JUNE 2023

KINGSHIGHWAY TO JEFFERSON

FUTURE 64

COMMUNITY ▸▸ TRANSPORTATION ▸▸ TOGETHER

EXECUTIVE SUMMARY

for the

PLANNING AND ENVIRONMENTAL LINKAGES STUDY

BUILDING A BETTER I-64 CENTRAL CORRIDOR FOR ALL

Future64.com

The Missouri Department of Transportation anticipates incorporating recommendations made as part of the PEL study into future NEPA studies, per Title 23 of the US Code, Part 168.

Contents

For study updates and to learn more about Future64, visit Future64.com

Find information to support the existing conditions assessments, the Planning and Environmental Linkages study, and funding applications at Future64.com/Documents

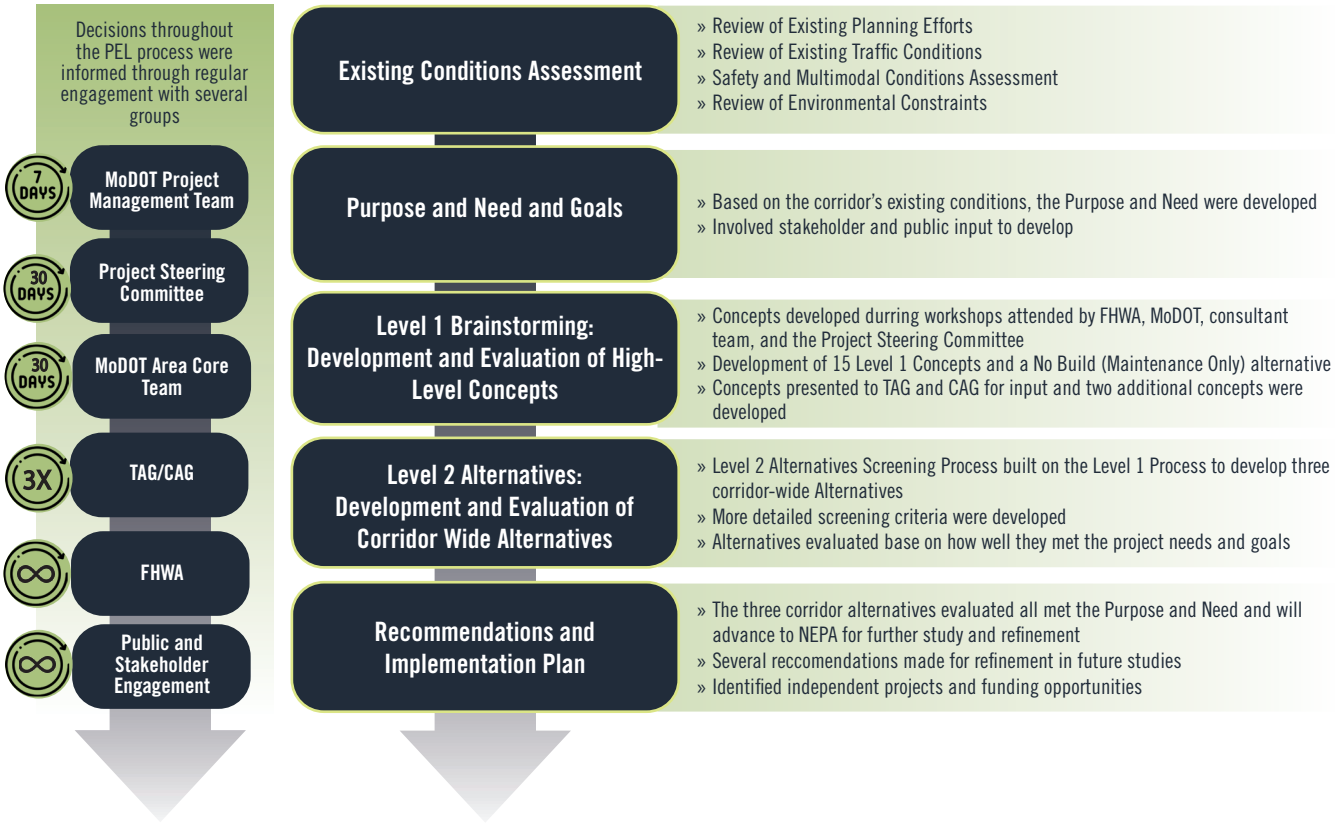
The central corridor between Kingshighway and Jefferson is vibrant and changing. The Missouri Department of Transportation (MoDOT) has the opportunity to modernize the transportation system to meet the needs of the community and region. The first step in this process is a Planning and Environmental Linkages (PEL) study to analyze long term goals for improvements to the corridor.

What is the Study About?

In partnership with the Federal Highway Administration (FHWA), City of St. Louis, Metropolitan Transit District of St Louis, Great Rivers Greenway, and East-West Gateway Council of Governments, MoDOT conducted a PEL study to understand how Interstate 64 (I-64), transit, bicycle and pedestrian infrastructure, and the surrounding street network can be re-envisioned to serve community needs better. The Future64 PEL study documents the transportation issues and environmental concerns in the I-64 corridor and provides project recommendations for consideration for future development.

