Appendix A

Comparison of Alternatives

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Appendix A
Illiana Corridor Alternative and IL-53 Interchange Design Option Comparison
December 2014

Resource	Alternative 1					Alternative 2					Alternative 3				
	DO 2	DO3	DO4	DO5	DO6	DO 2	DO3	DO4	DO5	DO6	DO 2	DO3	DO4	DO5	DO6
Social and Economic															
Community Cohesion	One residential neighborhood separated from core of Wilmington					One residential neighborhood separated from core of Wilmington					One residential neighborhood separated from core of Wilmington				
Public Facilities	Access impact to City of Wilmington water treatment plant and Bobcat Field					Access impact to City of Wilmington water treatment plant and Bobcat Field					No Impact				
Non-agriculture Residential Relocations (number)	41	41	40	41	41	40	40	39	40	40	77	77	76	77	77
Agriculture Residential (Farmstead) Relocations (number)	32	31	29	30	30	33	32	30	31	31	33	32	30	31	31
Non-agricultural Commercial Relocations (number)	6	6	6	6	6	5	5	5	5	5	6	6	6	6	6
Non-agricultural Commercial Partial Impacts (number)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Intermodal Facilities (acres)	121.6	121.6	121.6	121.6	121.6	121.6	121.6	121.6	121.6	121.6	121.6	121.6	121.6	121.6	121.6
Agriculture															
Farm Parcels (number)	426	426	421	424	423	438	438	433	436	435	447	447	442	445	444
Farmland (acres)	3,158	3,156	3,165	3,165	3,132	3,187	3,185	3,194	3,194	3,161	3,343	3,341	3,350	3,350	3,317
Agri-business Relocations (number)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Agricultural Land Parcel Severances (number)	114	114	115	114	114	102	102	103	102	102	112	112	113	112	112
Landlocked Parcels (number/acres)	126 / 1,280	125 / 1,278	125 / 1,278	126 / 1,274	125 / 1,278	114 / 1,261	113 / 1,259	113 / 1,259	114 / 1,254	113 / 1,259	127 / 1,331	126 / 1,329	126 / 1,329	127 / 1,325	126 / 1,329
Uneconomical Remnants (number/acres)	28 / 75	28 / 72	28 / 74	27 / 65	27 / 65	28 / 68	28 / 65	28 / 67	27 / 58	27 / 58	26 / 54	26 / 51	26 / 53	25 / 44	25 / 44
Adverse Travel (miles)	89	89	91	90	90	84	84	86	85	85	82	82	84	83	83
Prime Farmland (acres)	1,974	1,968	1,962	1,982	1,960	2,014	2,008	2,002	2,022	2,000	2,109	2,103	2,097	2,117	2,095
Statewide Important Farmland (acres)	211	211	211	211	211	207	207	207	207	207	205	205	205	205	205
Cultural Resources															
Potential Adverse Effects to Archaeological Resources (number)	37	37	37	37	37	34	34	34	34	34	35	35	35	35	35
Adverse Effects to Historic Above-Ground Resources (number)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Air Quality															
Carbon Monoxide (CO)	Not predicted to cause or exacerbate a violation of the NAAQS for CO					Not predicted to cause or exacerbate a violation of the NAAQS for CO					Not predicted to cause or exacerbate a violation of the NAAQS for CO				
Particulate Matter (PM)	Values are less than the relevant PM NAAQS at appropriate receptors					Values are less than the relevant PM NAAQS at appropriate receptors					Values are less than the relevant PM NAAQS at appropriate receptors				
Regional Emissions	Predicted to decrease regional pollutant burdens of PM_{10} and $PM_{2.5}$ by 0.3% to 1.9% and increase regional pollutant burdens of HC, NOx, and CO by 0.4% to 3.3%, as compared to the No-Action Alternative					Predicted to decrease regional pollutant burdens of PM_{10} and $PM_{2.5}$ by 0.3% to 1.9% and increase regional pollutant burdens of HC, NOx, and CO by 0.4% to 3.3%, as compared to the No-Action Alternative					Predicted to decrease regional pollutant burdens of PM_{10} and $PM_{2.5}$ by 0.3% to 1.9% and increase regional pollutant burdens of HC, NOx, and CO by 0.4% to 3.3%, as compared to the No-Action Alternative				
Mobile Source Air Toxics (MSAT) Emissions	Predicted to be higher than those predicted under the No-Action Alternative. However there is a significant decrease in all MSAT emissions as compared to existing conditions					Predicted to be higher than those predicted under the No-Action Alternative. However there is a significant decrease in all MSAT emissions as compared to existing conditions					Predicted to be higher than those predicted under the No-Action Alternative. However there is a significant decrease in all MSAT emissions as compared to existing conditions				
Noise[1]															
Sites with Noise Impacts (number)	41	41	41	41	41	40	40	40	40	40	44	44	44	44	44
Energy															
Annual Energy Use (2040)	3.7% increase over No-Action					3.7% increase over No-Action					3.7% increase over No-Action				
Natural Resources															
Noteworthy Prairies (acres)	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67	9.67
Forest Areas Greater than 20 Acres (acres)	50.9	50.9	50.9	50.9	50.9	85.2	85.2	85.2	85.2	85.2	107.2	107.2	107.2	107.2	107.2
Total Potential Indirect Impact to Existing	73.15	73.15	73.15	73.15	73.15	73.15	73.15	73.15	73.15	73.15	73.15	73.15	73.15	73.15	73.15

