AASHTO DIMENSIONS (NEW!)

- Improve the safety of intersections using automated methods to monitor and enforce intersection traffic control. (Advanced Automated Enforcement Technology)
- Improve intersection safety by upgrading signalized intersection controls that smooth traffic flow.
- Utilize new technologies to improve intersection safety.
- Include more effective access management policies with a safety perspective.

01-03 WisDOT SHSP Dimensions

- Implement a comprehensive program to improve driver guidance at intersections on the State Trunk Highway system.
- Reduce the number and severity of intersection crashes on the State Trunk Highway system.
- Effectively communicate the inreach/outreach objectives and results.

05-07 WisDOT SHSP Guide Dimensions (NEW!)

1. Institutionalize the coordinated effort to efficiently implement intersection safety research results.
   a) Streamline and expedite the process of turning research wisdom into reality by converting research results into more implementable tool.
   b) Develop a policy or Memorandum of Understanding (MOU) to enhance a coordinated effort to implement and maintain the tools.
   c) Encourage the regions and local municipalities to adopt the new design/operation guidelines, to utilize the tools and to apply for intersection safety improvement projects using the data-driven approaches.

2. Establish a group of highway safety professionals trained in the analytic methods for evaluating intersection safety problems.
   a) Spearhead the effort to identify the potential intersection safety problems.
   b) Serve as the technical advisory group to consult any emerging intersection safety related questions and provide engineering solutions.
   c) Promote intersection safety at the executive-level, regional-level as well as the local agencies.

3. Effectively communicate the inreach/outreach objectives and results.
   a) Establish appropriate performance measures to evaluate the success of the objectives. The performance measures should be easy-to-apply, data-driven and objective-oriented.

4. Utilize new low-cost technologies to improve intersection safety.
a) Update signal timings to reduce rear-end or right-angle crash dominating intersections and synchronize traffic signals at corridors with poor safety performance.
b) Compile information on the features, applications, and effectiveness of low-cost strategies and technologies to control intersections.
c) Demonstrate and evaluate the new strategies and technologies and develop implementation guidelines.
d) Identify existing or planned intersections suitable for the strategies and technologies deployment with the maximum cost-benefit effectiveness.

SAFETY ENGINEERING ELEMENTS STATUS
1. Element Action Plan needed.
2. FHWA “Focus State & Opportunity State” (higher-than-average crashes) designation for Wisconsin – 2004
3. DTSD-BHO & Traffic Lab completed District Intersection Crash Summaries – Fall, 2004
5. Signal System Management Program Proposal pending – Fall, 2005
6. DTSD-BPD Intersection Design Training – Three sessions held in Spring 2005
7. FHWA Intersection Safety Training pending – Fall, 2005
8. FDM modifications to incorporate the concept of protected left turn bays – Spring, 2006
9. FDM guidance is being updated to increase the distance for sideroad placement at interchanges and to increase the distance from ramp termini to median openings or at grade intersections.
10. Roundabout Design Guide completed in 2004, as a result 5 roundabouts have been constructed in the state and an addition 55 are in the planning, design or construction phase.
11. The Traffic Signal Design Manual is being modified to provide guidance on how to best accommodate pedestrians.
12. A Pedestrian Design Manual is being developed.
F & I – MINIMIZE CONSEQUENCES OF LEAVING ROADWAY (DTSD-BPD LEAD),
KEEP VEHICLES ON THE ROADWAY (DTSD-BHO LEAD)

AASHTO DIMENSIONS (NEW!)

- Implement a comprehensive program to improve driver guidance through better pavement markings and delineation.
- Implement a targeted shoulder rumble strip program.
- Improve the design process to explicitly incorporate safety considerations and facilitate better design decisions.
- Develop better guidance to control speed variance through combinations of geometric, traffic control, and enforcement techniques.
- Establish programs to improve roadway maintenance to enhance highway safety.
- Provide improved practices for the selection, installation, and maintenance of upgraded roadside safety hardware.
- Implement, in an environmentally acceptable manner, a national effort to address hazardous trees.
- Implement a national policy to reduce the hazard from roadside utility poles, particularly on two-lane rural roads.
- Develop and implement guidance to improve ditches and backslopes to minimize rollover potential.
- Develop and implement guidelines for safe urban streetscape design.

