

**ST. ALBANS BRIDGE/UNDERPASS  
STUDY**

**FINAL REPORT  
EXECUTIVE SUMMARY**

**Prepared For:**

**Regional Intergovernmental Council  
South Charleston, West Virginia**

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**MAY 2003**

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## ***INTRODUCTION/PURPOSE***

This document represents the final product of the St. Albans Bridge/ Underpass Study being conducted for the Regional Intergovernmental Council (RIC) by URS Corporation (URS). The primary focus of this document is to present the results of detailed assessment of the seven conceptual alternatives developed earlier in the project.

The St. Albans Bridge/Underpass Study was conducted to identify potential solutions to the challenges associated with crossing the Kanawha River between the communities of St. Albans and Nitro, and issues associated with multiple crossings of the CSX and Norfolk/Southern Railroad lines in St. Albans and Nitro, respectively. This study is also a supporting activity to the development of an updated long-range transportation plan for the Charleston Metropolitan Area.

## ***SUMMARY OF PROJECT ACTIVITIES***

Since the project was initiated in early 2000, a number of activities have taken place, including an inventory of existing conditions, a review of existing plans, performance of deficiency analyses and identification of a range of potential improvement strategies. In July 2000, the results of these efforts were summarized in Technical Memorandum No. 1, "Problem Definition and Development of Conceptual Alternatives." This document was reviewed by RIC and the West Virginia Department of Transportation (WVDOT); presentations of the material in the document were made before the RIC Board, the RIC Transportation Technical Advisory Committee (TTAC), and the Project Steering Committee.

The information contained in Technical Memorandum No. 1 was modified slightly on the basis of input from the groups mentioned above and presented at a Public Meeting held on October 5, 2000. The public was encouraged to comment on the alternatives presented, both at the meeting and during a two-week comment period, which followed the meeting. Review of the input provided by the public revealed that, while there was not much objection to the concept of a new

bridge to replace the existing structure, none of the four alternatives presented clearly emerged as a favorite. In fact, several new options were suggested.

The number of alternatives to be considered in the next phase of the study presented the project team with a dilemma. While detailed examination of all suggested alternatives was desirable, the resources available for the study required that detailed analyses be limited to a relatively small number of options. In order to address this issue, RIC and URS agreed that the various alternatives should be subjected to a qualitative evaluation process. Through this process, it was hoped that perhaps some of the alternatives could reasonably be deferred from further consideration in this study, leaving a manageable number for more detailed analyses. Seven alternatives were evaluated; the qualitative evaluation process and its results were summarized in Technical Memorandum No. 2.

The analyses conducted for Technical Memorandum No. 2 revealed that each alternative had its own unique strengths and weaknesses. None of the alternatives stood out as being superior, in all areas of assessment; similarly, none stood as out as being inferior across the board. As a result, RIC and URS agreed that all seven alternatives should be carried forward and analyzed quantitatively, to the extent possible within project resources. These quantitative analyses were summarized in Technical Memorandum No. 3.

