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<tr>
<td>HSM Lite – Option 1</td>
<td>Instructor Led Training Course or Live Webinar</td>
<td>90 minutes</td>
<td>Local or State transportation agencies</td>
<td>Basic</td>
<td>Provides a snap shot of highway safety statistics, a brief introduction to the AASHTO Highway Safety Manual and shows how safety can be incorporated into practice through proven safety countermeasures and low cost safety improvements.</td>
<td>Travel costs plus printing costs</td>
<td>Hillary N. Isebrands, P.E. <a href="mailto:hillary.isebrands@dot.gov">hillary.isebrands@dot.gov</a> Office: 720-963-3222</td>
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<tr>
<td>HSM Lite – Option 2</td>
<td>Instructor Led Training Course</td>
<td>½ to ¾ day</td>
<td>Local or State transportation agencies</td>
<td>Basic</td>
<td>Provides a snap shot of highway safety statistics, a brief introduction to the AASHTO Highway Safety Manual and shows how safety can be incorporated into practice through proven safety countermeasures and low cost safety improvements. Examples and case studies applying the Highway Safety Manual principles and techniques, including Crash Modification Factors (CMFs), will also be presented.</td>
<td>Travel costs plus printing costs</td>
<td>Hillary N. Isebrands, P.E. <a href="mailto:hillary.isebrands@dot.gov">hillary.isebrands@dot.gov</a> Office: 720-963-3222</td>
</tr>
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| HSM Lite and Practitioners Guide Blended Workshop – Option 1: Urban and Suburban Roadway Practitioners Guide | Instructor Led Training Course | 1 to 2 days | Local or State transportation agencies | Intermediate     | • Provides a snap shot of highway safety statistics, a brief introduction to the AASHTO Highway Safety Manual and shows how safety can be incorporated into practice through proven safety countermeasures and low cost safety improvements. (This can be a stand-alone portion to which decision makers, planners, other transportation professionals can be invited to attend without staying for the reminder of the workshop.)  
• Workshop participants will apply Highway Safety Manual predictive equations for urban, suburban roadway segments and intersections. Each module will be accompanied with an exercise for the participants to get hands on experience with the HSM.  
• Case studies (local) applying the HSM will be presented and reviewed with the participants. | Travel costs plus printing costs                                                             | Hillary N. Isebrands, P.E. hillary.isebrands@dot.gov Office: 720-963-3222 Or Gene Amparano gene.amparano@dot.gov (816) 329-3909 |
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| HSM Lite and Practitioners Guide Blended Workshop – Option 2: Rural 2-Lane/Multilane Roadway Practitioners Guide | Instructor Led Training Course | 1 to 2 days | Local or State transportation agencies | Intermediate | • Provides a snap shot of highway safety statistics, a brief introduction to the AASHTO Highway Safety Manual and shows how safety can be incorporated into practice through proven safety countermeasures and low cost safety improvements. (This can be a stand-alone portion to which decision makers, planners, other transportation professionals can be invited to attend without staying for the reminder of the workshop.)  
• Workshop participants will apply Highway Safety Manual predictive equations for rural, 2 lane and multilane roadways and intersections. Each module will be accompanied with an exercise for the participants to get hands on experience with the HSM.  
• Case studies (local) applying the HSM will be presented and reviewed with the participants. | Travel costs plus printing costs | Hillary N. Isebrands, P.E. hillary.isebrands@dot.gov | Office: 720-963-3222 or Gene Amparano gene.amparano@dot.gov (816) 329-3909 |
| HSM Webinar Series | On-Line, Pre-recorded Webinars (Recorded in Summer of 2010) | 2 hours each – 24 hours total | Local or State transportation agencies | Depends on module (see listing in next column) | Two hour segments produced in 2010 by the FHWA Resource Center. The following is a complete listing of the modules:  
