2014 ELCSI–PFS TAC Ballot Summary

Introduction to the ELCSI–PFS and TAC Ballot

The FHWA Evaluation of Low Cost Safety Improvements Pooled Fund Study (ELCSI–PFS) was established in 2004. Its goal was—and continues to be—to develop reliable estimates of the effectiveness of the safety improvements identified as strategies in the National Cooperative Highway Research Program (NCHRP) Report 500 Guidebooks. These estimates are derived by conducting scientifically rigorous before-after evaluations of sites in the United States at which these strategies have been implemented.

The direction of the ELCSI–PFS is guided by a Technical Advisory Committee (TAC) composed of a representative from the department of transportation of each of its 38 affiliate States. The TAC members are asked annually to provide details on the safety countermeasures of greatest interest to their States by completing a simple ballot. The ballot results provide useful insight into the national safety priorities and may influence the selection of safety strategies and locations to be evaluated by the ELCSI–PFS and other related efforts.

Formation of the Ballot

The 2014 ballot underwent a significant change compared to previous years. Instead of providing blank ballots to identify their safety priorities, TAC members were given a listing of 19 priority safety strategies (see Appendix A for descriptions) and asked to share their level of interest in an evaluation of each. They were also asked to indicate if the strategy had been implemented in their State (and might be available to support a future evaluation). The list was developed based upon the results of a Crash Modification Factor (CMF) prioritization assessment conducted under the Development of Crash Modification Factors (DCMF) project in spring 2014. The effort looked at several sources, including the CMF Clearinghouse Most Wanted List, unevaluated countermeasures from other research studies (NCHRP 17-56), practitioner questions (from State safety engineers listserv, American Association of State Highway and Transportation Officials (AASHTO) forum, etc.), and ballots from past ELCSI–PFS annual TAC meetings. A list of strategies was compiled and the strategies were grouped by countermeasure category (e.g., access management, delineation, pedestrians, and roadway) and relative priority. During the annual meeting in June, the TAC members voted using the interactive TurningPoint system to consolidate the list by choosing two or three options from the high-priority strategies for each category. The TAC members also identified and added several strategies to the ballot that were high priority in their respective States. The ballot was finalized and disseminated to the TAC in early July, and the member States were asked to return their surveys by the end of July.

In addition to indicating the ten strategies of greatest interest to their State, the TAC members were also asked to identify (1) whether or not the respective strategy was currently in use and, if so, (2) at how many locations. This information will help identify potential treatment sites to evaluate when a particular countermeasure is chosen for evaluation. The ballot also included a column for States to provide any other comments regarding the strategy.

Table 1 provides a summary of the 2014 TAC ballot results, including the number of ballots on which the strategy was listed in the top ten and the States indicating that the strategy had been implemented there.

Table 1. Summary of ELCSI-PFS 2014 TAC Ballot Results.

Priority Strategy	No. of Ballots	States Indicating Installations (No. of sites, if provided)
6" or 8" Edgeline Pavement Markings on Curves	24	KS, MS (*), NV (*), OK, VA
Adverse Effects of Increasing Roadway Width/Lanes	13	OH, WI
Allocation of Narrow Lane and Shoulder Width	19	AR, CT (*), IL, MD (*), NC (*), NH, SC
Curve Characteristics	24	GA (2), IL, KS, MT, NH, OH, VA, WI
Extending Deceleration Lanes	12	SC
Fixed Object Removal	18	KS, NH, OH, OK (**), PA, VA
High-Visibility Crosswalk Markings	19	IL (*), OH, VA (*)
Intersections within Curves	16	IL (*), KS, MO (*), MT, VA, WI
Low-Cost Winter Treatments	8	CA (2), MT, OH
Mid-block Raised Crosswalk	11	IL (*), NH, VA
Offset Intersections	16	CT (>6), IL (*), KS, MD (*), NC (10), NV, OH
Provide U-Turn Openings	14	MD (*), MO (15), OH, OK (1, **), WI
Raised Medians vs. Two-Way Left Turn Lanes (TWLTLs)	23	GA (**), IL (*), MD (*), MS (**), NC (10), NH, OH (*), VA, WI (*)
Reverse Angle Parking	8	CA (2), NH, OH
Right-Turn Channelization	19	IL (*), MD (*), OH, OK, VA, WI (10+)
Sign Density	19	
Traffic Calming Treatments	16	CT (6-12), KS, OH, PA
Treatment Removal	7	
Variable Speed Limits	18	CA (**), GA (**), OH, UT (1)

* - Multiple sites may be available

** - One or more installations planned

Observations

The following observations were made upon reviewing the ballots:

- Thirty-one (31) of 38 TAC States submitted a ballot.
- *Curve Characteristics* received 11 first-place votes for level of interest in an evaluation and was ranked on almost 80 percent of the submitted ballots.
- Nearly three-fourths of the submitted ballots included information in the "In-Use" and "Comments" sections, which will serve as a good starting place when planning future evaluations. Some States were thorough with their explanation of these fields, while others simply stated "yes" or "no."

