



ENVIRONMENTAL ASSESSMENT ANALYSIS SUMMARY

EAST SIDE HIGHWAY ENVIRONMENTAL ASSESSMENT

Introduction

The East Side Highway (ESH) Environmental Assessment (EA) is a transportation planning study administered by the Federal Highway Administration (FHWA), the Illinois Department of Transportation (IDOT), and McLean County. A total of 129 ESH alternatives were developed during the course of the project. The alternatives were screened using a five-step evaluation process, illustrated below.



The first four steps were presented at the August 18, 2011 and January 11, 2012 Public Information Meetings (PIMs). As a result of the evaluation process, four alternatives remained for consideration at Step 5, the Environmental Assessment Analysis, which was presented at the June 19, 2013 PIM.

Environmental Assessment Evaluation

Four alternatives were considered in the Environmental Assessment Analysis. Resource impacts resulting from the alternatives were calculated. Resource categories included environmental, community and economic, agricultural, cultural, and sustainability. Engineering design criteria were also evaluated.

Resources where impacts varied widely among the four alternatives were considered differentiating criteria, which are used to screen the alternatives. These resources are wetlands, special waste, residences, businesses, utility infrastructure, noise receptors, agricultural features, and sustainability features.

Two of the four alternatives were eliminated due to high wetland impacts and engineering design issues at I-55. The remaining two alternatives (Alternatives 126 and Alternative 127) are shown on a map on the following page. One of these alternatives will be recommended as the Preferred Alternative. The resource impacts resulting from the alternatives are summarized in a table provided in this packet.

Public Comment

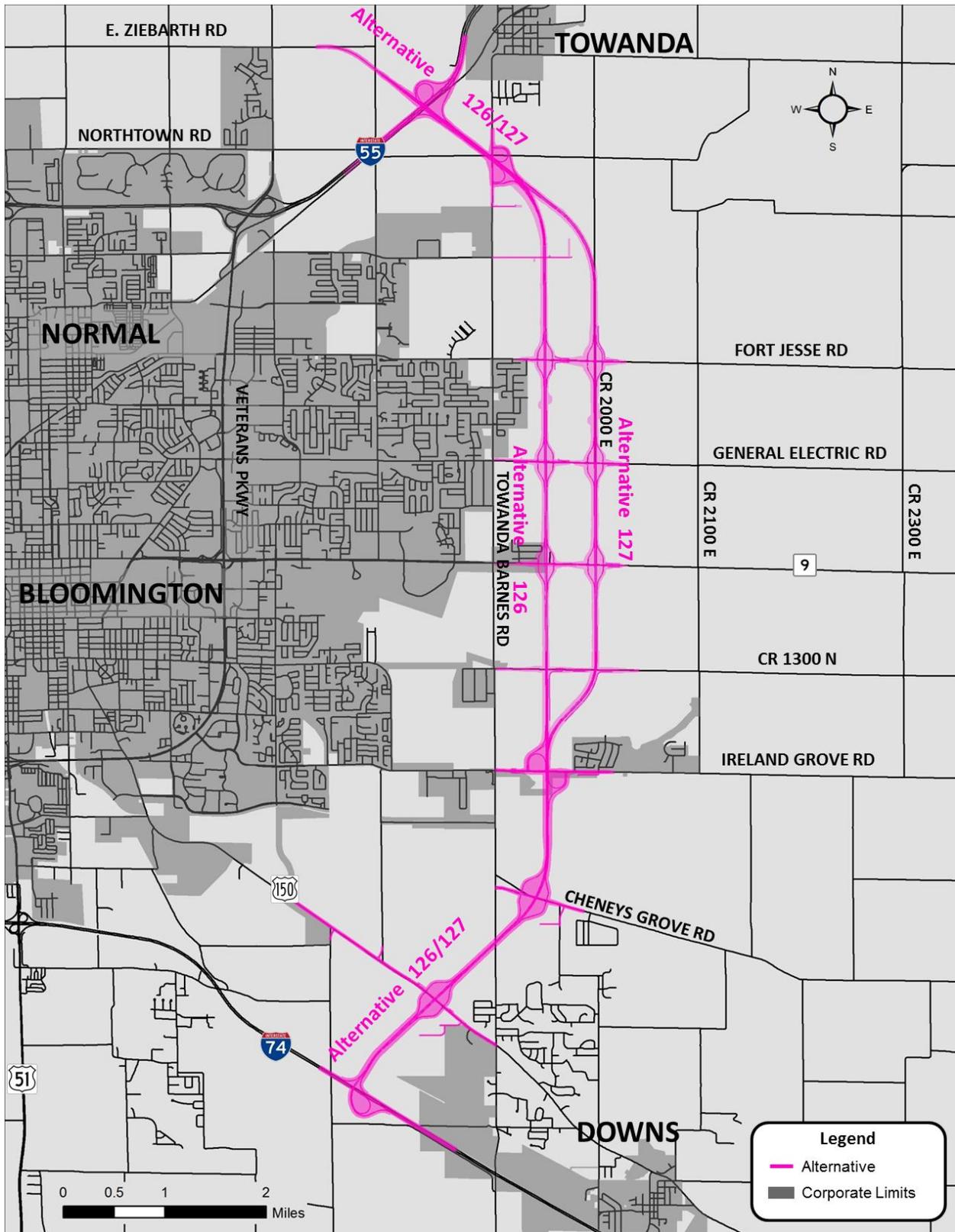
Public input is sought on Alternative 126 and Alternative 127. A comment form is attached for your use. Comments can be submitted via mail (see mailing information on comment form in this handout), email (ESHEA@clarkdietz.com), or fax (217-373-8923).

