the criteria are as follows:

- A Policy on Geometric Design of Highways and Streets, AASHTO, 2001
- Roadside Design Guide, AASHTO, 2002
- MoDOT Project Development Manual
- Planning, Operation, and Design of High Occupancy Vehicle Facilities, Transportation Research Board

The MoDOT and AASHTO design standards incorporate standards applicable to the Americans with Disabilities Act (ADA).

## **F. Alignment and Design Features**

Additional background information was developed as the build alternatives were defined. This background information included:

- Issues related to a new bridge or bridges over the Missouri River
- The type and layout of potential interchange modifications
- Issues related to the potential widening of the I-29/35 mainline
- The relationship of traffic operations in the downtown loop given potential changes to the I-29/35 EIS study corridor

### **1. BRIDGE ANALYSIS**

During the location study of the I-29/35 EIS, a number of alternative roadway and bridge alignments were investigated for the Missouri River crossing of the I-29/35 corridor. The alignments studied were located either immediately upstream or downstream or centered on the current bridge alignment. The study concluded that the new alignment should be located immediately downstream from the existing alignment because of constraints from existing development and hazardous waste sites, particularly north of the river. The option of closing the Paseo Bridge, removing it, and rebuilding a new bridge(s) on the current location may be considered, but would not be acted upon until further consultation with the public and local governmental agencies takes place.

Three bridge options (Options 1, 2 and 3) were incorporated into the alignment alternatives. These include:

- **Option 1 (Companion Bridge)** – Add a companion bridge to the existing Paseo Bridge and complete an in-depth rehabilitation to the existing bridge to extend the design life from 10-15 years to 50 years. The existing Paseo Bridge would be preserved for use for southbound traffic and could provide for three through lanes plus a southbound auxiliary lane or future use as a fourth through lane. The new bridge would serve northbound traffic and would carry three through lanes plus a northbound entrance lane. The potential to widen to four through lanes in each direction will be provided.
- **Option 2 (Two New Bridges or New Single Bridge)** – Replace the existing Paseo Bridge with two new bridges, potentially carrying three through lanes in each direction plus a southbound auxiliary lane and a northbound entrance lane or one larger bridge constructed within the same project footprint. The existing Paseo Bridge would be removed. The potential to widen to four through lanes in each direction will be provided.
- **Option 3 (New Single Bridge)** – Replace the existing Paseo Bridge with one new bridge, carrying six through lanes plus a southbound auxiliary lane and a northbound entrance lane. The potential to widen to four through lanes in each direction will be provided.

All three bridge options were carried forward as part of individual concepts within the alternative development process. Table II-2 presents a summary of the three river crossing options, relative to environmental and navigational issues, roadway design and alignment issues, bridge design issues, and estimated construction costs assumed at this conceptual engineering phase for an eight-lane configuration.

**Table II-2\*  
Summary of Paseo Bridge Options**

Evaluation Factor	Paseo Bridge Options		
	Option 1 Rehabilitate Paseo Bridge and construct companion bridge.	Option 2** Build two new bridges with minor offset or new single bridge and demolish Paseo Bridge	Option 3 Build new single bridge with large offset and demolish/reuse Paseo Bridge
<b>Environmental and Navigational Issues</b>			
Span Length (Min.)	616 feet	450 feet	450 feet
Pier Locations	Match existing	Unconstrained	Unconstrained
Existing Bridge	Preserve	Demolish	Demolish or Reuse
Navigation Channel	308 feet (South Bank)	450 feet (South Bank)	450 feet (South Bank)
<b>Roadway Design and Alignment Issues</b>			
Vertical Clearance (Min.)	55 feet above 734.4 MSL***	55 feet above 734.4 MSL***	55 feet above 734.4 MSL***
Centerline Shift	58 feet (Downstream)	58 feet (Downstream)	172 feet (Downstream)
Ultimate Bridge Deck Width	SB (56 feet) NB (84 feet)	SB (84 feet) NB (84 feet)	170 feet
Initial/Ultimate No. of Lanes	SB (3/4) NB (3+/4+)	SB (3+/4+) NB (3+/4+)	SB (3+/4+) NB (3+/4+)
Design Exception	SB Shoulder Widths	None	None
Roadway Safety	Narrow shoulders and lane merges	Improved	Improved
Interchange Upgrades (Front St.)	Ability to improve Front St. is affected by existing bridge	Unaffected	Unaffected
<b>Bridge Design Issues</b>			
Low Cost Bridge Type	Tied Arch	Deck Girder	Deck Girder
Unique Bridge – Additional Cost	Cable Stayed \$14.1 M Suspension \$16.2 M	Tied Arch \$3.5 M Cable Stayed \$39.3 M	Tied Arch \$3.5 M Cable Stayed \$39.3 M
Opportunity for Unique Bridge	More limited due to presence of existing Paseo Bridge	Limited only by virtue of two new bridge requirement	Unlimited

**Table II-2\* (continued)  
Summary of Paseo Bridge Options**

Evaluation Factor	Paseo Bridge Options		
	Option 1 Rehabilitate Paseo Bridge and construct companion bridge.	Option 2** Build two new bridges with minor offset or new single bridge and demolish Paseo Bridge	Option 3 Build new single bridge with large offset and demolish/reuse Paseo Bridge
<b>Construction Cost Estimates</b>			
Future Paseo Rehab	\$10.0 M	-----	-----
Paseo Bridge Demo	-----	\$2.0 M	\$2.0 M
New Bridge(s) (Low Cost)	\$39.1 M	\$52.4 M	\$52.4 M
Total Construction Cost (Low Cost)	\$49.1 M	\$54.4 M	\$54.4 M
50-Year Maintenance	\$6.6 M****	\$2.9 M	\$2.9 M

\* Table II-4 in DEIS page II-20.

\*\* Option 2, with either two new bridges or a new single bridge, requires the demolition of the Paseo Bridge. The timing of the demolition will depend on a number of factors including whether there will be two new bridges or a new single bridge and whether closure of the bridge is desired.