• HSM Introduction and Overview  
• Application to Two-Lane Rural Roads  
• Application to Urban/Suburban Intersections  
• Project Identification  
• Application to Rural Two-Lane Intersections  
• Application to Rural Multilane Highways  
• Application to Urban/Suburban Roads  
• Applications to Rural Multilane Intersections  
• HSM and Pedestrians  
• Applications to Horizontal Curves  
• HSM Relationship to Roadway Departure Crashes  
• Applications to HSIP | No cost | Available on internet at: http://www.highwaysafetymanual.org/Pages/FHWAResourceCenterHSMWebinarSeries.aspx |
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<td>HSM Roadway Safety Management Process</td>
<td>Instructor Led Training</td>
<td>1 day</td>
<td>Local or State transportation agencies</td>
<td>Intermediate</td>
<td>Focuses on the Roadway Safety Management Process (Part B) in the HSM and covers topics on Network Screening, Crash Diagnosis, Selecting Safety Countermeasures, Economic Appraisal, and Safety Evaluation. The target audience is for transportation professionals involved with corridor analysis in identifying roadway segments and/or intersections that have the high potential to reduce the frequency or severity of crashes by implementing specific safety countermeasures.</td>
<td>Travel costs plus printing costs</td>
<td>Gene Amparano <a href="mailto:gene.amparano@dot.gov">gene.amparano@dot.gov</a> (816) 329-3909</td>
</tr>
<tr>
<td>HSM Overview Course</td>
<td>Instructor Led Training</td>
<td>1 day</td>
<td>Local or State transportation agencies</td>
<td>Basic</td>
<td>This is a new 1-day NHI workshop that provides an overview on all four Parts (A through D) of the HSM: Part A – Introduction, Human Factors, and Fundamentals, Part B – Roadway Safety Management Process, Part C – Crash Prediction Methods, and Part D – Crash Modification Factors are presented. This workshop provides a general overview of the HSM and the target audience is for those who want to become familiar with the HSM content but are not directly involved in applying the crash prediction methodology.</td>
<td>Travel costs plus printing costs</td>
<td>Dave Engstrom, <a href="mailto:dave.engstrom@dot.gov">dave.engstrom@dot.gov</a> (708) 283-3545 or Gene Amparano <a href="mailto:gene.amparano@dot.gov">gene.amparano@dot.gov</a> (816) 329-3909</td>
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<tr>
<td>NHI Course - Highway Safety Manual Practitioners Guide for Geometric Design Features (380070)</td>
<td>Instructor Led Training</td>
<td>2 days</td>
<td>Local or State highway engineers</td>
<td>Advanced</td>
<td>This course includes both 2-lane and multi-lane highways and provides a proven methodology for the safety performance of geometric design decisions in a like manner to that of predicting capacity and level of service based upon large scale definitive research. The crash prediction models for total crashes and cross-section related crashes based upon lane width, shoulder width, roadside hazard, traffic volume (exposure) and other characteristics are presented. Examples of safety performance prediction are presented for highway segments and intersections.</td>
<td>$400 per participant – 20 participants minimum</td>
<td>More information available on the internet at: <a href="http://www.nhi.fhwa.dot.gov/training/course_detail.aspx?num=FHWA-NHI-380070&amp;cat=&amp;key=highway%20safety%20manual&amp;num=&amp;loc=&amp;sta=%25&amp;typ=&amp;av">http://www.nhi.fhwa.dot.gov/training/course_detail.aspx?num=FHWA-NHI-380070&amp;cat=&amp;key=highway%20safety%20manual&amp;num=&amp;loc=&amp;sta=%25&amp;typ=&amp;av</a></td>
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This course provides a proven methodology for the safety performance of geometric design decisions in a like manner to that of predicting capacity and level of service based upon large-scale definitive research. The crash prediction models for total crashes and cross-section related crashes based upon lane width, shoulder width, roadside hazard, traffic volume (exposure) and other characteristics are presented. Examples of safety performance prediction are presented for highway segments and intersections. 