When commenting on the alternatives, please be specific as to which alternative you think should be selected as the Preferred Alternative and why. Please refer to the impact summary table in this packet to support your decision. The official public comment period closes on July 3, 2013. The public comments will then be reviewed and summarized, and presented to Federal and State resource agencies.

Preferred Alternative

The public comments, along with the resource impacts, will be considered when selecting a recommended Preferred Alternative. IDOT, FHWA, and McLean County are responsible for making the final recommendation on the Preferred Alternative.

A summary of the public comments and the recommended Preferred Alternative will be presented to the FHWA and the Federal and State resource agencies in September 2013. At the meeting, each agency representative must give concurrence on the recommended Preferred Alternative in order for the project to move forward. The resource agencies can choose to select the No Build Alternative as the Preferred Alternative if they find that Alternative 126 and Alternative 127 have significant environmental impacts that outweigh the No Build Alternative's inability to meet the Purpose and Need. The project team will notify the public via the project website (www.eastsidehighway.com) after the September meeting to provide an update on the status of the Preferred Alternative. The Preferred Alternative will be presented to the public at a Public Hearing.



Map of the Remaining Alternatives: Alternatives 126 and 127 are identical at the northern and southern ends. The alternatives differ in the middle portion. Alternative 126 is located approximately 0.5 mile west of Alternative 127. The alternatives are two-lane freeways with access at major east-west roads.



Environmental Assessment Evaluation Summary Table (Part 1 of 2)

Category	Alternative		Description of Impacts
	126	127	
Wetlands (acres)	0.71	0.0003	Alternative 126 impacts one additional wetland along IL 9 (Empire Road).
Special Waste (number of sites)	18	15	Most special waste impacts are fuel storage tanks on farms. Alternative 126 has more impacts due to the impact at the Prairie Commercial Park along IL 9 (Empire Road).
Residential Displacements (number)	18	13	Most displaced residences are houses or farm residences outside of subdivisions, and are scattered throughout the project area.
Business Displacements (number)	7	0	The business displacements occur at the ESH interchange with IL 9 (Empire Road). The cluster of businesses is the Prairie Commercial Park. Alternative 126 would displace the seven business buildings.
Utility Infrastructure (number affected)	33	5	Alternative 126 impacts mostly single utility poles. Alternative 127 impacts mostly electrical transmission towers. The cost of relocating the utilities is expected to be higher for Alternative 126 than for Alternative 127.
Noise Receptors (number within 500 feet of alternative)	167	152	Most noise impacts occur within 500 feet of the roadway edge. Noise levels were not determined, but the number of noise receptors within 500 feet shows the potential for noise impacts by proximity to each alternative. Traffic noise is an important concern for residents. Specific traffic noise impacts and mitigation will be completed for the Preferred Alternative.