\*\*\* The clearances listed above have been approved by the Coast Guard. However, the possibility exists that the USCG would approve matching the M-9/Heart of America Bridge which has fifty-two feet of vertical clearance from the 2% flow line elevation of 733.1 mean sea level. Any such modification would need to be approved by the USCG before it could be incorporated into the project design.

\*\*\*\* The maintenance costs for the existing Paseo Bridge were the costs tabulated by Parsons for the 2002 inspection report and inflated to 2005 dollars.. Paint touch-ups are included in the cost.

NOTE: + refers to construction of auxiliary lane or ramp merge lane. Costs are for the ultimate bridge width.

## 2. INTERCHANGE ANALYSIS

The analysis and evaluation of the potential or possible interchange modification at each interchange location was completed. This process included examining a range of potential interchange modifications and then assessing the potential benefits and disadvantages of each interchange type. The initial interchange layouts at each location were reviewed and further refined through coordination with stakeholder groups, public officials, and others who had an interest in a particular element of the project. The interchange analysis was used to demonstrate feasibility of specific interchange types and was used to determine the maximum construction limits of the build alternatives, which were based on an eight lane facility. Layouts of the interchange concepts and evaluation information for each interchange can be found in Appendix B, Interchange Alternatives Analysis, of the DEIS.

Further analysis of the interchanges is being conducted as part of an Access Justification Report (AJR). FHWA requires that MoDOT submit an AJR for new or revised access to demonstrate the purpose and need for the proposed change in access. The AJR will discuss any design exceptions that will be necessary to complete the proposed access change.

## 3. I-29/35 MAINLINE ANALYSIS

The mainline analysis for the I-29/35 corridor from M-210 to the northeast corner of the Downtown loop focused on widening strategies in order to maintain traffic and to minimize right-of-way and environmental impacts. The initial widening concepts would ultimately enable widening from four to six or potentially eight lanes based on two staging concepts – widen with the potential for four new lanes added to the east or west of the existing alignment, or widening symmetrically to both sides to allow achieving an eight-lane section in the future if warranted and if funding is available. A review of the adjacent land use and right-of-way constraints resulted in a single mainline widening alternative that would minimize impacts to the surrounding areas, while minimizing maintenance of traffic staging. A single mainline alternative was derived from the analysis that incorporates variations of these widening concepts.

#### **4. DOWNTOWN LOOP ANALYSIS**

A separate analysis of the CBD Loop was completed to examine traffic flow relationships for the entire CBD Loop. The purpose of the study was to build upon the Northland~Downtown MIS and examine how capacity increases in the I-29/35 corridor would be accommodated in the CBD Loop. The Downtown Loop Master Plan provides a conceptual description and plan for the freeway and ramp access system that comprise the Loop. The Downtown Loop Master Plan and traffic analysis completed as part of this EIS was used as part of the process to define how the build alternatives components on I-29/35 would interact with the CBD Loop. The Downtown Loop Master Plan is a separate document and is available upon request.

### **G. Traffic Analysis**

The traffic characteristics of the No-Build and build concepts were assessed in order to assist in the development and refinement of the alternatives. The results of this analysis are presented in Chapter II of the DEIS and are summarized below.

The regional travel demand forecasting model developed and maintained by MARC was refined and was used to develop future year traffic volumes (year 2030) with and without the initial concepts. The model forecasts show year 2030 daily traffic volumes at the Missouri River crossing to be 100,000 for the No-Build Concept, 125,000 for the Six-lane Build Concept, 140,000 for the Eight-lane Build Concept and 135,000 for the Eight-lane HOV Concept.

The traffic operations resulting from the projected year 2030 traffic volumes were studied. The analysis shows that there would be traffic shifts on the Missouri River bridges with some traffic being shifted to the I-29/35 river crossing given the build concepts. The resulting Level of Service (LOS) is a LOS E for peak directional travel with a six-lane I-29/35 bridge and a LOS D with an eight-lane I-29/35 bridge.

Overall system measures were calculated to further study the amount of time motorists spend traveling I-29/35 and the accumulation of the number of miles traveled and vehicle hours traveled for the No-Build and build concepts. The results show the Six-lane Build Concept would result in a reduction of miles and hours traveled. This would occur as with the No-Build Concept, I-29/35 would experience traffic congestion. Therefore, motorists would begin to use alternate routes that are a longer distance, to bypass the congestion. With the Six-lane Build Concept, congestion is reduced and the travel times improve on I-29/35 in the project corridor. However, for the Eight-lane Build Concept, the results indicate additional travel time savings but vehicle miles traveled (VMT) would increase over no-build levels. This occurs because the additional travel time savings from an eight-lane I-29/35 would attract additional traffic that did not previously use the I-29/35 Corridor because the motorists would now be able to travel longer distances in a shorter amount of time. Compared to the Six-lane Build Concept, the Eight-lane HOV concept would have less impact in reducing VMT but would provide additional travel time savings.

#### **1. CRASH ANALYSIS**

Future traffic crashes were forecasted for the future year in order to compare the build concepts with the No-Build Concept. The existing statewide crash rates are used to establish anticipated reductions in crash rates for the build concepts. These rates are then applied to forecasted traffic volumes to determine the projected crashes, by type, for each build concept.

In general, the rate at which crashes occur reduces in the build concepts, but the amount of traffic using the facility increases, so a trade-off occurs when estimating the forecasted number

of crashes. In this case, the total amount of crashes decreases over time for the build concepts, because the crash rate reduction compensated for the forecasted increases in traffic volumes. The results indicate that a reduction in crashes is expected for the Build Concepts even with the projected increase in traffic on I-29/35 associated with these concepts. The results do not reflect the crash reductions on other routes associated with any shift of traffic to I-29/35. Given the high crash rate in the study corridor, all of the build concepts reduce the number of crashes by over 50% compared with the expected future crashes for the No-Build Concept. For further discussion of the crash data and analysis see Chapter II, G. 5 of the DEIS.

## 2. HOV LANE ANALYSIS

The regional travel model was used to test the impacts of designating a lane for use by vehicles occupied by more than one person during peak periods. The results of the analysis are presented in this section.

