



**MID-STATES
CORRIDOR**

APPENDIX FF - AGRICULTURAL IMPACTS

Mid-States Corridor Tier 1 Environmental Impact Statement

Prepared for
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Mid-States Regional Development Authority

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AGRICULTURAL IMPACTS

Introduction

The purpose of this section is to provide additional details regarding the potential agricultural land impacts by the alternatives. The tables in this appendix will present impacts according to the various sections of each alternative.

Approximately 31 percent of the total land area for the 12-county Mid-States Tier 1 Study Area is agricultural (pasture/hay, row crops, and small grains). Approximately ten percent of the total prime farmland in Indiana is within the Mid-States Tier 1 Study Area. The area also contains a major poultry and poultry product producer. Any impacts to major structures used for agribusiness, such as poultry facilities, will be addressed in **Section 3.5 - Relocation Impacts**.

Resource Analysis

To analyze the losses of production cost per alternative, the total values use a range of costs for pasturelands, from \$349/acre to \$605/acre. These values were determined based on the type of hay grown as an agricultural crop on the land. These values were calculated based on data available from the 2020 State Agriculture Overview for the state of Indiana. The data was collected by the United States Department of Agriculture (USDA) – National Agricultural Statistics Service.¹

Alternative B is the only alternative with a corridor that traverses through the study area west of Huntingburg and Jasper. This portion of the study area is generally much more suitable to agricultural production. While this alternative requires the least amount of proposed right-of-way acquisition; the data shows that comparatively, Alternative B would have the most right-of-way acquisition that is categorized as agricultural lands (cropland and pastureland; **Table 1**). A more in-depth examination of Alternative B indicates over 1/3 of the soils are considered prime farmland. Furthermore, this alternative has the highest potential for impacts to agricultural production, as shown in **Table 1**. Alternative B estimates a total annual production loss of \$1,406,000 for the expressway facility type and 1,337,000 for the Super-2 facility type.

Alternative C is a unique alternative sharing a corridor with alternative M, O and P east around Huntingburg and Jasper, until diverging west toward I-69 north of the White River. Similar to alternative B, greater than 50 % of the total working alignment is considered agriculture; however, it has the lowest impacts to prime farmland with only 234 acres associated with the Super-2 facility type and 321 acres with the expressway facility type (**Table 2**). Additionally, this alternative has the lowest potential for impacts to agricultural production. Alternative C estimates a total annual production loss of \$1,101,000 for the expressway facility type and 780,000 for the Super-2 facility type. Local improvements (LI) for Alternative C only account for 29 acres of impacts to agricultural lands.

Alternative M is the longest alternative covering the most miles within the 12-County Study Area, traversing east of Huntingburg and Jasper and continuing northeast toward Bedford. This alternative also requires the most right-of-way-acquisition of all the alternatives. While only 35 -38 percent of the

¹ Data for value per acreage of farmland utilized the USDA database for commodities and overview for the state of Indiana. Values and determinants can be located at https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=INDIANA.



Alternative M working alignment is within agriculture land use, it still accounts for the highest total of agricultural acres impacted (**Table 3**). Furthermore, Alternative M also maintains the most acres required for the associated local improvements. While the Alternative has the most acres, only 39 percent of the soils are considered prime; however, estimates of total annual production loss are the second highest.

Alternative O was one of the least impactful alternatives regarding total acres of cropland and loss of farm income (**Table 4**). The expressway would impact more than the Super-2 facility type for Alternative O, but the total amount of agricultural land is less than 1,300 acres and only approximately 27 percent of these lands were considered prime farmland. As such, the annual loss to farm income was estimated between only \$852,000-\$971,000.

Alternative P had the greatest range of impacts, containing the east and west bypasses around Loogootee (**Tables 5 and 6**). The data indicates this alternative would have some of the highest impacts to agricultural lands, prime farmland, and loss of annual agricultural income.

Each Alternative incorporates a series of local improvements. These impacts totals are included Tables 1-6 but identified individually in **Table 7**.



