



Illinois Department of Transportation

# Eastern Bypass Study

## **Summary of Current Corridor Alternatives**

**January 4, 2012**

# INITIAL CORRIDORS FOR ANALYSIS

(grouped by corridor "families")



P-1



P-2



P-3



P-4

**Pleasant Hill Road Family**



T-5



T-6



T-7

**Tennessee Avenue Family**



M-8



M-9



M-10

**Main Street Family**



D-11



D-12



D-13



D-14

**Dee-Mack Road Family**

# Corridor Screening Matrix

## Benefits and Impacts

*The information presented in this table corresponds to 500-foot wide "representative bands" that were drawn in each corridor. The information does not apply to the full corridor areas. Selected statistics and metrics from this screening matrix are included with each "keep" corridor, presented on the following pages.*

B E N E F I T S	Keep		Keep		Keep		Keep		Keep		Keep		UNITS OF MEASURE		
	P-1	P-2	P-3	P-4	T-5	T-6	T-7	M-8	M-9	M-10	D-11	D-12		D-13	D-14
Support LU Plans	0.0	2.0	5.0	-1.0	0.0	3.0	2.0	0.0	1.0	5.0	-1.0	-2.0	1.0	2.0	See: "Units of Measurement for Benefits," below*
Improved Multi-Modal (Bikes)	36	53	31	89	27	44	68	16	11	27	11	12	15	53	
Support EDC Plans	4	3	2	5	3	1	4	2	2	1	4	3	1	3	
Improved Multi-Modal (Hubs)	0.5	0.4	0.5	0.4	0.2	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	
Improved Travel Flow	0.027	0.033	0.020	0.031	0.020	0.022	0.020	0.016	0.015	0.019	0.013	0.013	0.013	0.015	
Imp Local / Regnl Mobility (PV)	2.9	2.8	3.0	3.3	3.2	2.6	3.2	3.2	3.2	3.1	3.2	3.2	2.9	2.9	
I M P A C T S															
	P1	P2	P3	P4	T5	T6	T7	M8	M9	M10	D11	D12	D13	D14	
Wetlands <sup>1</sup>	56	30	27	50	58	33	47	57	54	28	55	53	23	40	Acres
Crop Diagonal Severences <sup>1</sup>	8.9	8.0	10.3	3.8	8.8	7.9	4.4	12.1	10.6	9.7	8.6	8.8	7.3	2.5	Miles
Agricultural <sup>1</sup>	910	800	1370	581	1150	1030	880	1470	1480	1360	1650	1460	1370	1310	Acres
Residential Relocations	97	61	48	91	70	34	52	63	54	18	47	68	23	86	Potential Number Required
Forest	550	530	340	440	390	370	370	250	190	170	220	240	180	270	Acres
Proximity Effects - Institutional <sup>2</sup>	6	11	9	14	3	8	10	7	2	7	1	5	5	11	Developed Parcels
Proximity Effects - Residential	852	902	823	1651	799	849	1027	710	492	542	372	592	423	1069	Developed Parcels
Conservation / Park Land <sup>(1)(3)</sup>	1	4	4	4	0	3	3	1	0	3	0	1	3	5	Acres
100-Year Floodplains <sup>1</sup>	78	78	96	73	65	66	75	89	89	89	76	76	76	85	Acres
Institutional Relocations	2	2	1	7	1	1	3	3	1	1	0	2	0	6	Potential Number Required
Comm / Industrial Relocations	7	9	11	8	8	10	5	3	9	11	3	2	3	5	Potential Number Required
Interchanges	9	8	9	7	9	8	8	9	9	8	10	9	8	12	Potential Number Required
Steep Terrain	6.1	7.1	3.7	3.6	5.6	6.5	4.0	3.4	1.4	2.4	4.2	3.9	3.5	2.6	Miles
Proximity Effects - Comm / Indust <sup>2</sup>	29	39	48	67	42	52	46	38	41	51	24	30	31	48	Developed Parcels
Historic Sites <sup>1</sup>	0	0	0	0	0	0	0	0	0	0	0	0	2	0	Number of Potential Locations
Stream Crossings <sup>1</sup>	7	9	9	7	7	9	12	11	6	8	10	7	5	9	Potential Number Required
Total New R.O.W. (500 ft wide)	1840	1690	1980	1300	1910	1760	1560	1990	1910	1760	2100	1970	1800	1850	Acres
Community Cohesion / Division	0	0	0	1	0	0	0	0	0	0	0	0	0	0	Potential Occurrences
Proximity Effects - Historic Sites <sup>2</sup>	0	0	0	0	0	0	0	0	0	0	0	0	2	0	Developed Parcels

<sup>1</sup> Categories in red are those requiring permits or are otherwise under the jurisdiction of state or federal agencies.

