

# Reasonable Alternative Impact Summary

IMPACT SUMMARY FOR THE REASONABLE RANGE OF ALTERNATIVES: ROUTE 740 IMPROVEMENTS WITH BALLENGER EXTENSIONS AND ROUTE WW IMPROVEMENTS <sup>1</sup>						
EAST COLUMBIA ENVIRONMENTAL IMPACT STATEMENT, BOONE COUNTY						
	NO-BUILD ALTERNATIVE	PREFERRED ALTERNATIVE	ALTERNATIVE	ALTERNATIVE	ALTERNATIVE	ALTERNATIVE
	No Improvements	SC-2A/WWA/Ballenger Off Existing Alignment to St. Charles Interchange	SC-2B/WWA/Ballenger Off Existing Alignment to St. Charles (Bypassing El Chaparral)	SC-2C/WWA/Ballenger Along Existing St. Charles Corridor	RR-2A/WWA/Ballenger Along Existing Richland Corridor to Route Z Interchange	RR-2B/WWA/Ballenger New/Parallel Alignment to Route Z Interchange
EVALUATION FACTORS/IMPACTS						
<b>PURPOSE AND NEED (satisfy critical elements?)</b>						
1) Address Traffic Congestion and Safety Concerns	No	Yes	Yes	Yes	Yes	Yes
2) Complete the Major Highway Linkages	No	Yes	Yes	Yes	Yes	Yes
3) Improve Access to Eastern Columbia	No	Yes	Yes	Yes	Yes	Yes
<b>ENVIRONMENTAL IMPACTS</b>						
<b>Wetland and Pond Impacts</b>						
Emergent, Forested and Shrub (PEM/PFO/PSS) Wetlands	0 acres	0.60 acres	0.70 acres	0.71 acres	3.56 acres	0.71 acres
Ponds and associated unconsolidated (PUB) Wetlands	0 acres	0.99 acres	0.14 acres	1.53 acres	1.61 acres	0.39 acres
Recommended for Environmental Site Assessments	0 sites	2 Sites	2 Sites	2 Sites	4 Sites	3 Sites
Major New Stream Crossings	None	Hominy Branch	Hominy Branch North Fork of Grindstone (2)	Hominy Branch	Hominy Branch	Hominy Branch North Fork of Grindstone (2) South Fork of Grindstone
Major Stream Crossing at Existing Locations	N/A	Hominy Branch Expanded Crossing of North Fork Expanded Crossing of South Fork	Hominy Branch Expanded Crossing of North Fork Expanded Crossing of South Fork	Hominy Branch Expanded Crossing of North Fork Expanded Crossing of South Fork	Hominy Branch Expanded Crossings of North Fork (2) Expanded Crossings of South Fork (2)	Hominy Branch Expanded Crossing of North Fork Expanded Crossing of South Fork
Expected Stream Impacts <i>Perennial</i>	0 feet	1,500 feet	2,300 feet	1,800 feet	3,200 feet	2,200 feet
Expected Stream Impacts <i>Intermittent</i>	0 feet	1,500 feet	1,000 feet	3,000 feet	2,800 feet	3,000 feet
Expected Stream Impacts <i>Ephemeral</i>	0 feet	11,500 feet	14,200 feet	8,400 feet	12,400 feet	15,800 feet
Total Stream Impacts	0 feet	14,400 feet <sup>2</sup>	17,500 feet	13,200 feet	18,400 feet	21,000 feet
Total 100-Year Floodplain Encroachments	0 acres	12 acres	11 acres	12 acres	18 acres	11 acres
Total Right-of-Way Acquisition	0 acres	275 acres	299 acres	258 acres	395 acres	412 acres
Terrestrial Habitat Impacts: Woodlands	0 acres	110 acres	152 acres	104 acres	120 acres	165 acres
Terrestrial Habitat Impacts: Croplands	0 acres	1 acres	7 acres	1 acres	7 acres	9 acres
Terrestrial Habitat Impacts: Grassland/Pasture/Mowed	0 acres	71 acres	71 acres	79 acres	128 acres	131 acres
Terrestrial Habitat Impacts: Scrub/Shrub	0 acres	56 acres	32 acres	34 acres	75 acres	53 acres
Terrestrial Habitat Impacts: Urban/Developed	0 acres	37 acres	37 acres	41 acres	65 acres	53 acres
Noise Sensitive Receptors within 400 feet of footprint	N/A	Carmel Creek, Lake of the Woods, Bay Hills	Carmel Creek, Lake of the Woods, Bay Hills, El Chaparral	Carmel Creek, Lake of the Woods	Carmel Creek, Bay Hills, Eastport Gardens & Village, Sunrise Est.	Carmel Creek, El Chaparral, Cedar Grove
Cultural Resources Eligible for the NRHP	None	None	None	None	None	None
Public Land Impacts	None	None	None	None	South Lake of the Woods Park	None
Federally-Listed Endangered Species within Boone County		Gray bat ( <i>Myotis grisescens</i> ) Habitat - Caves Indiana bat ( <i>Myotis sodalis</i> ) Habitat - Small stream corridors with well developed riparian woods; upland forests Pallid sturgeon ( <i>Scaphirhynchus albus</i> ) Habitat - Mississippi and Missouri Rivers Running buffalo clover ( <i>Trifolium stoloniferum</i> ) Habitat - Disturbed bottomland meadows Topeka shiner ( <i>Notropis topeka</i> ) Habitat - Small prairie (or former prairie) streams				
USFWS Coordination	N/A	Alternatives SC-2C and SC-2A (in that order) would minimize the potential for impacts to the foraging habitats (the area's stream corridors) of the gray bat and the Indiana bat.				
Known Caves/Sinkholes		Nearest Known Approximately 6 Miles South (MDNR)				
Section 6(f) Lands		"No Land and Water Conservation funded park projects were found in the study area" (MDNR)				
<b>DISPLACEMENT AND COST IMPACTS</b>						
Total Structure Displacements	0	37	32	56	49	34
Important Community Resource Displacements	0	1 (Fire Station)	1 (Fire Station)	1 (Fire Station)	1 (Fire Station)	1 (Fire Station)
Residential Structure Displacements	0	15	14	23	20	14
Primary Commercial/Industrial Structure Displacements	0	9	9	5	5	5
Construction Cost Estimate	\$0	\$132,200,000	\$143,900,000	\$134,200,000	\$188,200,000	\$170,800,000
<b>SOCIO-ECONOMIC/COMMUNITY IMPACTS</b>						
Expected Community Impacts	None	Adds new roadways (new alignments)	Adds new roadways (new alignments)	Uses existing roadway network	Uses existing roadway network	Adds new roadways (new alignments)
Expected Travel Pattern/Continuity Impacts	None	Provides capacity improvements in currently developing portion of Columbia/Boone County		Provides opportunity for continuation of Route 740 (Columbia Outer Belt)		

<sup>1</sup> For presentational clarity, this matrix depicts only configurations with alignment WWA (improvement of Route WW primarily on the existing alignment). The reasonable alternatives for Route WW (WWA, WWB and WWC) are very similar and the analysis concluded that WWA was superior. Within the document, figures and matrices are used to present and compare the costs and benefits of all of the various ways investigated to improve Route WW.

<sup>2</sup> Total Stream Impact of 14,400 feet is listed due to rounding within the lengths of Perennial, Ephemeral, and Intermittent Streams

