

Table 15. Comparative Impact and Cost Summary – MOUNT CARMEL HILL SUBAREA

Features/Considerations	Preliminary Alternative Corridor Segment			
	Alternative Q	Alternative R	Alternative S	Alternative T
General				
Centerline Length	2.4 miles	2.1 miles	2.5 miles	2.5 miles
Total Area in Alignment Corridor	148 acres	127 acres	151 acres	207 acres
Community / Land Use				
Potential Residential Displacements	8	12	22	36
Potential Commercial Displacements	7 (1 vacant)	6 (1 vacant)	7 (1 vacant; 1 landfill)	7 (1 vacant; 1 landfill)
Greenspaces – Private Public (additional study required to determine Section 4(f) applicability)	1 (Homestead Stables [13 acres]) 1 (Batavia Road Greenspace 1; 7 acres)	1 (Homestead Stables [12 acres]) 2 (Batavia Road Greenspace 1 [12 acres] and Anderson Township Greenspace [less than 1 acre])	1 (Homestead Stables [9 acres]) 2 (Batavia Road Greenspace 1 [14 acres] and Anderson Township Greenspace [5 acres])	1 (Homestead Stables [5 acres]) 3 (Batavia Road Greenspace 1 [7 acres], Batavia Road Greenspace 2 [2 acres] and Anderson Township Greenspace [9 acres])
Schools	0	0	0	0
Churches	1	1	1	1
Cemeteries	0	1 (0.1 acre)	1 (0.7 acre)	1 (0.7 acre)
Hospitals/Emergency Service	0	0	0	0
Community Buildings/Facilities/County or State	0	0	0	0
Potential Job Displacements	34-60	34-60	33-56	33-56
EJ Communities	Low income, elderly, and disabled populations at or above regional averages	Low income, elderly, and disabled populations at or above regional averages	Low income, elderly, and disabled populations at or above regional averages	Low income, elderly, and disabled populations at or above regional averages
Agricultural Land	0	0	0	6 acres
Visual Resources	Wooded Mount Carmel Hill and greenspaces	Wooded Mount Carmel Hill and greenspaces	Wooded Mount Carmel Hill and greenspaces	Wooded Mount Carmel Hill and greenspaces
Public Involvement Considerations	No specific issues noted	No specific issues noted	No specific issues noted	No specific issues noted
Little Miami River Crossing				
Channel Stability Considerations	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Crossing Suitability	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Floodplains and Groundwater				
100 Year FEMA Floodway/Floodplain	<u>Floodway Length Bridged:</u> None <u>Floodplain:</u> Dry Run (2 acres)	<u>Floodway Length Bridged:</u> None <u>Floodplain:</u> Dry Run (2 acres)	<u>Floodway Length Bridged:</u> None <u>Floodplain:</u> Dry Run (7 acres)	<u>Floodway Length Bridged:</u> None <u>Floodplain:</u> Dry Run (14 acres)
Sole-Source Aquifer	20 acres	0.1 acre	36 acres	54 acres
Drinking Water Source Protection Area	0	0	0	0
Public Water Supplies	0	0	0	0
Ecological Resources				
Threatened and Endangered Species	Potential Indiana bat habitat (83 acres); limited potential running buffalo clover habitat	Potential Indiana bat habitat (75 acres); limited potential running buffalo clover habitat	Potential Indiana bat habitat (63 acres); limited potential running buffalo clover habitat	Potential Indiana bat habitat (91 acres); limited potential running buffalo clover habitat
Wetlands [total number (acres)]	0	0	0	1 (0.04 acre)
Surface Streams Culvert Crossings (number/linear feet filled) Bridge Crossings (number)	11 (5,088 feet) 0	11 (3,685 feet) 1	13 (4,975 feet) 1	18 (7,612 feet) 1
High Quality WWH/Class III PHWH Crossings	Dry Run (culvert crossing)	Dry Run (bridge crossing)	Dry Run (bridge and culvert crossings)	Dry Run (bridge and culvert crossings)
Ponds	1 (less than 1 acre)	0	2 (less than 1 acre)	2 (less than 1 acre)
Woodlands	83 acres	75 acres	63 acres	91 acres
Other Notable Ecological Features	0	0	0	0
Cultural Resources				
Section 4(f) History/Architecture NRHP District? Previously-Determined NRHP-Eligible Sites? Sites Warranting Further Study?	No No No	No No Yes (Wm. Apple House)	No No Yes (Wm. Apple House; Apple House)	No No Yes (Mary Ingram House, Wm. Apple House, Apple House)