<sup>2</sup> Categories with no color-coding are those where the effect could be either negative or positive.

<sup>3</sup> Excluding the Illinois River

**\* UNITS OF MEASURE for BENEFITS**

SUPPORT LAND USE PLANS: Numerical index (-5 to +5), based on the proportion of each corridor's proximity to planned growth areas (higher is better).

IMPROVED MULTI-MODAL (BICYCLES): Percentage of each corridor that would benefit non-motorized (bicycle) travel.

SUPPORT ECONOMIC DEVELOPMENT COUNCIL PLANS: Ranking, based on the Economic Development Council for Central Illinois Analysis (lower is better)

IMPROVED MULTI-MODAL (HUBS): Reduction in travel time (minutes), on a per vehicle basis, between eleven multi-modal hubs (82 total trips) (no-build = 18.8 minutes)

IMPROVED TRAVEL FLOW: Reduction in congestion as expressed by the sum of changes in the volume-to-capacity ratios on 21 representative roads in the study area.

IMPROVED LOCAL AND REGIONAL MOBILITY (PER VEHICLE): Average time savings (minutes) per vehicle/trip. (Average time per vehicle/trip for no-build = 27.2 minutes)

# **Corridors Recommended for Further Analysis**

**(following spring 2011 CAG meetings and fall 2011 public meeting)**



## INDIVIDUAL CORRIDOR SUMMARY INFORMATION

### CORRIDOR P-2

This corridor is recommended to be **KEPT** for further study.

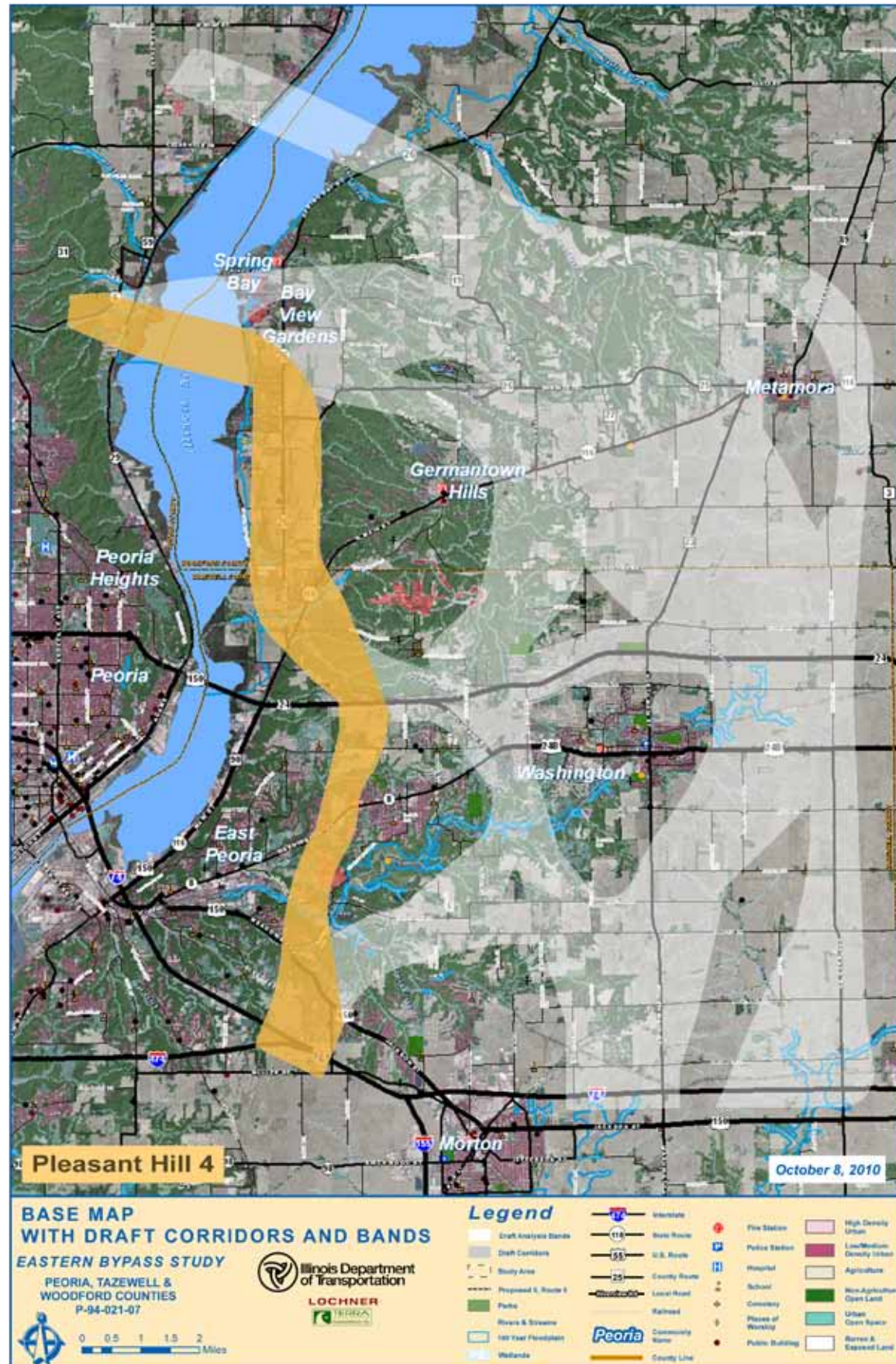
P-2, when compared to the other corridors in the P family, has several advantages:

- Supports land use plans better than corridors P-1 and P-4
- Improves non-motorized (bicycle) travel better than corridors P-1 and P-3
- Fewer wetland impacts than corridors P-1 and P-4
- Fewer agricultural impacts than corridors P-1 and P-3

Corridor P-2 also has the highest improved travel flow out of all fourteen corridors.

BENEFITS	P-1	P-2	P-3	P-4
Improved Travel Flow (higher is better)	0.027	0.033	0.020	0.031
Improved Local/Regional Mobility (higher is better)	2.9	2.8	3.0	3.3
Support Land Use Plans (higher is better)	0.0	2.0	5.0	-1.0
Support Economic Development Plans (lower is better)	4	3	2	5
Improved Multi-Modal (Bikes) (higher is better)	36	53	31	89
Improved Multi-Modal (Hubs) (higher is better)	0.5	0.4	0.5	0.4

IMPACTS	P-1	P-2	P-3	P-4
River Crossing Location	North	South	South	South
River Crossing Traffic Volume (AADT)	18,300	25,100	25,800	32,800
Wetlands (acres)	56	30	27	50
Agricultural Lands (acres)	910	800	1370	581
Residential Relocations (potential number req'd)	97	61	48	91
Forest Lands (acres)	550	530	340	440
Conservation / Park Land (acres)	1	4	4	4
100-Year Floodplain (acres)	78	78	96	73
Total New R.O.W. (500 ft width) (acres)	1840	1690	1980	1300



## INDIVIDUAL CORRIDOR SUMMARY INFORMATION

### CORRIDOR P-4

This corridor is recommended to be **KEPT** for further study.

P-4, when compared to the other corridors in the P family, has the fewest floodplain impacts. As the shortest corridor by length being considered, Corridor P-4 has the following advantages relative to all corridors being considered:

- Least new right-of-way required
- Most improved non-motorized (bicycle) trips
- Highest average time savings per vehicle
- Least agricultural impacts

BENEFITS	P-1	P-2	P-3	P-4
Improved Travel Flow (higher is better)	0.027	0.033	0.020	0.031
Improved Local/Regional Mobility (higher is better)	2.9	2.8	3.0	3.3
Support Land Use Plans (higher is better)	0.0	2.0	5.0	-1.0
Support Economic Development Plans (lower is better)	4	3	2	5
Improved Multi-Modal (Bikes) (higher is better)	36	53	31	89
Improved Multi-Modal (Hubs) (higher is better)	0.5	0.4	0.5	0.4

IMPACTS	P-1	P-2	P-3	P-4
River Crossing Location	North	South	South	South
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Residential Relocations (potential number req'd)	97	61	48	91
Forest Lands (acres)	550	530	340	440
Conservation / Park Land (acres)	1	4	4	4
100-Year Floodplain (acres)	78	78	96	73
Total New R.O.W. (500 ft width) (acres)	1840	1690	1980	1300