The travel time differences between existing conditions, the Build Concept 2 (eight-lane), and the Build Concept 3 (eight-lane HOV) are listed in Table II-3. The results show that the future build concepts will reduce travel time on this section of the interstate system by nearly two minutes from current conditions. The travel time differences provided by HOV lane use is shown to be small. The results do suggest that the HOV lane strategy in this segment alone will have limited effect in encouraging additional high occupancy vehicle travel.

**Table II-3\***  
**HOV Lane Travel Time Comparison**

Facility	Travel Time M-210 to NE Corner of Loop Peak Direction	
	AM (minutes)	PM (minutes)
<b>Existing (Base Year 2003)</b>	4.55	3.55
<b>Build Concept 2 (eight-lane)</b>	3.18	3.05
<b>Build Concept 3 (eight-lane HOV)</b>		
Mixed Use Lanes (only)	3.24	3.15
HOV Lanes (only)	2.95	2.77
All Lanes (average)	3.17	3.06

\* Table II-20 in DEIS page II-35.

The impact of the HOV lanes on formation of carpools and vanpools is listed in Table II-4. The information shown in the table includes the number of high occupancy vehicles per day with and without HOV lanes, the daily percentage of HOV vehicles, and the average vehicle occupancy for each concept at the Missouri River crossing. The changes shown as a result of the HOV lane concept would occur during the peak periods and so the differences may be understated when reported by daily travel comparisons.

**Table II-4\***  
**HOV Lane Vehicle Occupancy Comparison**

Facility	HOVs	Percent**	Vehicle Occupancy
Build Concept 2 (eight-lane)	31,043	23%	1.53
Build Concept 3 (eight-lane HOV)	33,429	25%	1.58

\* Table II-21 in DEIS page II-35

\*\* % of all passenger vehicle trips.

## H. Alternatives

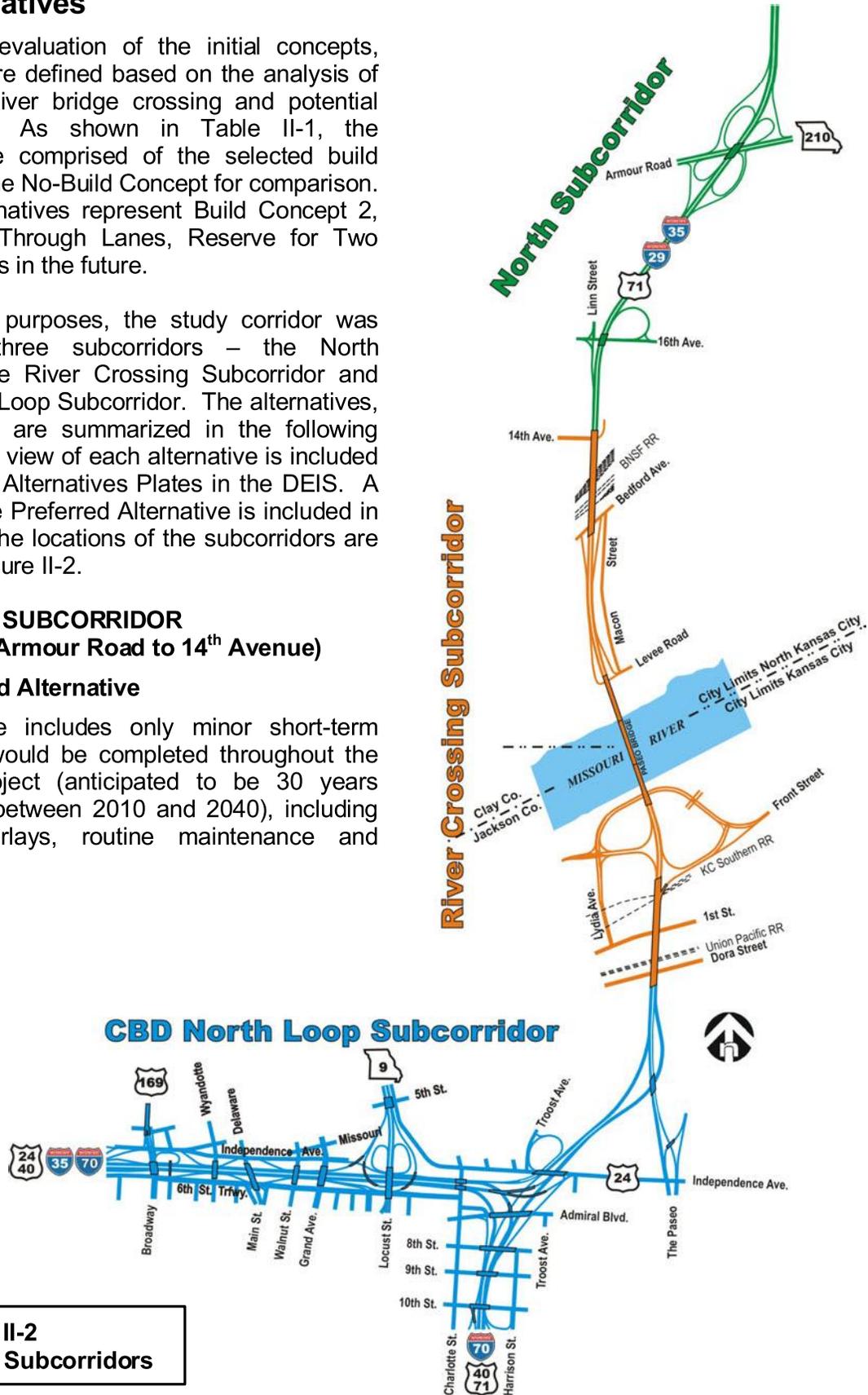
Following the evaluation of the initial concepts, alternatives were defined based on the analysis of the Missouri River bridge crossing and potential interchanges. As shown in Table II-1, the alternatives are comprised of the selected build concepts and the No-Build Concept for comparison. The build alternatives represent Build Concept 2, Widen to Six Through Lanes, Reserve for Two Additional Lanes in the future.

