COMPARISON MATRICES AND CONCLUSIONS

Conceptual Alternatives were developed and evaluated in several areas during Step 5 of the Project Development Process. The findings of the evaluations were presented grouped by discipline in the preceding section of this document.

This section will summarize the conclusions by alternative. The matrices at the end of this section summarize the evaluation factors for each option.

Mainline Alternatives

I75-NB: No-Build Plus Minor Improvements - This alternative consists of the existing roadways and committed projects currently included in the OKI Transportation Improvement Plan (TIP) or local plans, plus minor improvements within existing right-of-way as part of rehabilitation activities. This option would not address the project's purpose and need. It would be expected to have no direct impacts.

I75-A: 4-Lane Continuity with Auxiliary Lanes - This alternative provides additional capacity north of the I-74 interchange by adding one lane each way to the existing three lane section. South of I-74, the existing four lane section would not receive an additional lane. Other improvements would include constructing standard width inside and outside shoulders, eliminating stopping sight distance (SSD) deficiencies, achieving minimum superelevation transitions and obtaining minimum clearances. This alternative would impact 25.1 acres of property and require 13 relocations (9 residential and 4 commercial). It would impact several parks: Bank Avenue Park (0.8 acres), Maple Street Park (0.2 acres), Mt. Storm Park (1.3 acres) and Elmwood Place Park (0.1 acres). The project would impact approximately 38 linear feet of stream. Noise analyses will be completed in subsequent steps of the PDP; however, based upon the density of adjacent residences and high traffic volumes, noise walls would be expected to be warranted adjacent to nearly all sensitive receptors. This alternative is estimated to have a right-of-way cost of approximately $8.1 million and a construction cost of approximately $216 million. Although this option fails to meet the purpose and need by providing no capacity improvements south of I-74, it will be carried forward due to the findings of the North-South Transportation Initiative until such time as the results of the MIS can be revisited with OKI.

I75-B: 5-Lane Continuity - With this alternative, a lane would be added south of I-74 in each direction and two lanes added north of I-74. Other improvements would be achieving standard inside and outside shoulder widths, minimum stopping sight distances, minimum horizontal and vertical clearances and adequate superelevation transitions. The merits of providing more than

one additional through lane in each direction north of I-74 were evaluated in a technical memo in October of 2005 (See Appendix 4.) Based upon preliminary findings detailed in the memo, this alternative has been eliminated from further consideration. It is not included on the comparison matrix.

I75-C: 4-Lane Continuity with Elevated Express Lanes - This alternative involves constructing supplemental express lanes to Alternative I75-A. The benefits of the express lanes are to provide additional lane capacity and to separate through traffic from local commuter traffic. This option was carried forward while being evaluated on the Thru the Valley project to the north. The Elevated Express Lanes option was estimated by ODOT District 8 at $818 million to provide elevated structures for two 12-foot lanes with 4-foot shoulders in each direction. This estimate does not include additional costs to provide connections to interchanges. This option was ultimately dropped due to excessive costs and was eliminated from further consideration in this study early in Step 5. Therefore, this option is not included on the comparison matrix.

I75-D: 5/4-Lane - The purpose of this alternative is to provide one additional through lane throughout the project limits. I-75 is currently four lanes in each direction south of I-74 and three lanes in each direction north of I-74. Therefore, this option would result in five lanes in each direction south of I-74 and four lanes in each direction north of I-74. North of the I-74 interchange, this alternative is the same as I75-A. This alternative would impact 25.6 acres of property and require 15 relocations (9 residential and 6 commercial). It would have the same park impacts as Alternative I75-A: Bank Avenue Park (0.8 acres), Maple Street Park (0.2 acres), Mt. Storm Park (1.3 acres) and Elmwood Place Park (0.1 acres). The project would impact approximately 38 linear feet of stream. Noise analyses will be completed in subsequent steps of the PDP; however, based upon the density of adjacent residences and high traffic volumes, noise walls would be expected to be warranted adjacent to nearly all sensitive receptors. This alternative is estimated to have a right-of-way cost of approximately $9.5 million and a construction cost of approximately $224 million.

Interchange Alternatives

Due to capacity limitations imposed by the mainline alternatives, each interchange alternative will be evaluated for ramp metering during the next phase.

Hopple Interchange

HOP-NB: No-Build Plus Minor Improvements – This alternative would maintain the existing interchange layout but upgrade the existing ramp terminals to current high-speed standard treatments. No additional capacity would be expected with this alternative. This option would not improve safety and congestion issues at the intersections of the I-75 ramps, nor along Hopple

Street, Central Parkway, or Martin Luther King Drive. This option would be expected to have no direct property impacts. Ramp terminal improvements would be expected to occur in conjunction with the mainline widening project. No additional costs would be anticipated.