Detailed comments on each strategy provided by the States are included in Appendix A.

Appendix A—ELCSI-PFS 2014 TAC Ballot Results

The 19 priority safety strategies described below were presented on the ELCSI–PFS 2014 annual TAC ballot. Listed below each description are the States that identified the strategy in their top ten, as well as the comments submitted by the TAC members.

1) 6" or 8" Edgeline Pavement Markings on Curves

This delineation strategy applies to placing 8" edgeline pavement markings on curves as opposed to the standard 6" edgeline pavement markings. On Day 1 of the TAC Meeting, this countermeasure received the second most attendees (24 percent) expressing interest in this strategy in the Delineation category.

State Ballots: *AL, AR, CA, CO, CT, GA, IL, KS, MA, MI, MS, MO, MT, NC, NH, NV, OH, OK, SC, TN, UT, VA, WA, WI*

State Comments:

- *CT's standard edge line width is 4 inches.*
- *(KS) We use 6" standard on all edge lines.*
- *(NC) We have a pilot project underway to analyze 6" HFE to 6" Standard to 4" HFE to 4" Standard and should be able to pull out the curves from the treated locations. HFE stands for Highly Reflected Element and Standard stands for Standard Elements.*
- *Nevada currently uses 6" skip lines and 8" edge lines that include curves.*
- *(OH) ODOT has adopted a 6" edge line policy on interstates, interstate look-alikes and rural multi-lane divided highways. Curves on 2 lane rural roads (which are our most common) do not fall under this policy. Research on this would benefit ODOT with future implementation.*
- *(OK) We are considering changing our policy to 6" everywhere. Still in discussion. We have went to 6" on some types of facilities.*
- *South Carolina standard is a 4" line for non-interstate.*

2) Adverse Effects of Increasing Roadway Width/Lanes

As suggested by Joey Riddle of South Carolina, this strategy would address the effects of adding lanes to a road, explored from different perspectives, including potential negative effects. For example, this study could include inserting additional lanes while keeping the same cross section or widening the cross section to add lanes or increase the shoulder width.

State Ballots: *AL, AZ, CO, CT, KY, MN, MO, MT, NV, RI, SC, VA, WI*

State Comments:

- *(SC) Planning often lists widening roadways from 2–3 or 3–5 lanes as a safety improvement. I do not believe this is true but would like to see a study (CMF) for this.*
- *In Wisconsin, capacity expansions are most common on freeways and urban arterials. If we're going to increase the capacity of a 2-lane highway, we'll typically build a 4-lane divided highway.*

3) Allocation of Narrow Lane and Shoulder Width

This strategy received the most interest (38 percent) of the Roadway strategy responses at the TAC meeting. It was identified as a priority for CMF development in NCHRP 17-48[1] for the following scenario: rural road with cross section less than 24 feet. Another scenario was to reallocate lanes and shoulder widths for rural roads with cross section wider than 24 feet. Depending on the availability of data and States' demand, the specific parameters of this roadway strategy can be altered.

State Ballots: *AZ, AR, CO, CT, IL, KS, KY, MD, MI, MS, MO, MT, NC, NH, NV, RI, SC, TN, VA*

State Comments:

- *Within the last few years, CT has reduced our standard lane width from 12 to 11 feet to provide more shoulder width for nonmotorized road-users.*
- *(KY) Striping patterns for available roadway widths to "designate" lanes and shoulders. Would also like to see edgeline only evaluation.*
- *In many cases in Maryland when a bike lane was added on an existing roadway, the width of the vehicle lanes was narrowed to accommodate the bike lane.*
- *(MO) Not sure we have ever gone from 12' down to 10'. We may have a couple of locations where we did decrease lane width by 1' to get a shoulder.*
- *(NC) The previous analysis by TAC was for two-lane cross sections of width from 26 to 36 feet. Would like to see the new study parameters for a width of 16 to 26 feet. This will be beneficial for just about all the southeastern states.*
- *(SC) We are completing a research project on this topic and I'll forward once complete.*

4) Curve Characteristics

This alignment strategy received the most responses (53 percent) from the Access Management and Alignment topics. Identified by the FHWA Safety Research and Development (R&D) Intelligent Transportation Systems (ITS) Safety Program, the research would include gathering data on curve radii, friction, pavement markings, super elevation, and other roadway characteristics.