TABLE 1: POTENTIAL AGRICULTURAL IMPACTS, ALTERNATIVE B

Alternative B: Impacts to Agricultural Land and Agricultural Income									
Facility Type	Alternative	Section	Cropland** (acres)	Loss of Cropland Production Income ^ (Thousand \$)	Pastureland / Hay** (acres)	Loss of Hay Production Income ^^ (Thousand \$)	Total Agricultural Land Use in the Working Alignment (acres)	Total Loss of Select^^^ Agriculture Production Income (Thousand \$)	Prime Farmland Soils (acres)^#
Expressway	B2	2-Route	852	709	76	27 - 46	928	736 - 755	297
		2-LI	36	30	14	5 - 8	50	35 - 38	26
		3-Route	595	495	180	63 - 109	775	558 - 604	279
		3-LI	9	8	1	0 - 1	10	8 - 9	1
		Total-Route	1,447	1,203	256	90 - 155	1,703	1,293 – 1,358	575
		Total-LI	46	38	15	5 - 9	61	43 - 47	27
		Grand Total	1,492	1,242	271	95 - 164	1,763	1,337 – 1,406	602
Super-2	B3	2-Route	668	556	61	21 - 37	729	577 - 593	238
		2-LI	36	30	14	5 - 8	50	35 - 38	26
		3-Route	553	460	175	61 - 106	728	521 - 566	265
		3-LI	9	8	1	0 - 1	10	8 - 9	1
		Total-Route	1,221	1,016	235	82 - 142	1,457	1,098 – 1,158	503
		Total-LI	46	38	15	5 - 9	61	43 - 47	27
		Grand Total	1,267	1,054	250	87 - 151	1,517	1,141 – 1,205	531



TABLE 2: POTENTIAL AGRICULTURAL IMPACTS, ALTERNATIVE C

Alternative C: Impacts to Agricultural Land and Agricultural Income									
Facility Type	Alternative	Section	Cropland** (acres)	Loss of Cropland Production Income ^ (Thousand \$)	Pastureland / Hay** (acres)	Loss of Hay Production Income ^^ (Thousand \$)	Total Agricultural Land Use in the Working Alignment (acres)	Total Loss of Select^^^ Agriculture Production Income (Thousand \$)	Prime Farmland Soils (acres)#
Expressway	C2	2-Route	612	509	136	47 - 82	748	556 - 591	199
		2-LI	21	17	8	3 - 5	29	20 - 22	24
		3-Route	466	387	165	58 - 100	631	445 - 487	98
		3-LI	-		-	0 - 0	-	0 - 0	
		Total-Route	1,078	897	301	105 - 182	1,379	1,002 - 1,079	297
		Total-LI	21	17	8	3 - 5	29	20 - 22	24
		Grand Total	1,099	914	309	108 - 187	1,408	1,022 - 1,101	321
Super-2	C3	2-Route	436	363	104	36 - 63	540	399 - 426	130
		2-LI	21	17	8	3 - 5	29	20 - 22	24
		3-Route	377	313	137	48 - 83	513	361 - 396	81
		3-LI	-		-	0 - 0	-	0 - 0	
		Total-Route	813	676	240	84 - 145	1,053	760 - 821	211
		Total-LI	21	17	8	3 - 5	29	20 - 22	24
		Grand Total	833	693	248	87 - 150	1,082	780 - 843	234



TABLE 3: POTENTIAL AGRICULTURAL IMPACTS, ALTERNATIVE M

Alternative M: Impacts to Agricultural Land and Agricultural Income									
Facility Type	Alternative	Section	Cropland** (acres)	Loss of Cropland Production Income ^ (Thousand \$)	Pastureland / Hay** (acres)	Loss of Hay Production Income ^^ (Thousand \$)	Total Agricultural Land Use in the Working Alignment (acres)	Total Loss of Select^^^ Agriculture Production Income (Thousand \$)	Prime Farmland Soils (acres)^#
Expressway	M2	2-Route	612	509	136	47 - 82	747	556 - 591	199
		2-LI	21	17	8	3 - 5	29	20 - 22	24
		3-Route	622	518	414	144 - 250	1,036	662 - 768	480
		3-LI	30	25	14	5 - 9	44	30 - 34	22
		Total-Route	1,234	1,027	549	192 - 332	1,784	1,219 - 1,359	679
		Total-LI	51	42	23	8 - 14	73	50 - 56	46
		Grand Total	1,285	1,069	572	200 - 346	1,857	1,269 - 1,415	724
Super-2	M3	2-Route	436	363	104	36 - 63	540	399 - 426	130
		2-LI	21	17	8	3 - 5	29	20 - 22	24
		3-Route	487	405	365	127 - 221	852	532 - 626	395
		3-LI	30	25	14	5 - 9	44	30 - 34	22
		Total-Route	923	768	468	163 - 283	1,391	931 - 1,051	525
		Total-LI	51	42	23	8 - 14	73	50 - 56	46
		Grand Total	973	810	491	171 - 297	1,465	981 - 1,107	571



