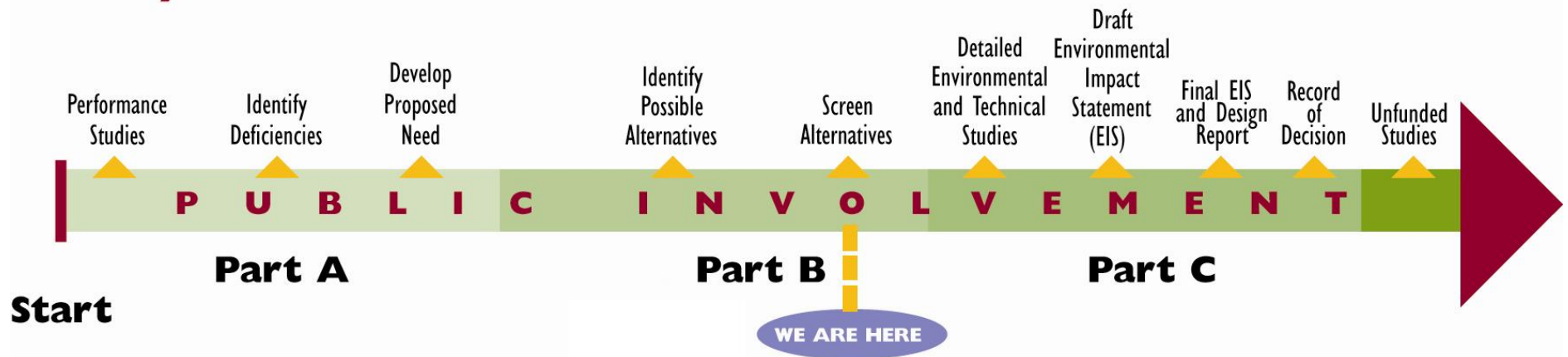




Prairie Parkway Preliminary Engineering Study Update

Study Timeline



IDOT is seeking public opinions before screening alternatives

April 28, 2005



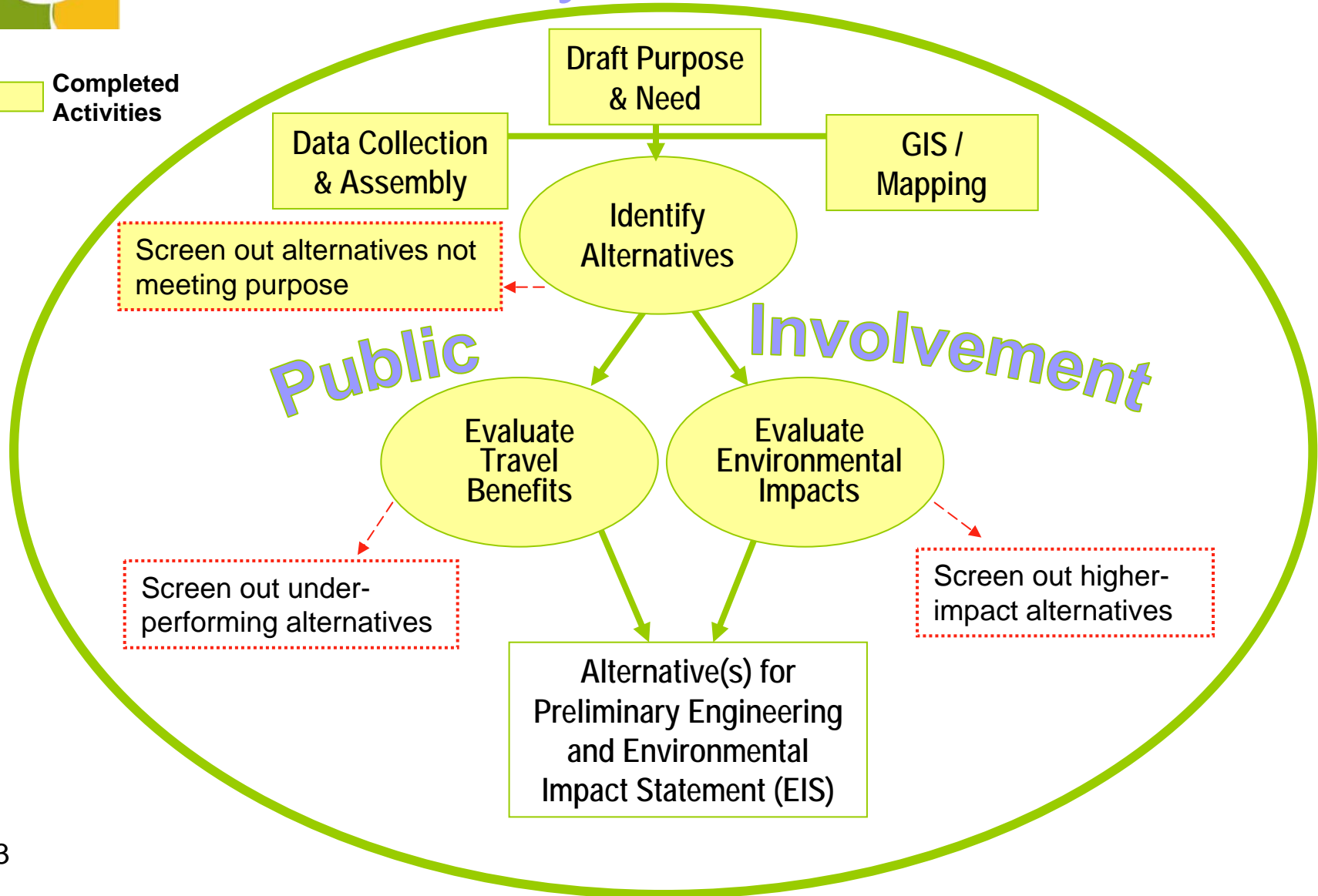
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Part B Study Process

Completed Activities





Purpose and Need

- Purpose: Identify an improvement(s) that will enhance north-south mobility between I-80 and I-88 and that will address the project need.
- Needs:
 - Improve regional mobility;
 - Address local system deficiencies;
 - Improve access from study area to regional jobs;
 - Improve safety.
- All alternatives are analyzed to determine how well they address needs as identified in the purpose and need statement.