State Ballots: *AL, AR, CO, CT, GA, IL, KS, KY, MI, MN, MS, MO, MT, NC, NH, NV, OH, OK, PA, RI, SC, UT, VA, WA, WI*

State Comments:

- *(GA) We are also in the process of getting grants to evaluate curve characteristics.*
- *(IL) Could be used to prioritize curves with safety improvement potential.*
- *(KY) Friction demand should be included as a component of this evaluation.*
- *(MT) MDT has completed several curve reconstruction safety projects.*
- *(NC) If all the information that is listed is collected, then tied to historical crash data, I could see where this could be a very informative dataset.*
- *(NH) Most interested in friction, other aspects are low priority/high cost.*
- *(NV) All curves are problematic whether rural or urban settings on freeways and arterials.*
- *(OH) Curve treatments have been a focus of our systematic treatments for years and rural curves are where we have numerous fatalities. Research on curve characteristics is of great interest to ODOT.*

- *(SC) If this can prove a relationship between curve friction, radii, etc. and crashes it could aid in screening curves for systematic treatments. It also may change the way we do friction testing and data collection (more testing in curves). May want to consider adding superelevation transitions or combination spiral/superelevation transitions vs. superelevation only transitions.*
- *(WI) We haven't completed any systemic treatments on curves but we have completed a small number of curve realignment projects through our Highway Safety Improvement Program (HSIP).*

5) Extending Deceleration Lanes from minimum recommended values

This strategy received 50 percent of the responses, leading the Interchange Design category. This strategy was identified as a need in NCHRP 17-48. Specifically, this strategy is to extend the deceleration lanes on one-lane freeway exit ramps. The CMF Clearinghouse identifies eight CMFs from one study (3-star rated) dealing with changing deceleration lanes from varying lengths (less than 100 feet to 900 feet) to 601–700 ft. These CMFs were primarily for two-lane freeway exit ramps.

State Ballots: *AZ, AR, CA, MI, MN, MS, MO, NY, NV, PA, RI, SC*

State Comments:

- *(MO) We have definitely increased the deceleration lanes on many of our freeway off-ramps.*
- *This would be of benefit in some of Ohio's urban areas (peak hr.) where we have had instances of traffic queues extending the entire deceleration lane and then onto mainline interstate.*
- *(SC) This should also include acceleration lanes. Both ramps often experience high crash rates at the gore areas and it would be good to determine the impact of longer acceleration and deceleration lanes.*

6) Fixed Object Removal

This roadside strategy was identified by Joey Riddle (SC) during the TAC Meeting, but has also appeared on the State Highway Safety Engineers LISTSERV and in NCHRP 17-48, in which "Remove Roadside Obstacle (Urban)," was identified as a priority for CMF development. An evaluation of this strategy would study the crash benefit of the removal or relocation of fixed objects. Specifics on urban/rural, road class, etc. will be determined based on the interest of the TAC and availability of data. There are currently two CMFs from one study for removing or relocating fixed objects outside the clear zone for all crash types, crash severities and roadway types; both have a 3-star rating.

State Ballots: *AL, AZ, CA, CT, GA, KS, MI, MT, NC, NH, NV, OH, OK, PA, RI, SC, VA, WI*

State Comments:

- *Roadway departure is an emphasis area in CT's State Highway Safety Plan (SHSP). The top two objects struck are utility poles and trees.*
- *(KS) This is our highest priority.*
- *(NH) Potential for high benefit and wide implementation.*
- *(NV) The primary concern is application of the clear zone table in the Green Book and fixed objects beyond the recommended clear zone are being hit.*

- *(OH) ODOT has been in discussion about looking into fixed objects removal outside the clear zone and then run into right-of-way (R/W) issues. Research on this would help future discussions with our districts.*
- *(OK) We are soon to start some of these projects, but officially have not. Not sure of the time frame and ODOT senior staff are still considering.*
- *(SC) Nationwide struggle with removal of fixed objects, particularly trees, even on Interstates within R/W limits. No statistical support showing increased safety with wider clear zones, such as 30 feet to 46 feet.*

7) High-Visibility Crosswalk Markings

This pedestrian strategy applies to unsignalized crossings (intersection or midblock). "High-visibility crosswalk marking patterns" was included in NCHRP 17-56[2] as a priority for CMF development. It also led the TAC discussion with 22 percent of the responses in the Pedestrians category. A 2-star CMF for a high-visibility crosswalk is included in the *CMF Clearinghouse*, but the study area was limited to New York City.