For evaluation purposes, the study corridor was divided into three subcorridors – the North Subcorridor, the River Crossing Subcorridor and the CBD North Loop Subcorridor. The alternatives, by subcorridor, are summarized in the following section. A plan view of each alternative is included in Appendix C, Alternatives Plates in the DEIS. A plan view of the Preferred Alternative is included in Appendix C. The locations of the subcorridors are illustrated in Figure II-2.

### 1. NORTH SUBCORRIDOR (M-210/Armour Road to 14<sup>th</sup> Avenue)

#### a. No-Build Alternative

This alternative includes only minor short-term activities that would be completed throughout the life of the project (anticipated to be 30 years approximately between 2010 and 2040), including pavement overlays, routine maintenance and bridge repair.



**Figure II-2**  
**I-29/35 Subcorridors**

**b. Build Alternative**

The Build Alternative includes widening the I-29/35 mainline to six through lanes and reserving for two additional lanes in the future and modifying the interchange at M-210/Armour Road and the half interchange at 16<sup>th</sup> Avenue.

**2. RIVER CROSSING SUBCORRIDOR (14<sup>th</sup> Avenue to Dora Street)****a. No-Build Alternative**

Under this alternative, the I-29/35 Corridor would remain in its present configuration and location and a new bridge over the Missouri River would not be constructed. This alternative includes only minor short-term activities that would be completed throughout the life of the project, including pavement overlays, routine maintenance and bridge repair. The bridge repair would include the corridor roadway bridges, as well as a major rehabilitation plan that would extend the life of the existing I-29/35 Paseo Bridge. It would include pavement rehabilitation to maintain the driving surface of the interstate.

**b. Build Alternatives**

Within this subcorridor, the build alternative includes widening the I-29/35 mainline initially to six through lanes and reserving for two additional lanes in the future. It also includes improving or replacing the I-29/35 Paseo Bridge, as well as several corridor interchange design options. The build alternative combinations within this subcorridor include:

***Alternative A***

Alternative A consists of rehabilitating the existing I-29/35 Paseo Bridge and converting it to a one-way bridge for southbound traffic. A new companion bridge would be constructed immediately adjacent to and downstream from the existing bridge due to navigational, property and environmental impacts. This build alternative includes widening the I-29/35 mainline and assumes constructing braided ramps at Bedford Avenue and Levee Road and a modified interchange at Front Street. Grade changes could make it cost prohibitive for certain interchange types at Front Street. Certain types of interchanges may not be feasible if the existing bridge is retained.

***Alternative B***

This alternative includes the construction of two new bridge structures, with one bridge carrying southbound traffic and one bridge carrying northbound traffic or one larger bridge constructed within the same project footprint. This build alternative includes widening the I-29/35 mainline and assumes constructing braided ramps at Bedford Avenue and Levee Road. Two different interchange types at Front Street have been identified as possible options, which are labeled in Chapter II, Section H. 2. b. as B-1 and B-2 in the DEIS. These two interchange types were used to determine the impacts for Alternative B. Grade changes could make it cost prohibitive for certain interchange types at Front Street.

***Alternative C***

This alternative includes the construction of one new bridge downstream of the existing Paseo Bridge carrying both northbound and southbound traffic. There is the potential that the existing Paseo Bridge could be left in place and reused to provide for additional capacity. This build alternative also includes widening the I-29/35 mainline and assumes constructing braided ramps at Bedford Avenue and Levee Road and a modified or new interchange at Front Street. Grade changes could make it cost prohibitive for certain interchange types at Front Street.

### **3. CBD NORTH LOOP SUBCORRIDOR (Dora Street to Broadway Boulevard)**

#### **a. No-Build Alternative**

This alternative includes only minor short-term activities that would be completed throughout the life of the project, including pavement overlays, routine maintenance and bridge repair.

#### **b. Build Alternatives**

Within this subcorridor, the build alternatives include modifications to the north leg of the CBD Loop, as well as several corridor interchange design options. There are two build alternative combinations within this subcorridor.

##### ***Alternative A***

This build alternative includes widening the I-29/35 mainline from Dora Street to the northeast corner of the CBD Loop. From there to just west of Broadway Boulevard, the mainline's current six-lane section would be maintained with minor ramp and lane modifications to improve operations and safety. The exit ramps from north bound I-35 to US 24/Independence Avenue and from I-70 WB at Admiral, as shown in the Preferred Alternative, are being removed due to the short weave distances between the exit and entrance ramps in this location. Other access points are available nearby to accommodate individuals who desire to exit the interstate system in this corner of the Loop. The US 24/Independence Avenue, M-9 and Main Street interchanges would remain in their current configurations.

The existing Paseo Boulevard left-hand entrance and exit is shown to be converted to a right-hand entrance and exit. The Broadway Boulevard interchange could potentially be converted to a Single Point Urban Interchange (SPUI) and the I-29/35 mainline ramps to and from the north would be removed.

##### ***Alternative B***

This build alternative includes widening the I-29/35 mainline from Dora Street to the northeast corner of the CBD Loop. The mainline from the northeast corner of the CBD Loop to just west of Broadway Boulevard maintains the current six-lane mainline section, but includes ramp and lane modifications to improve operations and safety.

Within this alternative, access from the US 24/Independence Avenue westbound loop ramp to I-35 southbound/I-70 westbound is shown to be relocated as US 24/Independence Avenue is converted to a continuous frontage road from the northeast corner of the CBD Loop to the Broadway Boulevard interchange. Direct access from Sixth Street to I-29/35 northbound is added. The M-9 directional interchange would be converted to an at-grade interchange. The existing Paseo Boulevard left-hand entrance and exit is shown to be converted to a right-hand entrance and exit. Operations and impacts were assessed assuming that in this alternative the Broadway Boulevard interchange would be converted to a Single Point Urban Interchange (SPUI).