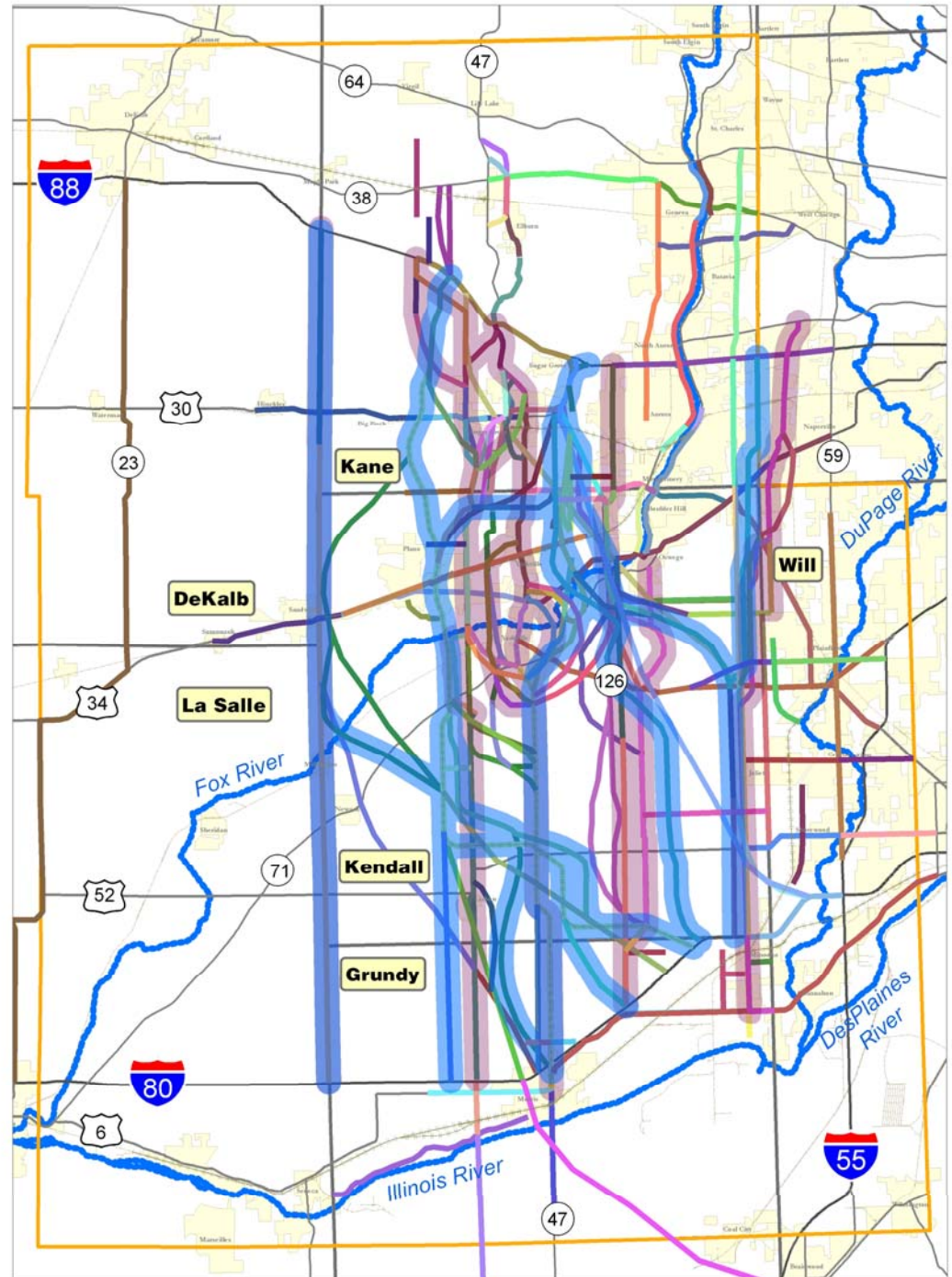
Identification of Alternatives

- Identified deficiencies in Part A Transportation System Performance (TSP) report.
- Continued extensive public outreach to apply IDOT principles of Context Sensitive Solutions policy.
- Received public corroboration of need.
- Workshops and stakeholder meetings generated 150+ improvement suggestions.
- Local and regional suggestions combined into regional transportation improvement concepts from I-80 to I-88.
- Alternatives included arterial road widenings, new freeway/expressway facilities, public transit service, and traffic management strategies, such as traffic signal coordination and car pooling.



