# Appendix G: Secondary and Cumulative Impacts

The intent of the cumulative-effects analysis is to determine the magnitude and significance of cumulative effects, both beneficial and adverse, and to determine the contribution of the proposed action to those aggregate effects.

The consideration of cumulative effects consists of an assessment of the total effect on a resource, ecosystem, or community from past, present and future actions that have altered the quantity, quality or context of those resources within a broad geographic scope.

## G.1. Secondary/Indirect Impacts

Secondary or indirect effects may occur if a project changes the extent, pace, and/or location of development and if this change in turn affects environmental resources. Induced growth type indirect effects are changes in the location and/or magnitude of future development attributed to changes in accessibility caused by the transportation project. Accessibility is the ease of movement from an origin (to all other places) or as a destination (from all other places). Transportation improvements change accessibility by reducing the time cost of travel between destinations. Changes in accessibility can affect the location decisions of residents and businesses if favorable economic, regulatory and infrastructure conditions are also supportive of new development. An example of an induced growth type indirect effect is commercial development occurring around a new rail station and the environmental impacts associated with this development.

Encroachment-alteration secondary/indirect effects are physical, chemical or biological changes in the environment as a result of the project removed in time or distance from the direct effects. An example of an encroachment-alteration indirect effect could be a long-term decline in a population of a particular species as a result of habitat fragmentation caused by a new rail line.

For the No-Build Alternative, there would be no indirect impacts since no action would take place.

The 2012 Tier 1 EIS for the Chicago to St. Louis HSR Program concluded that the program would result in negligible secondary or indirect induced development impacts for two main reasons.

1. The HSR Program would utilize existing rail corridors and train stations and, therefore, would not result in the development of new access or train stations in areas that previously did not have any passenger rail service.

2. It is anticipated that the increased ridership would have a minimal effect on inducing development around the existing train stations, which are already in developed/urbanized areas.

The build alternatives would include:

- No changes in grade crossing numbers or locations. Thus, the build alternatives would not cause changes in travel patterns that could alter the convenience of access to land and potentially alter development patterns or induce new development.

- No new stations to attract development that would serve passenger rail customers. One of the long-term goals in the Wilmington 2008 Comprehensive Plan is a passenger rail stop in Wilmington. However, IDOT has no plans for a passenger rail stop either as a part of the proposed Project or any other project associated with the Chicago to St. Louis HSR Program.

- No change in rail sidings that serve local business areas. The one existing siding would be retained, and no new industrial sidings would be built as a part of the build alternatives. The build alternatives would neither encourage nor discourage changes in industrial development in the Project study area.

*Therefore, the build alternatives would not induce changes in development patterns or new development that would result in secondary or indirect impacts to the humarn and physical environments described in appendices D1 and D3.*

***Potential Indirect Impacts to Ecological Systems***

*Vegetation and Habitat*

Indirect impacts could include potential degradation of vegetation and habitat, as a result of point source and nonpoint source pollution associated with the rail line. Pollution could adversely impact sensitive floral communities. Polluted runoff may result in a reduction of wetland native plant diversity and establishment of adventive (nonnative) plant species. Mitigation measures and best management practices (BMPs) would help to mitigate possible direct and indirect impacts to vegetation and habitat.

*Waters of the United States and Floodplains*

Specific indirect impacts include water quality impacts that are similar to direct impacts, such as increased runoff based on increased impervious cover, and are addressed through drainage design. Indirect impacts could also include potential wetland degradation, as a result of point source and nonpoint source pollution. Pollution could adversely impact sensitive floral communities, particularly wetland plants. Polluted runoff may result in a reduction of wetland native plant diversity and establishment of adventive (nonnative) plant species. Mitigation measures and best management practices (BMPs) would help to mitigate possible direct and indirect impacts to Waters of the U.S.

The indirect impacts of wetland fill in the Project study area could result in associated changes to the overall size of the wetland, hydrology, cover type, species assemblage, or degree of habitat fragmentation. These types of impacts could adversely affect the ability of the wetland to provide functions and values, or could diminish the functions and values to a degree greater than would be attributed simply due to the loss of area. Isolated fragments of wetlands or waterways may have reduced habitat value, or be so isolated that the wetland or waterway fragments are rendered inaccessible to many fish or other aquatic species. These effects would be limited for the build alternatives since the project follows an existing railroad corridor. Additionally, mitigation of direct impact to wetlands would be at higher ratios than what is impacted reducing the overall loss of wetland resources and slightly increasing wetland resources over time.