## **I. Cost Analysis**

The construction cost for the Build Alternatives includes right-of-way acquisition costs, relocation costs, and design, administration and construction costs. These cost estimates are preliminary and reflect level of detail commensurate with this EIS. The costs used in this comparison are for an eight through lane. The cost estimates were determined using standard unit costs for estimated construction items in year 2005 dollars. Table II-5 summarizes the total

construction costs for each of the build alternatives. For a more detailed summary of the construction cost estimates, refer to Appendix D of the DEIS.

Roadway costs reflect a low end and high end cost. The low end costs assume that some of the existing structures can be utilized in the proposed concept. The high end cost assumes that all existing structures will be replaced as part of the proposed concept. Roadway costs include pavement, base, drainage, earthwork, retaining walls, mainline and overpass bridges, with the exception of the river bridge which is broken out separately.

**Table II-5\***  
**Build Alternatives Estimated Construction Costs**  
**(Year 2005 Dollars)\*\***

Alternatives	Roadway Cost (\$M)		Missouri River Bridge Cost (\$M)	Right-of-Way / Relocation Cost (\$M)	Design & Administration (\$M)		Total Cost (\$M)	
	Low End	High End			Low End	High End	Low End	High End
<b>North Subcorridor</b>								
Build Alternative	\$40.7	\$42.0	\$0.0	\$1.4	\$9.0	\$9.2	\$51.1	\$52.6
<b>River Crossing Subcorridor</b>								
Alternative A	\$52.6	\$73.7	\$49.1	\$3.8	\$11.6	\$16.2	\$117.1	\$142.8
Alternative B-1	\$54.2	\$75.3	\$54.4	\$3.8	\$11.9	\$16.6	\$124.3	\$150.1
Alternative B-2	\$62.3	\$83.4	\$54.4	\$4.1	\$13.7	\$18.3	\$134.5	\$160.2
Alternative C	\$62.3	\$83.3	\$54.4	\$8.4	\$13.7	\$18.3	\$138.8	\$164.4
<b>CBD North Loop Subcorridor</b>								
Alternative A	\$36.5	\$36.5	\$0.0	\$1.0	\$8.0	\$8.0	\$45.5	\$45.5
Alternative B	\$61.6	\$61.6	\$0.0	\$1.0	\$13.5	\$13.5	\$76.1	\$76.1

\* Table II-22 in DEIS page II-44.

\*\* Costs shown are for the ultimate eight-through lane configuration.

## J. Preferred Alternative

Following public comment, the Preferred Alternative has been modified and is identified as the Preferred Alternative in this Final EIS (FEIS). The Preferred Alternative is the combination of the individual preferred subcorridor alternatives. Based upon the satisfaction of the purpose and need, overall consideration of social, economic and environmental impacts and benefits, and input from the public and review agencies, **combination of the North Build Alternative, River Crossing Build Alternative A or B (B-1 or B-2) and North CBD Loop Build Alternative A** as described in the DEIS has been identified as the Preferred Alternative. The DEIS had identified CBD North Loop Alternative B as the preferred alternative within the CBD North Loop Subcorridor. Based upon public comment, CBD North Loop Alternative A, as described in the DEIS, has replaced CBD North Loop Alternative B as the Preferred Alternative within the CBD North Loop Subcorridor.

The Preferred Alternative, by subcorridor, is summarized in the following sections.

### 1. NORTH SUBCORRIDOR (M-210/Armour Road to 14<sup>th</sup> Avenue)

The Preferred Alternative includes widening the I-29/35 mainline to six through lanes and reserve for two additional lanes in the future. It also includes modification of the existing interchange at M-210/Armour Road and the existing half interchange at 16<sup>th</sup> Avenue.

## 2. RIVER CROSSING SUBCORRIDOR (14<sup>TH</sup> Avenue to Dora Street)

Within this subcorridor, the Preferred Alternative includes widening the I-29/35 mainline to six. It also includes replacing the I-29/35 Paseo Bridge, as well as several corridor interchange concept options. An option to leave the existing bridge in place for an alternative, non-vehicular use while building a new bridge downstream to accommodate all vehicular traffic, as in River Crossing Subcorridor Alternative C, is not acceptable because the footprint has been kept as narrow as possible to avoid Section 4(f) properties, environmental justice issues, and hazardous waste sites, as well as commercial and industrial establishments. The Preferred Alternative combinations within this subcorridor include:

- **Alternative A** – This alternative consists of rehabilitating the existing I-29/35 Paseo Bridge and converting it to a one-way bridge for southbound traffic. A new companion bridge would be constructed immediately adjacent to and downstream from the existing bridge due to navigational, property and environmental impacts. This variation of the Preferred Alternative includes widening the I-29/35 mainline and constructing braided ramps at Bedford Avenue and Levee Road and a modified interchange at Front Street.
- **Alternative B** – This alternative includes the construction of two new bridge structures, with one bridge carrying southbound traffic and one bridge carrying northbound traffic or one larger bridge constructed within the same project footprint. This variation of the Preferred Alternative includes widening the I-29/35 mainline and constructing braided ramps at Bedford Avenue and Levee Road. Two different interchange types at Front Street have been identified as possible options including a modified diamond and single-point urban interchange, which are labeled in Chapter II of the DEIS, Section H. 2. b. as B-1 and B-2. These two interchange types were used to determine the impacts for Alternative B.

## 3. CBD NORTH LOOP SUBCORRIDOR (Dora Street to Broadway Boulevard)

The Preferred Alternative includes the Build Alternative described as CBD North Loop Alternative A. The Preferred Alternative includes widening the I-29/35 mainline from Dora Street to the northeast corner of the CBD Loop. From there to just west of Broadway Boulevard, the mainline's current six-lane section would be maintained with minor ramp and lane modifications to improve operations and safety. The exit ramps from north bound I-35 to US 24/Independence Avenue and from I-70 WB at Admiral, as shown in the Preferred Alternative, are being removed due to the short weave distances between the exit and entrance ramps in this location. Other access points are available nearby to accommodate individuals who desire to exit the interstate system in this corner of the Loop. The US 24/Independence Avenue, M-9 and Main Street interchanges would remain in their current configurations.