Wide Range of Coverage

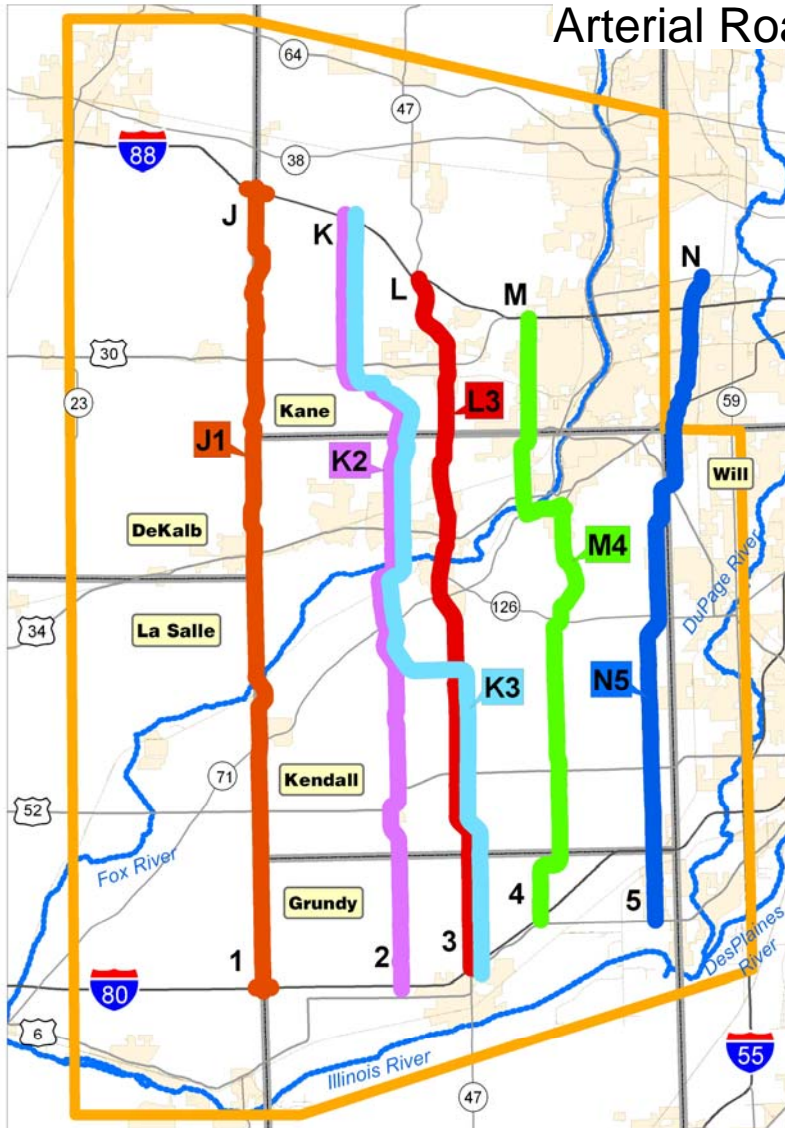
- Regional road improvement alternatives developed and evaluated over a wide area, including nearly all improvement suggestions.
- Light blue = new freeway/expressway alternatives.
- Light purple = arterial widening alternatives.



