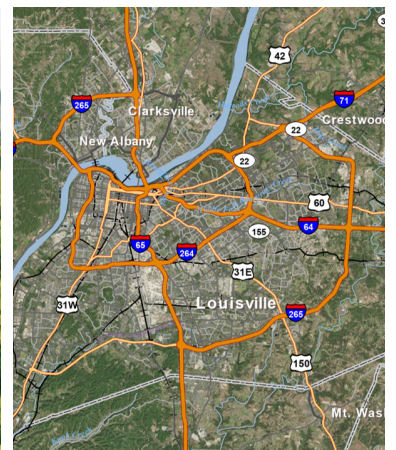


Executive Summary

65-71 Regional Corridor Study

Item No: 5-564.00
KYTC District 5, Kentucky

September 2020



65-71 Regional Corridor Study

Executive Summary

Prepared for

Kentucky Transportation Cabinet
Central Office
District 5



Prepared by

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Executive Summary

The 65-71 Regional Connector Study examines the need for, and the feasibility of, a new and/or upgraded highway that would connect I-65 in Bullitt County to I-71 in Oldham County.

Purpose and Need

The need for new or improved transportation connections in the study area is based on:

1. Substantial and increasing congestion on the radial freeways (I-71, I-64, and I-65) as well as the outermost circumferential freeway (I-265).
2. A lack of circumferential routes, with inefficient travel between I-65, I-64, and I-71 outside I-265. This causes many trips to go in to the region's core and back out with considerable diversion from the desired direction of travel.
3. Congestion or operational issues on the radial arterials (US 31E, KY 155, US 60 and KY 22) as well as the few partial circumferential routes (KY 44, KY 53, KY 55).
4. Significant existing and planned residential, industrial, and commercial development, especially in Bullitt, Oldham, and Shelby Counties.
5. Increased freight / economic activity and general mobility needs in the study area that cannot be accommodated by the existing circumferential rural two-lane highways.

In response to these needs and input from five project focus groups, the study identified four primary purposes for a new or improved connection between I-65 in Bullitt County and I-71 in Oldham County.

1. Improve regional **connectivity and mobility**;
2. Improve **accessibility** to and within growing communities;
3. Reduce **congestion** on existing routes by improving traffic flow on and between major arterials and Interstates; and
4. Provide **economic development opportunities**, and support land use, development, and growth objectives.

Alternatives

Alternatives Development – Numerous corridors for the new regional connection were developed based on major trip origins and destinations, highway network configuration, topography and geography, environmental considerations, and focus group feedback. Over 30 alternative corridors for new or upgraded highways were considered in the study.

Level 1 Evaluation – The Level 1 evaluation considered 15 initial alternatives grouped into 5 “families”; four sets of new highway corridors and one set of upgraded highway corridors. These alternatives are shown in **Figure ES-1** and **Figure ES-2**. Typical-sections were developed to illustrate and develop cost estimates for the alternatives. Each alternative corridor was rated with respect to: mobility, land use, safety, environment, cost, and constructability. There were subcategories for each rating; for example, “mobility” included travel time, traffic volume, congestion relief, accessibility, system redundancy, and freight. The focus groups were also surveyed for feedback on each alternative.