**INDIVIDUAL CORRIDOR SUMMARY INFORMATION**

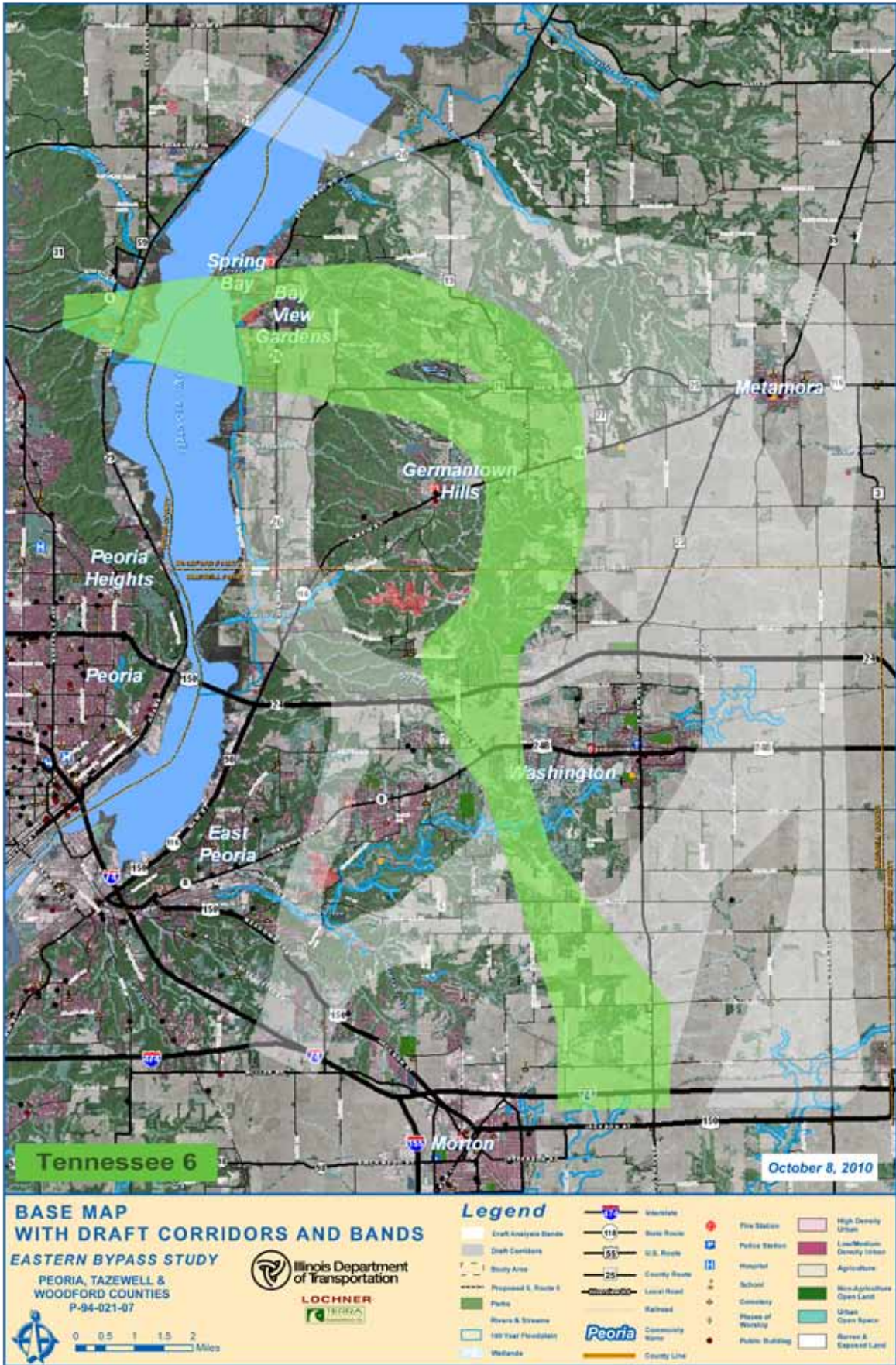
**CORRIDOR T-6**

This corridor is recommended to be **KEPT** for further study.

T-6, when compared to the other corridors in the T family, has several advantages:

- Best support of land use plans
- Best support of economic development plans
- Least wetland impacts
- Fewest residential relocations

Corridor T-6 is similar to corridor T-5, except T-6 uses the more preferable southern crossing of the Illinois River.