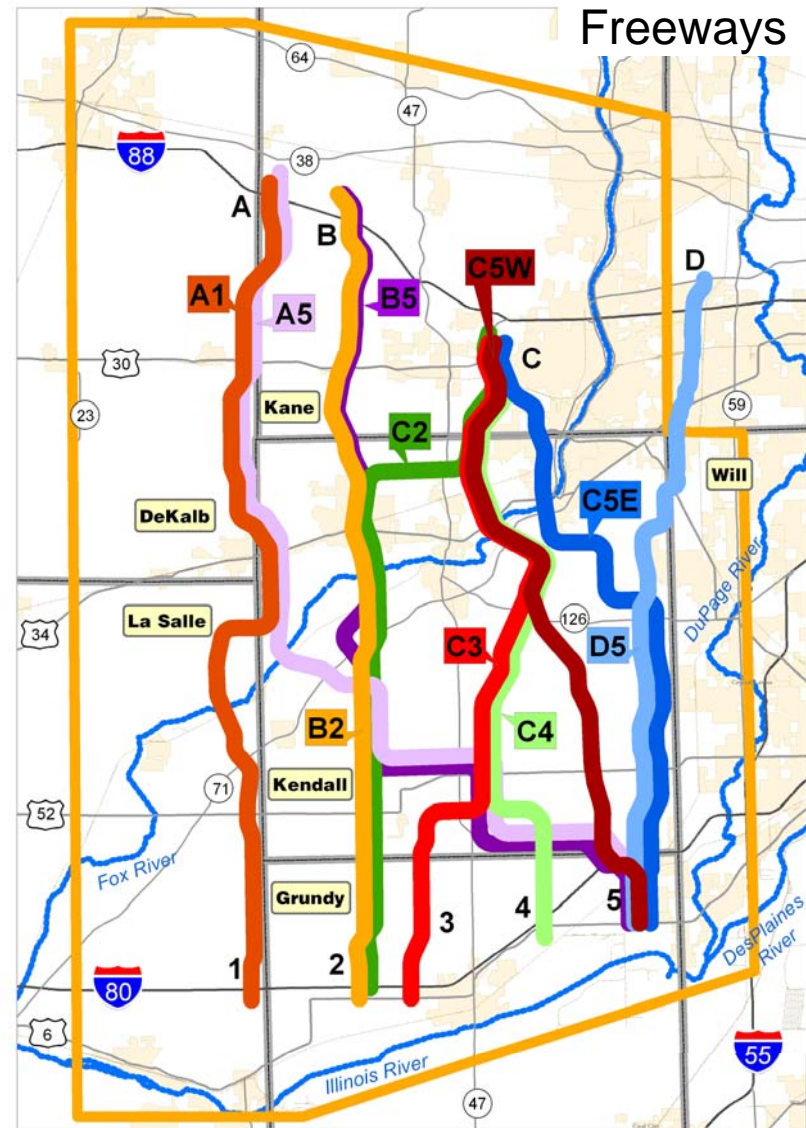


Arterial Road and Freeway Alternatives

Arterial Roads



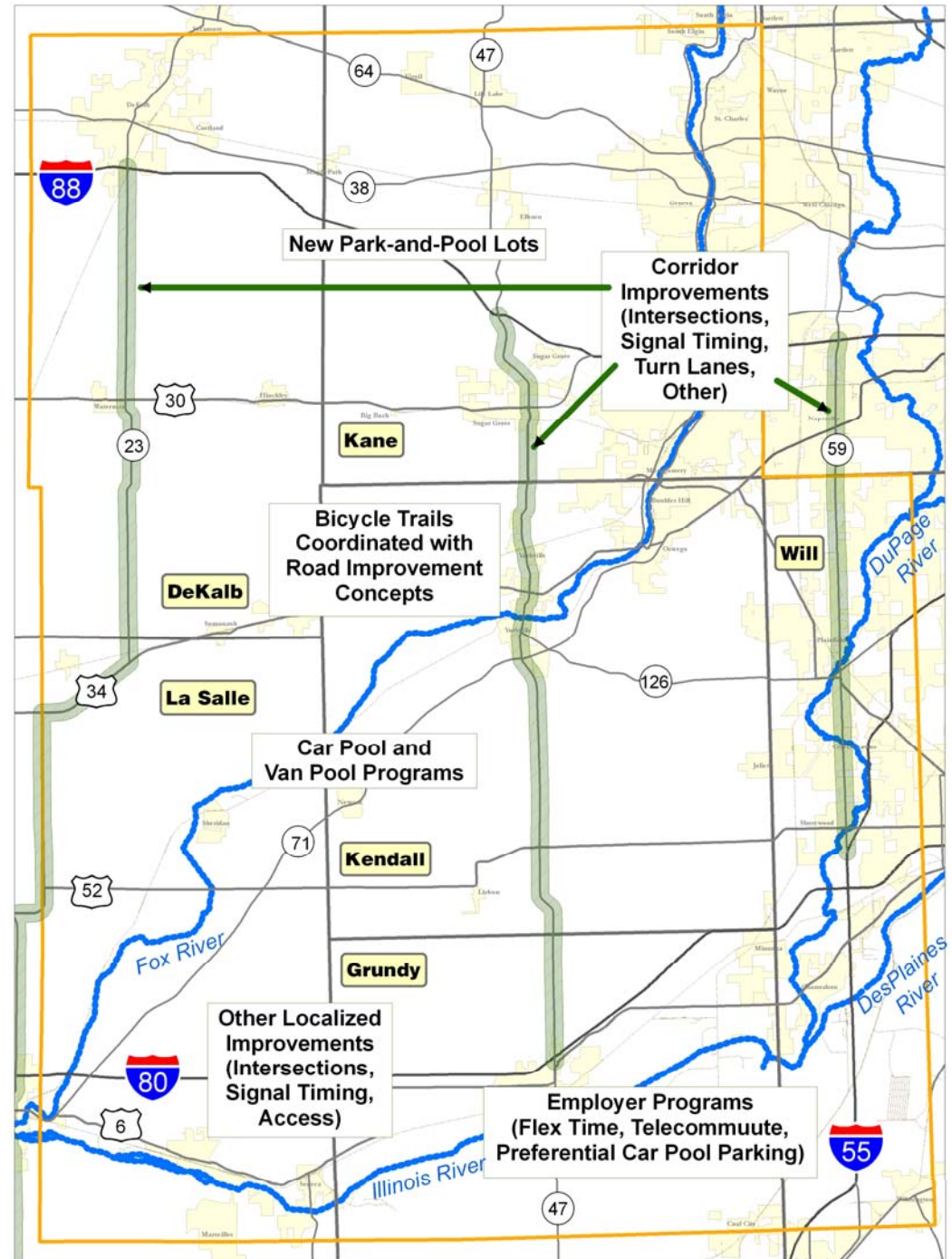
Freeways





Traffic Management Alternatives

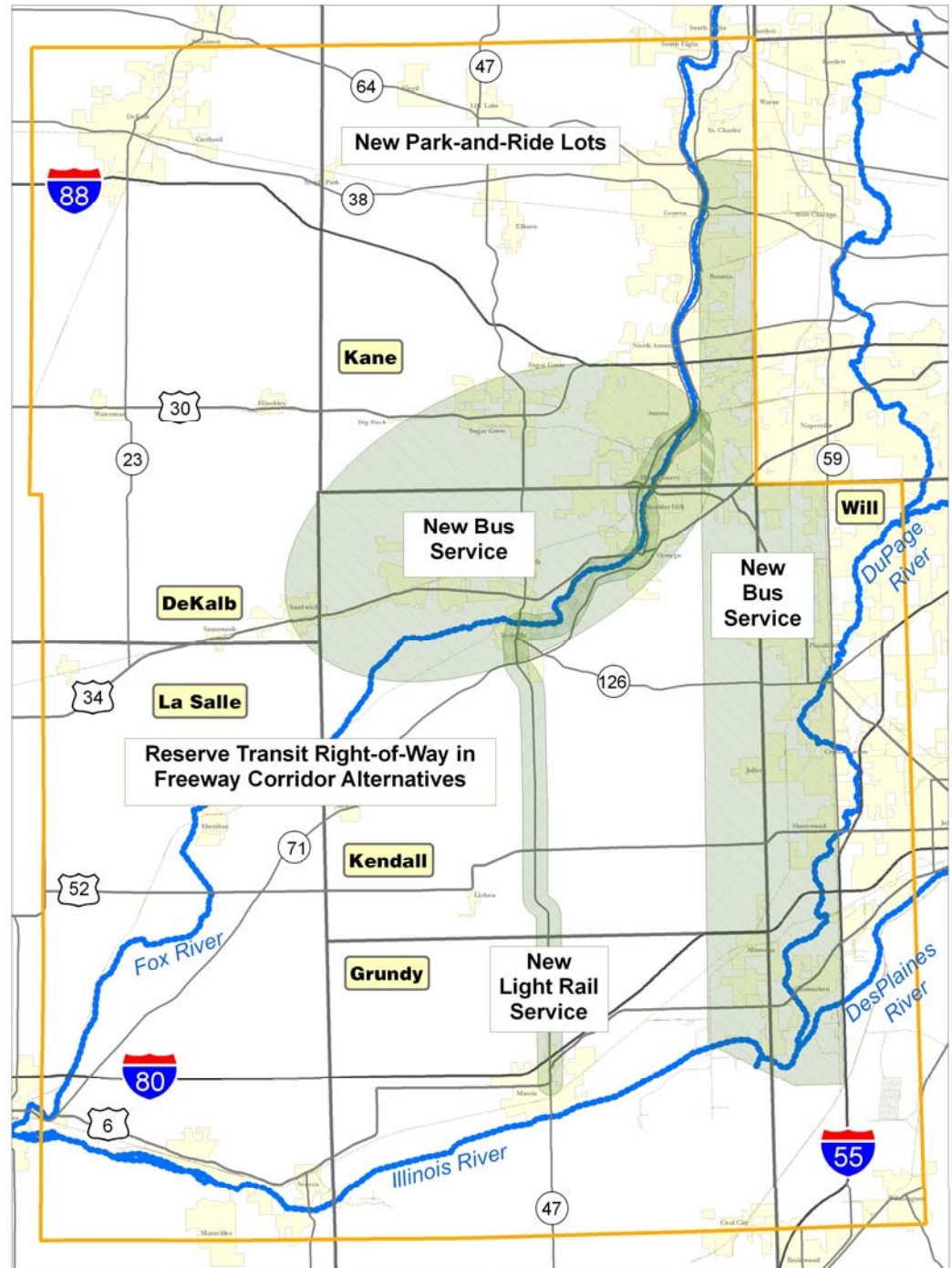
- Strategies include car- and van-pool programs, park-and-pool lots, employer programs, bicycle trails, and intersection, signal, turning and access improvements.





Public Transit Alternatives

- Includes new fixed route bus, feeder bus, park-and-ride lots and light rail service.
- Reserved transit right-of-way in freeway corridors.





Part B Screening Approach

- Define travel benefits for each alternative.
- Measure benefits to purpose and need for improvements.
- Identify environmental and engineering issues.
- Layout potential corridor footprints.
- Assess environmental impacts.

– WE ARE HERE

- Screen out less feasible alternatives; develop recommendation of alternatives for further study in the environmental impact statement (EIS) process.
- Recommended alternatives optimize travel benefits with manageable impact to the natural and built environment.



Travel Benefit Evaluation

- Evaluation conducted to measure travel benefits of preliminary alternatives in meeting purpose and need.
- Used expanded and detailed Chicago Area Transportation Study (CATS) traffic model to forecast future traffic.
- 2030 baseline road network used as basis for comparison of changes caused by various alternatives.