Environmental Assessment Evaluation Summary Table (Part 2 of 2)

Category	Alternative		Overview of Impacts
	126	127	
Agricultural Criteria:			<p>Eleven metrics were used to assess the cumulative effects of the alternatives upon agricultural operations. Alternative 126 would displace more farm residences and outbuildings than 127, and also requires more access changes. Outbuilding loss and removing residences from tracts can affect farm operations. Alternative 127 would require more acres of prime and important farmland, more severance management zones, more uneconomical remnants of farmland, more landlocked farm parcels, and creates more total adverse travel for agricultural operations than Alternative 126. Additionally, Alternative 127 follows CR 2000 East. Existing CR 2000 East provides a north/south route for farm equipment; if this road is replaced by the ESH, it will no longer allow farm equipment direct access to property, nor provide a rural road route for farm equipment. Replacement of this north/south route for farm equipment for Alternative 127 is not included in the impact analysis.</p>
Prime and Important Farmland (acres)	777	794	
Farm Residences (number)	10	6	
Farm Outbuildings (number)	42	30	
Diagonal Severances (number of tracts)	8	10	
Lateral Severances (number of tracts)	3	1	
Severance Management Zones (acres)	40	53	
Adverse Travel (miles)	21.5	22.8	
Tracts with Access Changes (number of tracts)	11	9	
Farms Otherwise Affected (acres)	23	25	
Uneconomical Remnants (number)	23	25	
Landlocked Parcels (acres)	181	200	
Sustainability Criteria:			<p>Farmland preservation was the greatest differentiator when considering sustainability criteria. Farmland preservation was measured by estimating the area between the 2035 Land Use Plan boundary (per local comprehensive plans) and the alternatives. The total area of agricultural land outside of planning boundaries was smaller for Alternative 126 compared to Alternative 127. The difference occurs north of GE Road. The planning boundary was constrained in this area by the difficulty to provide infrastructure improvements, such as sewer and water, due to watershed separation. It is reasonable to conclude that this area may not experience development at the same pace as areas that are within the 2035 Land Use Plan.</p>
New Pavement Required (acres)	232	239	
New Right-of-Way Required (acres)	890	905	
Farmland Between Alternative and 2035 Land Use Plan (acres)	2,388	3,117	
Farm Tracts Between Alternative and 2035 Land Use Plan (number)	103	115	
Highly Erodible Soils (acres)	26.9	28.8	

The resource descriptions, sources of data, and methodology of impact assessment is listed on the following page.

Resource Descriptions

Wetlands

The U.S. Army Corps of Engineers (USACE) (Federal Register 1982) and the U.S. Environmental Protection Agency (Federal Register 1980) jointly define wetlands as: "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions". Wetlands include forested areas, wet meadows, and a variety of habitats exhibiting the hydrology, soils, and vegetation required by the USACE.

Executive Order 11990 (Protection of Wetlands) requires federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of wetlands, and avoid direct and indirect impacts whenever there is a practicable alternative. Avoidance of wetlands was of first importance in evaluating alternatives. All known high quality wetlands were specifically avoided, and minimizing wetland impacts was an important criterion in evaluating alternatives. In characterizing impacts to wetlands, any wetland area within the footprint was measured.

Special Waste

Recognized Environmental Conditions (RECs) are defined by ASTM as sites where the presence or likely presence of any hazardous substance or petroleum product on a property under conditions that indicate an existing release, a past release, or material threat of any hazardous substance or petroleum product into structures on the property or the ground, ground water, or surface water of the property. RECs include sites that have reportedly accepted and stored hazardous substances or that have a record of accidental spills or dumping as well as a variety of activities associated with managing and storing wastes. The Illinois State Geological Survey (ISGS) completed a database search of special waste sites in the study area. In characterizing impacts to special waste, any special waste site that lies within the alternative footprint is counted as one impact.

Residences

Homes were identified within the alternative limits based on information from ESRI (Environmental System Research Institute, Inc.) data, Google Maps, and public feedback. Buildings were located by the project team using aerial photography and verified with field visits. The buildings identified as residences were compared to business and public facility buildings in order to remove duplicates.