State Ballots: *AR, CA, CO, CT, IL, KY, MD, MA, MI, NC, NH, NY, NV, OH, PA, TN, UT, VA, WA*

State Comments:

- *(CT) Nearly all marked crosswalks on the State system are bar type. They are either 16-inch bars & spaces (standard) or 24-inch bars and spaces (school and elderly).*
- *(KY) Midblock in urban settings would be a focus we would like to see.*
- *This topic has been discussed in Maryland and the treatment is under consideration.*
- *(OH) Midblock crossings would be of interest to ODOT with this research; however, we also have many small urban areas that have stop controlled intersections where this would be used.*

8) Intersections within Curves

An evaluation of this topic would study the safety impacts of intersections located within a horizontal curve. This would likely be accomplished through a cross-sectional evaluation, as opposed to a before/after evaluation. This topic received 20 percent of the responses in the Intersection Geometry category.

State Ballots: *AL, AR, CA, GA, IL, KS, MD, MN, MS, MO, MT, NY, PA, TN, VA, WA, WI*

State Comments:

- *(IL) Could be used to prioritize curves with safety improvement potential.*
- *(VA) Able to ID on our Primary System from curve (and intersection node) data and on police report from alignment and intersection related fields.*
- *(WA) Different scenarios should be studied and compared to similar intersections (w/no curve) and curves (w/no intersection). Major curve/minor intersections and minor curve/major intersection could be studied separately. The study could verify the safety performance of the AASHTO "standard" intersection sight distance.*

- *Wisconsin has several locations where intersections were built on curves because realignment was cost-prohibitive. We would be interested in understanding the safety impacts of high speed, stop-controlled intersections built on curves.*

9) Low-Cost Winter Treatments

This roadway strategy was initially identified in NCHRP 17-48 and specifically was using preventative chemical anti-icing during the whole winter season. However, an evaluation could be expanded to include other low cost winter strategies, depending on the available of data and specific TAC interest.

State Ballots: *CA, CO, GA, MD, MI, MT, NH, NY*

State Comments:

- *(OH) ODOT is always looking for new and innovative ways to tackle snow/ice. We do have anti-icing agents that are applied to roadways by our crews, but are still always open to new strategies.*

10) Midblock Raised Crosswalk

NCHRP 17-48 identified this strategy as a need, although the number of lanes was not specified. The types of roadways included will be based on the availability of data but would most likely include 2-lane, low speed roads in residential or downtown areas. This strategy received the second highest number of responses (18 percent) in the Pedestrian category.

State Ballots: *AR, IL, NC, NH, NY, NV, OK, TN, UT, VA, WI*

State Comments:

- *(NH) We need more info on beneficial pedestrian treatments that could be widely implemented.*
- *(OH) This would be a lower priority in comparison to others. We have selected the high visibility crosswalk markings as the preferred pedestrian strategy.*
- *(VA) Could we do with high-visibility crosswalks as a type?*

11) Offset Intersections

This Intersection Geometry strategy is to identify the safety impacts of two T-intersections compared to a four-legged intersection. An evaluation could explore rural conversions or identify the turning volumes at which this strategy is most beneficial, all depending on the available of data and specific TAC interest. This strategy received the second most responses (28 percent) of the Intersection Geometry section.

State Ballots: *AL, AZ, CT, IL, KS, KY, MD, MS, MO, MT, NC, NY, NV, OH, SC, TN, WA*

State Comments:

- *(MD) Would like to see safety and operational effects of this strategy.*
- *(OH) Several safety applications have been submitted in the past proposing to convert two T-intersections and realigning to a 4 leg. Research to determine when this conversion is best*

would be beneficial. If chosen, a length cutoff for how close the intersections are along with volumes would be good.