- 2030 baseline network included existing road network and other planned projects such as widening IL 47 through Yorkville and proposed Eldmain Fox River Bridge.
- 2030 baseline network is the no-action alternative.



Travel Benefit Evaluation Ratings: Stand-Alone Alternatives

Rating Scale: 10 = best improvement, 1 = least improvement Indicates top 2 ratings (best improvement)

		TRAFFIC MANAGEMENT + TRANSIT ALTERNATIVES		ARTERIAL ALTERNATIVES					FREEWAY ALTERNATIVES				
		Tfc Mgt	+ Transit	West County Line	Dauberman/ Eldmain/ Saratoga	IL 47	Orchard/ Grove/ Brisbin	Wikaduke	West County Line	Recorded Corridor	Recorded South	Powerline - IL56/ W Yorkville Bypass	East Corridor
				J1	K2	L3	M4	N5	A1	B5	B2	C2	C5W
REGIONAL MOBILITY					K3	K3				A5			C3, C4, C5E
Additional Capacity (Lane Miles)													
Arterials	0	0	0	93	98	75	63	47	--	--	--	--	--
Freeways	0	0	0	--	--	--	--	--	145	142	128	128	93
Regional Travel (Change)													
Miles of Travel	3	2	2	3	3	1	1	1	10	7	8	8	7
Hours of Travel	3	3	2	3	3	2	2	1	7	6	5	4	7
Type of Travel													
Local													
Regional													
ADDRESS LOCAL SYSTEM DEFICIENCIES													
Study Area Travel (Non-US/State Roads)													
Miles of Travel	1	1	1	7	7	3	4	5	7	4	6	5	4
Hours of Travel	1	2	2	3	5	4	4	1	7	3	3	1	4
ACCESS TO REGIONAL JOBS													
Transportation Improvements Only													
<=30 minutes	1	2	2	4	3	5	2	3	5	7	5	6	7
<=40 minutes	1	1	1	2	2	3	2	3	4	6	5	5	7
<=60 minutes	1	1	1	3	3	3	2	3	4	6	5	5	6
<=90 minutes	1	2	1	2	3	2	3	4	4	6	5	6	6
SAFETY													
Crashes													
Regional	3	2	2	3	3	1	1	1	10	7	9	8	7