Figure ES-1: Level 1 New Highway Corridors

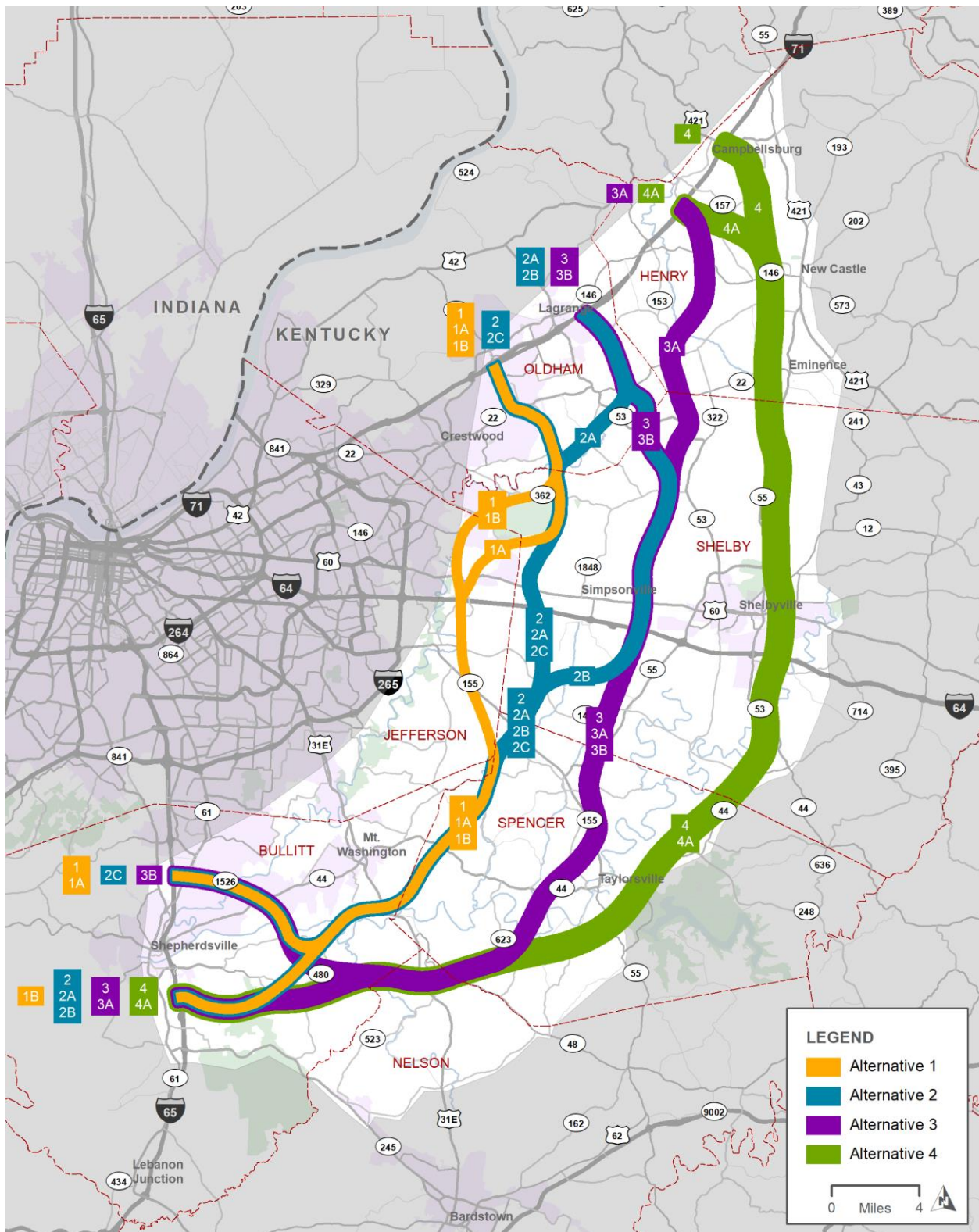
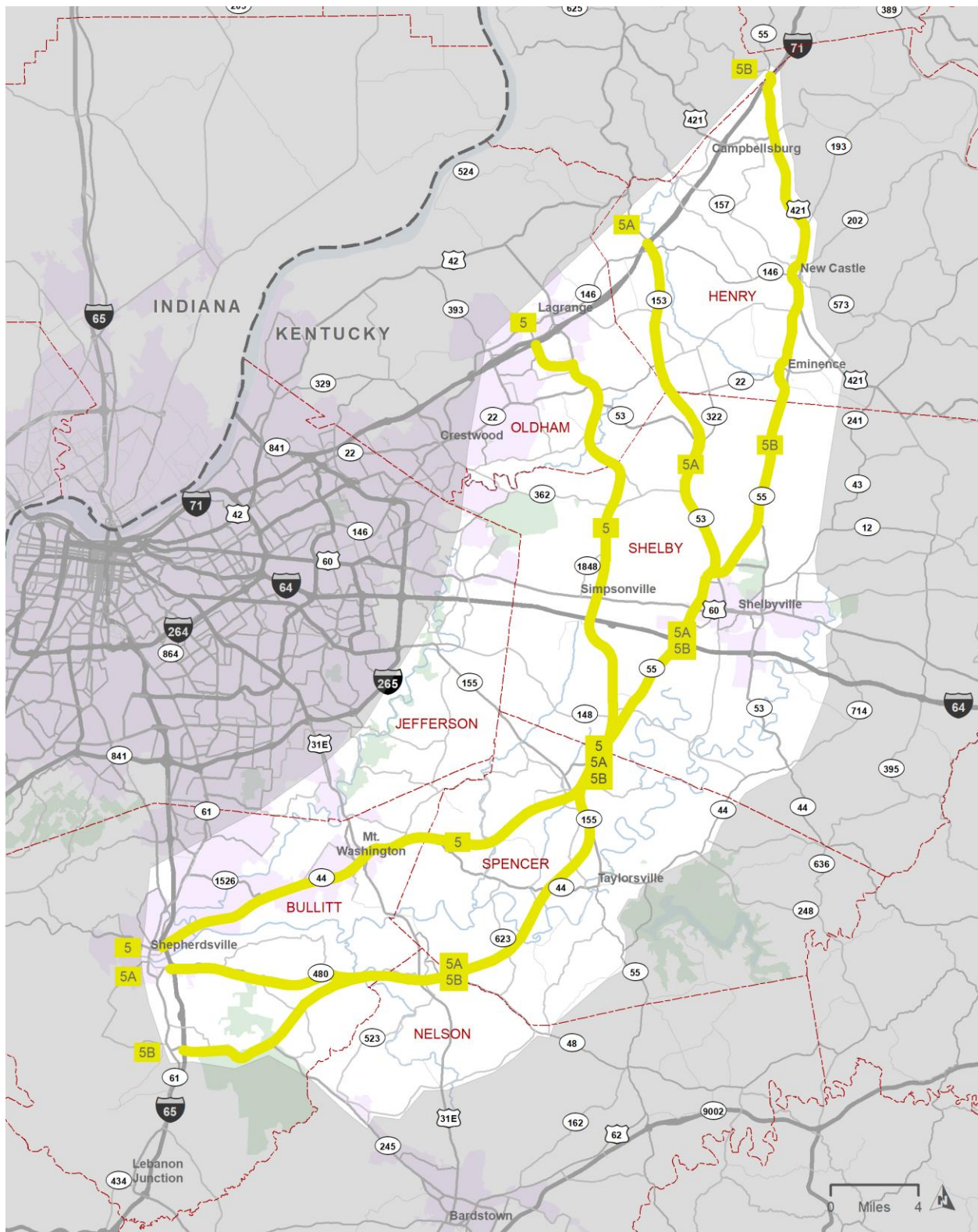