BENEFITS	T-5	T-6	T-7
Improved Travel Flow (higher is better)	0.020	0.022	0.020
Improved Local/Regional Mobility (higher is better)	3.2	2.6	3.2
Support Land Use Plans (higher is better)	0.0	3.0	2.0
Support Economic Development Plans (lower is better)	3	1	4
Improved Multi-Modal (Bikes) (higher is better)	27	44	68
Improved Multi-Modal (Hubs) (higher is better)	0.2	0.1	0.3

IMPACTS	T-5	T-6	T-7
River Crossing Location	North	South	South
River Crossing Traffic Volume (AADT)	17,900	26,000	32,800
Wetlands (acres)	58	33	47
Agricultural Lands (acres)	1150	1030	880
Residential Relocations (potential number req'd)	70	34	52
Forest Lands (acres)	390	370	370
Conservation / Park Land (acres)	0	3	3
100-Year Floodplain (acres)	65	66	75
Total New R.O.W. (500 ft width) (acres)	1910	1760	1560

## INDIVIDUAL CORRIDOR SUMMARY INFORMATION

# CORRIDOR T-7

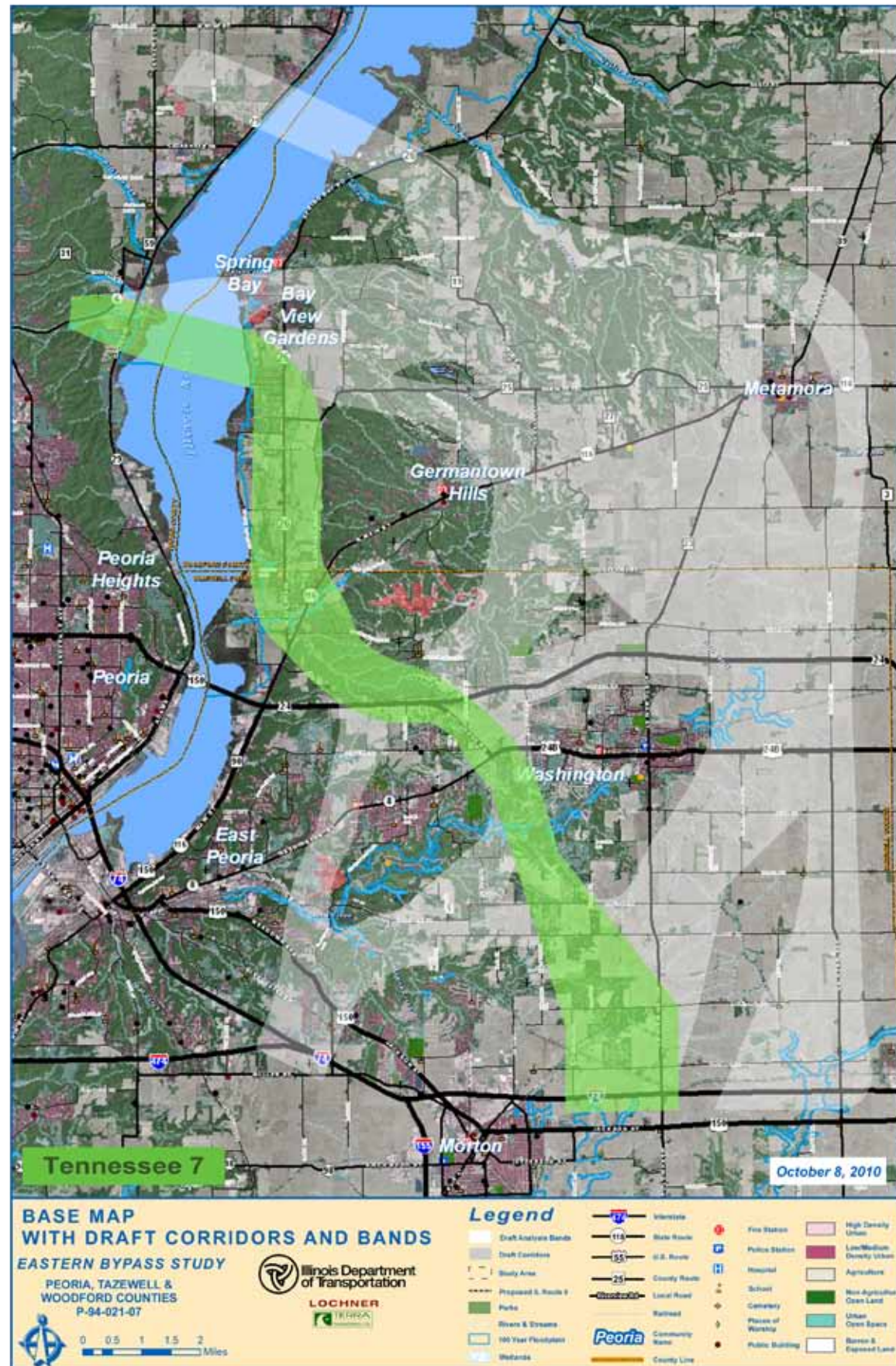
This corridor is recommended to be **KEPT** for further study.

