Incorporating Bicycle/Pedestrian Planning into Major Highway Projects

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Abstract

The Prairie Parkway project is located in Grundy, Kendall and Kane counties approximately 50 miles west of Chicago. The Illinois Department of Transportation (IDOT) initiated a Preliminary Engineering Study to analyze the 1,500 square mile study area for future transportation improvements through 2030 because of the concerns about increased development demands and traffic congestion in the study area. Due to the pace of development in the area, a 36-mile long selected corridor between I-88 and I-80 was protected from further development using the state's Corridor Protection process in July 2002.

The project has an overall construction cost of approximately $1 billion for the 36-mile long corridor between I-88 and I-80. The Prairie Parkway Study served as a key "pilot" for IDOT's Context Sensitive Solutions (CSS) policy reflecting the need for an interdisciplinary approach that seeks effective, multimodal transportation solutions by working with stakeholders to develop, build and maintain cost-effective transportation facilities.

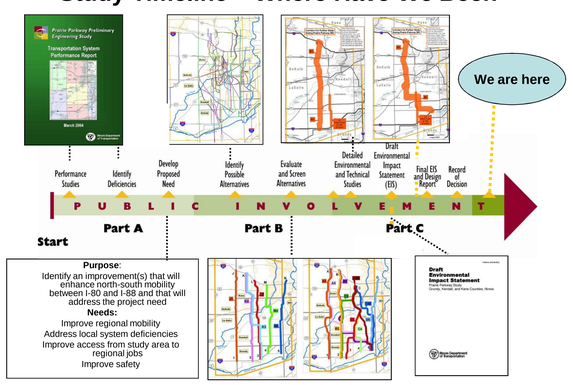
As a result of this process, the project was designed to allow for sufficient space and rough grading in the right-of-way for a continuous multi-use path along the length of the corridor, allowing for future non-motorized use for such activities as public hiking and/or biking within the right-of-way. The intent is to provide adequate space for a path that will run parallel to the mainline alignment for the majority of the corridor, but where the mainline intersects a side road or interchange to provide an alternate route that crosses the intersecting side street at a safe location.

Project Update

The Prairie Parkway Study is seven-year project that has included the environmental assessment, alternatives analysis, and preliminary engineering phases of the Prairie Parkway Study. The selected alternative includes thirty-seven miles of new four-lane freeway from I-80, west of Minooka in Grundy County, to I-88 near Kaneville in Kane County. Also included is widening twelve miles of IL 47 from I-80 to Caton Farm Road, where it will connect to other planned or programmed IL 47 widening projects north of Caton Farm Road. IL 47 will be a four-lane highway with two lanes in each direction.

A Record of Decision entered by the Federal Highway Administration (FHWA) of the U.S. Department of Transportation on September 19, 2008.

Study Timeline – Where Have We Been



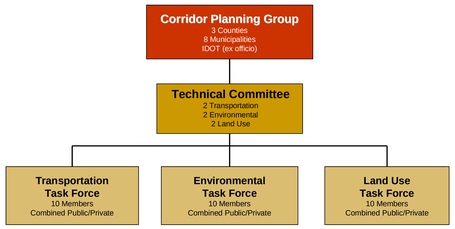
Context Sensitive Solutions (CSS Process)

Extensive public outreach to apply IDOT principles of Context Sensitive Solutions policy

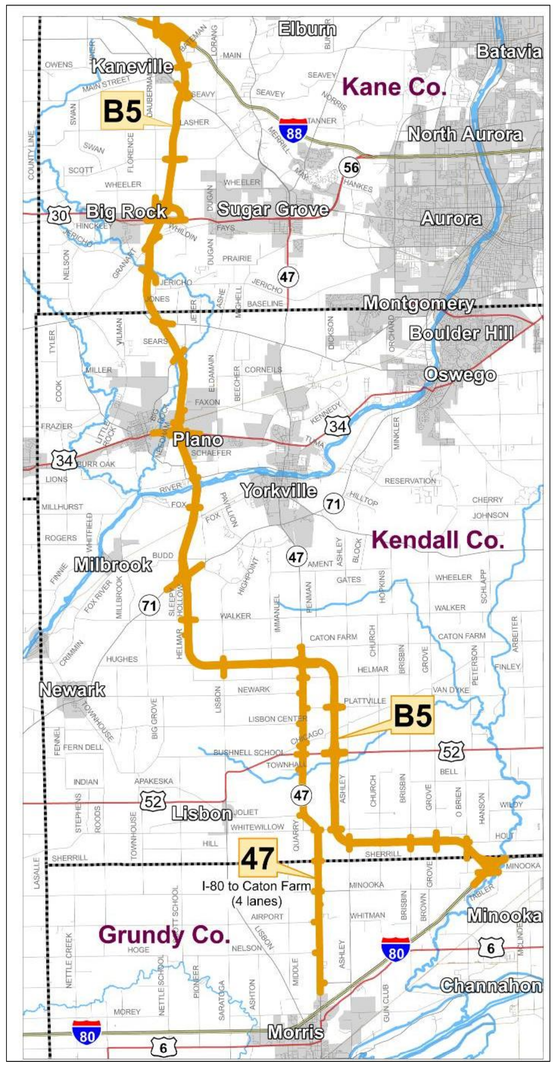
- Focus Groups/Surveys
- Newsletters
- 200+ Stakeholder Briefings
- All Public Comments Answered
- Tech and Corridor Planning Groups (described below)
- Public Meetings at Key Milestones
- Project website: www.prairie-parkway.com

The public involvement process identified interest in a shared-use path along Prairie Parkway. As a result, IDOT committed to providing the right of way and rough grading for a shared-use path to be used for non-motorized activities such as walking or bicycling.

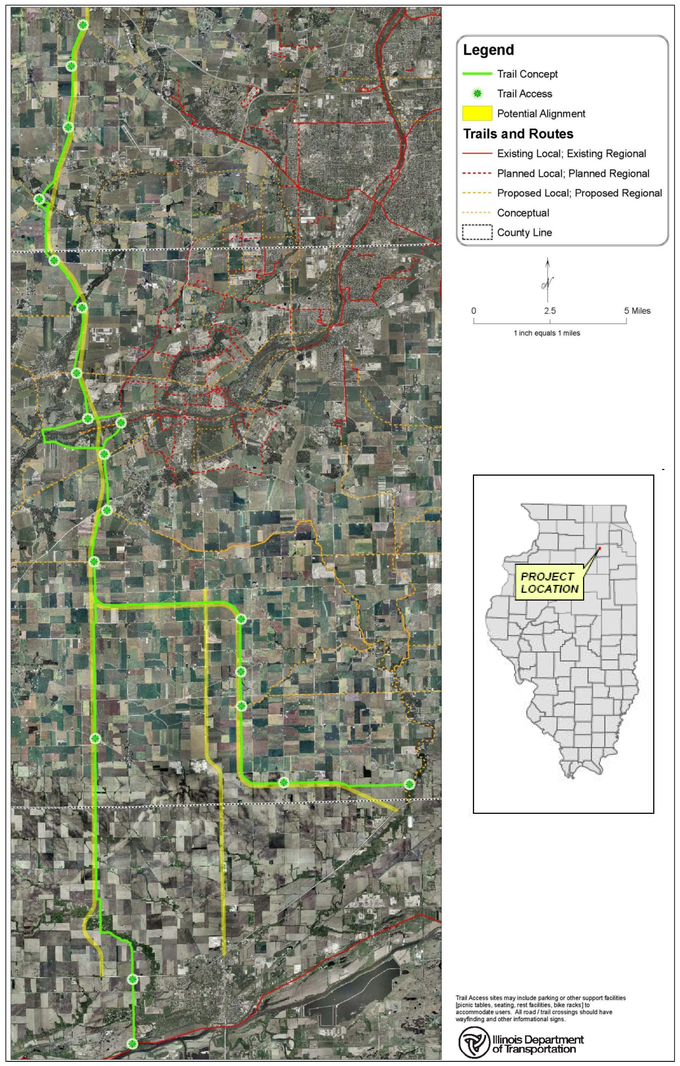
Corridor Planning Group (CPG)



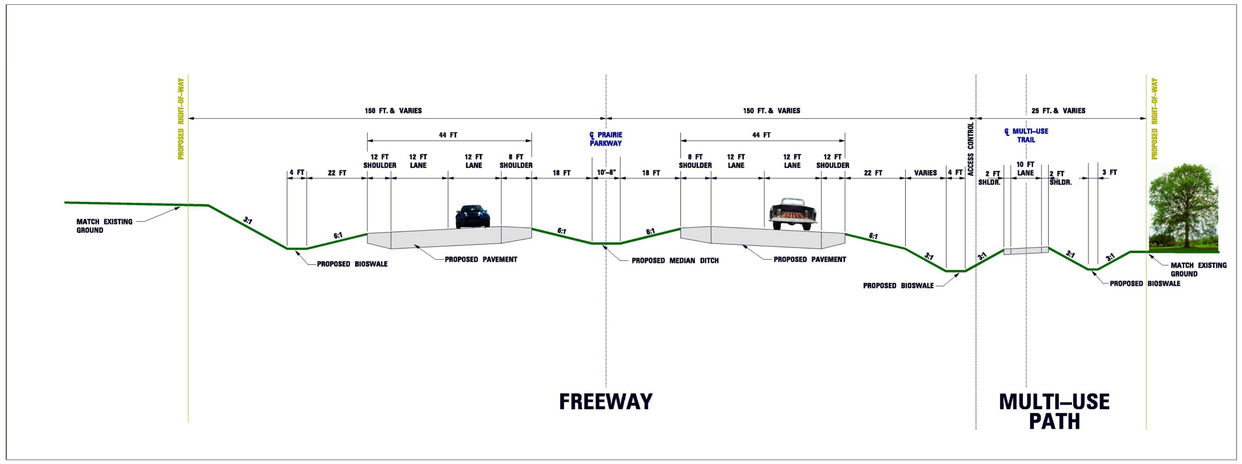
- Forum to advise, coordinate, and recommend community objectives
- Corridor Planning Group members are elected officials, and are supported by the Technical Committee and the three Task Forces
- Task Force members represent a variety of interests including public and private conservation, economic development, agricultural, environmental and government interests



Proposed Project Location



Path Connectivity



Proposed Typical Section

Proposed Shared Use Path

Sufficient space and rough grading will be provided in the right-of-way for a continuous multi-use path (to be built by others) along the length of the corridor, allowing for future non-motorized use for such activities as public hiking and/or biking within the right-of-way. The intent is to provide adequate space for a path that will run parallel to the mainline alignment for the majority of the corridor, but where the mainline intersects a side road or interchange to provide an alternate route that crosses the intersecting side street at a safe location

Design Criteria

The following criteria have been used to guide the development of the profile and alignment of the graded areas for this purpose and to ensure the sufficient right-of-way is provided:

- Design Reference: American Association of State Highway and Transportation Officials' (AASHTO) guide for the development of bicycle facilities;
- Radius = 100 feet (minimum) 156 feet (desirable) applies to cross road turnouts;
- Maximum grade lengths:

5-6%	For up to 800 feet
7%	For up to 400 feet
8%	For up to 300 feet
9%	For up to 200 feet
10%	For up to 100 feet
11+%	For up to 50 feet

- Desirable maximum grade for emergency and maintenance vehicle access = 6%;
- High Water Elevation (HWE) Design year = 10 years;
- Cross slope = two percent grading to the ditch between mainline and the trial; and
- Minimum tangent perpendicular to cross road crossings = 50 feet.

Comparable Projects


I-494 over the Mississippi River near Minneapolis, MN


Missouri Hwy 364 , St. Charles, MO


I-90 over Lake Washington - Seattle, WA


Rendering of Woodrow Wilson Bridge, Washington DC

Interstates Facilities with Parallel Paths

Interstate freeway bridges in the United States with bicycle/pedestrian crossings
•Interstate 90 floating bridges across Lake Washington, Seattle
•I-494 over the Mississippi River near Minneapolis, Minnesota
•Squaw Peak Freeway in Phoenix AZ
•Appalachian Trail at I-80 Delaware Water Gap NJ-PA
•Wonders Way on the Ravenel Bridge Charleston S.C.
•I-84 Newburgh Beacon Bridge over the Hudson River, NY
•I-84 Bulkley Bridge over the Connecticut River, Hartford, CT
•I-278 Triboro Bridge, New York City
•I-295, Tukeys Bridge, Portland, Maine
•I-279 over the Allegheny River in Pittsburgh
•I-95 Gold Star Memorial Brdge over the Thames River, New London, CT
•George Washington Bridge I-95 NY-NJ
•Ben Franklin Bridge I-76 PA-NJ
•I-95/I-495 bridge over the Potomac on the Capital Beltway in Washington, D.C.
•I-90 bridge over the Fox River in the Chicago area
•I-80 crossing the eastern reaches of San Francisco Bay
•I-680 crossing San Francisco Bay in California
•I-10 over the Colorado at Blythe, CA
•I-80 Yolo Causeway bridge, between Sacramento and Davis, CA
•I-82 Columbia River bridge between Washington St. and Umatillan, OR
•I-5 bridge over the Columbia River at Vancouver, WA
•Scudder Falls Bridge I-95 PA-NJ (proposed)
•Woodrow Wilson Bridge I-95 MD-VA (proposed)
•Interstate 395 and 66 bridge across the Potomac River in Wash, D.C.
•Cooper River Bridge in Charleston, SC
•I-74 Mississippi crossing in Quad Cities (Proposed)

Expressway type facilities, similar to interstates, with bike/ped on bridges
•The Biloxi Bay Bridge (US 90), connecting Biloxi with Ocean Springs, MS (proposed).
•The new Cooper River Bridge in Charleston, SC
•The Golden Gate Bridge, Hwy 101, San Francisco
•The Page Avenue Extension near St. Louis
•US-1 bridge in the middle of Richmond VA

Interstates that have paths adjacent to them (non-bridge sections)
•Glenn Highway, Anchorage, Alaska
•I-66, Arlington, VA. The Custis Trail
•I-95, Brunswick, Maine
•I-70, Glenwood Canyon, Colorado; Vail Pass, Colo.
•I-205, Portland, OR
•I-670, Columbus, Ohio
•I-84, Portland, OR
•I-84 and I-384, Hartford and Manchester, Connecticut
•I-80/I-215, Salt Lake City, Parleys Crossing, UT
•I-291 (Bissell Bridge), Hartford, Connecticut
•I-80, Park City-Wanship, UT
•Hwy. 1, Castroville to Seaside, California
•Route 390 Expressway, Rochester, NY
•Suncoast Parkway, Tampa, Florida
•Route 104 Expressway, Rochester, NY
•I-82, Yakima, Washington
•I-435, Overland Park