Figure ES-2: Level 1 Upgrade of Existing Corridors



Based on the analysis and feedback the 15 alternatives were narrowed down to the four most promising concepts, shown in **Figure ES-3**. The easternmost alternatives (Set 4) were eliminated outright as they had the longest length, highest cost, lowest volume, fewest mobility benefits, and most impacts. To ensure a holistic review, at least one alternative was carried forward from each remaining set. The western alternatives (Sets 1 and 2) performed best for the new corridors, with lower distances, lower costs, higher volumes, and generally higher benefits. The east-central alternatives (Set 3) received mixed scores due to their high costs and limited mobility benefits; however, they scored well in the land use and development category. The upgrade of existing alternatives (Set 5) performed well from a cost to benefit perspective because while their benefits were fewer, their costs were also lower. Based on the information, the best corridors from Sets 1, 2, 3, and 5 were retained for further study.

Level 2 Refinement and Evaluation – During the Level 2 evaluation process, the alternatives were “right-sized” to reduce potential environmental, development, and property impacts, while lowering costs and improving effectiveness in meeting the project purposes. For example, the corridors were adjusted to avoid existing development and conservation areas. They were also adjusted at either end to tie into arterial highways and service interchanges where necessary. This resulted in non-freeway sections near I-65 and I-71 for some new corridors (such as on KY 393 in Buckner). Due to design criteria requirements such as design speed, minimum radius, lane and shoulder width, the upgrade of existing alternative was also adjusted. These changes increased the length of new highway alignment along that corridor as well as the expected cost for the alternative. The revised corridors are displayed in **Figure ES-3**.

The refined alternatives were evaluated and rated using the same categories and subcategories from the Level 1 evaluation. This second round of analysis showed that the most eastern corridor (3C) was longer, had a higher cost, lower benefits, and more impacts than the other three alternatives. It was therefore dropped from further consideration. Alternatives 1 and 2E were the remaining new highway corridors, and they were identical except at the southern and northern ends. When the two tie down points on I-65 and I-71 were compared, it showed that there were system benefits to connecting further away from I-265. The connections south of Shepherdsville and north of La Grange were both preferred for mobility, access, land-use/economic benefits, and reliability reasons. This decision was supported by the technical analysis and the focus group feedback. Thus Alternative 2E was the most highly rated new corridor. Alternative 5, the “upgrade alternative” that largely utilizes existing right-of-way, was also rated highly because it scored well in the mobility, accessibility and land-use categories relative to its cost, which was the lowest of all alternatives.

Recommendations

Highest Scoring New Highway Alternative - Of all the new highway alternatives considered, Alternative 2E ranked first with the highest overall score. Alternative 2E would begin at the new I-65 service interchange now under construction south of Shepherdsville. It would run at-grade (with intersections) from there to KY 480 and pass south and east of Mt. Washington. Additionally, Alternative 2E would connect to I-64 west of Simpsonville and connect to I-71 north of La Grange past KY 712 (Jericho Road). This alternative would provide the greatest benefits for mobility and connectivity, while supporting development and growth objectives. It connects well with the regional and statewide network. At 6 to 12 miles outside I-265, Alternative 2E is close enough to major destinations and development densities to attract considerable traffic but far enough out to limit impacts to major developed areas. The conceptual cost is \$950M.

