My report will be somewhat briefer because a lot of the items McDevitt discussed were discussed in our group and very similar conclusions were reached. I will try to highlight differences and bring out a couple additional points on international harmonization. Breakout Group 2 included representatives of Canada, Germany, Italy, and the United States. These representatives had associations with public agencies, manufacturing firms, and universities.

There was considerable discussion on the issue of test and evaluation philosophies. Persuasive arguments for the average versus practical worst case were made, but the group did not come to a meeting of the minds on this particular subject. They recognized that this might become a point that would limit acceptance of common standards in countries around the world. The features for the worst case were also noted. It was suggested that as more knowledge is compiled about the differences in the crash performance between individual vehicles, it may become possible to better understand the implications of setting standards on an average versus worst-case vehicle. Better knowledge of safety performance of vehicles of varying size and weight could also help identify other critical points of limits.

In discussing the art-of-the-possible issue, it was noted that the European representatives favored the way this particular aspect was approached in the United States. These representatives didn't see a problem in adopting similar practices in Europe. The group clearly agreed that warrants that differentiate the protection of the occupants versus protection of innocent bystanders were the prerogative of each agency. They were in agreement with Ross's contention that such warranting conditions were not something that needed to be addressed in testing procedures.

The group discussed the issues of crash testing using simulation, surrogates, and other methods. There was general agreement among the representatives of the various countries that crash testing is still the best approach to determining the crashworthiness of a highway safety feature. Other methods may define a niche in the crash testing process over time as knowledge is accumulated. There was agreement that crash testing should remain the primary means to determine safety and, obviously, this indicates an opportunity for international harmonization.

On the issue of occupant risk and other pass-fail criteria, there was a very strong case made that one of the greatest opportunities to harmonize is in the area of

the occupant risk model. It was proposed that the model described by the representative from the United Kingdom be adopted because it makes it possible to get a quantitative measure of risk to the occupant. Ross pointed out that, there is a strong interest in adopting such a model in the update to NCHRP Report 230 to provide a better means to correlate results.

The group did not take time to explicitly discuss the items under Element II because these issues had been raised as part of the preceding and following discussions. It was recognized that there will be significant differences in the vehicle fleets, roadway characteristics, and traffic speeds that will exist in the future. These differences will pose difficulties in coming up with a common evaluation or acceptance criteria, but certainly the opportunity exists for harmonization on testing procedures.

The breakout group briefly discussed impediments to common measurement framework or methods to translate the results for comparison. These issues were not viewed as an impediment to harmonization at this time because the decision has been made that the update to NCHRP Report 230 will be done in metric. There may remain points of difference, however, that will result from decisions on soft versus hard conversion of the various conversions from the U.S. measures to metric. These differences were not viewed as major impediments to harmonization. There was general agreement on the essential documentation of the process; it was concluded that there were no serious impediments to harmonization relative to measurement framework or documentation, because of general agreement on the use of metrics, SAE J211 for instrumentation, and other common aspects. It was noted that it would be useful if effort could be devoted towards some future standards for establishing the true center of gravity of a vehicle so that test results could be translated more definitely.

Last, under Item IV, suggestions to improve steps to improve harmonization, it was pointed out that there was an interest among representatives in this country to participate as observers or resource persons in the activities that are going on currently in Europe. Such participation is viewed as a primary means to foster interaction with experts in this field around the world to promote harmonization. The United States has indicated the willingness to consider the comments of the European community on the update to Report 30 in an effort to foster harmonization. Because similar efforts

are being initiated in Europe, this would appear to be an excellent opportunity for them to reciprocate in the interest of harmonization. The group strongly encouraged more sanctioned involvement in European activities.

The issue of whether there was need to do more translating of documents was considered. In theory, it is

viewed as potentially a useful thing to do, even though the representatives of the breakout group all speak and write English. It was suggested that there may be opportunities for manufacturers to do some networking with manufacturers in Europe and other parts of the world and develop some interactions that may be helpful to harmonization over the long term.