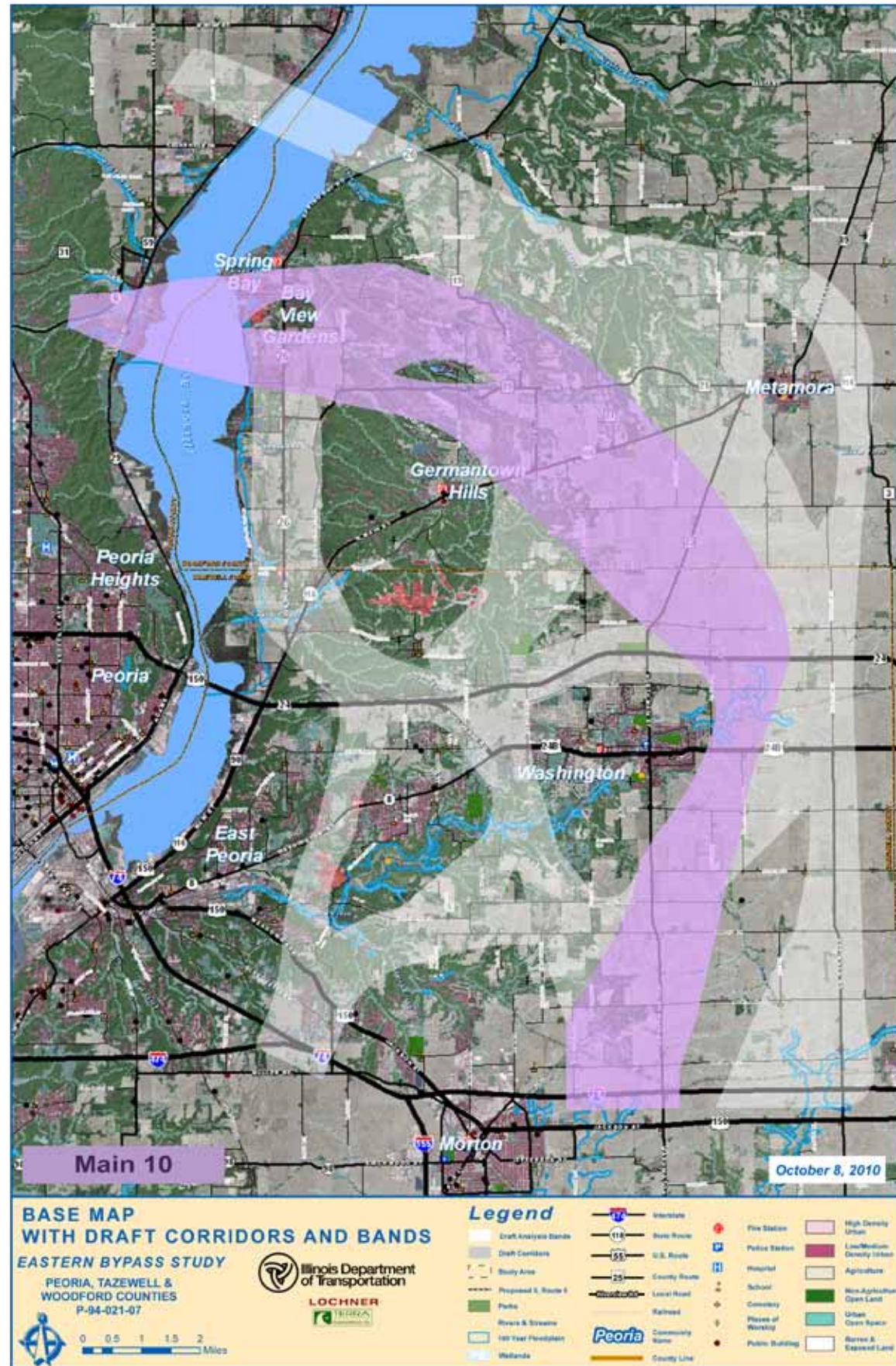
T-7, when compared to the other corridors in the T family, has several advantages:

- Best supports non-motorized (bicycle) trips
- Least agricultural impacts
- Least new right-of-way required
- Carries the highest volume of traffic across the Illinois River

BENEFITS	T-5	T-6	T-7
Improved Travel Flow (higher is better)	0.020	0.022	0.020
Improved Local/Regional Mobility (higher is better)	3.2	2.6	3.2
Support Land Use Plans (higher is better)	0.0	3.0	2.0
Support Economic Development Plans (lower is better)	3	1	4
Improved Multi-Modal (Bikes) (higher is better)	27	44	68
Improved Multi-Modal (Hubs) (higher is better)	0.2	0.1	0.3

IMPACTS	T-5	T-6	T-7
River Crossing Location	North	South	South
River Crossing Traffic Volume (AADT)	17,900	26,000	32,800
Wetlands (acres)	58	33	47
Agricultural Lands (acres)	1150	1030	880
Residential Relocations (potential number req'd)	70	34	52
Forest Lands (acres)	390	370	370
Conservation / Park Land (acres)	0	3	3
100-Year Floodplain (acres)	65	66	75
Total New R.O.W. (500 ft width) (acres)	1910	1760	1560





## INDIVIDUAL CORRIDOR SUMMARY INFORMATION

### CORRIDOR M-10

This corridor is recommended to be **KEPT** for further study.

M-10, when compared to the other corridors in the M family, has several advantages:

- Most traffic carried across the Illinois River
- Improves non-motorized (bicycle) trips
- Least wetlands impacted
- Fewest forests impacted
- Least new right-of-way required

Corridor M-10 is tied with corridor P-3 for the strongest support of local land use plans among all fourteen corridors being considered. Corridor M-10 also would require the fewest residential relocations of the fourteen corridors.

M-10 is similar to corridors P-3, M-9, and D-13, but generally M-10 has very similar or fewer negative impacts.

BENEFITS	M-8	M-9	M-10
Improved Travel Flow (higher is better)	0.016	0.015	0.019
Improved Local/Regional Mobility (higher is better)	3.2	3.2	3.1
Support Land Use Plans (higher is better)	0.0	1.0	5.0
Support Economic Development Plans (lower is better)	2	2	1
Improved Multi-Modal (Bikes) (higher is better)	16	11	27
Improved Multi-Modal (Hubs) (higher is better)	0.3	0.3	0.3

IMPACTS	M-8	M-9	M-10
River Crossing Location	North	North	South
River Crossing Traffic Volume (AADT)	18,000	18,500	26,100
Wetlands (acres)	57	54	28
Agricultural Lands (acres)	1470	1480	1360
Residential Relocations (potential number req'd)	63	54	18
Forest Lands (acres)	250	190	170
Conservation / Park Land (acres)	1	0	3
100-Year Floodplain (acres)	89	89	89
Total New R.O.W. (500 ft width) (acres)	1990	1910	1760

