

Attachment

Performance-Based Decision-Making using Highway Safety Manual - Project Application Guidelines

Roles and Responsibilities:

Project Development Team:

- Determine the need and usefulness of a Highway Safety Manual (HSM) analysis for making performance-based decisions on design solutions in project alternatives
- Collectively evaluate and recommend the preferred project alternative using reasonable engineering judgement as prescribed in Chapter 8 of the Project Development Procedures Manual
- Consult with District Design and Traffic Operations' HSM Subject Matter Experts (SME), as needed

District Traffic Operations Division:

- Traffic Operations staff to collaborate with Design project staff to provide necessary traffic-related data
- When Traffic Operations staff are performing design duties for the project, Traffic Operations staff to build the model and perform data-driven analysis using the appropriate HSM software tool
- Designate an HSM SME to provide technical assistance in HSM applications to District staff and serve as a liaison to Headquarters Traffic Operations traffic safety specialist

District Design Division:

- When Design staff are performing design duties for the project, Design staff to
 - Collaborate with Traffic Operations staff to build the model in the HSM software tool
 - Perform data-driven analysis using the appropriate HSM software tool
- Designate an HSM SME to provide technical assistance in HSM applications to District staff and serve as a liaison to Headquarters Design's HSM specialist

Project Application:

The following lists the minimum requirements for project selection to implement HSM:

- Projects that change access on the Interstate System

- Safety Improvement Projects
 - Design variations that consider the safety improvement strategies that propose any of the following:
 - Non-standard travel lane width
 - Non-standard shoulder width
 - Geometric curve radius upgrade
- All other projects
 - Design variations that propose any of the following:
 - Non-standard travel lane width
 - Non-standard shoulder width
 - Non-standard geometric curve radius

The HSM has a range of applicability to highway features and operational parameters. Please refer to the appropriate sections of the HSM for the lists of applicability range.

Analysis:

The HSM analysis should be used for the following types of evaluation in the course of project-level decision making:

- Comparison between project alternatives
- Comparison between different geometric design variations
- Trade-off analysis (finding the most effective combination of geometric elements that fit within identified constraints)

HSM tools predict collision performance with Safety Performance Functions (SPF). Comprehensive application of HSM concepts and tools require SPFs that have been calibrated for specific regions or areas. Although no California-specific SPFs are yet available for use, comparative analyses do not require calibrated SPFs and the use of national functions is appropriate.