Travel Benefit Evaluation: Stand-Alone Alternatives

- Regional mobility:
 - Stand-alone arterial road alternatives worsen overall traffic conditions, with projected increase in system-wide vehicle miles of travel (VMT) and vehicle hours of travel (VHT). Forecasted traffic near or exceeding capacity. Travel about 65% to 75% local within the study area.
 - Stand-alone freeways improve overall traffic conditions, with projected reduction in system-wide VMT and VHT. Forecasted 30,000 to 60,000 vehicles per day on freeways; 65% to 75% regional travel, meaning at least one end of the trip falls outside the study area.
 - Regional trips, including commercial vehicles, show greater benefit with freeways than arterials.
- Local system deficiencies: Stand-alone arterial road and freeway alternatives resulted in similar levels of improvement in study area VMT and VHT.
- Job accessibility: Stand-alone freeway alternatives improve job accessibility better than stand-alone arterials. The west county line (A1) alternative has the lowest regional job accessibility benefits of the freeway alternatives.
- Safety: Study area freeway alternatives are projected to have largest declines in expected 2030 crashes. Transit and traffic management alternatives were examined but had minor effects.



Travel Benefit Evaluation: Stand-Alone Alternatives

- Limited Fox River bridge crossings inhibits mobility; new freeway alternatives more likely to add new crossings and greater capacity than arterial alternatives.
- Projected demand for straight south regional travel and to east at the southern portion of the study area.
- Combinations of the alternatives were evaluated. All combinations assumed that IL 47 (L3) and WiKaDuKe (N5) would be widened by 2030 and included adding one of the following:
 - Arterial road widenings: Dauberman/Eldamain/Saratoga (K2), Orchard/Grove/Brisbin (M4).
 - New freeways: Recorded corridor (B5), east corridor (C5W), recorded corridor straight south (B2).



Travel Benefit Evaluation Ratings: Combinations

Rating Scale: 10 = best improvement, 1 = least improvement

Indicates top 2 ratings (best improvement)

		ARTERIAL ROAD COMBINATIONS						ARTERIAL ROAD / FREEWAY COMBINATIONS										
		IL 47+Wikaduke		IL 47+Wikaduke +Dauberman/ Eldamain/ Saratoga		IL 47+Wikaduke +Orchard/Grove/ Brisbin		IL 47+Wikaduke +Recorded Corridor			IL 47+Wikaduke+East Corridor			IL 47+Wikaduke +Recorded South				
Base 2030		L3	N5	L3	N5	K2	L3	N5	M4	L3	N5	B5	L3	N5	C5W	L3	N5	B2
REGIONAL MOBILITY																		
Additional Capacity (Lane Miles) (1)																		
Arterials	0	105		172			168			105			105			105		
Freeways	0	0		0			0			142			92			128		
TOTAL	0	105		172			168			247			197			233		
Regional Travel																		
Miles of Travel	3	1		2			1			7			10			8		
Hours of Travel	3	4		5			4			10			10			7		
ADDRESS LOCAL SYSTEM DEFICIENCIES																		
Study Area Travel (Non-US/State Road)																		
Miles of Travel	1	7		9			10			10			10			10		
Hours of Travel	1	6		9			7			10			8			7		
ACCESS TO REGIONAL JOB																		
Transportation Improvements Only																		
<=30 minutes	1	5		7			6			10			10			7		
<=40 minutes	1	5		5			6			9			10			7		
<=60 minutes	1	5		7			6			10			10			8		
<=90 minutes	1	5		7			7			10			10			9		
SAFETY																		
Crashes																		
Regional	3	1		2			2			8			10			9		

(1) Additional Capacity variations account for road closings, intersection/interchange upgrade and change in functional classification
Type of Travel not calculated; reference stand alone alternatives



Travel Benefit Evaluation: Combinations

- Regional mobility:
 - Arterial road combinations projected to worsen travel conditions, increasing system-wide VMT, with slight increase in VHT over the no-action alternative. Arterial road combinations still primarily serve local traffic.
 - Freeway/arterial combinations produced largest improvement in travel conditions, with declines in system-wide VMT and VHT. Freeways still primarily serve regional travel with the arterials serving primarily local travel.
- Local system deficiencies: Arterial road and freeway/arterial combinations resulted in similar levels of improvement in study area VMT and VHT, but significantly better than stand-alone arterial road alternatives.
- Job accessibility: Freeway/arterial combinations show best job accessibility of all alternatives.
- Safety: Freeway/arterial combinations are projected to have the largest declines in 2030 crashes.
- Arterial road only combinations do not perform as well as stand-alone freeway alternatives.
- Freeway / arterial combinations perform best and improve regional mobility, provide better access to regional jobs and better regional safety.