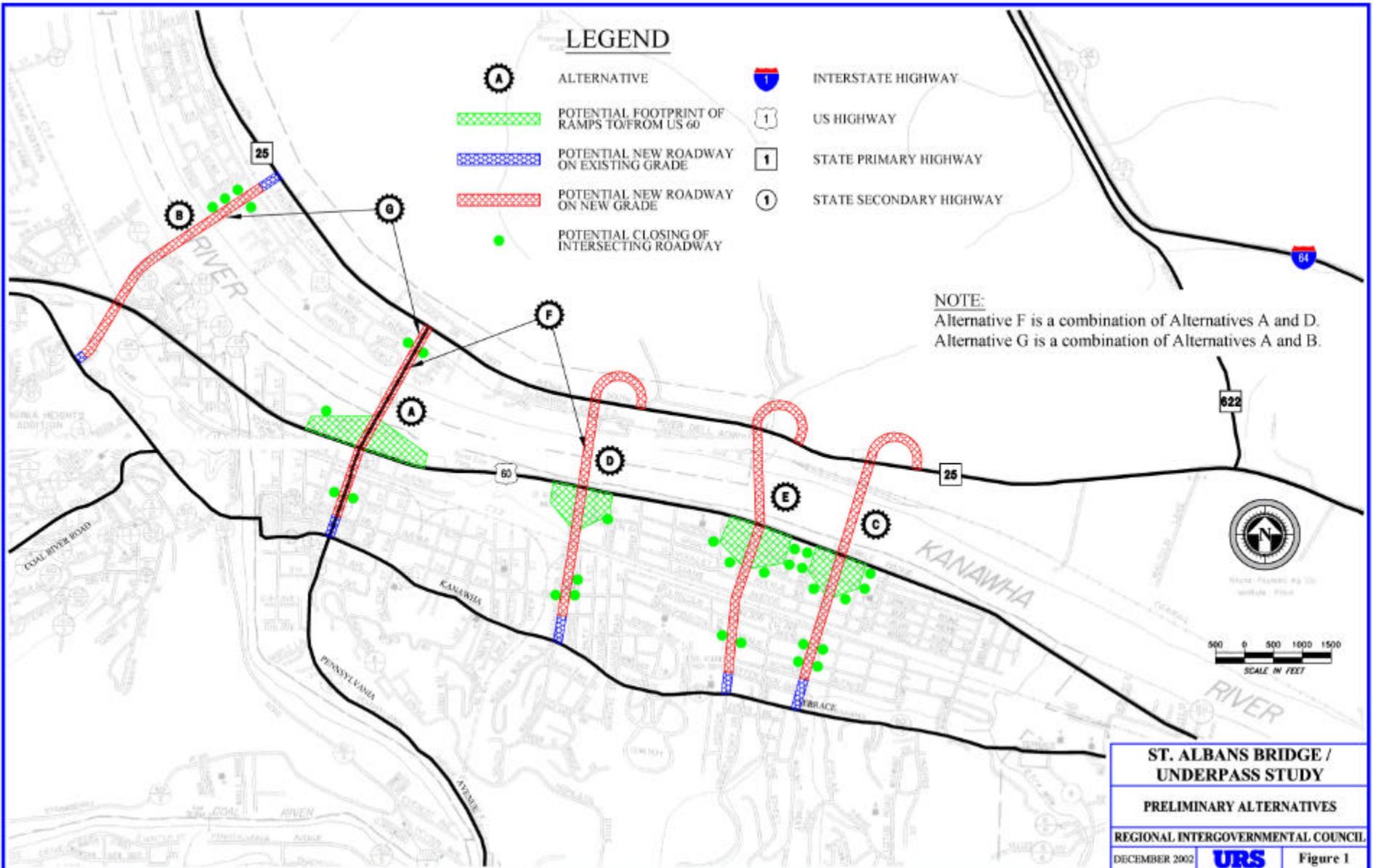
Presentations of the material in Technical Memorandum No. 3 were made before the Project Steering Committee, the St. Albans City Council and the Nitro City Council. The document was also reviewed by RIC and WVDOT. During this review, it was suggested that Alternative B (each of the alternatives were identified by a letter) should be modified, in order to allow a more direct comparison of the advantages and disadvantages of the various options. The modification was made, and a preliminary assessment of the revised Alternative B was performed. The revised alternatives are described in **Table 1** and shown in **Figure 1**. An evaluation matrix of the seven alternatives is shown in **Table 2**.

The revised alternatives were presented at a meeting of the TTAC and the RIC Board, and were presented at a Public Meeting held on December 11, 2002. (Information from the

### LEGEND

- A** ALTERNATIVE
-  POTENTIAL FOOTPRINT OF RAMP TO/FROM US 60
-  POTENTIAL NEW ROADWAY ON EXISTING GRADE
-  POTENTIAL NEW ROADWAY ON NEW GRADE
-  POTENTIAL CLOSING OF INTERSECTING ROADWAY
-  INTERSTATE HIGHWAY
-  US HIGHWAY
-  STATE PRIMARY HIGHWAY
-  STATE SECONDARY HIGHWAY

**NOTE:**  
 Alternative F is a combination of Alternatives A and D.  
 Alternative G is a combination of Alternatives A and B.