The existing Paseo Boulevard left-hand entrance and exit is shown to be converted to a right-hand entrance and exit. The Broadway Boulevard interchange could potentially be converted to a Single Point Urban Interchange (SPUI) and the I-29/35 mainline ramps to and from the north would be removed.

## 4. OTHER ELEMENTS OF THE PREFERRED ALTERNATIVE

Elements from the concepts that were not carried forward as primary alternatives are now included or supported as part of the preferred alternative.

### a. Travel Demand Management (TDM)

The continuation of TDM strategies currently in place or anticipated to be provided in the future are not in conflict with the preferred alternative. Strategies such as carpooling, vanpooling, flexible working hours would be supported and will contribute to a more efficient movement of people and goods.

**b. Transportation Systems Management (TSM)**

The continuation of TSM strategies currently in place or anticipated to be provided in the future are not in conflict with the preferred alternative. TSM strategies such as signal timing and providing for low-cost geometric projects will be considered as elements of the Preferred Alternative. Other TSM strategies such as ramp metering or bus priority lanes at ramps are not precluded by the preferred alternative. Application of these TSM strategies would likely need to be considered outside this EIS process for possible application in geographic areas larger than this study corridor.

**c. High Capacity Transit**

The Kansas City Area Transportation Authority (KCATA) is the primary transit provider in the I-29/35 corridor. Future transit service plans as part of the SMART Moves Plan are summarized in Chapter I of the DEIS. The SMART Moves plan envisions future operation of a freeway bus service called Freeway Flyers on I-29/35. The existing and proposed future transit services are supported as part of the preferred alternative. Decisions related to use of HOV lanes will be made as part of a future HOV study to be conducted by Mid-America Regional Council (MARC). The preferred alternative has the flexibility to accommodate a variety of outcomes that may be part of the future HOV study.

**d. Bicycle and Pedestrian**

The extent that the Missouri River is a constraint to bicycle and pedestrian travel is described in Chapter IV of the DEIS. This constraint is recognized, and based upon public comment, MoDOT will let for construction a bicycle/pedestrian facility crossing the Missouri River within the Downtown Kansas City area, no later than the end of MoDOT's fiscal year 2012.

MoDOT, in partnership with MARC, conducted a study to identify and evaluate potential bicycle/pedestrian facilities across the Missouri River in the downtown Kansas City area. Representatives from Kansas City, North Kansas City, KCATA, Missouri Bicycle Federation, Bridging the Gap and FHWA were included on the study team. The study included conceptual designs that were of sufficient detail to facilitate discussions and decisions, regarding reasonable and safe alternatives for potential facilities. The analysis included federal, state, local and regional policies applicable to bicycle/pedestrian accommodations. MoDOT worked with MARC, the study team and the community to select one reasonable and safe alternative to be included for construction in the 2008-2012 STIP. The selected alternative will be considered the priority for the region.

The study looked at four locations for potential crossings.

***New Facility at Town of Kansas Historic Site***

This would be a new facility crossing the Missouri River; potentially reusing portions of the existing bicycle/pedestrian facility that extends north from 2nd Street and Main over the Town of Kansas historical site. The new facility would cross the river and could connect into the Harlem neighborhood at the proposed trail on the levee, or into the street system at Harlem Road near Main Street. While the facility would connect to a neighborhood, bicyclists and pedestrians would have an at-grade crossing of the Burlington Northern Santa Fe railroad track entering North Kansas City.

The study area in this NEPA document does not include the Town of Kansas location. Additional investigation will be required to meet NEPA requirements. At this location there is the potential for impacts to historic sites, hazardous waste sites, floodplains, wetlands and threatened and endangered species.

The estimated cost of a new facility is \$9.1 million. This is based on construction cost only, in 2007 dollars, for a functional type structure and does not include costs for design, right of way, or aesthetic treatments.

### ***ASB Bridge***

Before being replaced by the Heart of America Bridge, the ASB bridge connected Kansas City with North Kansas City along the Burlington Santa Fe line and Missouri Route 9 (Burlington Street).

The existing bridge has two decks. The lower deck is used by the Burlington Northern Santa Fe (BNSF) railroad, and it rises to allow barge traffic to pass underneath. The roadway approach to the upper deck (once used for automobiles) was removed when it was no longer needed for automotive traffic. A trail on the lower deck access road would violate the railroad's clear zone. In addition, trail users would need to be protected when the lift span was raised. These concerns led the study team to eliminate the use of the lower deck from further study.

The focus for this location is only related to rehabilitation of the upper deck to be used as a bicycle/pedestrian facility. The upper deck roadway approach has been removed, but it was once connected south of the river with Grand Avenue. Connections are necessary to get from the top deck to the street or trail system on both sides of the river. To the north, the facility could be reconnected to the North Kansas City street system at Atlantic Street or potentially to the proposed trail on the North Kansas City Levee.

Although the ASB Bridge provides opportunities for a bicycle/pedestrian facility, it was determined that this option could not be implemented by 2012, so it was not carried forward for further study. Costs were not estimated for this option.

### ***Heart of America Bridge***

The Heart of America Bridge carries Missouri Route 9 (Burlington Street) between 3rd Street in Kansas City and 10th Avenue in North Kansas City. This crossing is actually two separate structures: one across the river and one over the Burlington Northern Santa Fe (BNSF) railroad lines. A bicycle/pedestrian facility would connect to 3rd Street in Kansas City, with a potential connection further south on Route 9 to the Government Center. On the north side of the river, the facility connects to North Kansas City's street and sidewalk system. The bridge has excess capacity that could be used for bicycles and pedestrians, eliminating the need to build a new structure.

The estimated cost for this option is \$2.3 million. This is based on construction cost only, in 2007 dollars, and does not include widening of the bridge deck, improvements to the existing deck, or major changes to the drainage system. It also does not include costs for design, right of way, or aesthetic treatments.

### ***Paseo Bridge***

The Paseo Bridge carries the I-29/35 interstate facility over the Missouri River. The facility connects to the Paseo Industrial District on the north in North Kansas City and to Front Street and the downtown loop on the south side in Kansas City. The existing bridge cannot be modified to accommodate a bicycle/pedestrian facility, but a new companion structure or new structure(s) that are recommended as part of this NEPA document present an option to integrate a facility into the new structure and not retrofit a bridge.