Section 4(f) Archaeology NRHP District? High-Sensitivity Areas? (Gray & Pape, 2009) Recorded/Unrecorded Sites? (Gray & Pape, 2010) Site Complexity (Gray & Pape, 2010) Site Disturbance Level (Gray & Pape, 2010) Sites with Human Burials Confirmed or Suspected? (Gray & Pape, 2010)	No No No NA NA NA	No No No NA NA NA	No No No NA NA NA	No No Yes (1 Site) Simple Moderate No
Public Parks and Recreation Areas				
Section 4(f) Public Parks/Recreation Areas	0	0	0	0
Section 6(f) Public Parks/Recreation Areas	0	0	0	0
Noise and Air Quality				
Adjacent Noise Sensitive Areas	2	2	1	2
Preliminary Estimated Cost of Noise Mitigation	\$745,600	\$807,200	\$379,600	\$930,000
Potential Air Quality Issues	Located in non-attainment area for eight-hour ozone and PM _{2.5} ; project-level hot-spot analyses not anticipated; MSAT analysis required	Located in non-attainment area for eight-hour ozone and PM _{2.5} ; project-level hot-spot analyses not anticipated; MSAT analysis required	Located in non-attainment area for eight-hour ozone and PM _{2.5} ; project-level hot-spot analyses not anticipated; MSAT analysis required	Located in non-attainment area for eight-hour ozone and PM _{2.5} ; project-level hot-spot analyses not anticipated; MSAT analysis required
Potential Hazardous Materials Sites				
Suspect Sites Requiring Phase I Studies	6 (0 landfills)	4 (0 landfills)	7 (0 landfills)	8 (incl. 1 landfill)
Rail Freight Considerations				
Rail Freight Considerations	No issues identified	No issues identified	No issues identified	No issues identified
Engineering and Design Considerations				
Geotechnical Issues	Landslide potential on Mount Carmel Hill slopes	Landslide potential on Mount Carmel Hill slopes	Landslide potential on Mount Carmel Hill slopes	Landslide potential on Mount Carmel Hill slopes; Burger Landfill crossing
Major Utilities	1 cell tower	1 cell tower	1 sewer, 1 cell tower	1 sewer (multiple crossings), 1 cell tower
Earthwork and Drainage	Extensive excavation in Mount Carmel Hill area	Excavation in Mount Carmel Hill area	Excavation in Mount Carmel Hill area	Excavation in Mount Carmel Hill area
Horizontal and Vertical Geometry	Grade issues on Mount Carmel Hill	Grade issues on Mount Carmel Hill	Grade issues on Mount Carmel Hill	No issues identified
Eastern Corridor Considerations				
Fit with Eastern Corridor Improvements/Plans LUVP = Land Use Vision Plan GIP = Green Infrastructure Master Plan	Tie-in to Ancor Connector at west end of Segment Q provides an opportunity to re-develop Ancor and east Newtown with desired land use mix (infill development); minimizes impacts to existing greenspace (supports identified LUVP goals); need to address connection with Segments IV/IVa and preservation of future Wasson rail transit	Tie-in to Ancor Connector at west end of Segment R provides an opportunity to re-develop Ancor and east Newtown with desired land use mix (infill development); impacts to existing greenspace do not support identified LUVP goals; need to address connection with Segments IV/IVa and preservation of future Wasson rail transit	Tie-in to Ancor Connector at west end of Segment S provides an opportunity to re-develop Ancor and east Newtown with desired land use mix (infill development); greenspace impacts do not support identified LUVP goals; relocations a concern; need to address connection with Segments IV/IVa and preservation of future Wasson rail transit	Tie-in to Ancor Connector at west end of Segment T provides an opportunity to re-develop Ancor/east Newtown with desired land use (infill development); greenspace and stream impacts do not support identified LUVP goals; relocations a concern; need to address connection with Segments IV/IVa and preservation of future Wasson rail transit
Preliminary Cost Estimates (current \$\$)				
Multi-modal Construction Cost Estimate (Highway and Rail Transit)	\$73.0 Million	\$64.4 Million	\$69.5 Million	\$98.7 Million
Right-of-Way Cost Estimate	\$7.0 Million	\$8.0 Million	\$10.2 Million	\$15.7 Million
SEGMENT RECOMMENDATION:	ADVANCE	MODIFY AND ADVANCE	ELIMINATE	ELIMINATE