Resource	Alternative 1					Alternative 2					Alternative 3				
	DO 2	DO3	DO4	DO5	DO6	DO 2	DO3	DO4	DO5	DO6	DO 2	DO3	DO4	DO5	DO6
Grassland Bird Habitat (acres)[2]															
Federally Threatened and Endangered Species	Likely adverse effect to: sheepnose mussel, Eryngium stem borer moth, and northern long-eared bat					Likely adverse effect to: sheepnose mussel, Eryngium stem borer moth, and northern long-eared bat					Likely adverse effect to: sheepnose mussel, Eryngium stem borer moth, and northern long-eared bat				
State Threatened and Endangered Species	Black sandshell mussel, purple wartyback mussel, slippershell mussel, Blanding's turtle, ornate box turtle, black-crowned night heron, Virginia rail, American badger, eastern red bat, blue-spotted salamander, northern leopard frog, and great egret					Black sandshell mussel, purple wartyback mussel, slippershell mussel, Blanding's turtle, ornate box turtle, black-crowned night heron, Virginia rail, American badger, eastern red bat, blue-spotted salamander, northern leopard frog, and great egret					Black sandshell mussel, purple wartyback mussel, slippershell mussel, Blanding's turtle, ornate box turtle, black-crowned night heron, Virginia rail, American badger, eastern red bat, blue-spotted salamander, northern leopard frog, and great egret				
Water Resources															
Rivers, Creeks & Tributaries (linear feet/acres)	25,716 / 5.81	27,033 / 6.56	27,086 / 6.58	26,296 / 5.98	25,716 / 5.81	29,120 / 5.87	30,437 / 6.62	30,490 / 6.64	29,700 / 6.04	29,120 / 5.87	28,312 / 6.02	29,629 / 6.77	29,682 / 6.79	28,892 / 6.19	28,312 / 6.02
Lakes and Ponds (number/acres)	10 / 2.96	10 / 2.96	10 / 2.96	10 / 2.96	10 / 2.96	6 / 1.34	6 / 1.34	6 / 1.34	6 / 1.34	6 / 1.34	10 / 3.05	10 / 3.05	10 / 3.05	10 / 3.05	10 / 3.05
Groundwater Resources															
Wells Within Footprint (number)	36	35	35	35	35	39	38	38	38	38	40	39	39	39	39
Floodplains and Floodways															
Floodplain Fill Volume (acre-feet)	259.5	268.0	277.8	263.0	247.5	265.3	273.8	283.6	250.8	253.3	262.8	271.3	281.1	266.3	250.8
Floodway Fill Volume (acre-feet)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Floodplain Encroachments (number)[3]	45	45	44	44	44	46	46	45	45	45	46	46	45	45	45
Floodway Encroachments (number)	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Wetlands															
Total Wetlands (number)	115	115	115	115	115	126	126	126	126	126	134	134	134	134	134
Wetland Area (acres)	64.20	64.20	64.20	64.20	64.20	76.80	76.80	76.80	76.80	76.80	72.41	72.41	72.41	72.41	72.41
High Quality Aquatic Resources (HQAR) Wetlands (acres)	26.26	26.26	26.26	26.26	26.26	38.17	38.17	38.17	38.17	38.17	28.57	28.57	28.57	28.57	28.57
Special/Hazardous Waste															
High Risk Recognized Environmental Condition (REC) Sites (number)	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Mineral Resources															
Limestone (linear miles crossed)	43.5	43.5	43.5	43.5	43.5	43.1	43.1	43.1	43.1	43.1	42.4	42.4	42.4	42.4	42.4
Sand and Gravel (linear miles crossed)	5.9	5.9	5.9	5.9	5.9	6.0	6.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5