*Threatened, Endangered, and Wildlife Species*

Encroachment effects on threatened, endangered, and wildlife species include fragmented vegetation and habitats, which could result in reduced movement of wildlife and vulnerability of remaining vegetated areas, including grasslands. These effects would be limited for the build alternatives since the project follows an existing railroad corridor. Increasing urbanization and past activities such as the initial construction of the railroad have impacted species habitat, leading to declining health of several species.

## G.2. Cumulative Impacts

Either build alternatives in combination with the projects assessed in the 2011 EA/FONSI for track improvements from Joliet to Dwight, the 2014 CE for the High-Speed Rail Corridor - Joliet to Dwight Track Improvement Project, and the project defined in the 2012 Tier 1 FEIS/ROD from Chicago to St. Louis would offer the cumulative benefits described in the Statement of Purpose and Need for this proposed Project. The combined projects would contribute to improving modal balance in the corridor and for passenger rail would reduce travel times, improve service reliability, increase frequency of trips, and increase track capacity.

This cumulative impact assessment addresses the impacts of the build alternatives in combination with other past, present, or reasonably foreseeable future actions, including other rail projects in the Project study area, and evaluates the significance of the aggregate effects.

This assessment does not address the cumulative impacts of past, present, or reasonably foreseeable future actions to environmental resource types unaffected by the build alternatives. Environmental resources considered in the cumulative impact assessment are:

- Air quality
- Noise and vibration
- Agriculture
- Aesthetic environment and scenic resources
- Vegetation and habitat
- Wetlands

- Water quality
- Threatened and endangered species
- Special lands
- Section 4(f) Resources

Environmental resources not considered in the cumulative impact assessment and the reasons why are:

- Floodplains and Regulatory Floodways: No permanent impact would occur with the build alternatives. With bridge replacements across waterways within the project's build alternatives, an increase in the flood height of more than 0.10 feet and an increase in flood limits are unlikely in either floodplain.

- Transportation: Rail service and transportation safety are improved with the build alternatives. No permanent changes to roadway access from existing grade crossings or rail siding access are expected.

- Community and Land Use: Both build alterantives would result in acquisition of land, both permanently and temporarily for use as railroad right-of-way. Neither Build Alternative would result in a notable change to the surrounding community and existing land use. There would be the displacement of one Elwood business and 2 residential outbuildings, however, no permanent impacts to community services or community cohesion. Both build alternatives are consistent with established local land use planning goals except for within the City of Wilmington, which would like a new passenger rail stop.

- Hazardous Materials and Waste: If REC's are affected, contaminated materials would be properly handled and disposed.

***Impact Causing Activities***

Past, present, and reasonably foreseeable future impact causing activities considered are:

- Past

  – Urban and Agricultural Development. According to the 2008 City of Wilmington Comprehensive Plan, land use in the City is predominately agricultural and rural residential surrounding the Project study area with some commercial and civic uses near the City center. There are some industrial property and open spaces to the north of the City. Since the core of Wilmington is well established, land uses in the Project study area have recently been constant, with little change.

  According to the Village of Elwood's Comprehensive Plan's Existing Land Use Map (October 2008), nearly half of the Village is categorized as agricultural/rural residential land use. The remainder of the Village consists primarily of industrial, open space, and federal (i.e. Joliet Army Training Area) land uses. Since the Village is well-established and consists of federal lands, land uses in the Project study area have not changed in recent years.

- UPRR. The UPRR extends through the City of Wilmington and crosses the Kankakee River just north of the downtown area with associated freight and passenger service. The nearest Amtrak stations are in Joliet and Dwight. The Burlington Northern & Santa Fe (BNSF) line is near the northwest boundary of the City of Wilmington. It is a freight line that serves the intermodal facility in the Village of Elwood and the newly constructed intermodal center in Joliet.

- The Kankakee River Bridge and Track Improvements Project. This EA includes the replacement of the existing Kankakee River Bridge with double tracks, bridge modifications to Water Street Bridge, Forked Creek Bridge, new access roads along the east side of the existing UPRR tracks, and at-grade crossing and culvert improvements. The build alternatives also include an increase in passenger train numbers from the No-Build Alternative (existing conditions), 9 daytime trains to 16 daytime trains, and from 1 night time train to 2 nighttime trains. This is a Tier 2 project for the Chicago to St. Louis HSR Program. The components from this project included in the Elwood To Braidwood Track Construction Project study area includes new access roads, and at-grade crossing and culvert improvements.