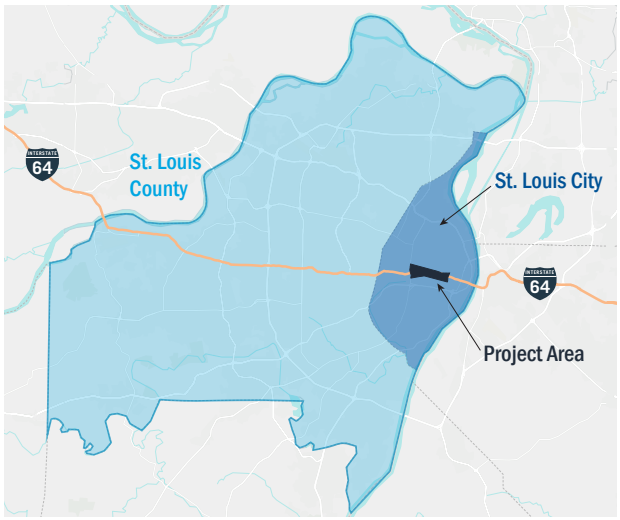
A PEL study process was selected to incorporate inclusive and ongoing engagement, ensure that a wide range and an extensive number of voices are heard, and that equity is the focus of proposed solutions. To help develop creative transportation solutions, local agencies partnered in the planning approach as part of the Project Steering Committee and MoDOT Area Core Team, while technical and community stakeholders engaged with the project through a Technical Advisory Group (TAG) and a Community Advisory Group (CAG).

Planning and Environmental Linkages Process



What Was Studied?

Locator Map



MoDOT conducted a PEL study to evaluate transportation improvements to better meet the needs of the region and community. The PEL provided a forum for the community to discuss and prioritize transportation concerns and contribute to developing a vision for the central corridor.

The area of study was split into two areas of focus. The first, the Tier 1 study area, refers to the portion of the I-64 corridor from the western limit of Kingshighway Boulevard to the eastern limit of Jefferson Avenue. This distance is 2.7 miles and specific to the interstate system within the MoDOT right-of-way. The second, the Tier 2 study area, extends north and south of the Tier 1 limits to include the cross streets and facilities that are part of the transportation system between Forest Park Avenue to the north and Route 100 (Chouteau Avenue/Manchester Avenue) to the south.

One of the first steps in the PEL was to analyze the corridor. Initial analysis of the study area included:

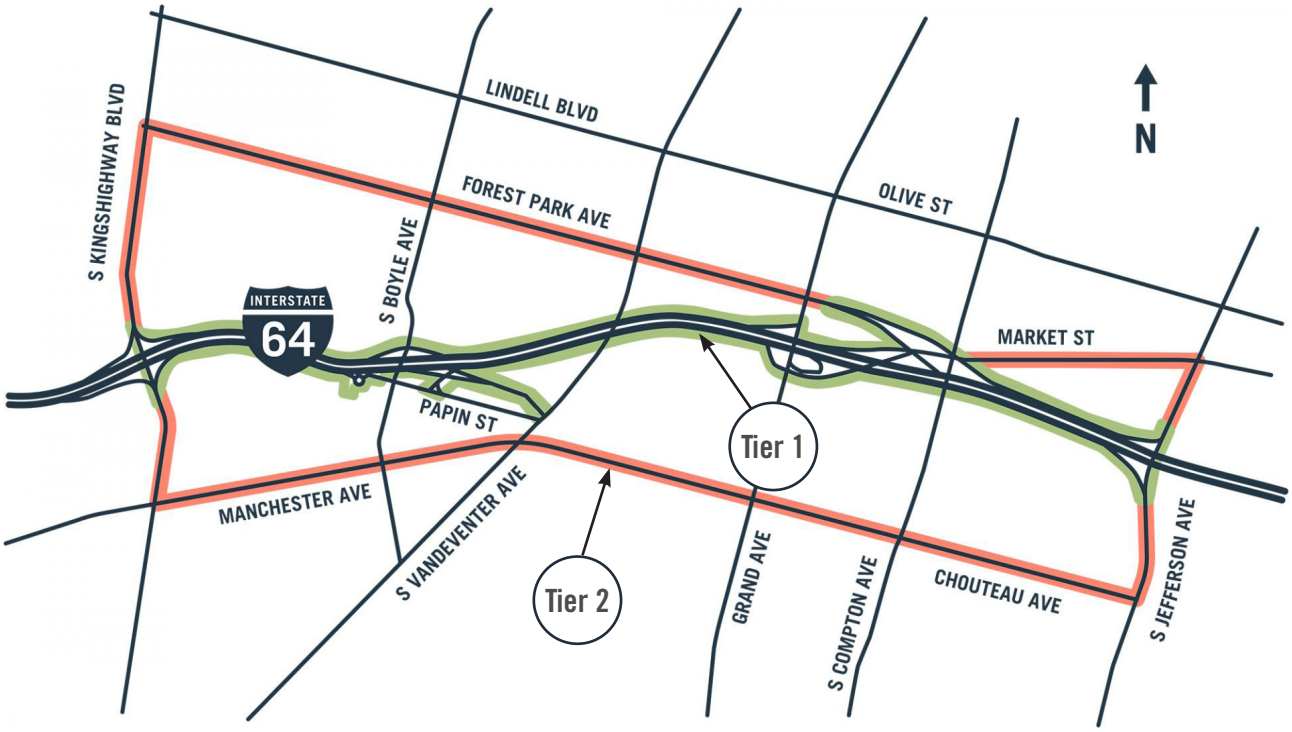
- Commuting patterns using various modes of transportation into the Tier 2 study area for entertainment, work, school, and other activities
- The study area and surrounding neighborhoods show an elevated need for equitable transportation improvements
- I-64 as a barrier to north-south travel
- I-64 and most of the local streets have crash rates above the statewide average for similar roadways
- Bridges in need of investment for rehabilitation or replacement
- I-64 existing access and the challenges of navigation to and from Grand Boulevard and Market Street
- Sidewalks for pedestrians and bicycle facilities could be improved for a more accessible and comfortable user experience

Study Area Metrics

4,300	Population
26,900*	Employment/Jobs
18.7%	Population Growth
$37,700	Median Household Income
2,500	Total Households

Sources: ESRI 2022, Development Strategies
*Jobs total 37,800 in 2019 according to OntheMap US Census Bureau (2022) LEHD Origin-Destination Employment Statistics (2002-2019)

Tier 1 and Tier 2 Study Areas



Why Are Transportation Improvements Needed?

