## CHAPTER 7 • COST ESTIMATE AND METHODOLOGY

## 7-0 Cost Estimate and Methodology

This section illustrates the capital costs estimates and methodology for US 35 corridor study in Montgomery County between I-75 and I-675. Total length of the study area is approximately 6.6 miles. Both three lane continuity and four lane continuity alternatives are analyzed. The capital cost has been divided into six (6) sub areas as follows:

- Downtown Dayton
- Steven Whalen Blvd. Interchange
- Smithville Road Interchange
- Woodman Drive Interchange
- Spinning Road Overpass
- I-675/I-35 Interchange

Field reconnaissance was conducted to gather existing topography information. Arial base maps and proposed alternative layout were used to facilitate quantity take off. In order to keep consistency in the alternatives cost estimates, unit pricing of each item was based on the Summary of Total Contracts Awarded for the Calendar Year 2001, by the Ohio Department of Transportation. All costs are in 2001 dollars without an inflation factor. The total construction cost for each alternative was categorized in the following sixteen (16) elements.

- Roadway
- Erosion control: Lump sum of 5%-10% of roadway cost
- Pavement
- Drainage
- Traffic control: Lump sum of 5%-10% of total construction cost
- Signalization
- Maintenance of traffic: Lump sum of 5%-10% of total construction cost
- Lighting
- Structure: bridge widening or replacement
- Landscape: Lump sum of 1-2% of total construction cost
- Utility: Lump sum of 5% of total construction cost. Individual alternative may vary.
- Right-of-way:
- Miscellaneous items
- Design fee: Lump sum of 11% of total construction cost
- Construction Management fee: Lump sum of 5% of construction cost and Project administration fee is 3% of construction cost
- Contingency: Lump sum of 25% of total construction cost for majority of the alternatives. Varies between 15% to 30%;

The capital construction cost estimate includes both mainline US 35 costs and interchange costs for all six (6) sub areas.

Estimated mainline US 35 capital cost assumptions include full depth pavement replacement to provide lane continuity; modernizing the downtown Dayton section and replacing all functionally obsolete existing bridges will with new structures.

Capital cost estimates for interchanges include reconstructing all ramps and bridges to correct geometric deficiency and/or add capacity. Costs for the No Build alternative were estimated by calculating the total cost of all projects currently on the MVRPC Transportation Improvement Plan within the study area. These projects would proceed regardless of this study's outcome.

Specific details of capital cost estimates are shown in Figures 7-1 through 7-6.