- *(WA) The specific type of split needs to be mentioned as an important context. Operations as well as safety? (ability to add crosswalk between offset intersections with left turns on the "outside")*

12) Provide U-Turn Openings on Divided Roads

This Access Management strategy includes directional median openings to allow left-turns and U-turns for rural, 6- and 4-lane roads. The specific scenario is subject to change based on available data and States' preference on number of lanes and road class. This countermeasure was identified as a need in NCHRP 17-48.

State Ballots: *AL, GA, MD, MA, MN, MS, MO, OK, SC, TN, UT, VA, WA, WI*

State Comments:

- *(MD) Our interest on this strategy is design elements and safety.*
- *(MO) We have constructed several j-turns in the state on our divided expressways.*

13) Raised Medians vs. Two-Way Left Turn Lanes

This strategy received 26 percent of the Access Management and Alignment responses. An evaluation of this strategy would study the safety impact of replacing TWLTLs with raised medians on 4- and/or 6-lane, urban/suburban roads. The scenarios are subject to change if selected by the TAC based on available data. This countermeasure was identified as a TRB Research Need Statement (http://rns.trb.org/dproject.asp?n=12652) and in NCHRP 17-48.

State Ballots: *AL, AZ, CA, CO, GA, IL, MD, MA, MN, MS, MT, NC, NH, NY, NV, OH, OK, PA, RI, UT, VA, WA WI*

State Comments:

- *(NC) We have been interested in this for years and have tried to analyze sections that have been converted; however, our samples are not very large.*
- *(NH) Medium-high cost, but would be valuable information for treating higher crash locations.*
- *(NV) We are trying to be more proactive with our access management goals and this is a major concern for adjacent property owners.*
- *(OH) This research would be good to have in the arsenal as we frequently see urban corridor projects with access management proposals. Understanding the benefit of raised medians vs. TWLTL would help build a case in discussions with our districts and local businesses.*
- *(WA) Study should consider availability of safe turn-around areas at the ends of the sections, or if not available – safety implications of moving turns to another location?*
- *(WI) Could research include "road diets" or conversion of 4-lane undivided facilities to 3-lane facilities with a center two-way left-turn lane?*

14) Reverse Angle Parking

This onstreet parking strategy identified for discussion on Day 2 of the TAC Meeting by Brad Estochen (MN). It was also included in NCHRP 17-48, which identified the Research Title "Operational and Safety Impacts of Angle versus Parallel versus Back-in Parking" in *Appendix M. Draft List of Research Topics* as a research priority. It was also identified in a TRB Research Need Statement (http://rns.trb.org/dproject.asp?n=12662).

State Ballots: *CA, CT, MA, MI, MN, NH, OH, OK*

State Comments:

- *(CT) Feel that a raised median is necessary to prevent motorists from crossing the centerline and driving forward into the parking space.*
- *(NH) Low-medium cost, could become a good tool for certain situations.*
- *(OH) This would be knowledgeable in knowing the operational and safety impacts of the different types of street parking: angle, parallel, back-in.*

15) Right-Turn Channelization

This strategy received the most responses in the Intersection Geometry category during the TAC meeting, with 32 percent of the members expressing interest in this strategy. An evaluation of this strategy would address the safety impacts of two strategies: (1) removing right-turn channelization (4-lane, arterial, urban/suburban signalized intersections), which is mentioned in NCHRP 17-48, and (2) right-turn channelization design (physical channelization of right-turn lane on major road).

State Ballots: *AL, AZ, CA, CO, IL, KS, MD, MA, MS, OH, OK, PA, RI, SC, TN, UT, VA, WA, WI*

State Comments:

- *(MD) Interested in an evaluation of capacity and safety impact of this strategy, particularly on pedestrian safety and adequate acceleration lanes.*
- *(OH) This is a good topic. Multiple locations we have proposed a right-turn channelization to provide a free flow right-turn lane. In other instances, our districts have submitted applications to remove right turn channelization at intersections.*
- *(OK) Several rural locations have been installed on and off projects over the years. Some also included left turn bays, turning a rural two lane into a six lane on the approaches. I believe this has a negative effect by breaking the major rule of channelization.*
- *(SC) Common safety improvement includes removing channelization to reduce the skew angles attributed to these designs which often lead to very high rear-end crash frequencies*
- *(UT) Please be sure to include the impacts of a right-turn lane on pedestrians/pedestrian crashes.*
- *(VA) Would be interested in those channeled with newer low angle designs.*
- *(WA) Context would be very important to this strategy. Contrast benefits of installing a right turn to get right turns out of the way of mainline traffic (reduction of rear-end crashes) with issues involving turning vehicles obstructing the sight distance of entering vehicles (especially large vehicles such as trucks or motor homes making the turn). Benefits of offset right turns? Appropriate offset distance?*