The purpose of reasonable transportation improvements on I-64 between Kingshighway Boulevard and Jefferson Avenue is to renew and modify the transportation system to have safe and reliable facilities for all users that improve access to destinations and support community vitality for the long term.

I-64 between Kingshighway and Jefferson is an essential route serving the city of St. Louis' Central Corridor, stretching from the Gateway Arch in Downtown St. Louis to Forest Park. The Central Corridor is an employment center and includes the Gateway Arch and many of the region's sports, retail dining, arts, and recreational destinations.

Developing a purpose and need statement occurred early in the PEL process after existing conditions within the study area had been established. Feedback from key stakeholders, advisory groups, and the community allowed planning activities to align with the vision for the study. This holistic approach identified and recommended transportation outcomes and how infrastructure can impact the social, economic, environmental, and public health and well-being of people and businesses in communities.

MoDOT anticipates incorporating recommendations made in the PEL study into future NEPA studies.

Project Needs

Increase safety for all users
- Vehicles
- Bicycles
- Pedestrians

Improve transportation system with intuitive navigation to, from, and across I-64

Reduce the barrier effect of I-64 for bicycle, pedestrian, and transit users

Optimize bridge maintenance by improving structural conditions to maintain a good state of repair

Maintain Interstate function, operations, and capacity for the future

Who was Involved with the Study?

A comprehensive stakeholder, public, and agency involvement strategy was created and customized for the study. The study team coordinated with federal and state resource agencies and tribes to request input.

The study team obtained feedback from various groups and communities through a series of stakeholder interviews, community and technical meetings, a survey, in-person and virtual public meetings, elected official briefings, and business outreach. Providing an equitable public engagement effort was a focus of the study. It focused on meeting people where they are instead of relying on the public to go out of their way.

Presenting at neighborhood meetings, holding pop-up events near community assets, and providing information during other public events were tools used to allow the community to provide input.

What we heard: Among the things we heard from the public was the need to reduce the barrier effect of I-64 to fit the community better and to create access benefitting a diversity of people. We also heard about the importance of different modes of transportation and the need to coordinate with regional partners to enhance the local transportation network that supports people walking, cycling, and taking public transit.

What we did with this information: We used the information gathered during public outreach to develop the Purpose and Need and add project goals as secondary screening criteria. This allowed the study team to filter out new ideas for designs inconsistent with the public's identified needs.

Outreach Activities

1307 COMMUTER SURVEY RESPONSES

6 TECHNICAL & COMMUNITY ADVISORY GROUP MEETINGS

5 POP UP MEETINGS

42 STAKEHOLDER OUTREACH MEETINGS

8 NEIGHBORHOOD PRESENTATIONS

MAY 18, 2022	70 ATTENDEES	JAN 18, 2023	158 ATTENDEES
PUBLIC MEETING	1007 TOTAL ONLINE VIEWS	PUBLIC MEETING	3483 TOTAL ONLINE VIEWS

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What Are the Goals for the Corridor?

Developed in conjunction with the Purpose and Need, this phase of the PEL study analyzes long-term goals for improvements to the corridor.

Understanding Purpose and Need allows MoDOT to be responsive to the needs of the community for specific projects. The goals add clarity to make projects context-sensitive to community needs.

The goals were identified while reviewing existing planning efforts, developing the community assessment baseline, coordinating with local agencies and stakeholders, and public outreach. The goals help balance environmental, transportation, and other community values.

Project Goals

Right-size I-64 to reuse available space to benefit the community.

Support improved land use near transit stations and trails.

Improve equitable outcomes for disadvantaged communities.

Coordinate with regional partners to enhance the local transportation network.

Integrate bicycle and pedestrian facility design best practices into project designs.

Consolidate access points from interstate to local system.

Invest in projects that provide good cost benefit improvements.

Integrate ecology best practices into project designs and right-of-way use.

Integrate improved aesthetics and visual environment into project designs.

What Environmental Resources Were Identified?

Project development may affect environmental and social resources. The following identifies areas where analysis and documentation are recommended during the future NEPA phase. It will focus on examining potential impacts before any work begins. The environmental study area was set at 500 feet from the Tier 1 study area to account for potential direct and proximity impacts.

Land Use and Zoning:

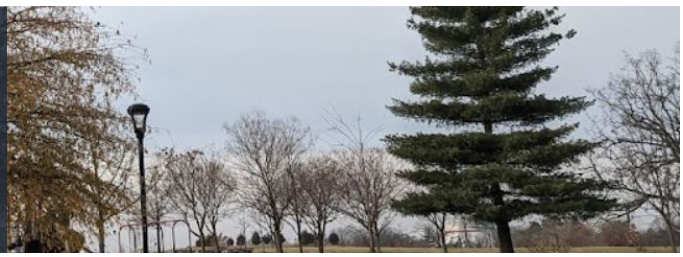
Opportunity areas along the corridor, where land use is underutilized and in transition

Socioeconomic Conditions and Environmental Justice:

Focus around the Covenant Blue-Grand Center and Jeff Vander-Lou Neighborhoods

Air Quality:

Corridor is an ozone "nonattainment" area, or does not meet EPA ground-level ozone standards



Noise:

21 locations identified where land use associated with human activities is sensitive to noise, such as schools, churches, parks

Cultural Resources:

The Missouri State Historic Preservation Office identified eight resources and three districts in the study area

Hazardous Materials:

Four active underground storage tanks and nine active or long-term hazardous sites in the study area

Parks and Recreation:

There are three parks, three school facilities, and a public trail system in the environmental study area

Visual Environments:

The view of I-64 has a moderate-high visual impact and offers a view of the cityscape not found elsewhere

Floodplains:

There are no flood zones in the study area, with the nearest located 1.7 miles east

Water Quality:

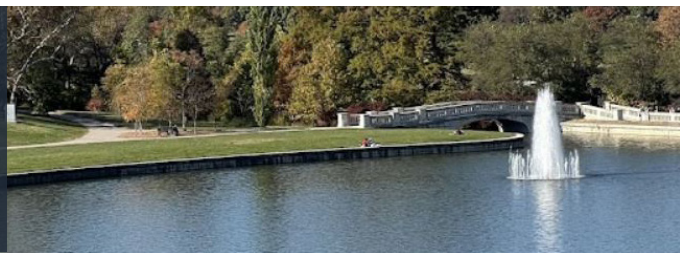
No waterways in the environmental study area, but there are three impaired streams that intersect with sub-watersheds

Wetlands and Waters of the U.S.

There are no wetlands or waters found on survey maps - however there are several identified swales

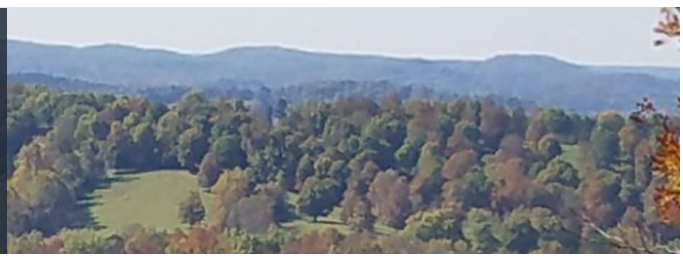
Terrestrial Habitat and Ecological Significance:

Less than one percent of open spaces exist, with much of the study area developed



Threatened and Endangered Species:

Possible occurences in the study area include the Monarch butterfly and the Tricolored bat



Sequence of Engagement

Stakeholder Engagement

Community and Technical Advisory Groups (TAG/CAG)

Three CAG and three TAG meetings were conducted during the PEL Study to solicit feedback from community leaders, relevant stakeholders, and technical experts.

CAG: May 10, July 28, December 14, 2022
TAG: May 11, July 28, December 14, 2022

Stakeholder Interviews

During the first three months of the study, 29 stakeholders were interviewed through group or individual virtual or phone interviews.

February - April 2022

Business Outreach

Additional business stakeholder interviews were held virtually in late 2022 to introduce the study and provide updates.

November 2022 - January 2023

Additional Engagement

To broaden stakeholder outreach, the study team scheduled additional stakeholder meetings with representatives from SSM Health, St. Louis University Hospital, St. Louis University, Washington University School of Medicine, and Greater STL

Summer 2022 - Spring 2023

Public Engagement

Commuter Survey

The team developed and distributed a commuter survey to better understand community members' commuting patterns, reasons for traveling to the corridor, how they navigate the study area, and their attitudes toward existing travel modes. The survey was conducted online and by a "street team," which spent six days outside various locations administering the survey. **1,307** people responded to the survey

Survey Response Collection: April 18 - May 25, 2022

Public Meetings

Two Future64 public open house meetings featured technical information boards, videos, feedback exercises, a mapping exercise, and a comment area. Online self-guided public meetings that mirrored the in-person meetings were also created and were open to comments. Press-releases, email blasts, and social media were used to advertise the meetings.

In-Person Meetings: May 18, 2022 and January 18, 2023
Online Meetings: May 18 - May 30, 2022 and January 18 - February 1, 2023

Community Outreach Events

- 8 Neighborhood Meetings
- Youth Engagement
- 12 Pop-up events
- Groovin' on the Greenway
- Steinberg Open House
- Buisness Meet & Greet

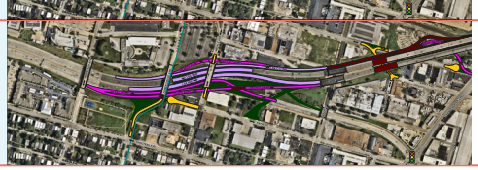
Public outreach was constant throughout the PEL Study Process