- Amazon Fulfillment Centers. Retailer Amazon is operating six fulfillment centers in Will County to date. The Will County Center for Economic Development states that in 2019 Amazon leased its sixth facility in Will County, in Monee, approximately 18 miles east of the Project. There are several Amazon facilities (warehousing and offices) north of the Project in Elwood and Joliet.

- RidgePort Logistics Center. RidgePort is an intermodal business park located 2.75 miles west of the Project at Lorenzo Road and I-55. It is served by the BNSF Railway.

- Present

  - Joliet to Dwight Track Improvements (2011). The April 2011 EA/FONSI for the UPRR Track Improvement Project from Joliet to Dwight, IL included upgrades to existing track from Joliet to Dwight; new second mainline track from Joliet to Elwood; track improvements at the existing siding in Braidwood, Illinois; and numerous at-grade crossings improvements. The fundamental components in the Project study area from the 2011 EA/FONSI includes adding a second mainline track from Joliet to Elwood.

  - Joliet to Dwight Track Improvements (2014). The November 2014 CE for the High-Speed Rail Corridor - Joliet to Dwight Track Improvement Project included several of the 2011 EA project components that have advanced in design since 2011; new setout tracks at Plaines Industrial Lead; and additional improvements planned between Joliet and Braidwood, including the Braidwood to Mazonia double track and Dwight, Illinois siding. The 2014 CE also included several bridge structure modifications not fully developed in the 2011 EA project scope.

Four quadrant gates are planned at 32 at-grade crossings and improvements at 49 culverts. The double track components of this project are a Tier 2 project for the Chicago to St. Louis HSR Program. The components in the Project study area from the 2014 CE includes the Braidwood to Mazonia double track, as well as additional improvements planned between Joliet and Braidwood.

- Abraham Lincoln National Cemetery. Abraham Lincoln National Cemetery is located at 20953 W. Hoff Road in the Village of Elwood. The Abraham Lincoln National Cemetery lies in the northwestern area of the former Joliet Army Ammunition Plant, located adjacent to the west and south of the Village of Elwood, and is eligible for listing in the NRHP. When fully developed, the cemetery will provide 400,000 burial spaces. Impacts by either Build Alternative to the property, which includes acquiring less than one acre for permanent easements of existing open space adjacent to the existing railroad right-of-way, would be *de minimis* as there would be no changes to the property.

- Midewin National Tallgrass Prairie Land and Resource Management Plan. MNTP is actively working to restore portions of the their property back to conditions outlined in the plan. Ongoing efforts include decommissioning drain tiles, revegetation, and culvert removal.

- CenterPoint Intermodal Center at Deer Run. The Centerpoint intermodal/distribution center is the largest master-planned inland port in North America. It is located west of the UPRR tracks, southwest of the Village of Elwood, and is expected to be a significant regional employer. Its rail service is provided by the UPRR.

- Future

  - Freight train growth from five daily trains to 11.

  - Multiple major or complex at-grade crossing improvements along the UPRR that could involve the realignment of crossing approach roads. Potential improvement locations include the following: Mississippi Street (MP 45.77), Hoff Road (MP 46.64), Private - Ordinance Road (MP 48.62), Private - Damien Mills Road (MP 49.91), and River Road (MP 51.46). The improvements include moving four-quadrant gates and adjusting the road approach to accommodate the second track.

  - The IL Route 53 Study is a preliminary engineering and environmental studies project for IL Route 53 improvements from West Arsenal Road to US Highway 52/Doris Avenue. This project is north of the proposed Project, ending approximately 1.75 miles northeast of the northern terminus of the Elwood to Braidwood Track Construction. The IL Route 53 project will address safety and operations along that corridor and is currently not included in the IDOT Statewide Transportation Improvement Program (STIP).

- The Lorenzo Road interchange at I-55 is currently being studied for improvements, along with improvements to IL Route 129. These projects were previously studied by IDOT until 2013, at which time the project was combined into the proposed Illiana Expressway in this area. The Illiana Expressway project was discontinued in 2015. The Lorenzo Road at I-55 and IL 129 project was restarted as an independent project in 2019. The project would improve regional access to the RidgePort Logistics Center and surrounding cities and is located approximately 2.75 miles west of the proposed Project. This project is not included in the IDOT STIP.