- *WisDOT is currently building channelized right turns at many new intersections. The presence of pedestrians and trucks tends to drive this decision.*

16) Sign Density within a Corridor

As suggested by Jennene Ring of Washington, this study would evaluate the safety impacts of the number of signs in a section of road. This strategy would address over signing and investigate the appropriate amount of signing within a corridor. The specific scenario (road type, urban/rural, crash severity, etc.) will be discussed based on TAC interest and availability of data.

State Ballots: *AZ, AR, CO, CT, GA, KY, MD, MA, MI, MN, MS, MO, NY, OK, PA, RI, TN, UT, WA*

State Comments:

- *CT has an overabundance of signs thus making the critical ones less effective.*
- *(KY) Important to investigate impacts of possible 2017 Manual on Uniform Traffic Control Devices (MUTCD) updates to curve signing.*
- *(WA) Analysis could be separated for intersections and horizontal curves (or other scenarios). Maybe this could result in a threshold per direction for sign density? Possible variables might be: sign type and or color.*

17) Traffic Calming Treatments

This general strategy was suggested by Jennene Ring (WA), and would study the safety benefits of traffic calming measures, such as lane narrowing, speed feedback signs, etc. and how these strategies positively or negatively impact all modes of transportation. Specific strategies to study will depend on TAC interest and availability of data.

State Ballots: *AZ, AR, CT, GA, KS, MD, MI, MN, MO, NH, NY, PA, RI, TN, UT, WA*

State Comments:

- *(MD) We are interested in seeing new traffic calming treatments strategies and evaluation of their effectiveness.*
- *(NH) Current knowledge extremely limited.*
- *(WA) Especially interested in traffic calming treatments for high-speed facilities (State highways). Which treatments are most effective? Of particular interest is the transition zone between a high speed "open road" and a small town.*

18) Treatment Removal

This general strategy would examine whether or not the inverse of a CMF accurately reflects the impact of removing a treatment (e.g., removing lighting, unnecessary signs, channelization). The specific strategies to include in the study would be based on TAC interest and availability of data.

State Ballots: *KS, MN, NC, NH, NY, OH, PA*

State Comments:

- *(NH) Could be used to guide/justify decisionmaking about cost cutting, operations and maintenance activities, etc. in safety programs and in other aspects of the DOT.*

- *(OH) This one would be interesting to see the adverse effects of countermeasures.*

19) Variable Speed Limits (VSL)

This strategy received the most responses in the Speed Management category during the TAC meeting, with 30 percent of the members expressing interest in this strategy. An evaluation of this strategy would seek to determine the safety impact of changing speed limits based on certain circumstances, including adverse weather conditions, construction zones, and assigning different speed limits by lane.

State Ballots: *AL, AZ, AR, CA, CO, GA, IL, KS, MD, MA, MT, NC, NV, OH, OK, RI, UT, WI*

State Comments:

- *(IL) Interested in applications in work zones and adverse weather conditions.*
- *VSL has been a topic studied and discussed in Maryland for years. It has not become a general engineering practice in Maryland. It is definitely a topic that we are interested.*
- *(NV) We are very interested in the safety effectiveness of variable speed limits.*
- *(OH) ODOT has implemented these in a few construction zones as a pilot to see their effectiveness. I don't believe we have any for lane assignment or weather condition based.*

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[1]More information on NCHRP 17-48, entitled *Highway Infrastructure and Operations Safety Research Needs*, can be found here. The objectives of the research are to (1) develop and implement a detailed methodology for identifying and evaluating research needs in the area of highway infrastructure and operations safety and (2) to develop a detailed plan that can be implemented by other entities within the transportation community to transform the identified research needs into a formal national research agenda. This plan should identify and evaluate alternative institutional structures that offer mechanisms for providing expert scientific advice in setting a prioritized national research agenda.

[2]More information on NCHRP 17-56, entitled *Development of Crash Modifications for Uncontrolled Pedestrian Crossing Treatments*, can be found here. The objective of the report can be summed up in this statement from the background, "Research is needed to enable state and local transportation agencies to quantify the safety benefits of pedestrian crossing treatments and to incorporate these treatments into their safety programs."