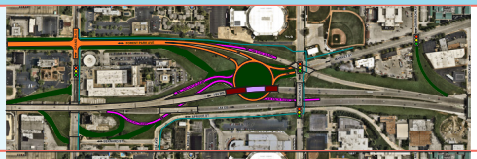
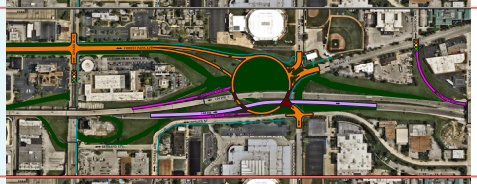
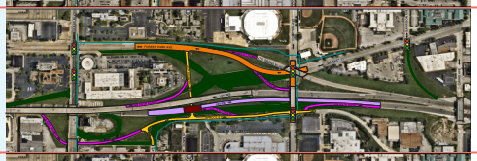
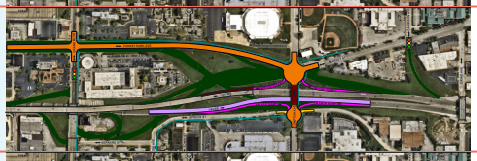
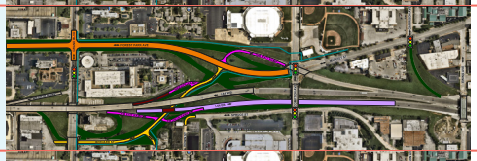
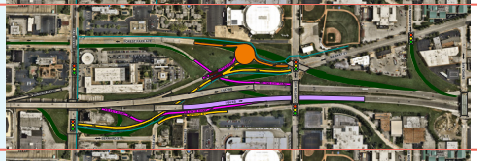
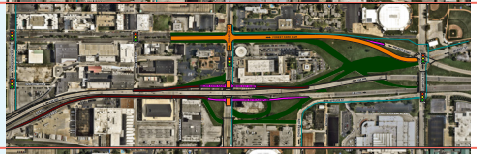
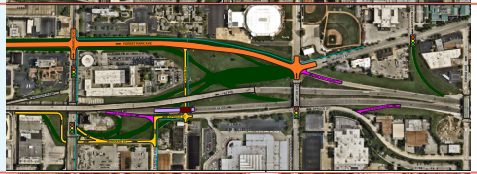
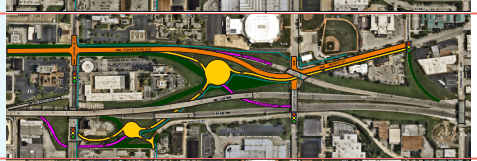
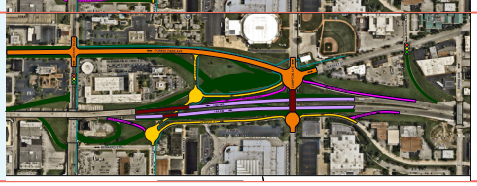
How Were Improvements Developed and Evaluated?

The alternatives development and evaluation process identified a broad range of reasonable improvements for the I-64 corridor that recognized the complexity of the existing interstate system, local roadways, multimodal facilities, and context surrounding the social, physical, and natural environment. The process included developing evaluation criteria based on the Purpose and Need and other project goals, developing a range of improvements, analyzing the concepts and alternatives through a two-level process, then recommending the next steps in the Implementation Plan.

Level 1, the Brainstorming Phase, included workshops with local and statewide MoDOT leaders, national design experts, advisory groups, community partners, and stakeholders to brainstorm ideas for the corridor. The Brainstorming Phase helped inform the development of 17 possible design changes that could address the corridor's needs. The design options were screened through the study's goals and Purpose and Need. The design options that resulted in new issues or did not meet the Purpose and Need were not carried forward to the next phase, or Level 2.

Level 1 Concepts Development (Brainstorming Phase)

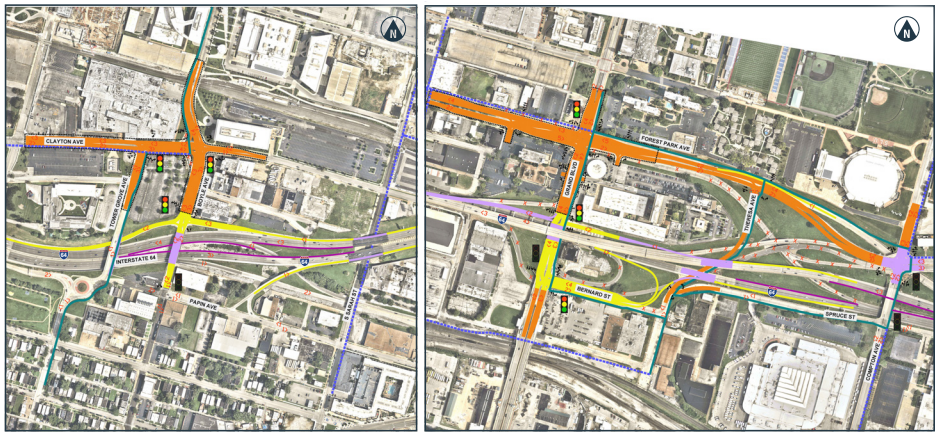
Concept		Description	Results
Boyle, Tower Grove, and Papin/Vandeventer			
BTGP 1		Modifies Tower/Boyle into one-way pairs with roundabout intersection. Close Vandeventer ramps.	✗ Not Carried Forward
BTGP 2		Modifies Tower/Boyle into one-way pairs with roundabout intersection. Moves westbound ramp from Boyle to Tower. No change to Vandeventer.	✗ Not Carried Forward
BTGP 3		Modifies Tower/Boyle into one-way pairs with roundabout intersection. Moves westbound ramp from Boyle to Tower. Moves eastbound ramp from Papin to Boyle. Close Vandeventer ramps.	✗ Not Carried Forward
BTGP 4		Moves eastbound ramp from Papin to Boyle. Realign westbound I-64 for Vandeventer entrance ramp to introduce fourth lane from the right.	✓ Carry Forward
BTGP 5		Realign westbound I-64 for Vandeventer entrance ramp to introduce fourth lane from the right. Roads north and south of I-64 used to merge and distribute traffic. Tower crossing closed to vehicles.	✓ Carry Forward
BTGP 6		Moves Boyle/Vandeventer ramp to Clayton/ Vandeventer. I-64 realigned. Modifies Tower/ Boyle exit ramp.	✗ Not Carried Forward

