Current Research Problem Statements

TRB Safety Performance Analysis Committee

August 2021

1

Current Status

- Earlier this year--Committee members and friends submitted 14 research topics for consideration
- These were provided to the AASHTO Safety Committee in Spring 2021 for their review and ranking
- The AASHTO Safety Committee received 30 research problem statements for review (14 of them from our Committee)
- Our statements ranked from 2nd to 29th out of 30
- No formal cutoff line was established by AASHTO
- Reviewer comments provided by AASHTO for each statement

2

Current Status

- Recommended plan: Our Committee will revise and resubmit to AASHTO all statements ranked 19th or higher (8 statements in total)
- Resubmitted research problem statements must be in full NCHRP problem statement format
- Lead authors have been requested to consult with their team, revise their research problem statements, and send to Doug Harwood by August 15
  - consider AASHTO reviewer comments
  - convert to proper format, if not already in that format
- The remaining 6 statements (ranked 21st or lower) will also be revised for future consideration, but with no short-term deadline

3

Highest Ranked Research Problem Statements

2. Intersection Crash Prediction Models for Future Editions of the HSM (Lead Author: Darren Torbic)
3. SPFs for Curves (Lead Author: Mike Vaughn)
8. Pavement Friction and Safety Performance Integration (Lead Author: Priscilla Tobias)
9. Safety Performance Effects of Traffic Signal Control Technology and Timing Practices (Lead Author: Jerry Roche)
14. Safety Performance of Intersection Right-Turn Lanes (Lead Author: Jason Hershock)

4

Highest Ranked Research Problem Statements

15. Practical Applications of the HSM (Lead Author: Tim Barnett) – perhaps only a synthesis statement
18. Validity of Surrogate Measures for Making Safety Assessments (Lead Author: Bhagwant Persaud)
19. Developing SPFs and CMFs for Weather-Related Crashes (Lead Author: Tim Barnett)

5

Lower Ranked Research Problem Statements

21. Safety Performance Effects of Ramp Metering (Lead Author: Jerry Roche)
23. Modernizing the Network Screening Process Using Machine Learning and Artificial Intelligence (Lead Author: Jonathan Wood)
24. Commercial Motor Vehicle Safety Performance Models (Lead Author: Tim Barnett)
25. Safety Performance Effects of Bus Facilities and Preferential Treatments (Lead Author: Jerry Roche)
27. Frontage Road Safety Performance Functions for the HSM (Lead Author: Tim Barnett)
29. Developing SPFs and CMFs for Light, Medium, and Heavy Rail and Roadway Interfaces (Lead Author: Tim Barnett)

6

Next Steps

HIGHEST RANKED RESEARCH PROBLEM STATEMENTS

- Lead authors to send revised research problem statements to Doug Harwood by August 15
  - consider AASHTO review comments
  - convert to NCHRP problem statement format, if not already done
- Revised statements will be resubmitted to AASHTO for their consideration

LOWER RANKED RESEARCH PROBLEM STATEMENTS

- Revise in response to AASHTO review comments and convert to proper format for future consideration
- No short-term deadline, but don't let this drop

7

QUESTIONS?

8