The breakout session on security improvement addressed the following topics, solicited by a roundtable process where each participant presented items of interest to them. The topics were later voted upon and a top six list was presented. The following potential areas of research were listed.

1. How secure is secure enough?
   a) What specifications are to be employed?
   b) How rigorously should something be specified?
   c) Performance standards and what they should measure
   d) Specification rules
   e) Nano-technology

2. Perimeter defense for railroads

3. Better freight movement data availability
   a) For populating economic impact models
   b) For capacity studies

4. Detection of what is inside containers
   a) Secure seals
   b) Standardized seals from reputable agencies. If the container bears that seal, it passes without further inspection; otherwise, the container is opened for security reasons.

5. Explosion detection technology for use in open systems (subways, buses, etc.), similar to the system recently tested that detects explosive residues by forced air blasts

6. How can utilities/transport networks add security cost-effectively?
   a) Organizational integration
   b) Technology deployment
   c) Reliable/provable answers

7. Cost-effective measures for security at airports (e.g., cost-beneficial airport passenger screening)—with reference to Prof. Barnett’s talk

8. Countermeasures to shoulder-launched surface-to-air man-portable air defense system (MANPADS) missiles, or other emerging threats around the nation’s airports
9. Gathering of relevant data sets to study threats, and to lay out possible security measures

10. Communications interoperability (efficient information exchange between database and point of action)
   a) Message protocols
   b) Bandwidth

11. Motivation/public instruction

Once the group identified its priorities among the above topics through voting, some potential courses of action were discussed. This discussion focused mainly on funding issues – who is going to pay for these security improvements?

The issues identified as most important for research efforts included:

Better freight data and information
Communications interoperability
Countermeasures
Development of motivational/public instruction materials