Concept		Description	Results
Market/Grand and Compton			
MG 1		Forest/Grand at-grade intersection. All ramps with Forest/Market configured into one traffic circle. Closes Grand ramps except for left entrance.	Not Carried Forward
MG 2		Forest/Grand at-grade intersection. All ramps with Forest/Market configured into one traffic circle. Closes Grand ramps and westbound Forest/Market exit. Ewing ramp reestablished.	Not Carried Forward
MG 3		Forest/Grand at-grade intersection. Forest/Spruce one-way outer roads. Ramp moved east of Compton. Theresa connects outer roads with turnaround.	Carry Forward
MG 4		Forest/Grand at-grade intersection. New interchange at Compton with roundabouts intersecting with Market and Spruce.	Not Carried Forward
MG 5		Forest/Grand at-grade intersection. New intersection at Bernard. Bernard realigned as north-south connector. Westbound exit ramp ends at Bernard/Forest.	Carry Forward
MG 6		Forest modified to one-way outer road with new connection from Grand. Traffic distributed with roundabout. Eastbound I-64 realigned. Spruce ramp added.	Not Carried Forward
MG 7		Forest/Grand at-grade intersection. Forest/Grand exit ramp relocated. Theresa Ave extended across I-64. Ramps added in southeast quadrant.	Carry Forward
MG 8		Forest/Grand at-grade intersection. Access ramps relocated. New interchange at Grand. Eastbound exit ramp carried above Market.	Carry Forward
MG 9		Forest/Grand at-grade intersection. Eastbound exit ramps moved with tie-in to Spruce/Theresa. Edwin extension as north-south connector. Eastbound ramp moved to Compton.	Carry Forward
MG 10		Forest/Grand at-grade intersection. Roundabouts connect with new north-south street and distribute traffic to/from Grand and Compton. Left entrance ramp re-utilized.	Not Carried Forward
MG 11		Forest/Grand at-grade intersection. Four roundabouts connect with new north-south street and distribute traffic to/from Grand and Compton. Allows access to westbound ramps.	Not Carried Forward

Level 2 Alternatives Development (Analysis Phase)

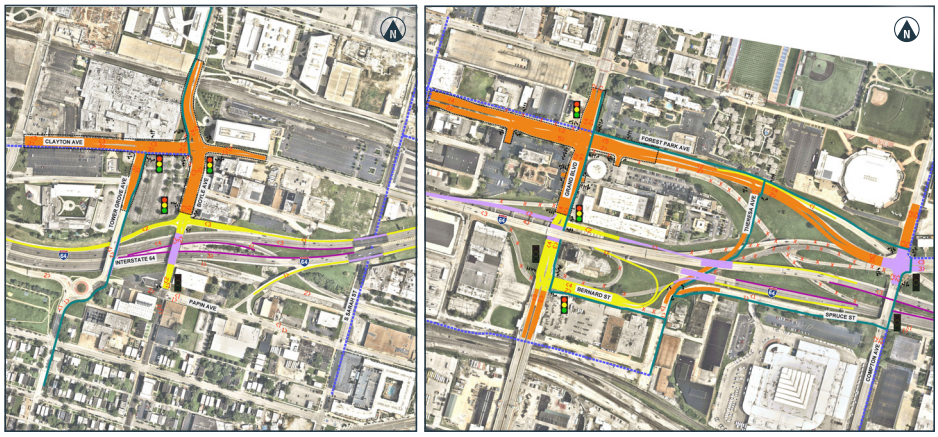
Level 2 built upon the concepts carried forward from Level 1 to develop three corridor-wide alternatives and combined the most promising elements of the Level 1 concepts, as well as new ideas developed during Level 2. A full safety and traffic analysis was conducted for each alternative to determine how the ideas would work together as a system and find the strengths and weaknesses of each element. A community assessment was conducted to address the possible benefits and opportunities of the new road layout.

Alternative #1



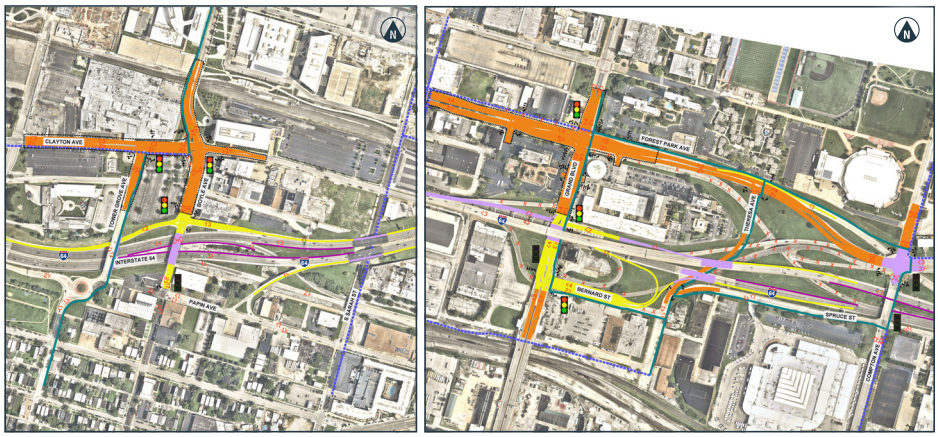
- Consolidates access at Grand Blvd.
- Lengthens auxiliary ramps on I-64
- Creates a new north-south connection on Theresa Ave.

Alternative #2



- Creates a new eastbound on-ramp from Boyle Ave.
- Creates bus-only lanes on Grand Blvd. between Choteau Ave. and Forest Park Ave.
- Builds a new Theresa Ave. bridge over railroad tracks

Alternative #3



- Consolidates the Vandeventer Ave. and Tower Grove Ave. off-ramps from I-64
- Creates a new eastbound on-ramp to I-64 from Vandeventer Ave.
- Removes left-hand entrance ramps at Boyle Ave./Papin Ave./Tower Grove Ave. and Grand Blvd./Market St./Bernard St. interchanges

Alternatives Development and Evaluation Process

How Will Transportation Improvements Be Implemented?