Two options were evaluated for connections at this location. The first option is a shared use facility on the Paseo crossing that would connect to Riverfront Heritage Trail on the south side and the proposed levee trail on the north side of the river. The second option is a shared use facility on the Paseo crossing that would connect to Front Street on the south side and 16<sup>th</sup> Avenue on the north side of the river.

**Option 1** – This interstate corridor has a high volume of truck traffic and industrial land uses on the north side of the river, including multiple railroad lines. Also, interstate traffic travels at higher speeds, requiring additional safety considerations for bicyclists and pedestrians. Because of this, MoDOT felt the need to move the bicyclists and pedestrians away from the interstate traffic as quickly as possible. Therefore, a shared use facility on the Paseo crossing that would connect to Riverfront Heritage Trail on the south side and the proposed levee trail on the north side of the river was considered. The Kansas City region will be required to construct a portion of the proposed trail on the levee in order to have logical connections to the street system or other trails.

The estimated cost for Option 1 is \$6 - \$9.6 million, depending upon structure type. This is based on construction cost only, in 2007 dollars, and does not include costs for design, right-of-way, or aesthetic treatments.

**Option 2** – Option 2 would not only provide a river crossing, but a crossing over the multiple railroad lines as well. However, the Bedford Avenue and Levee Road interchange is between these two major constraints, introducing an additional challenge. A high volume of truck traffic uses the Bedford Avenue and Levee Road ramps to access the Paseo Industrial District. A barrier separated crossing at these ramps presents challenges and concerns for the safety of the users on the facility.

A separated bicycle/pedestrian facility would require additional right-of-way beyond what is planned for the Preferred Alternative defined in this document. Constrained right-of-way is due to the proximity of loading docks, truck circulation, driveways, employee parking, billboards and other industrial activity.

MoDOT's bicycle/pedestrian policy states that bicycle/pedestrian facilities will be outside interstate right-of-way. Any related costs due to the construction or any mitigation costs of the bicycle/pedestrian facility outside MoDOT's right-of-way will be the responsibility of the local jurisdictions. Costs were not estimated for Option 2, although it is anticipated that the costs for right-of-way will be high.

### **Study Results**

Although the Town of Kansas location provided a number of interesting potential connections for user groups, it was determined that the Heart of America location already has the best connections to land uses on both sides of the river. The challenges presented for the ASB and Paseo Bridge locations regarding approvals from the railroad and the North Kansas City Levee District, the impacts to and costs for right-of-way and concerns for bicyclists' and pedestrians' safety make these options less attractive at this time.

MoDOT is committed to letting for construction a reasonable and safe bicycle/pedestrian facility crossing the Missouri River along Missouri Route 9 between 10<sup>th</sup> Avenue in North Kansas City and 3<sup>rd</sup> Street in Kansas City via the Heart of America Bridge by 2012. Since the study area in this NEPA document does not include Missouri Route 9 north across the Missouri River, the appropriate environmental documentation and clearances will be completed as this

bicycle/pedestrian project moves forward. MoDOT will continue to work with MARC and the community on an appropriate design for the improvements to the Heart of America corridor.

Funding for this improvement may come from one or a combination of available funding sources. This commitment can be met through the use of existing or future MoDOT district distributed funds for Major Projects and Emerging Needs, funds allocated to the MARC region, and/or other public or private funds.

Although only one crossing will be committed to as a part of this document, each of these locations are viable alternatives and can still be considered and carried forward as separate projects. MoDOT and MARC will continue to work with the community to further explore other crossing opportunities to increase bicycle/pedestrian travel across the Missouri River.

A copy of the Feasibility Study for a Downtown Bicycle/Pedestrian River Crossing is available upon request.

**5. PREFERRED ALTERNATIVE COSTS**

The total costs of the Preferred Alternative from M-210 to Broadway for the eight-lane configuration are estimated to range from \$213 million to \$231 million.

**Table II-6  
Preferred Alternative Estimated Construction Costs  
(Year 2005 Dollars)\***

Preferred Alternative (North Subcorridor, River Crossing, North CBD Loop)	Roadway Cost (\$M)		Missouri River Bridge Cost (\$M)	Right-of-Way / Relocation Cost (\$M)	Design & Administration (\$M)		Total Cost (\$M)	
	Low End	High End			Low End	High End	Low End	High End
Build, Alternative A, Alternative A	\$129.8	\$152.2	\$49.1	\$6.2	\$28.6	\$33.4	\$213.7	\$240.9
Build, Alternative B-1, Alternative A	\$131.4	\$153.8	\$54.4	\$6.2	\$28.9	\$33.8	\$220.9	\$248.2
Build, Alternative B-2, Alternative A	\$139.5	\$161.9	\$54.4	\$6.5	\$30.7	\$35.5	\$231.1	\$258.3

\*Costs shown are for the ultimate eight-through lane configuration.

**6. DESIGN-BUILD**

**a. Design-Build Process**

MoDOT and FHWA intend to use the design-build process, rather than the design-bid-build process, to yield transportation solutions for the needs identified and studied in this Environmental Impact Statement (EIS). The limits of the design-build portion of the project extend from the M-210 interchange to the northeast corner of the CBD Loop.

The design-build process allows design of the facility and construction to take place simultaneously by a contractor chosen to design and build the project, in this case, for a specified cost. As in typical design-build projects, construction may begin when about 30 percent of the total design is completed. Time savings and innovation are two advantages of design-build.

MoDOT is developing a new model for design-build on this project. Design-build encourages contractor innovations in design, traffic management and construction phasing. MoDOT's new design-build process will provide optimum opportunity and flexibility for the contractors to develop and apply innovative engineering and construction techniques. Contractor teams will be involved in an interactive but confidential selection process that allows them maximum flexibility to develop and refine their proposals. A "set" contract price will be specified in the request for proposals. Contractor teams will develop a project scope that is within the "set" contract price. The innovative selection process allows the teams to develop concepts for a noteworthy river bridge, as well as other design elements in the corridor, with a minimum amount of guidelines or requirements.