- The City of Wilmington is in the planning phase for three park and recreational space projects, including enhancements to North and South Island Parks and the development of two new parks, Bobcat and Celotex southwest and northwest of the Kankakee River, respectively. None of these planned improvements are within the study area for the Elwood to Braidwood Track Construction Project.

***Potential Cumulative Impacts***

The following sections consider the potential for cumulative impacts associated with the environmental resources for which the build alternatives would cause impacts. For each environmental issue, the area or areas of potential cumulative impact, the potential cumulative impact, and opportunities for mitigating the impact are addressed.

*Agriculture*

Cumulative effects on agriculture would be associated with changes in existing zoning, or conversion of agriculture to non-agriculture. There are no cumulative activities identified that would specifically conflict with existing land use plans or zoning or result in a conversion of agricultural lands to non-agricultural uses within the Elwood to Braidwood Track Improvements study area. Nevertheless, a continued gradual loss of agricultural land can be expected in the area from ongoing development and urbanization.

*Aesthetic Environment and Scenic Resources*

The direct visual impact assessment in Appendix D4 found that visual impacts for the build alternatives would be minor/ negligible for most of the proposed Project. A visual impact would occur in the City of Elwood and at the MNTP with the development of Build Alternative 2A. The retaining wall, as part of this alternative, would be a visual contrast to the vast open and natural areas that currently make up the landscape unit in these areas. However, there are no other nearby actions that would have a cumulative impact on the aesthetic environment.

The anticipated change in the overall character as a result of future development within the Project study area is considered an impact. However, these changes would not contribute to a significant visual change within the Project study area because its contribution is so small in the context of the larger region, and railroad and roadway entities are currently found within the region. Views of open space areas and wildlife areas are not anticipated to change significantly as a result of future development. As

such, the Project's contribution to the cumulative impact would be less than considerable and the cumulative impact would be less than significant.

*Vegetation and Habitat*

Land uses within the Project study area are primarily railroad ROW, residential, commercial, and undeveloped area with wetlands of low to high natural quality. Streams along existing UPRR are bridged. The majority of the Project study area contains scattered trees and hedgerows associated with the commercial areas, developed areas, and undeveloped areas as well as some forested areas associated with the Prairie Creek and Grant Creek riparian areas.

The Project study area travels through MNTP, the Des Plaines State Fish and Wildlife Area, and two Illinois Natural Areas Inventory (INAI) sites. The INAI sites are the the Hitts Siding Prairie Nature Preserve and the Joliet Army Ammunition Plant INAI site. These areas provide habitat for listed species described in Appendix D2. Wildlife usage in the Project study area is likely to be species tolerant of disturbance and human presence. Habitat for the species listed as critical for the Grand Prairie Natural Division by the Illinois Wildlife Action Plan are found within the Project study area. These habitats include grasslands, streams, forests, and wetlands.

The build alternatives would not result in habitat fragmentation or create additional forest edges since it would follow an existing railroad corridor.

Additional development would further reduce the number and size of remaining open space and available habitat. Except for forested lands along creeks and rivers, much of the undeveloped land in the Wilmington area is agricultural or protected lands such as MNTP, the Des Plaines State Fish and Wildlife Area, the Hitts Siding Prairie Nature Preserve, and the Joliet Army Ammunition Plant INAI site.

In time, as animals move away from newly developed areas to undeveloped areas, urban tolerant species could create additional competition for less tolerant species residing in protected areas or for other urban tolerant species inhabiting scattered, remnant open space. Because they would be along an existing corridor, the rail projects would not make a notable contribution to this type of impact.

The build alternatives would impact approximately 17 acres of forested area apiece. High quality remnant prairies deemed significant, exceptional, and regionally noteworthy would incur impacts as a result of either Build Alternative's construction. Because of the small area of impact combined with the limited ability of the small (less than 20 acres) forested areas in the project study area to provide suitable habitat for migratory birds, it is anticipated the build alternatives would not have a secondary or cumulative adverse effect on forest wildlife habitat and wildlife species including migratory and forest interior avian species. The No-Build Alternative would not impact wildlife habitat.

*Wetlands*

The build alternatives would result in slightly different impacts to wetlands and waters, both less than 15 acres. The other railroad projects north and south of the Project study area would not affect the same wetlands as the build alternatives. The combined level of impact would be negligible when compared to the overall acres of wetlands in the Kankakee River basin. Current estimates for wetlands in the Kankakee River basin are 17,000 to 27,000 wetlands covering approximately 100 to 200 square miles or five percent of the total basin area.

Wetland conversion for development and farming activities has reduced the historic wetland acreage in Will County. The net reduction in wetland acreage, however, has slowed because of the protection granted wetlands under Section 404 of the CWA. Under the protection granted to wetlands, mitigation guidelines require that wetland losses greater than 0.10 acre be replaced at a ratio of 1.5 to 1 or greater (depending on the type and quality of wetland affected). For Illinois state funded or state pass-through projects, the IWPA requires the mitigation of all wetland impacts, regardless of their jurisdictional status. A Will County ordinance protects non-jurisdictional wetlands that could be affected by private development. The developer would mitigate private development wetland impacts.

The requirement that wetlands be mitigated at higher ratios than what is impacted is reducing the overall loss of wetland resources and is slightly increasing wetland resources over time. In addition, higher mitigation ratios also attempt to address indirect effects to wetlands remaining after a project is implemented. For that reason, mitigation ratios are typically higher for more sensitive or higher quality wetlands (High Quality Aquatic Resources –HQAR's). Wetlands known to harbor threatened or endangered species in Illinois require a mitigation ratio of 5.5:1 under IWPA. Mitigation ratios also are established based on the time necessary to replace the natural functions of the wetland impacted. Thus, in many cases more wetlands are being created than destroyed by individual projects. In-kind replacement has been elevated by the U.S. Corps of Engineers as an objective, lessening the potential for changing wetland composition. These mitigation requirements are applicable to both private and public projects, including the proposed Project and all other reasonably foreseeable future actions.

*Threatened and Endangered Species*

The build alternatives may affect, but are not likely to adversely affect the northern long-eared bat. Approximately 10 acres of suitable habitat for the northern long-eared bat are within the Project study area. Direct impacts to bats are not expected as potential roosting trees would be removed between October 15 and March 31.

The build alternatives have the potential to impact the loggerhead shrike. Because of the small number of protected species that may be impacted as a result of the build alternatives minimal area of habitat impacts, the cumulative effect is expected to be negligible compared to the remaining habitat in the area.

*Special Lands*

With the build alternatives, the Project corridor is located within the protected MNTP, DPSFWA, the Joliet Army Ammunition Plant INAI site, and the Hitts Siding Prairie INAI site. Several other INAI and important natural resource sites are along the UPRR corridor between from Joliet to Dwight and could be impacted by other railroad improvement projects. The existing UPRR ROW travels through the aforementioned areas, as well as several other INAI sites along the corridor, which include the Kankakee River INAI site, the Mazonia Railroad Prairie INAI site, the Braceville Railroad Prairie INAI site, Godley Railroad Prairie INAI site, and the Mazon River Gardner Reach INAI site.

The Joliet to Dwight Track Improvements CE (2014) identified impacts to the Godley, Braceville, and Mazonia prairies/INAI sites and the Mazon River Bed INAI site. All these impacts would be minor, generally involving narrow strips of additional railroad adjacent to existing ROW or minor adjustments to road ROW. However, the various INAI's have independent habitat functions, such that the minor rail project impacts on one site would not contribute to a cumulative notable impact to the function and value of multiple sites. Impacts would be mitigated in association with each rail project. INAI impacts by other rail projects in combination with INAI impacts of other past, present, and reasonably foreseeable future actions within the project study areas of those other rail projects has been or will be considered in environmental documentation for the other rail projects.

*Section 4(f)*

The Section 4(f) properties affected by the build alternatives include MNTP, DPSFWA, Alternate Route 66 Wilmington to Joliet, and Dale and Francis Archer Memorial Park. The impacts to all of the properties, except MNTP and Alternate Route 66, were de minimis. The impact to MNTP and Alternate Route 66 required a full Section 4(f) evaluation, which has been included as a separate report to this EA (See Appendix D6).

A highway grading permit would be required for the impact to Route 66 for the build alternatives. Route 66 would continue to remain as transportation ROW.

Any cumulative impact to Route 66 would result from a combination of the Project, the complex grade crossings between Elwood and Braidwood, and the HSR Program as a whole. Section 106 coordination for the Project was completed on April 17, 2020. Under terms of this coordination, compliance with the National Historic Preservation Act for the proposed Chicago to St. Louis HSR Project would be addressed prior to project construction. Data-recovery excavations is the standard mitigation measure. No additional mitigation measures are proposed.

Based on the Section 4(f) analysis, the Project would result in impacts to MNTP. The other area projects would not additionally impact MNTP.