TABLE 4: POTENTIAL AGRICULTURAL IMPACTS, ALTERNATIVE O

Alternative O: Impacts to Agricultural Land and Agricultural Income									
Facility Type	Alternative	Section	Cropland** (acres)	Loss of Cropland Production Income ^ (Thousand \$)	Pastureland / Hay** (acres)	Loss of Hay Production Income ^^ (Thousand \$)	Total Agricultural Land Use in the Working Alignment (acres)	Total Loss of Select^^^ Agriculture Production Income (Thousand \$)	Prime Farmland Soils (acres)#
Expressway	O2	2-Route	572	476	142	49 - 86	714	525 - 562	171
		2-LI	21	17	8	3 - 5	29	20 - 22	24
		3-Route	282	235	324	113 - 196	606	348 - 431	182
		3-LI	12	10	20	7 - 12	32	17 - 22	1
		Total-Route	854	711	466	163 - 282	1,320	874 - 993	353
		Total-LI	33	28	28	10 - 17	61	38 - 45	25
		Grand Total	887	738	494	172 - 299	1,381	910 - 1,037	378
Super-2	O3	2-Route	434	361	111	39 - 67	545	400 - 428	121
		2-LI	21	17	8	3 - 5	29	20 - 22	24
		3-Route	200	166	284	99 - 172	484	265 - 338	157
		3-LI	12	10	20	7 - 12	32	17 - 22	1
		Total-Route	634	528	395	138 - 239	1,029	666 - 767	279
		Total-LI	33	28	28	10 - 17	61	38 - 45	25
		Grand Total	667	555	424	148 - 256	1,091	703 - 811	304



TABLE 5: POTENTIAL AGRICULTURAL IMPACTS, ALTERNATIVE P-VARIATION PE (EAST LOOGOOTEE BYPASS)

Alternative Pe: Impacts to Agricultural Land and Agricultural Income									
Facility Type	Alternative	Section	Cropland** (acres)	Loss of Cropland Production Income ^ (Thousand \$)	Pastureland / Hay** (acres)	Loss of Hay Production Income ^^ (Thousand \$)	Total Agricultural Land Use in the Working Alignment (acres)	Total Loss of Select^^^ Agriculture Production Income (Thousand \$)	Prime Farmland Soils (acres)#
Expressway	P2e	2-Route	612	509	136	47 - 82	748	556 - 591	199
		2-LI	21	17	8	3 - 5	29	20 - 22	24
		3-Route	730	607	211	74 - 128	941	681 - 735	478
		3-LI	23	19	28	10 - 17	50	29 - 36	33
		Total-Route	1,342	1,117	347	121 - 210	1,689	1,238 – 1,327	677
		Total-LI	44	36	36	12 - 22	79	48 - 58	56
		Grand Total	1,386	1,153	383	134 - 232	1,768	1,287 – 1,385	733
Super-2	P3e	2-Route	436	363	104	36 - 63	540	399 - 426	130
		2-LI	21	17	8	3 - 5	29	20 - 22	24
		3-Route	566	471	168	59 - 102	735	530 - 573	379
		3-LI	23	19	28	10 - 17	50	29 - 36	33
		Total-Route	1,002	834	272	95 - 164	1,274	929 - 998	509
		Total-LI	44	36	36	12 - 22	79	48 - 58	56
		Grand Total	1,046	870	307	107 - 186	1,354	977 – 1,056	565



TABLE 6: POTENTIAL AGRICULTURAL IMPACTS, ALTERNATIVE P-VARIATION PW (WEST LOOGOOTEY BYPASS)

