

Figure 1. Relationship of HIC and Head AIS.

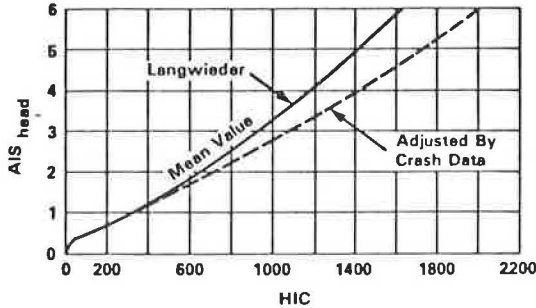


Figure 2. Relationship of CSI and Chest AIS.

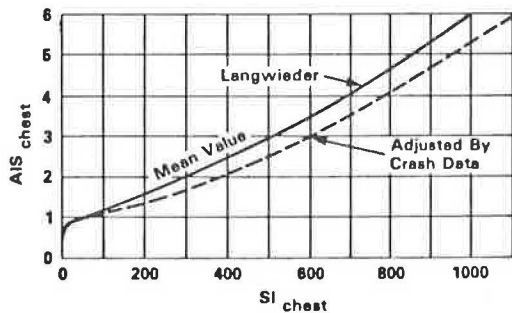
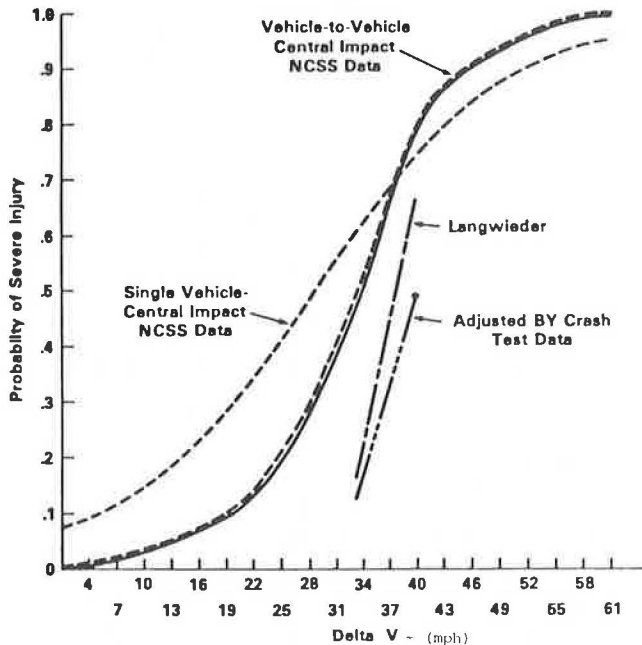


Figure 3. Logistic Curves for Front Impact Subsets (Age = 30 Yrs.).



SUMMARY OF PART 2

Jarvis D. Michie, Southsest Research Institute

In support of benefit/cost analysis procedures of roadside safety programs, the seven presenters in this session outlined data needs and limitations associated with current data acquisition methods using computer simulation and physical testing.

Ross delineated the need to have baseline data of the untreated roadside for use as a reference for safety improvement comparisons and appurtenances warrants development. Nordlin discussed the impracticality of using full-scale crash tests to investigate all possible collision conditions and the importance of evaluating appurtenance under field conditions. In evaluating field performance of appurtenances, Bronstad cautions the investigators of the importance in assessing the compatibility of the specific hardware with the traffic and site characteristics. Reilly stressed the need to acquire detailed clinical data from selected accident cases; in addition, he sees the need of establishing a substantial data base of inadvertent roadside encroachments that are generally not reported because the errant motorist is able to drive his vehicle from the accident site. With this information and with projections of vehicle sales trend, Reilly maintains that testing procedures and test matrices can then be validated or modified to correspond to actual conditions and, therefore, made more effective.

As a complement to vehicle crash testing methods during appurtenance development, computer simulations have been shown to be cost effective under certain conditions. However, Chiapetta has alerted the reader to difficulties and limitation of current simulation technology.

With regard to establishing a linkage between vehicle crash test severity and potential injury of vehicle occupants, Friedman discussed the use and limitation of anthropometric dummies and indicated that dummy responses are currently insufficient for use in the benefit-cost analysis procedures. On the other hand, Hollowell presented some promising findings from recent NHTSA efforts to establish a link between FMVSS 208 and accident severity.

From the standpoint of physical testing and analysis, data needs for cost-benefit analysis procedures have been assessed. Whereas considerable information pertaining to a specific appurtenance hardware items can be acquired before the item is introduced into actual service, it is recognized that extensive in-service evaluation including numerous collision cases is necessary to develop sufficient input to the cost-benefit equation.

Part 3: Session 2, Field Performance Studies: Evaluation and Data Issues

Forrest M. Council, Highway Safety Research Center, University of North Carolina

The second part of the overall program was designed to raise issues related to the use of field data in determining severity indices for highway hardware. To open the session, the moderator presented a brief introduction to the two basic issues or areas