The preferred alternative offered in this EIS is intended to represent a scenario for likely impacts of the project, offering the largest footprint within which any number of options might be proposed. The alternatives offered in the EIS do not limit the proposals the design-build contractor can suggest. For example, the specific layout of the SB I-29/35 ramp for Paseo Boulevard might retain a left-hand exit, as is current, rather than the right-hand exit shown in the EIS. The interchange layouts for the Front Street and the M-210 interchanges might differ from the layouts examined in this EIS. The footprint used within the EIS would accommodate alternatives up to eight through lanes. Proposals from the contractor will be examined to assure we have considered their impacts and also to confirm their ability to meet the purpose and need of the project in a safe and effective manner.

Currently the design-build portion of the project has \$195 million in programmed funds. There is an earmark for an additional \$50 million, but it is not programmed at this time.

MoDOT has agreed to provide an interchange configuration at Front Street that best suits the development being planned for the riverfront area as long as an additional \$10 million is provided to the project.

#### **b. Public Involvement**

As reflected in the design-build project goals, MoDOT is committed to involving the public in successfully developing and delivering the project as we move through the design-build process. Prior to awarding the design-build contract, public involvement activities will include a project Web site, newsletters and communications with adjacent property owners. MoDOT will also work with an advisory group of community representatives, appointed by elected and civic leaders. MoDOT is committed to including the Community Advisory Group in making the decision regarding the bridge type. In addition, MoDOT will hold a public meeting prior to awarding the design-build contract to capture and document the public's priorities for the project. MoDOT also will seek out public events where project information and team members can be made available.

Once a contractor is selected, MoDOT will hold a second public meeting where the selected contractor would be available to answer questions, share their design, and get input from the public on that design. Outreach through the project's Web site and newsletter, as well as outreach to impacted property owners will continue after awarding the design-build contract. Finally, MoDOT will work with the selected contractor to develop and implement plans to inform the public of property impacts and traffic management plans.

#### **c. Interchanges**

While exact interchange configurations are not specified in this EIS, the interchange analysis was used to demonstrate feasibility of specific interchange types and was used to determine the maximum construction limits of the build alternatives. Any variation in design, including

interchanges, within the footprint will not generate any more impacts than what have already been identified.

MoDOT is committed to providing all of the movements shown in the preliminary interchange layouts regardless of the type of interchange that is proposed and approved for advancing to final design and construction, with the exception of the SB I-29 traffic movement from the Front Street on-ramp to the Paseo Boulevard Exit. In the event that the left exit is maintained, this movement might be restricted in order to provide an acceptable Level of Service for I-29.

In accordance with Federal Requirements, an Access Justification Report is being written to analyze and document the effects of the proposed interchange modifications along the corridor.

**d. Missouri River Bridge**

There are more than one alternative for the River Crossing Subcorridor portion of this project and three of the four alternatives are considered part of the Preferred Alternative. Leaving the options of retaining or demolishing the existing Paseo Bridge and the bridge type open, gives the design-build contractor the maximum flexibility to deliver a noteworthy bridge that the community can support. The design-build contractor will use the most efficient design and construction methods available, using their capabilities to save money and reduce the construction period compared to traditional design-bid-build.

**e. Right-of-Way**

The Preferred Alternative includes widening the I-29/35 mainline to six through lanes with a reservation for two additional lanes in the future. MoDOT will be purchasing right-of-way to accommodate at least six through lanes. Where it is economical MoDOT will purchase right-of-way to accommodate eight through lanes. The bridge width will be constructed to accommodate eight through lanes in the future.

**f. Environmental Compliance**

FHWA and MoDOT have worked to avoid, minimize and mitigate impacts throughout the NEPA process and will continually monitor and assess the proposed design-build alternative to make sure it does not introduce significant impacts that aren't covered in this document. If necessary, a re-evaluation will be completed by FHWA and MoDOT in accordance with 23 CFR 771.129(b) to determine if this FEIS is valid for the design advanced to construction.

**K. Clarification of Draft EIS**

**1. RECONSTRUCTION CONCEPT**

Currently there are no bridges within the study corridor that are structurally deficient. There are some bridges that are functionally obsolete but with rehabilitation they could be reused. Functionally obsolete relates to the condition, loading and width of the structure.

**2. ALIGNMENT AND DESIGN FEATURES**

**a. Geotechnical and Hydraulics Evaluation**

There is discussion of the type of foundation that might be used for the new I-29/35 bridge. Although a recommendation was made in the DEIS, the evaluation of the foundations will be done during detailed design and making the ultimate determination on this issue.

**b. Clearances**

The clearances between the I-29/35 bridges would not have to be fifty feet but that is the assumption that was made in order to determine a footprint to be used in determining the potential impacts of the project.

**3. PREFERRED ALTERNATIVE****a. CBD North Loop Subcorridor**

Build Alternative A for the CBD North Loop Subcorridor as described in the DEIS now has been identified as part of the Preferred Alternative. The DEIS had identified Build Alternative B as the Preferred Alternative within the CBD North Loop Subcorridor. Based upon public comment, CBD North Loop Alternative A, as described in the DEIS, has replaced CBD North Loop Alternative B as the Preferred Alternative within the CBD North Loop Subcorridor.

**b. Other Elements**

Other Elements of the Preferred Alternative have been defined and are described above in Section J. 4. of this chapter. These other elements result in a preferred alternative which describes a combination of strategies to support the efficient movement of people, goods and services within the study corridor.



---

## **Chapter II Exhibits**

The Draft EIS contains the following Exhibits:

- Exhibit II-1 Roadway Typical Section
- Exhibit II-2 Missouri River Bridge Options
- Exhibit II-3 Paseo Bridge Pier Locations
- Exhibit II-4 CBD North Loop Urban Enhancement Options

Please note that there were no changes to the Draft EIS Chapter II Exhibits and therefore they are not included in this Final EIS.