Alternative Pw: Impacts to Agricultural Land and Agricultural Income									
Facility Type	Alternative	Section	Cropland** (acres)	Loss of Cropland Production Income ^ (Thousand \$)	Pastureland / Hay ** (acres)	Loss of Hay Production Income ^^ (Thousand \$)	Total Agricultural Land Use in the Working Alignment (acres)	Total Loss of Select^^^ Agriculture Production Income (Thousand \$)	Prime Farmland Soils (acres)#
Expressway	P2w	2-Route	612	509	136	47 - 82	748	556 - 591	199
		2-LI	21	17	8	3 - 5	29	20 - 22	24
		3-Route	746	620	259	90 - 156	1,004	710 - 776	425
		3-LI	23	19	28	10 - 17	50	29 - 36	33
		Total-Route	1,358	1,130	394	138 - 239	1,752	1,268 – 1,369	624
		Total-LI	44	36	36	12 - 22	79	48 - 58	56
		Grand Total	1,402	1,166	430	150 - 260	1,832	1,316 – 1,426	680
Super-2	P3w	2-Route	436	363	104	36 - 63	540	399 - 426	130
		2-LI	21	17	8	3 - 5	29	20 - 22	24
		3-Route	559	465	202	71 - 122	761	536 - 587	334
		3-LI	23	19	28	10 - 17	50	29 - 36	33
		Total-Route	995	828	306	107 - 185	1,301	935 – 1,013	464
		Total-LI	44	36	36	12 - 22	79	48 - 58	56
		Grand Total	1,039	864	341	119 - 207	1,380	983 – 1,071	520

Notes Apply to Tables 1-6

Tier 1 Alternative impacts are reported in ranges including all the alternative bypass and facility type options.
*Facility type 1, freeways, has been removed from consideration. Therefore, no modifications to existing US 231 in Section 1 and existing SR 37 in Section 3 are anticipated. No impacts are anticipated on either of these facilities.
** Agriculture land use was obtained from the cropland and pastureland/hay classes of the 2016 National Landcover Dataset.
^ Calculated at \$832 per acre. Price per acre was determined from Corn (Grain) harvested acres and dollar value produced published in the 2020 State Agriculture Overview for the state of Indiana, USDA, NASS. [https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=INDIANA]
^^ Calculated at \$349 per acre for the low price and \$605 per acre for the high price. The price range reflects the differences in value ranging between alfalfa hay and other hay. Prices were determined from the harvested acres and the value produced of alfalfa hay and hay excluding alfalfa published in the 2020 State Agriculture Overview for the state of Indiana, USDA, NASS. [https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=INDIANA] Dollar value ranges reported in the table are determined by the minimum and maximum agriculture acreage and the minimum and maximum price per acre; showing the lowest and highest estimates from the least acres at the lowest price to the most acres at the highest price.
^^^ Select production values summarized include cropland acres valued at grain corn prices and pastureland acres at a range of hay prices from alfalfa to other hay. The numbers presented here give a general overview for the purpose of fairly comparing highly variable areas to determine a study corridor. Determining a true loss of value for agriculture production requires a focus and in-depth study of land activities that is appropriate for Tier 2 level of investigation. The values in this table do not include other land production activities such as pasture grazing for cattle and other livestock production, the range of potential crop values and productivity, or agriculture operation improvements on the land such as poultry houses.
Includes soils designated as "All prime farmland" in the NRCS soil data. Conditional prime farmland and farmland of statewide importance is NOT included. Prime farmland soils under "developed" land uses in NCLD Land Use data were not included as they can no longer be converted to agriculture.



TABLE 7: POTENTIAL AGRICULTURAL IMPACTS, LOCAL IMPROVEMENTS

Local Improvements*				Agricultural Land Impacts (acres)			
LI-#	Existing Road	Associated Alternatives	Section	Cropland	Pasture/Hay	Total Agricultural Land	Prime Farmland
LI-1	US 231	B, C, M, O, P	2	8.8	0.5	9.3	6
LI-2	US 231	B, C, M, O, P	2	3.9	6.4	10.3	0.8
LI-3	US 231	B, C, M, O, P	2	0.005	0	0.0	10.8
LI-4	US 231	C, M, O, P	2	0	0	0.0	0
LI-5	US 231	C, M, O, P	2	8.1	1.3	9.4	5.9
LI-6	US 231	M, P	3	12.9	3.7	16.6	7.8
LI-7	US 231	M, P	3	4	6.7	10.7	6.5
LI-8	US 231	P	3	1.7	5.7	7.4	3.8
LI-9	US 231	P	3	4.3	11.4	15.8	14.5
LI-10	SR 56	B	2	14.2	1.1	15.2	0.8
LI-11	SR 257	B	2	9.6	5.7	15.3	7.3
LI-12	SR 257	B	3	9.3	1.1	10.4	1.3
LI-13	SR 450	M	3	12.9	2.3	15.2	4.9
LI-14	SR 450	M	3	0	1.7	1.7	3.1
LI-15	SR 56	O	3	4.6	12.1	16.7	0.7
LI-16	SR 56	O	3	6	0.7	6.7	0
LI-17	SR 145	O	3	0.6	4.8	5.4	0.5
LI-18	US 150	O	3	1.2	2.4	3.6	0
*Local Improvements are associated with the alternative							