HOP-A: Tight Urban Diamond Interchange (TUDI) – This alternative would involve construction of a full movement TUDI, resulting in closing the Bates Avenue entrance ramp and grade-separating the Central Parkway / MLK Drive intersection. Existing ramps would be closed and reconstructed. This option would improve access to the Uptown area and offer the potential for a gateway. It would result in approximately 5.9 acres of property impact and include 15 potential relocations (10 residential and 5 commercial). Approximately 0.5 acres would be affected within the Rachel-Sidney Neighborhood. Right-of-way costs are estimated at $7.3 million, with $18 million for construction.

HOP-B: Offset Roundabout Diamond Interchange – In the course of analyzing the operation of the Central Parkway / MLK Drive intersection, three through lanes on MLK Drive was necessary. Since ODOT has not approved the use of three-lane roundabouts, the roundabout intersection was dismissed in favor of a signalized intersection. This option was eliminated from further consideration and is not included on the comparison matrix. This option will not be carried forward to Step 6.

HOP-B1: Offset Diamond Interchange – This alternative would involve a full movement offset diamond interchange and result in closing the Bates Avenue entrance ramp. Existing ramps would be closed and reconstructed. This option would contain lower speed curves on the I-75 NB ramps compared to the HOP-A alternative. This option would improve access to Uptown and provide for a potential gateway. It would involve approximately 5.3 acres of property acquisition and the relocation of 5 properties (4 residential and 1 commercial). This option would also involve 0.5 acres of impact to the Rachel-Sidney Neighborhood. It would involve less work than the HOP-A option in the known landslide area east of I-75. Right-of-way is estimated at $4.8 million with $21.2 million for construction.

I-74 Interchange

I74-NB: No Build plus Minor Improvements – This alternative would retain the existing interchange without any substantive changes. Minor improvements would be the closure of the existing Elmore Street, Spring Grove Avenue and Central Parkway ramps. However, these ramp closures should only be considered if the I-74 / Colerain Avenue interchange is modified for full movements. Minor capacity improvements might be realized by closing local access ramps. This option would result in no direct impacts.

I74-A: Fully Directional Interchange with Local Access Maintained – This alternative involves retaining existing two-lane directional ramps serving I-75 south and reconstructing the single-lane ramps serving I-75 north as directional ramps. In addition, the Elmore Street and Spring Grove Avenue ramps on the west side of the Mill Creek would be closed and new ramps from I-75 to Spring Grove Avenue would be constructed. The existing ramps to Central Parkway would also be reconstructed to create a standard T-type intersection with Central Parkway. This option has the potential to impact the Ludlow Viaduct overhead bridge. It would result in approximately 0.6 acres of impact to Mt. Storm Park. Approximately 720 linear feet of stream impact is anticipated. This option would affect approximately 9.1 acres of property. Right-of-way costs are estimated at $1.2 million, with a construction cost of $56.1 million. In addition, the Cinergy Electrical substation would be impacted at a cost of approximately $4 million. Based upon vertical constraints, it is likely that the I-75 southbound ramp to Colerain is not feasible as currently illustrated. If carried forward into Step 6, this option will need to be modified.

I74-B: Fully Directional Interchange with No Local Access – This alternative would involve a system-only interchange and would be constructed by retaining the two-lane directional ramps serving I-75 south and constructing new single-lane directional ramps serving I-75 north. All other ramps including Elmore Street, Spring Grove Avenue, and Central Parkway ramps would be closed. By closing local access ramps, this option would require vehicles to use the adjacent interchanges and Hopple and Colerain. This option would impact approximately 0.6 acres of Mt. Storm Park. It would affect approximately 5.4 acres of property with no relocations. It would involve approximately 720 feet of stream impacts. Right-of-way costs are estimated at $800,000, with $45 million for construction.

Colerain Interchange

COL-NB: No Build plus Minor Improvements – Minor improvements could include upgrading ramps with standard high-speed terminals. Aside from missing movements, this interchange has no other apparent deficiencies. No additional capacity would be expected with this alternative. This alternative would have no direct impacts.

COL-A: Low Impact Improvement with Full Movements – This alternative would add the missing movements by constructing a straight ramp for the NB to EB movement, creating a signalized median cross over for a WB to SB movement and completing the ramp for a SB to WB movement. The existing I-74 bridges over Beekman Street would not be impacted with this alternative. The creation of a full-movement interchange would improve service to the surrounding neighborhoods. This option would impact less than 0.1 acres of Beekman Park and a wetland of less than 0.1 acre. It would impact 2.7 acres of property and involve one residential relocation. Right-of-way costs are estimated at $350,000, with construction estimated at $6.9 million.