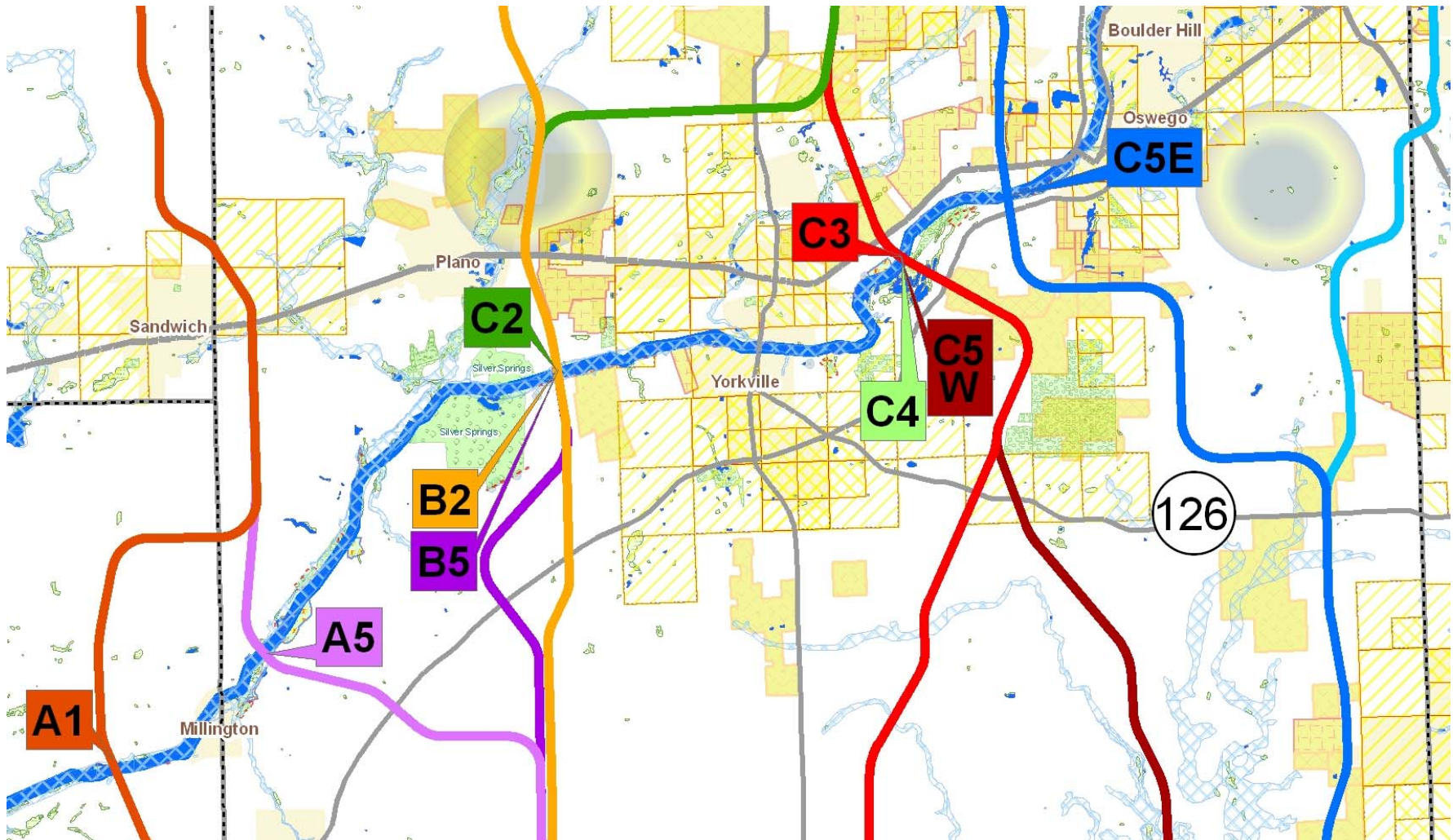


Environmental Impact Evaluation

- Identified environmental constraints. Critical environmental issues include Fox River, agricultural sites, developments/displacements, threatened and endangered species (T&E), parks, and natural areas.
- Started with locations from initial alternatives.
- Performed iterative conceptual layout process to reduce impacts.
- Compared environmental impacts of alternatives.
- Focused on Fox River crossing evaluation because of environmental sensitivity.
- Arterial road alternatives evaluated but not presented because the alternatives follow existing routes, and greater impacts are identified on new freeway corridors.



Fox River Crossings



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Map includes water features, development, parks and other natural environment features, and threatened and endangered species sites.



Environmental Impact Evaluation Ratings: Potential Fox River Crossing Locations

Rating Scale: 10 = least impacts, 1 = most impacts Indicates bottom 2 ratings (worst impacts)

Fox River Crossings, Freeway Alternatives	A1	A5	B5	C4	C5E
	W. Millington	E. Millington	W. Yorkville	E. Yorkville	Orchard/Grove
Footprint Length = 8000'					
			B2, C2	C3, C5W	
NWI Wetlands	6	1	10	1	1
Floodplains (FEMA)	8	7	7	10	1
Streams - CLASS A & B	10	10	1	10	10
Water Bodies	10	10	7	7	1
Parks / Nature Preserves / Natural Areas					
Open Space, Conservation Areas, Forest Preserves, Parks	10	10	10	1	10
Natural Areas (IDOT)	6	10	10	6	1
Special Use					
CERCLIS	10	10	10	1	1
Landfills	10	1	10	10	10
Quarries	10	10	10	10	1
Affected Buildings/Property (Estimated)					
Houses	10	10	9	7	1
Farmstead Areas	3	1	6	10	3
Centennial Farms	10	10	10	1	10
Developments					
Open/Under Construction	10	10	10	10	1
Planned/Proposed/Concept	10	10	10	1	10
Compatibility With Land Use Plans	Medium	Medium	High	Low	Low
Cost (Length of Bridge)	Low	Low	Low	High	Medium
Number of categories above that the corridor has the greatest impact	0	3	1	7	9