Discussion of research and the interactive effects of lane and shoulder widths, hazard rating, and access density (driveways) on safety performance are presented. Each student receives a copy of the "Safety Effects of Highway Design Features for Two-Lane Rural Highways" manual. 

IMPORTANT: Participants should bring a scientific notation calculator as the course involves calculating decimal value to decimal power for crash prediction values.
## Highway Safety Manual Training Resources

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<tr>
<td>NHI Course - Highway Safety Manual Practitioners Guide for Multilane Highways (380070B)</td>
<td>Instructor Led Training</td>
<td>1 day</td>
<td>Local or State highway engineers</td>
<td>Advanced</td>
<td>This course provides proven methodology for the safety performance of geometric design decisions for multilane highways in a like manner to that of predicting capacity and level of service based upon large scale definitive research. The crash prediction models for total crashes based upon lane width, shoulder width, roadside hazard, traffic volume (exposure) and other characteristics are presented. Examples of safety performance prediction are presented for highway segments and intersections. Discussion of research and the interactive effects on safety performance for median width and barriers, of access (driveways) and side streets and intersection turning lanes are presented. Each student receives a copy of the &quot;Safety Effects of Highway Design Features&quot; manual. IMPORTANT: Participants should bring a scientific notation calculator as the course involves calculating decimal value to decimal power for crash prediction values.</td>
<td>$300 per participant - 20 participants minimum</td>
<td>More information available on the internet at: [<a href="http://www.nhi.fhwa.dot.gov/training/course_detail.aspx?num=FHWA-NHI-380070B&amp;cat=&amp;key=highway%20safety%20manual&amp;num=&amp;loc=&amp;sta=%25&amp;typ=&amp;ava=&amp;str=&amp;end=&amp;tit=&amp;lev=&amp;drl%5D=">http://www.nhi.fhwa.dot.gov/training/course_detail.aspx?num=FHWA-NHI-380070B&amp;cat=&amp;key=highway%20safety%20manual&amp;num=&amp;loc=&amp;sta=%25&amp;typ=&amp;ava=&amp;str=&amp;end=&amp;tit=&amp;lev=&amp;drl]=</a></td>
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<tr>
<td>NHI Course - Highway Safety Manual Practitioners Guide for Horizontal Curves (380088)</td>
<td>Instructor Led Training</td>
<td>1 day</td>
<td>Local or State highway engineers</td>
<td>Advanced</td>
<td>This course provides participants with some tools for evaluating the safety performance of horizontal curves along with suggestions for countermeasures that could improve safety performance. Topics covered in this course include the size and magnitude of the problem, tools for identifying and prioritizing horizontal curve safety, low-cost maintenance countermeasures, and a discussion of engineering countermeasures.</td>
<td>$300 per participant - 20 participants minimum</td>
<td>More information available on the internet at: [<a href="http://www.nhi.fhwa.dot.gov/training/course_detail.aspx?num=FHWA-NHI-380088&amp;cat=&amp;key=highway%20safety%20manual&amp;num=&amp;loc=&amp;sta=%25&amp;typ=&amp;ava=&amp;str=&amp;end=&amp;tit=&amp;lev=&amp;drl%5D=">http://www.nhi.fhwa.dot.gov/training/course_detail.aspx?num=FHWA-NHI-380088&amp;cat=&amp;key=highway%20safety%20manual&amp;num=&amp;loc=&amp;sta=%25&amp;typ=&amp;ava=&amp;str=&amp;end=&amp;tit=&amp;lev=&amp;drl]=</a></td>
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### NHI Course - Using Interactive Highway Safety Design Model (IHSDM) (380100)

- **Name:** NHI Course - Using Interactive Highway Safety Design Model (IHSDM) (380100)
- **Resource Type:** NHI Course
- **Duration:** 12 hours
- **Audience:** Local or State highway project managers, planners, designers, and traffic and safety reviewers
- **Difficulty Level:** Advanced
- **Description:** The Interactive Highway Safety Design Model (IHSDM) is a suite of software tools that quantitatively analyze and evaluate safety and operational effects of geometric design decisions on two-lane rural highways. FHWA expanded the IHSDM Crash Prediction Module (CPM) in 2010 to implement The Highway Safety Manual’s Part C (Predictive Method), which highlights predictive methods for estimating the expected average crash frequency of a network, facility, or individual site. The IHSDM contains six evaluation modules: Crash Prediction, Policy Review, Design Consistency, Intersection Review, Traffic Analysis, and Driver/Vehicle.

The IHSDM course is a highly-interactive training that gives participants the opportunity to use the actual IHSDM software tools to evaluate and analyze real highway designs. NHI recently updated the delivery format and training materials for the course. The training materials were updated to reflect the expanded CPM. The new delivery format consists of 4 hours of self-paced, web-based trainings and four 2-hour sessions of virtual, instructor-led trainings, known as web-conference training.

- **Cost:** $125 per participant – 5 participants minimum

### NHI Course - Highway Safety Manual Practitioners Guide for Intersections (380105)

- **Name:** NHI Course - Highway Safety Manual Practitioners Guide for Intersections (380105)
- **Resource Type:** Instructor Led Training
- **Duration:** 1 day
- **Audience:** Local or State highway engineers
- **Difficulty Level:** Intermediate
- **Description:** The new Highway Safety Manual is the state of the art “toolbox” for the “science of safety” for the analysis and prediction of crash frequency for highways and streets. The HSM reflects the evolution in safety analysis from descriptive methods to quantitative, predictive analyses.

The Highway Safety Manual (HSM) provides analytical tools and techniques for quantifying the potential effects on crashes as a result of decisions made in planning, design, operations, and maintenance. A universal objective is to reduce the number and severity of crashes within the limits of available resources, science, and technology, while meeting legislatively mandated priorities. The information in the HSM is provided to assist agencies in their effort to integrate safety

- **Cost:** $300 per participant – 20 participants minimum
Highway Safety Manual Training Resources

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into their decision-making processes. The HSM is intended to be a resource document that is used nationwide to help transportation professionals conduct safety analyses in a technically sound and consistent manner thereby improving decisions made based on safety performance.

This course introduces practitioners at the state, county, metropolitan planning organization (MPO), or local level to the new techniques and knowledge in the HSM. The users and professionals described above include, but are not limited to transportation planners, highway designers, traffic engineers, and other transportation professionals who make discretionary road planning, design and operational decisions.