## INDIVIDUAL CORRIDOR SUMMARY INFORMATION

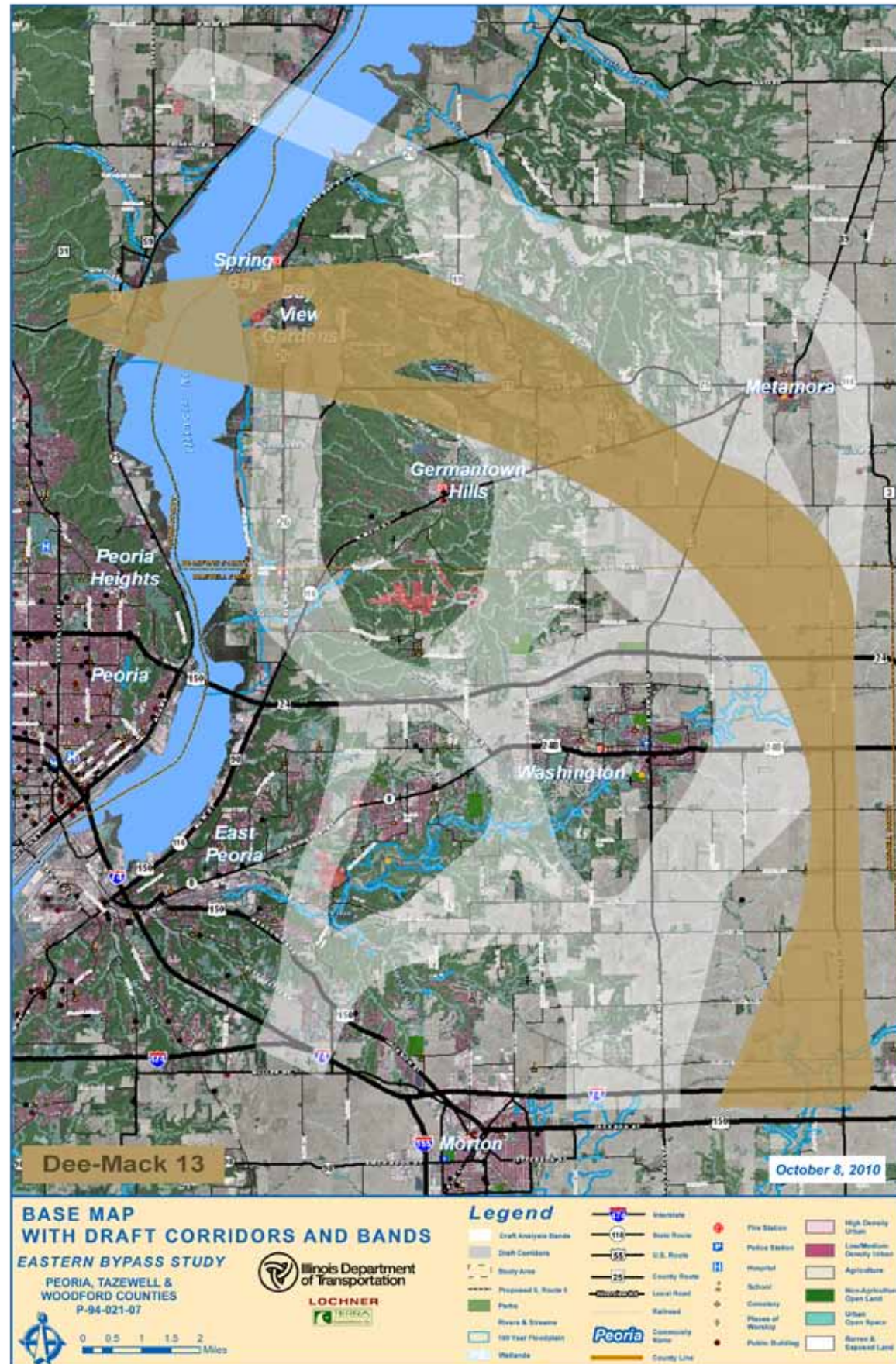
# CORRIDOR D-13

This corridor is recommended to be **KEPT** for further study.

D-13, when compared to the other corridors in the D family, has several advantages:

- Least amount of new right-of-way needed
- Fewest wetland impacts
- Fewest forest impacts
- Fewest residential relocations

Corridor D-13 is similar to M-10, but located further east into Woodford and Tazewell Counties.



BENEFITS	D-11	D-12	D-13	D-14
Improved Travel Flow (higher is better)	0.013	0.013	0.013	0.015
Improved Local/Regional Mobility (higher is better)	3.2	3.2	2.9	2.9
Support Land Use Plans (higher is better)	-1.0	-2.0	1.0	2.0
Support Economic Development Plans (lower is better)	4	3	1	3
Improved Multi-Modal (Bikes) (higher is better)	11	12	15	53
Improved Multi-Modal (Hubs) (higher is better)	0.3	0.3	0.2	0.3

IMPACTS	D-11	D-12	D-13	D-14
River Crossing Location	North	North	South	South
River Crossing Traffic Volume (AADT)	17,700	18,400	26,200	30,500
Wetlands (acres)	55	53	23	40
Agricultural Lands (acres)	1650	1460	1370	1310
Residential Relocations (potential number req'd)	47	68	23	86
Forest Lands (acres)	220	240	180	270
Conservation / Park Land (acres)	0	1	3	5
100-Year Floodplain (acres)	76	76	76	85
Total New R.O.W. (500 ft width) (acres)	2100	1970	1800	1850