The Level 2 Alternatives analysis and screening results show that the three corridor-wide build alternatives evaluated met the Purpose and Need and were considered reasonable alternatives to advance towards NEPA for further study and refinement. However, each alternative's strengths and weaknesses were discovered through analysis and the public engagement efforts that informed the screening of these alternatives.

The potential projects identified include both early action bridge projects and projects within the Build Alternatives that have independent utility, meaning they:

- Address an identified project need
- Connect logical termini (rational endpoints for transportation and environmental impacts)
- Stand-alone without forcing other improvements or restricting consideration of other reasonably foreseeable transportation improvements

MoDOT will assemble input from the public with the analysis results to begin making decisions about individual projects. Collaborating closely with local partners (including St. Louis City, Metro, Great Rivers Greenway, and East-West Gateway) will continue to build on the work completed during this PEL to implement projects.

Early Action Bridges

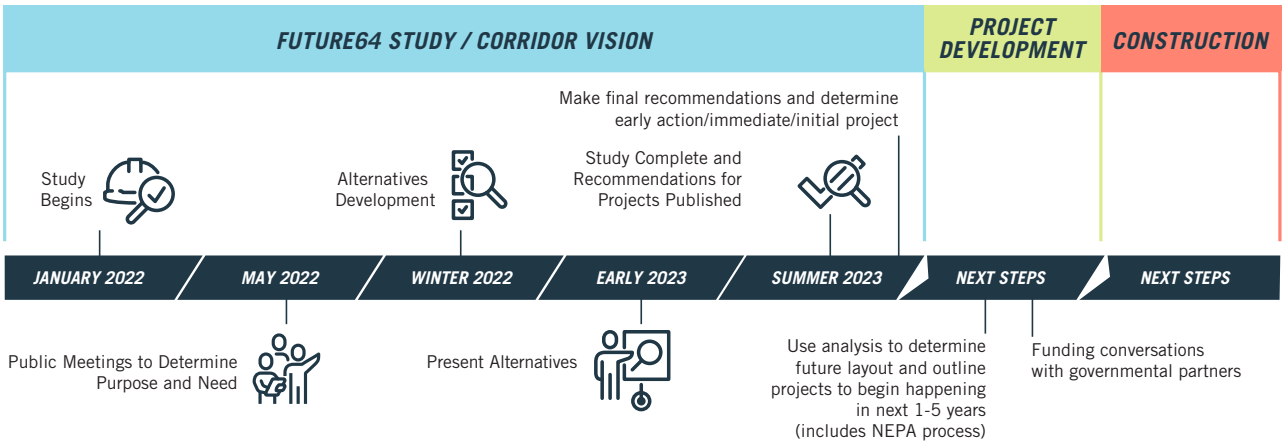
There are 13 bridges scheduled for repair or replacement within the next 20 years. As part of the study, bridge rehabilitation and replacement scope and costs were evaluated to extend the life of the existing bridges past the year 2050. While some within the corridor would no longer be needed when at least one Build Alternative is implemented, five bridges are unaffected. These five are considered Early Action Projects and can undergo scheduled maintenance or replacement without being affected by alternatives advancement.

Early Action Bridge Project Cost in 2022 Dollars

Early Action Bridges	Recommended Improvement	Estimated Cost
EB I-64 over WB I-64 On-Ramp from Vandeventer **(1)**	25-Year Rehab	$920,000
WB I-64 over Sarah **(2)**	25-Year Rehab	$750,000
EB I-64 over Sarah **(3)**	25-Year Rehab	$480,000
EB I-64 over Vandeventer **(4)**	Replacement	$44,000,000
WB I-64 over Vandeventer **(5)**	25-Year Rehab	$44,400,000

Early Action Bridges

Future64 Study Timeline



Funding and Phasing

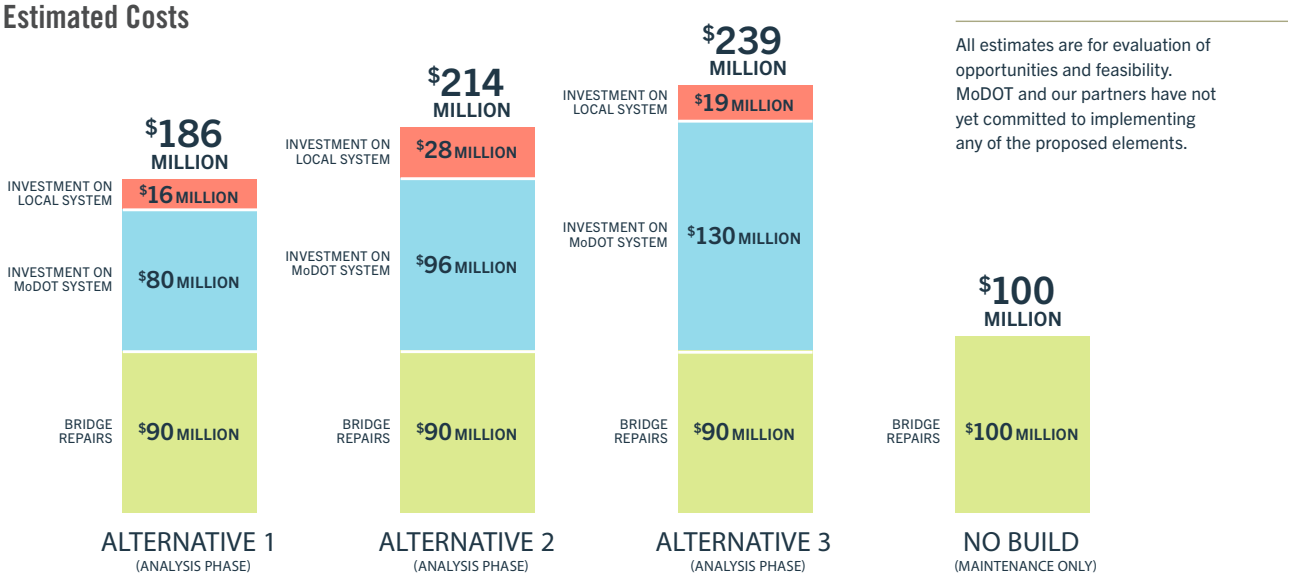
The Build Alternatives influence the eight bridges not considered early action bridge projects; six are eliminated regardless of which alternative is considered. The anticipated maintenance schedule for these bridges primarily drives the project development timeline and phasing. MoDOT's ability to implement the interchange improvements before incurring maintenance costs allows this funding to be directed toward the interchanges.