**ST. ALBANS BRIDGE /  
 UNDERPASS STUDY**

**PRELIMINARY ALTERNATIVES**

**REGIONAL INTERGOVERNMENTAL COUNCIL**

DECEMBER 2002

**URS**

Figure 1

**TABLE 1**  
**PROPOSED ALTERNATIVES**

Alternative Designation	Location and Width of Proposed Bridge(s)	Northern Endpoint of Alternative	Southern Endpoint of Alternative	Treatment at CSX Mainline Tracks in St. Albans	Comments
A	Existing Location, 4 Lanes	WV Route 25	Kanawha Terrace	4 Lane Overpass of Railroad	Identical to Alternative 1, as presented at October 5, 2000 Public Meeting
B	“West End”, 4 Lanes	WV Route 25	West Main Street	Intersects US 60 on Existing Overpass of Railroad	Modified as requested during agency review of Technical Memorandum No. 3
C	Walnut Street, 4 Lanes	WV Route 25	Kanawha Terrace	4 Lane Overpass of Railroad	Identical to Alternative 3, as presented at October 5, 2000 Public Meeting
D	Boone Street, 4 Lanes	WV Route 25	Kanawha Terrace	4 Lane Overpass of Railroad	Identical to Alternative 5, as presented at October 5, 2000 Public Meeting
E	Hudson Street, 4 Lanes	WV Route 25 (at or near Red Oak Road)	Kanawha Terrace	4 Lane Overpass of Railroad	Location suggested by public
F	Existing Location, 2 Lanes; Boone Street, 2 Lanes	WV Route 25	Kanawha Terrace	2 Lane Overpass of Railroad in Both Locations	Concept suggested by public
G	Existing Location, 2 Lanes; “West End,” 2 Lanes	WV Route 25	Kanawha Terrace/US 60	2 Lane Overpass of Railroad at 3 <sup>rd</sup> Street; N/A at West End	Concept suggested by public

N/A = Not Applicable

Note: Alternatives were identified by numbers in Technical Memorandum No. 1 and at the October 5, 2000 Public Meeting. Because several of the alternatives were modified following the October 5, 2000 Public Meeting, it was decided to identify the revised alternatives by letters, in order to minimize the potential for confusion.

**TABLE 2  
EVALUATION MATRIX**

Evaluation Criterion	Measure of Effectiveness	Alternative						
		A	B	C	D	E	F	G
Mainline Crossing of Kanawha River	Improve level of service to "D" or better?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Improve vertical clearance to 65'-0"??	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Improve horizontal width of navigation channel to 450'-0"??	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Vehicles per day using crossing	24,000	20,000	24,000	24,000	24,000	24,000	22,000
Grade-Separated Crossing of CSX Mainline	Improve vertical clearance (22'-0", street over railroad)?	Yes	N/A	Yes	Yes	Yes	Yes	Yes
	Number of additional grade-separated crossing lanes.	2	0	4	3	4	1	2
At-Grade Crossings of CSX Mainline Tracks in St. Albans	Number of at-grade crossings eliminated	0	0	1	0	0	1	0
Diversion to Other Crossings of CSX Mainline Tracks	Vehicles per day	0	400	3,800	9,000	10,200	4,500	200
Diversion Due to Closures of Local Roads	Vehicles per day	4,000	2,000	5,000	3,000	3,800	7,000	4,500
Crossing of Norfolk Southern Tracks in Nitro	Delay reduced (Redu) or eliminated (Elim) at at-grade crossing?	Redu	Redu	Elim	Elim	Elim	Redu	Redu
Intersection/Interchange of New Bridge and US 60	Improve level of service to "D" or better?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Intersection with WV Route 25	Improve level of service?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Safety	Reduce Accident rate in study area?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Emergency Vehicle Access	Reduce travel time for emergency responders?	Yes	Yes	Yes(1)	Yes	Yes	Yes	Yes
Alternate Routes from US 60 into St. Albans	Reduce travel time when CSX tracks are occupied?	Some-what	No	Yes	Yes	Yes	Some-what	No
Hazardous Materials	Number of potential hazardous materials sites affected.	15	2	7	7	8	22	21
Parks/Recreational Facilities	Number of sites potentially impacted	2	1	1	1	0	3	2
Historical/Archaeological Sites (Cultural Resources)	Number of sites potentially impacted	16	0	2	0	3	19	16
Stream Crossings	Number of crossings	1	2	1	1	2	2	2
Threatened or Endangered Species	Number of species potentially impacted	0	0	0	0	0	0	0
Floodplains	Acres of floodplain affected	N/A	4.2	N/A	N/A	N/A	N/A	N/A
Wetlands	Acres of wetlands affected	0	0.1	0	0	2.4	0	0
Access from St. Albans to I-64 (Institute Interchange on WV Route 25)	Reduce travel time/improve perceived ease of access?	Some-what	No	Yes	Yes	Yes	Some-what	No
Displacement of Residences	Number of residences potentially displaced	25	78	90	70	80	95	53
Displacement of Businesses	Number of businesses potentially displaced	20	13	10	10	10	30	27
Community Facilities/Services	Number of facilities/services potentially displaced	0	1	6	4	6	4	0
Environmental Justice	Low income or minority populations impacted?	No	Yes	No	No	Yes	No	Yes
Disruption During Construction	Impacts on traffic flow across Kanawha River	High	Low	Low	Low	Low	Medium	Medium
Future Expandability	Future options for roadway expansion to north of WV Route 25	Low	Low	Medium	Low	Low	Low	Low
Capital Cost	Millions of dollars (2002)	78.5	81.5	132.0	145.6	97.6	181.0	103.7

N/A=Not Applicable

(1) Assumes Highlawn Fire Station is replaced in close proximity to existing site.