FIGURE 1: AGRICULTURAL LANDS IN THE STUDY AREA

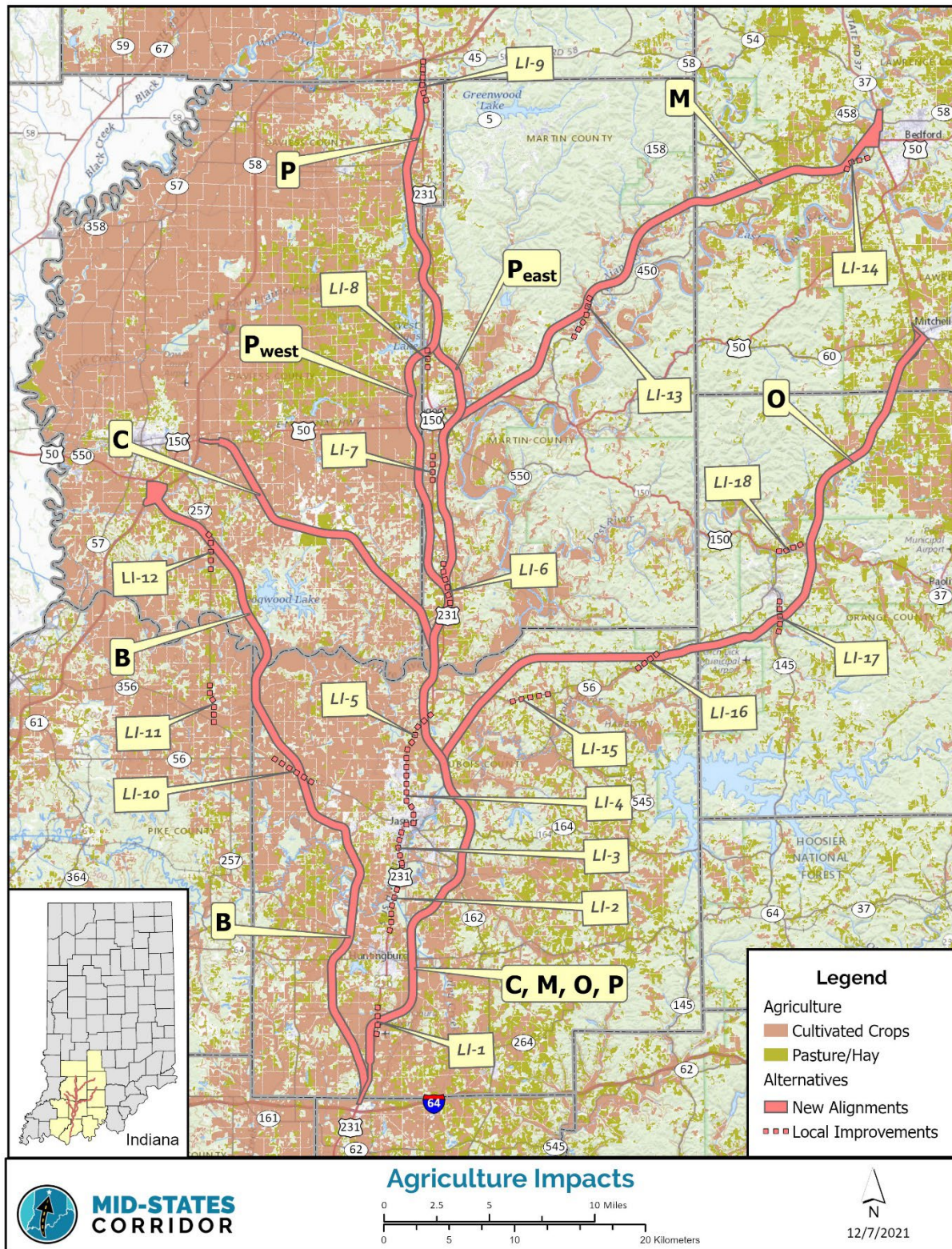




FIGURE 2: PRIME FARMLAND IN THE STUDY AREA