A residence was considered impacted if any part of the building structure is located within the alternative limits. Only the residential structure was counted as being impacted; freestanding garages or other structures on the respective property were not counted as impacts. Residential buildings under construction were counted. Farmsteads were included in the count of residential buildings.

Businesses

Commercial buildings were identified within the alternative limits based on information from ESRI (Environmental System Research Institute, Inc.) data, Google Maps, and public feedback. Buildings were located by the project team using aerial photography and verified with field visits. The buildings identified as businesses were compared to residences and public facility buildings in order to remove duplicates.

Businesses (cont.)

A commercial property was impacted if any part of the building structure is located within the alternative limits. Commercial impacts were computed as each commercial building impacted. Several commercial properties incorporated multiple buildings. Each building was counted as a separate commercial building.

Utility Infrastructure

Utilities evaluated include antenna structures, radio/microwave towers, and electrical facilities (substation). Utilities were identified from database searches and aerial photography and were verified during field visits. Antenna structures and radio/microwave tower information were identified from the Federal Communications Commission (FCC) database (<http://wireless.fcc.gov/antenna/>). In identifying impacts to utilities, if any portion of the utility infrastructure is located within an alternative, it is counted as one impact.

Noise Receptors

IDOT defines a sensitive receptor as a land use where frequent outdoor human activity occurs and where a low traffic noise level would be of benefit. Sensitive receptors include homes, schools, hospitals, nursing homes, and parks. Most noise impacts occur within 500 feet of the edge of the roadway. Each sensitive noise receptor within 500 feet of the alternative was considered a potential impact. Traffic noise modeling, impacts determinations, and abatement analysis will be completed for the selected Preferred Alternative.

Agricultural Criteria

Prime and Important Farmland

The Code of Federal Regulations (CFR) Title 7, Volume 6, Section 657.5(a) defines prime farmland as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is also available for these uses. Prime farmland does not have to be cleared; however, it cannot be urbanized, paved, or permanently under water.

The digital format Natural Resource Conservation Service (NRCS) soil maps were used to measure potential prime and important farmland impacts. The digital soil maps identify each soil type designated as prime and important farmland. In characterizing impacts to prime and important farmland, any soil type designated as prime and important farmland within the alternative footprint was measured and rounded to one acre. Developed areas, including existing roadway under pavement, are not considered prime and important farmland and were subtracted from the total acreage.

Farm Residences

Land on a farm parcel used for residential purposes. Farmsteads were located by the project team using aerial photography and verified with field visits. In characterizing impacts to farm residences, if any portion of the alternative crosses a farm residence it is counted as one impact per residence.

Farm Outbuildings

Farm outbuildings refer to structures separated from the farmstead and include barns, stables, sheds, and storehouses. Outbuildings were located by the project team using aerial photography and verified with field visits. In characterizing impacts to outbuildings, if any portion of the alternative crosses a farm outbuilding, it is counted as one impact per structure.

Agricultural Criteria (cont.)

Diagonally and Laterally Severed Tracts

Severed farm operations occur when a new roadway divides a farm either laterally or diagonally, and separates one or more tract from others within a single farm operation. If an alternative takes farm land on the edge or perimeter of a farm tract, this is not a severance. Farm tracts were obtained from the U.S. Department of Agriculture.

In characterizing impacts to farm tracts, if any portion of the alternative severs the parcel and the severance results in less than 25% of a parcel separated from the remainder of the parcel, it is counted as one impact. A severance was determined if an alternative bisected a tract and resulted in two unconnected tracts. A severance was also determined if greater than 1/3 of the tract was taken by an alternative.

Severance Management Zones

Severance management zones are those areas within or adjacent to severed parcels used to measure the disruption to normal farming operations. Triangular shaped farmland remnants are the basis of many of the problems caused by diagonal land severance and right-of-way takings that are not square with the farmed acreage. In characterizing impacts to farm severance management zones, if any portion of the alternative footprint resulted in farmland not square with the farmed acreage it is calculated as the additional area (acre) per parcel to square the farmed land.