Funding still needs to be determined to advance projects resulting from this study, whether from MoDOT's formula funding mechanisms or other programs such as USDOT Discretionary Grants funded by the Bipartisan Infrastructure Law. Additionally, federal programs through the local MPO and Cost Share programs can help fund the projects on the local roadway network through local agencies such as the City of St. Louis or Great Rivers Greenway.

Funding Options include the following:

- Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
- Infrastructure for Rebuilding America (INFRA)
- Safe Streets and Roads for All (SS4A)
- Reconnecting Communities Pilot (RCP)
- Bridge Investment Program (BIP)
- MoDOT Cost Share and Governor's Cost Share Program
- East-West Gateway Federal Funding Programs

Estimated Costs



All estimates are for evaluation of opportunities and feasibility. MoDOT and our partners have not yet committed to implementing any of the proposed elements.

Potential Projects

While there is the desire to implement the Future64 improvements mostly as one larger project, smaller independent projects can be advanced sooner due to lower funding levels needed and less complicated NEPA clearances. This allows flexibility for improvements and can likely benefit the region sooner than if the improvements were delayed to secure funding for a single large project.

The potential projects and ability of each to meet the five needs are identified here for Future64. Conceptual costs are also identified, provided below, broken out by costs that would be incurred directly by MoDOT, and that will require funding partnerships with local agencies.

A detailed description of Projects A through I can also be found in the PEL study, including a discussion of how each meets the project needs and the anticipated type of NEPA clearance expected. Identified project goals will be further considered during project development utilizing the results of the PEL study and Questionnaire. For larger projects that include advancement of the entire interchange improvements shown in the Build Alternatives, the Level 2 Alternative Screening Process and Results technical report includes information on how the project goals are met.

Ultimately the results of this study and the PEL Questionnaire will be utilized for all projects as they advance into NEPA and design. For more information on potential projects, visit Future64.com/Documents

Meeting Project Goals

Project	Increase Safety for All Users	Provide Intuitive Navigation	Reduce Barrier Effect	Improve Bridge Condition	Maintain Interstate Function
Early Action Bridge Project	✓	n/a	n/a	✓	✓
A: I-64 WB Ramps at Boyle and Clayton w/ Tower Grove and Boyle	✓	✓	n/a	✓	✓
B: I-64 Inside Shoulder Improvements near West Interchange	✓	n/a	n/a	n/a	✓
C: Tower Grove Bridge Multimodal Improvements	✓	n/a	✓	n/a	n/a
D: Entire Interchange Improvements at West Interchange	✓	✓	✓	✓	✓
E: I-64 Inside Shoulder Improvements near East Interchange	✓	n/a	n/a	n/a	✓
F: Forest Park and Grand Intersection	✓	✓	✓	✓	n/a
G: Theresa Extension South with Grade-Separated RR Crossing	✓	✓	✓	n/a	n/a
H: Bus Only Lanes, Bike and Ped Expansion on Grand	✓	n/a	✓	n/a	n/a
I: Entire Interchange Improvements at East Interchange	✓	✓	✓	✓	✓

Estimated Project Cost in 2022 Dollars

Project	Alternative #1 MoDOT System	Alternative #1 Local Network	Alternative #2 MoDOT System	Alternative #2 Local Network	Alternative #3 MoDOT System	Alternative #3 Local Network
Early Action (MoDOT Only)	$90.5	n/a	$90.5	n/a	$90.5	n/a
A (MoDOT & Local)	$19.7M	$4.8M	$19.7M	$6.2M	$20.4M	$4.8M
B (MoDOT Only)	$1.0M	n/a	$1.0M	n/a	$0.7M	n/a
C (MoDOT Only)	$1.6M	n/a	$1.6M	n/a	n/a	n/a
D (MoDOT & Local)	$24.0M	$6.1M	$20.2M	$6.2M	$63.3M	$6.1M
E (MoDOT Only)	$2.0M	n/a	$0.8M	n/a	$2.1M	n/a
F (Local Only)	n/a	$9.2M	n/a	$10.1M	n/a	$9.2M
G (Local Only)	n/a	n/a	n/a	$7.8M	n/a	n/a
H (MoDOT & Local)	n/a	n/a	$2.0M	$11.4M	n/a	n/a
I (MoDOT & Local)	$58.7M	$11.1M	$62.1M	$34.3M	$69.3M	$14.3M

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