

## Section Six

### **PROJECT COSTS**

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The estimated costs for constructing the proposed US-12 improvements including the combination five-lane arterial and four-lane boulevard option, as well as the Modified Diamond US-12/US-23 Interchange, is approximately \$80 million dollars. The Preferred Alternative costs were developed from a construction quantity analysis with standard pay items and average unit prices. The total construction cost was then converted back to a cost per lane mile total (\$1.3 per lane mile for the five-lane arterial and \$1.65 million for the four-lane boulevard sections) to provide more refined cost detail for the Preferred Alternative. This recalculated cost estimate results in the cost difference between the Practical Alternatives evaluated in Section 2 and the Preferred Alternative. These costs include construction costs as well as those for right-of-way acquisition (see Table 6.1)

#### **Cost Estimates**

The construction cost estimates for the Preferred Alternative were developed using the most refined information available. The data included the preliminary plans, profiles, and typical sections for the Preferred Alternative. Quantity estimates were developed using construction materials and activities as listed in the MDOT Standard Pay Item Code Book. The associated cost of each pay item was determined using MDOT's Weighted Average Unit Price Manual. The construction costs were totaled and broken down into a cost per lane mile for each roadway cross-section. The totals were adjusted to include contingency costs, construction engineering costs, and design costs to attain the construction cost. MDOT's Real Estate Department developed the costs associated with right-of-way and that too was combined to make the total construction cost of the US-12 project. The estimate includes costs associated with relocating and landscaping affected historical properties. The costs are in 2003 dollar will increase with time due to materials and labor costs.

#### **Construction Phasing**

MDOT will phase construction of the US-12 corridor into smaller components. The phasing will help reduce the length of impacts to local residents, businesses, and the traveling public that can be associated with construction projects. The most logical first phase to be constructed would be the Interchange of US-12 and US-23 and would include the widening of US-12 from west of Platt Road to east of Carpenter Road to the proposed five lane cross-section as well as the new bridge over US-23. The second phase would include the reconstruction of US-12 from east of Carpenter Road to Munger Road/I-94 to accommodate the proposed five-lane cross-section. The second phase would also include the construction of the Morgan and Crane Road intersection. The third phase would include the reconstruction of US-12 from west of the Ann Arbor Railroad Bridge to west of Platt Road to accommodate a five-lane cross-section. The third phase would also include construction of

**TABLE 6.1**  
**US-12 IMPROVEMENT STUDY**  
**PREFERRED ALTERNATIVE ESTIMATED COSTS (2003)**  
**Combination 5-Lane Arterial and 4-Lane Boulevard Option**

<u>Location</u>	<u>Cross-Section</u>	<u>Construction Cost</u>	<u>Contingency Cost (15%)</u>	<u>CE Cost (10%)</u>	<u>Design Costs (8%)</u>	<u>Total</u>
US-12 from West of Platt Road to East of Carpenter Road including the US-12/US-23 Interchange and Bridge (1.38 Miles of US-12)	5-Lane Arterial	\$9,340,000				
	Bridge	\$2,000,000	\$1,701,000	\$1,304,100	\$1,043,280	\$15,388,380
	ROW Costs					\$3,520,000
<b>Total Cost</b>						<b>\$18,908,380</b>
US-12 from East of Carpenter Road to the Project End/Munger Road (1.25 Miles of US-12)	5-Lane Arterial	\$8,075,000	\$1,211,250	\$928,625	\$742,900	\$10,957,775
	ROW Costs					\$2,640,000
	<b>Total Cost</b>					<b>\$13,597,775</b>
US-12 from West of the Ann Arbor Railroad Bridge to West of Platt Road including the Ann Arbor Railroad Bridge (1.4 Miles of US-12)	5-Lane Arterial	\$9,100,000				
	Bridge	\$1,600,000	\$1,605,000	\$1,230,500	\$984,400	\$14,519,900
	ROW Costs					\$2,860,000
<b>Total Cost</b>						<b>\$17,379,900</b>
US-12 from the East City Limits of Saline to West of the Ann Arbor Railroad Bridge (2.4 Miles of US-12)	5-Lane Arterial	\$6,032,000				
	4-Lane Boulevard	\$9,504,000	\$2,330,400	\$1,786,640	\$1,429,312	\$21,082,352
	ROW Costs					\$8,360,000
<b>Total Cost</b>						<b>\$29,442,352</b>
<b>Preferred Alternative Cost for Entire Corridor</b>						<b>\$79,328,407</b>
<p>Construction costs were calculated using \$1.3 million per lane mile for the 5-Lane Arterial with shoulders, \$1.1 million per lane mile for the 5-Lane Arterial without shoulders, and \$1.65 million per lane mile for the 4-Lane Boulevard portions. The Contingency cost was calculated at 15% of construction. The Design cost was estimated at 8% of the construction and contingency costs. The construction costs would include all work associated with the reconstruction of US-12 including all cross streets, maintaining traffic, utilities, and bridge work. The Construction cost of US-12 from East of Carpenter to the Project End includes \$1,200,000 for the reconstruction of Morgan Road. The interchange costs include the construction of the NE, SE, and SW ramps as well as the NW ramp terminal. The estimate does not include a factor for escalated costs for construction on a year to year basis, costs will increase on average 3%-5% per year.</p>						

the new bridge over the Ann Arbor Railroad. The fourth phase would include the reconstruction of US-12 from the east city limits of Saline to west of the Ann Arbor Railroad Bridge. The fourth phase would incorporate both a five-lane cross-section portion as well as a four-lane boulevard portion through the State-Moon Road and Old State Road intersections. Construction of each phase would utilize part width construction allowing traffic to be maintained along US-12. Detours would also be established along the construction corridor to help reduce possible congestions and delays.

The phasing was selected in this order for several reasons. First of all, the interchange at US-23 is geometrically inadequate and responsible for much of the delay experienced in the study corridor. By improving the interchange first in Phase 1, immediate reductions in travel delay will be realized. Furthermore, two major intersections in the corridor that are currently operating with high levels of travel delay (Carpenter Road and Platt Road) would also be improved in Phase 1. Phase 2 improves a section of the corridor from Carpenter Road to Munger Road near I-94 with adjacent land-uses that are already built-out. This enables this section to be improved for safety, improved access, and roadway continuity reasons. Phase 3 covers sections of the US-12 roadway where there are no traffic signals and travel is basically free-flow. The portion of the US-12 corridor chosen for Phase 4 is adjacent to land that is expected to experience high rates of growth in the future. By improving this section, the increased traffic resulting from growth in Pittsfield Township can be better accommodated. In addition, the major intersection of State/Moon roads will be improved as part of Phase 4.

## **Disclosure Statement**

**Parsons Transportation Group, Inc. has no interest, financial or otherwise, in the preparation of the US-12 Improvement Study Environmental Assessment/ Section 4(f) Evaluation and Finding of No Significant Impact other than compensation for the services performed and the general enhancement of Parsons Transportation Group's professional reputation. The team of professionals, which included Advanced Geomatics, Bernardin Lochmueller & Associates, CCRG, Inc., Parsons Engineering-Science, Rama Rao & Alfred, Smith Group JJR and Somat Engineering, assembled to conduct field studies and analyses was selected based solely upon their qualifications. To the best of Parsons Transportation Group's knowledge, no person or firm contributing to the preparation of this document has any interest in the findings or outcome of the process.**