Adverse Travel

Adverse travel occurs when a new roadway causes additional travel distance from one part of a farm operation to another part. Added travel is typically caused by severance of a farm operation by a new roadway or by a road closure, and is calculated as the one-way mileage per field visit. Adverse travel equals the old trip distance minus the new trip distance times two. This represents one round trip per year.

Tracts with Access Change

An entrance or frontage road used to access a farm tract contained within an alternative was counted as an impact. An access change was determined if an alternative left a tract landlocked. Without considering the current owners/operators or access for current landlocked tracts, if the alternative resulted in a landlocked tract, it was counted as an access change. Severances with two unconnected tracts, of which one was landlocked, were also counted as an access change.

Farms Otherwise Affected

Farms otherwise affected are tracts that are either completely taken by an alternative or less than 1/3 of a tract was taken by an alternative but the tract is not severed. Farms otherwise affected also included severed tracts where the resulting farmable area was less than five acres.

Uneconomical Remnants

Uneconomical remnants are severed portions or landlocked portions of a property where the owner is left with an interest after the partial acquisition of the owner's property, and the acreages may have little or no value or utility to the owner. Each uneconomical remnant, less than five acres in area, was counted as one impact.

Landlocked Parcels

A land-locked parcel is created by the taking of right-of-way for road construction in such a way that remaining land is not accessible by a public road or permanent easement after construction. Land-locked parcels were determined by overlaying parcel boundaries on the alternative footprint. A resulting parcel not accessible by a public road is counted as one impact.

Sustainability Criteria

New Pavement

The area of new pavement required to construct each alternative was calculated. The area of pavement included the pavement required for the mainline roadway, collector distributor roadways, interchange ramps, and east-west road improvements. The total area of new pavement required was calculated to determine the amount of new impervious area that will be constructed for each alternative. This was determined by subtracting out the area of existing roadway pavement from the area of total pavement. As the amount of impervious area increases, storm water quality may decrease, and the quantity may increase, which can have a negative effect on surrounding ecosystems.

New Right-of-Way (ROW)

The utilization of existing roadway within an alternative was evaluated. The existing roadway could not be used as-is, but rebuilding a potential improvement in the same location as the existing roadway has benefits regarding ROW needs, potential simplification of construction staging, economic benefits to the furnishing of materials during construction, and positive public perception. For sections that run parallel to existing road, the amount of existing ROW was subtracted from total ROW acquisition. Acreage of ROW along existing roadways was assumed to be 66 feet for local roads and 200 feet for interstate freeways.

Farmland Preservation

The Farmland Preservation criterion was divided into two sub criteria that measured sustainability as it relates to farmland preservation. The first measured the area of farmland consumed outside of the 2035 land use plan (as shown in the *Regional Plan*), and the second measured the number of farm tracts, located between the 2035 land use plan and each alternative.

Farmland between Alternative and 2035 Land Use Plan

The 2035 land use plan for the project area shows increasing amounts of urbanized land in areas currently used for agriculture. Because of this, portions of the alternative areas that are currently in agricultural use are planned to be taken out of agricultural production as development occurs. The area of each alternative was evaluated to determine the amount of farmland remaining (current agricultural tracts as measured by Common Land Units, obtained from the State of Illinois) between the alternative and the 2035 urban/developed land. Larger impact numbers for this resource illustrate higher potential farmland impacts as a result of private development, and greater potential for leapfrog development.

Farm Tracts between Alternative and 2035 Land Use Plan

A secondary measure of farmland conversion outside of the 2035 land use plan, the number of farm tracts located between the boundary of urban uses in the 2035 land use plan and each alternative was measured. This measure uses the theory that alternatives located further from the edge of urban use may increase the likelihood of leapfrog development, unplanned growth, and urban sprawl into areas currently planned to remain farmland.

Highly Erodible Soils

Highly erodible soil types are defined by the Natural Resources Conservation Service (NRCS) US Department of Agriculture, and are soils with a maximum potential for erosion greater than average erosion rates. The digital format NRCS soil maps were used to identify highly erodible soils. In characterizing impacts to highly erodible soil, any soil type designated as highly erodible within the footprint was measured.

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General Comments:
