

Alternatives

No Build Alternative

Under the No Build Alternative, no improvements would be made to existing interchange geometry. The present ramp, frontage road, and cross road configurations would be retained, including the braided ramps and frontage roads. Although future new access would be managed to the extent practicable, the existing commercial and residential driveways would likely be retained at their present locations. Spot safety improvements such as adding signals, closing median openings on crossroads, and adding turning capacity at crossroad/frontage road terminals would be made over time at high-volume or high-accident locations.

The No Build Alternative would fail to provide a long-range blueprint for land use and transportation system planning, and therefore would be inconsistent with SEWRPC's *Regional Transportation System Plan for Southeastern Wisconsin: 2010*. Because the No Build Alternative would not conform to the adopted Plan, it would not be in conformance with the provisions of the 1990 Clean Air Act Amendments.

To illustrate how the existing interchanges would function in Year 2020 under the No Build Alternative, future operations at the crossroad/ramp and crossroad/frontage road intersections were evaluated using Level of Service (LOS) criteria⁴. The key findings of this evaluation are summarized as follows:

- Year 2020 weekday P.M. peak traffic volumes are expected to adversely affect the operation of the I-94 interchanges under the No Build Alternative. The greatest effect occurs in the operation of the crossroad/ramp or crossroad/frontage road intersections, where the CTH C, STH 50, STH 158, STH 142, STH 11, STH 20, and CTH K interchanges would have at least one intersection expected to operate at LOS E or F.
- Year 2020 recreational traffic volumes are expected to be substantially higher than weekday P.M. peak period volumes at the STH 50 and STH 158 interchanges in Kenosha County, and at the 7 Mile Road interchange in Racine County. In Kenosha County recreational volumes are expected to be about 40-70 percent higher than weekday P.M. peak volumes, and about 40-50 percent higher in Racine County. Most of the intersections at these interchanges are expected to operate at LOS E or F during recreational peak periods.

The existing at-grade ramp braids are expected to emerge as safety problems as traffic increases on the ramps and frontage roads. Any no-build plan that does not separate the ramps from the frontage roads would not address this expected safety problem. The No Build Alternative would not address substandard bridge clearances or inadequate sight distance on crossroads.

The No Build Alternative is not considered to be a prudent course of action. It fails to address future land use and transportation system planning objectives, and would result in

⁴Intersection capacity is described in terms of Levels of Service (LOS). LOS designations range from A to F with A being ideal, and F considered unacceptable. LOS C is the national design standard.

substandard operating conditions in the future at most interchanges. The No Build Alternative does not meet the project purpose and need.

Build Alternatives (Recommended Improvement Concepts)

Figures 7 through 18 illustrate and describe the key features of the recommended alternative at each interchange⁵. The recommended alternative at each interchange was developed through the project's public involvement process, local government and agency coordination activities, and engineering/environmental evaluation. The recommended alternatives represent the study team's best judgment as to the most appropriate improvement. The recommended alternatives meet the project purpose and need by addressing and balancing existing and planned local development, long-term (2020) traffic increases, use of full geometric design criteria where possible, maximum access control, environmental constraints, and individual property owner considerations.

As noted, one of the main need factors for reconstructing the project-area interchanges is separating the ramps from the frontage roads and controlling access. Development of the recommended interchange alternatives was based on meeting desirable spacing criteria between the reconstructed ramps and relocated frontage roads, and maximum access control where possible. The key objectives of adequate intersection spacing and optimum access control are summarized as follows:

- Desirable spacing between the reconstructed ramps and relocated frontage roads should be 300 meters (1,000 feet) for State Trunk Highway crossroads; 230 meters (750 feet) for County Trunk Highway crossroads; and 150 meters (500 feet) for other crossroads. These criteria represent optimal dimensions in terms of traffic operations and construction costs.
- Commercial driveway connections to the crossroad segment between the reconstructed ramps and relocated frontage roads should be eliminated. Access to commercial properties should be provided only from the relocated frontage roads.
- Residential driveway and farm entrance connections to the crossroad segment between the reconstructed ramps and frontage roads would remain. Access rights would be purchased by WisDOT based on the present residential or farm entrance use. If these properties are converted to commercial uses in the future, driveways/entrances would be moved to the frontage road.
- No driveway connections to the ramps would be allowed.

In some cases, as noted on Figures 7 through 18, less than desirable spacing between the reconstructed ramps and relocated frontage roads has been recommended. This was done to account for environmental constraints, traffic and roadway design aspects beyond the interchange area, and to accommodate existing local development plans. Also, a few access management exceptions have been made. Examples of access management exceptions include several gas stations and a small Ameritech facility where a right turn in only from the crossroad would be permitted. Because convenient access is critical to a gas station's

⁵ Although the STH 165 interchange (Kenosha County) is included in the I-94 Corridor Study, it was determined that the interchange meets all applicable design criteria and therefore no additional improvements are required at this recently reconstructed interchange. Therefore, a figure is not provided for this interchange. The existing interchange configuration is shown in Appendix A--Existing Interchange Summary.

business, the project team decided that limiting all access to gas stations to the frontage road would adversely affect a station's business to the point where WisDOT would have to acquire it. By providing a right turn in only off the crossroad without compromising safety, WisDOT avoided potentially costly relocation expenses and minimized impacts to existing businesses.

Build Alternatives (Improvement Concepts Eliminated)

Figures 7 through 18 also show the interchange improvement concepts that were initially considered, but eliminated from further study based on continued engineering evaluation, public input, local government input, and agency coordination. The first screening was done following the first public information meeting and a Project Advisory Committee meeting in May 1995. The second screening was done following the second public information meeting and a Project Advisory Committee Meeting in September 1995. The recommended alternatives for each interchange were presented at the third public information meeting and fourth Project Advisory Committee Meeting in February 1996.