01-03 WisDOT SHSP Dimensions

- Implement a comprehensive program to improve driver guidance on the STH system
- Reduce the number of run-off-the-road (ROR) crashes
- Reduce the severity of ROR crashes on the STH system
- Effectively communicate the project objectives and results

SAFETY ENGINEERING ELEMENTS STATUS

2. Phase II of NCHRP Report 500 in 2004 will include release of “A Guide for Addressing Safety on Horizontal Curves” and “A Guide for Addressing Collisions with Utility Poles”; a decision will be needed on WISDOT’s prospective lead-state role.
3. Traffic Lab & Marquette University Statewide “Run-off-the-road Crash Study” is complete
4. SE Region Centerline Rumble Strip pilot project implemented, subject to Traffic Lab evaluation
5. NC Region Freeway Shoulder “Rumble Stripes” implemented, subject to Traffic Lab evaluation
6. At this year’s Improvement Conference, a presentation was made on how sequential 3R projects can affect the safety section of the roadway. This presentation was to raise awareness on an issue that designers frequently don’t consider.
7. Language will be added to the FDM to reinforce the need to review crash data.
8. BPD will pursue adding an additional controlling criteria for “safety section”. Design Services staff are more closely reviewing the safety sections on projects and asking designers to correct problem areas.
9. BPD will conduct “mini-courses” with regions to discuss roadside safety hardware as well as the safety analysis required for 3R projects.
G – DESIGN SAFER WORK ZONES (DTSD-BHO LEAD)

AASHTO DIMENSIONS (NEW!)

- Implement improved methods to reduce the number and duration of work activities.
- Adopt improved procedures to ensure more effective practices, including traffic control devices, for managing work zone operations.
- Enhance and extend training for the planning, implementation, and maintenance of work zones to maximize safety.
- Enhance safe work zone driving through education and enforcement actions.

01-03 WisDOT SHSP Dimensions

- Reduce the number and severity of crashes in work zones on the STH system.
- Enhance work zone safety through education by developing and promoting public awareness announcements and materials.
- Enhance work zone safety on freeway projects with added enforcement and other speed management methods.

SAFETY ENGINEERING ELEMENTS STATUS

1. Phase III of NCHRP Report 500 in 2005 will include release of “A Guide for Improving Safety in Work Zones”; a decision will be needed on WISDOT’s prospective lead-state role.
2. In early 2004 a Work Zone Management Advisory Group was formed (including WTBA, WCHA, AAA, WMCA).
4. Work Zone Safety Action Plan adopted in May, 2005. (Top six initiatives are listed as below)
   - Develop More Aggressive, Innovative Work Zone Public Awareness Campaign
   - Institutionalize Cross-Cutting Project Pre-Planning
   - Apply Low-Cost Traffic Calming Devices in Work Zones
   - Consider Mobile Phone Restrictions
   - Pilot Broader use of Work Zone Management and Traveler Information Systems
   - Develop Supplemental Violation Signing Standards
5. Task Force-sponsored pilot projects will be deployed during the 2005-06 construction season; traffic data will be collected to examine the work zone traffic conditions, and evaluate the effectiveness of enforcement and traffic control strategies in reducing speeds.
H – REDUCE HEAD-ON AND CROSS-MEDIAN CRASHES (DTSD-BPD LEAD)

AASHTO DIMENSIONS (NEW!)

- Develop and test innovative centerline treatments to reduce head-on crashes on two-lane high ways.
- Reduce across-median crashes on freeways and arteries that have narrow medians.

01-03 WisDOT SHSP Dimensions

- Reduce the numb and severity of cross-median crashes in work zones on the STH system
- Develop centerline treatment to reduce head-on crashes on two-lane roads.

SAFETY ENGINEERING ELEMENTS STATUS

1. Element Action Plan needed.
2. Phase III of NCHRP Report 500 in 2005 will include release of “A Guide for Reducing Head-On Crashes on Freeways”; a decision will be needed on whether Wisconsin will participate in the ensuing Lead State project.
3. In late 2003, DTID and DTD staff began analysis of cross-median crashes on US 41 in Fond du Lac County; as a result of the analysis, a median high tension cable barrier system was added to the planned projects
4. TOPS Lab has completed identification of locations with high hazard of cross-median crashes in response to early 2004 FHWA nationwide directive.
   - High hazard cross-median crash data will be used to develop a retrofit policy. This will require close coordination with DTIM. A retrofit policy will also be developed for narrow medians that are not currently on the high hazard cross-median crash list.
   - FDM guidance has been added to clarify when median protection is necessary for new construction.
   - BPD staff will participate in a scanning tour looking at high tension cable barrier installations.