Environmental Impact Evaluation: Potential Fox River Crossing Locations

- Wetlands and Floodplains: Crossings east of Yorkville (C3, C4, C5W and C5E) have greatest impacts.
- Streams and Water Bodies: The east Yorkville crossing (C3, C4, C5W) has the greatest impact. The west Yorkville crossing (B2, B5, C2) crosses a Class B stream.
- Parks and Natural Areas/Preserves: Crossings east of Yorkville (C3, C4, C5W and C5E) have greatest impacts.
- Affected Buildings: The Orchard Rd crossing (C5E) has the greatest impacts on houses; the east Yorkville crossing (C3, C4, C5W) affects the most centennial farms; the east Millington (A5) crossing has the most farmstead impacts.
- Development and Land Use Compatibility: Crossings east of Yorkville (C3, C4, C5W and C5E) have greatest impacts on developments and worst land use compatibility.
- Cost: Crossings east of Yorkville (C3, C4, C5W and C5E) are higher cost.



Environmental Impact Evaluation: Potential Fox River Crossing Locations

Bottom line:

- Fox River crossings east of Yorkville (C3, C4, C5W and C5E) have greatest overall impacts, including open space, natural areas, wetlands and floodplains, and development impacts.
- Fox River crossing (B2, B5 and C2) has best overall compatibility with the natural and built environment.



Environmental Impact Evaluation Ratings: Full Corridor Freeway Alternatives

Rating Scale: 10 = least impacts, 1 = most impacts

Indicates bottom 2 ratings (worst impacts)

Entire Footprint, Freeway Alternatives	A1	A5	B2	C2	B5	C5W	C4	C3	C5E	D5
Fox River Crossing Location	W. Millington	E. Millington	W. Yorkville			E. Yorkville			Orchard/Grove	None
Length (miles)	38	46	36	33	43	28	29	32	31	29
NWI Wetlands	7	7	9	3	8	1	1	1	8	10
Floodplains	4	2	4	6	2	2	4	2	1	10
Streams - Class A & B	10	10	7	7	7	10	10	9	10	10
Parks / Nature Preserves / Natural Areas	10	10	10	9	10	6	6	6	1	10
Threatened & Endangered (IDOT)	10	10	6	1	6	3	3	3	3	6
Affected Buildings/Property (Estimated)										
Houses	10	10	10	10	10	9	9	9	7	1
Farmstead Areas	7	5	3	6	4	7	10	4	5	1
Developments										
<u>Specific - Known boundaries</u>										
Open/Under Construction	10	10	10	2	10	2	2	2	1	8
Planned/Proposed/Concept	10	10	10	5	10	1	1	1	3	5
<u>Proximity - By Section #</u>										
Open/Under Construction	10	9	10	5	10	5	6	6	1	8
Planned/Proposed/Concept	10	9	9	1	8	1	2	1	2	8
Compatilby with Land Use										
	5	5	8	6	8	3	3	3	3	3
Cost										
	2	1	2	3	1	4	3	2	4	6
Number of categories above that the corridor has the greatest impact										
	2	3	3	6	3	9	7	10	9	3





Environmental Impact Evaluation: Full Corridor Freeway Alternatives

- Wetlands and Floodplains: Alternatives east of Yorkville (C3, C4, C5W) have the worst wetlands impacts. Many alternatives have some floodplain impacts.
- Streams and Water: The west Yorkville alternatives (B2, B5, C2) have the greatest impact on streams. The east Yorkville alternatives (C3, C4, C5W) have the greatest impact on water bodies.
- Threatened and Endangered Species: The alternatives east of Yorkville (C3, C4, C5W and C5E) and C2 have the greatest potential impacts.
- Parks and Natural Areas: Alternatives east of Yorkville (C3, C4, C5W and C5E) have the greatest impact on open space.
- Affected Buildings: WiKaDuKe (D5) and the Orchard Rd (C5E) alternatives have the greatest impacts on houses and buildings; Alternatives B2 and D5 have the most farmstead impacts.
- Development: Alternatives east of Yorkville (C3, C4, C5W and C5E) and C2 have the greatest potential impacts on new development.
- Land Use Plan Compatibility: The west Yorkville crossing alternatives (B2 and B5) have the greatest compatibility with land use plans.
- Cost: The east Millington (A5) and B5 alternatives are projected to have the highest construction cost.



Environmental Impact Evaluation: Freeway Alternatives

Bottom line:

- WiKaDuKe (D5) has a very high magnitude of displacements.
- The east Yorkville (C3, C4 and C5W) and Orchard/Grove (C5E) alternatives have a high level of natural and built environmental impacts, due to the Fox River, wetland, development, and land use plan compatibility ratings.
- C2 has high rating of threatened and endangered species and development impacts.
- The western alternatives (A1 and A5) are less desirable than the west Yorkville alternatives for land use plan compatibility.



Next Steps

- Present travel benefit and environmental impact findings during public information meetings in May.
- Listen and incorporate public comments to form recommendation of alternative(s) to study further.
- Conduct additional outreach meetings in mid-summer to present recommended alternatives for further detailed engineering and the environmental impact statement (EIS) analysis.