Geologic Hazard	Moderate risk for weak and compressible soils, expansive soils, and seismicity					Moderate risk for weak and compressible soils, expansive soils, and seismicity					Moderate risk for weak and compressible soils, expansive soils, and seismicity				
Visual Resources															
Visual Impacts	Greatest impacts in Grand Prairie regional landscape because of the more open terrain, and the more visually prominent changes in elevation at the cross roads with the new overpass structures					Greatest impacts in Grand Prairie regional landscape because of the more open terrain, and the more visually prominent changes in elevation at the cross roads with the new overpass structures					Greatest impacts in Grand Prairie regional landscape because of the more open terrain, and the more visually prominent changes in elevation at the cross roads with the new overpass structures				
Indirect and Cumulative															
2040 Population Change	22,680 (1%) increase over 2040 No-Action					22,680 (1%) increase over 2040 No-Action					22,680 (1%) increase over 2040 No-Action				
2040 Employment Change	14,210 (1.3%) increase over 2040 No-Action					14,210 (1.3%) increase over 2040 No-Action					14,210 (1.3%) increase over 2040 No-Action				
Land Area Needed in Study Area to Accommodate Indirect Growth (acres)	2,885 for residential development 2,368 for commercial/ industrial development					2,885 for residential development 2,368 for commercial/ industrial development					2,885 for residential development 2,368 for commercial/ industrial development				
Section 4(f)															
Des Plaines State Fish and Wildlife Area	No direct, temporary or constructive use					No direct, temporary or constructive use					No direct, temporary or constructive use				
Alternate Route 66, Wilmington to Joliet[7]	No adverse effect; No direct, temporary or constructive use					No adverse effect; No direct, temporary or constructive use					No adverse effect; No direct, temporary or constructive use				
Midewin National Tallgrass Prairie	No direct, temporary or constructive use					No direct, temporary or constructive use					No direct, temporary or constructive use				
Wauponsee Glacial Trail	*De minimis* impact; Elevate and relocate portion of trail to the east approximately 375 feet					*De minimis* impact; Elevate and relocate portion of trail to the east approximately 375 feet					*De minimis* impact; Elevate and relocate portion of trail to the east approximately 375 feet				

1. For Illinois, a noise impact occurs when noise levels are predicted to approach, meet, or exceed the Noise Abatement Criteria (NAC) with a substantial increase being greater than 14 dB(A) over existing noise levels, and for Indiana a noise impact occurs when noise levels approach to within one dB(A) of the appropriate FHWA NAC with a substantial increase being an increase of 15 dB(A) or more over existing noise levels.
2. Includes passerine and grassland bird habitat and upland sandpiper habitat in Midewin National Tallgrass Prairie. In addition, each alternative would impact two loggerhead shrike nests. More detail regarding the analysis of potential impacts to avian species in Midewin National Tallgrass Prairie is presented in Section 3.8 and Appendix R.
3. Includes both transverse and longitudinal encroachments.