Public Meeting is summarized in Appendix A.) The public was encouraged to comment upon the alternatives, both at the meeting and during a four-week comment period which followed the meeting. A summary of the comments received is included in Appendix B.

Review of the information contained in Appendix B yields the following observations:

1. The alternatives which generated the fewest number of comments were Alternatives F and G. Only one negative comment, and no positive comment, was made regarding each of these two options.
2. Alternatives C, D and E had the greatest number of comments: nine each. Favorable comments exceeded unfavorable comments by a margin of six to three for both Alternatives D and E; the ratio was five to four regarding Alternative C.
3. Alternatives A and B generated seven comments each, with a majority of them being negative. Comments were almost balanced regarding Alternative B, with three favorable and four unfavorable. All seven comments regarding Alternative A were in opposition.
4. As has been the case throughout the project, new alternatives were proposed. One proposed alternative would be located between Alternatives A and B; a second, which was specifically identified by four respondents and which is consistent with the comments of a fifth, would be located to the east of Spruce Street.

No alignment has been identified for the newly proposed alternative to the east of Spruce Street, nor have any analyses been performed regarding its advantages and disadvantages. With those limitations in mind, however, the following observations can be made:

1. An alignment to the east of Spruce Street was considered early in the Study, but was not carried forward, even to Technical Memorandum No. 1, because of its distance from the commercial district of St. Albans. Given the level of interest expressed in this alternative at this time, it should probably be added to the list of alternatives to undergo more detailed engineering/environmental studies in the future.
2. The area on the south side of the Kanawha River for this alternative was generally identified as a “backwater”. An alignment in this area would minimize impacts on businesses and residences; it would also be likely to have environmental impacts larger than many (if not all) of the other alternatives.
3. At this approximate location, Kanawha Terrace and US 60 are in relatively close proximity. It may be difficult for a bridge/roadway alignment to cross above US 60 and above the CSX tracks and still meet existing grade at Kanawha Terrace.
4. On the north side of the Kanawha River, this alternative might be able to pass through the Martin Marietta Aggregates property, potentially reducing some of the impacts identified for Alternatives C and E.
5. Such an alternative would be closer to the existing I-64 interchange than any of the others.

## ***DISCUSSION***

At the outset of the Study, it was hoped that a single Locally Preferred Alternative could be identified. As the project has proceeded, however, the number of alternatives has grown, rather than been reduced or even kept constant. The results of the Study may be summarized as follows:

1. A number of alternatives for replacing the existing St. Albans-Nitro Bridge have been identified and studied. Many of these alternatives appear, from a technical point of view, to provide feasible replacements.
2. Each of the technically feasible alternatives has its own advantages and disadvantages. When all of the evaluation criteria are applied, none of the alternatives stands out as being clearly superior to the others.
3. Public and agency comments regarding the alternatives show that there is not a consensus regarding the alternatives. In fact, new alternatives were still being suggested as the Study neared completion.
4. As a result, a Locally Preferred Alternative cannot realistically be identified at this time. Identification of the “best” alternative will need to occur during subsequent detailed engineering and environmental studies.

## ***NEXT STEPS IN THE PROCESS OF REPLACING THE EXISTING BRIDGE***

The submission of this Final Report concludes the St. Albans Bridge/Underpass Study. The results of this Study will be used by RIC and WVDOT as a starting point for the additional analyses, public involvement and design efforts that will lead to the replacement of the existing bridge. In particular, the following activities will be performed:

- Development of base mapping and collection of more detailed inventory data
- Refinement of the horizontal and vertical alignments for each alternative
- Updating of travel demand forecasts, as needed
- Identification of more precise right-of-way requirements
- Detailed analysis of potential impacts upon the natural environment, existing communities, cultural resources, air quality, noise quality and hazardous material sites
- Development of more detailed construction cost estimates
- Continuation of efforts to obtain input from the public, through additional public meetings
- Continued proactive work with all affected agencies

At the conclusion of these efforts, a single alternative will be selected. Then, that alternative will go through a review process, which will result in the obtaining of any necessary environmental clearances for that single alternative. In addition, funding for the selected alternative will be identified.

Once these steps are completed, detailed final design of the selected alternative can proceed. In this phase, construction plans, specifications and estimates will be prepared for the new bridge and for any roadway modifications required by the new bridge. At the conclusion of the design phase, the project will be advertised, a contractor will be selected, and the new bridge will be constructed.