Highest Scoring Upgrade Alternative - Alternative 5 was recommended as the upgrade alternative with the highest score per \$100 million, making it the most cost-effective option. Despite being considered an “upgrade alternative,” much of Alternative 5 would run on a new alignment near existing highways with partial access control. This alternative connects to I-65 at the existing KY 44 interchange in Shepherdsville and would include improvements to KY 44 from Shepherdsville to the start of a new southern bypass around Mt. Washington. Alternative 5 would intersect I-64 at the Simpsonville interchange and I-71 at the new La Grange Parkway interchange (soon to be constructed). While Alternative 5 attracts less traffic and does not benefit regional mobility as much as Alternative 2E’s, it still improves connectivity and supports some new development. It prioritizes local circulation and minimizes environmental impacts, but increases property impacts. The conceptual cost is \$690M.

The two final recommended corridors offer several practical implementation benefits. These benefits include:

- Neither alternative is exclusive. A portion of each and/or combination of both could be constructed over time.
- Both alternatives overlap with and/or demonstrate the importance of high priority regional projects.
- Both alternatives define several new priority projects offering an indication of future needs.

Alternative Combinations

“Hybrid” combinations could be pursued by segmenting the network (see **Figure ES-4**, “Recommended Alternatives”) and selecting the best alternative within each segment. Given that the final Alternative 2E has some at-grade sections and final Alternative 5 has many new highway alignment sections, the two options are somewhat interchangeable. This approach would allow for customized solutions addressing local needs and costs while still improving mobility.

One example combination, illustrated in **Figure ES-5**, is to follow Alternative 5 in Segment 1 to the Mt. Washington Bypass, switching to Alternative 2E for Segments 2a and 2b to connect to I-64 at a new interchange. Then use an offset on I-64 to follow Alternative 5 in Segment 3 and Alternative 2E in Segment 4. Also, in some segments (Such as Segment 1 and 4), it is possible that portions of both alternatives could be pursued as part of a long range plan for those communities.

Synergy with Other Projects

The 65-71 Regional Connector recommendations were developed to support and/or work in harmony with other planned roadway projects throughout the region.

For example, Alternative 5 includes upgrades to KY 44, which have been under consideration for some time. It also includes upgrades to KY 53 and ties into the new La Grange Parkway with its proposed I-71 Interchange.

Alternative 2E ties into the new I-65 interchange under construction in Bullitt County and would upgrade a portion of KY 480. It would also include construction of a new interchange on I-64 between I-265 and Simpsonville.

Figure ES-4: Recommended Alternatives

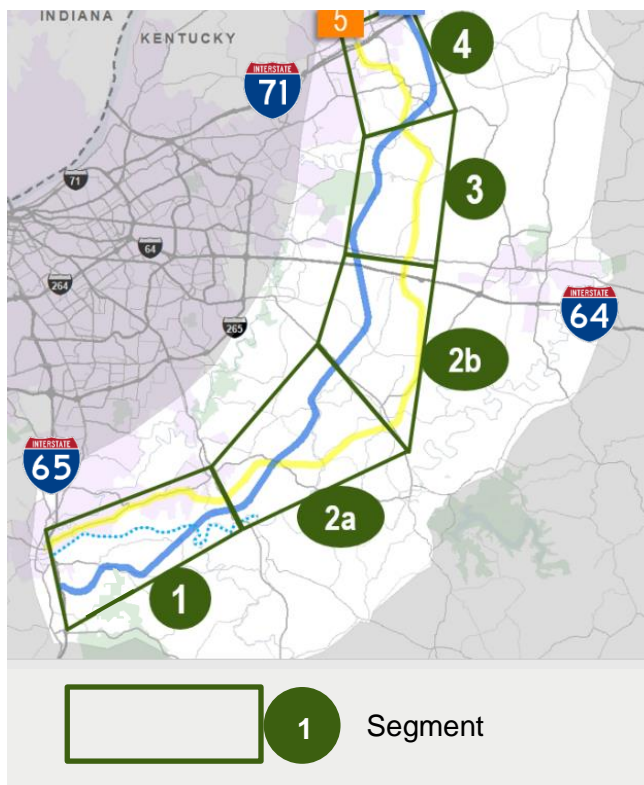


Figure ES-5: Example Combination Alternative

