Operations Issues: Rail and Bus

- Topics ranged from technologies to service policies.
- Considerations were (1) importance to operators, (2) value to customers, (3) suitable fit with UTC research capabilities, (4) overlap with other research efforts.
- Long list of possible topics sifted down to top three.
- Combined some topics to be more comprehensive.
Fare Technologies and Information Systems

- Problem: Lack of common fare collection systems and current schedule information inhibits new ridership.

- Research Tasks:
  - Survey current technologies
  - Identify need groups (age, ethnicity, physical abilities)
  - Define measurable outcomes
  - Identify data collection needs
  - Collect and analyze data collected
  - Perform pilot studies of promising technologies
  - Assess and compare; evaluate costs vs. benefits
  - Recommend technologies for larger scale testing
Automated Train Control Technologies

- Problem: Inefficient train control creates less comfortable and potentially unsafe ride, more brake wear, excessive energy demand.
- Research Tasks:
  - Survey current technologies
  - Define measurable outcomes
  - Identify data collection needs
  - Collect and analyze data collected
  - Perform pilot studies of promising technologies
  - Assess and compare; evaluate costs vs. benefits
  - Recommend technologies for larger scale testing
Right-of-Way and Facility Planning Issues

- Problem: Can freight and passenger service co-exist? What are there opportunities or constraints on sharing lines or platforms? Study level boarding requirements

- Research Tasks:
  - Survey current practices
  - Define range of service demands by freight and passengers
  - Identify advantages/disadvantages to using shared facilities
  - Arrange symposium of stakeholders to discuss the issues
  - Compile a synthesis of case studies and experiences
  - Identify national/state/local policies that need to be addressed
  - Recommend opportunities for further consideration
Other Candidate Research Problems

- **ADA and Elderly Service Provision** (both urban and rural); gaps left between public and private providers; revenue and financing concerns

- **At-Grade versus Separated Crossings**: where is either warranted; crash histories; auto congestion and delay.

- **Incorporation of Transit Access Requirements into Highway Access and Design Manuals**: MUTCD, Green Book, and Highway Access Codes provide little guidance on transit facility design needs and accommodations.
Other Candidate Research Problems

- **Professional Development**: worker training and retention

- Improvements to Multimodal Travel Demand Modelling and Transit Simulation Models

- Alternative Fuels and Green Technologies; workplace incentives; carbon credits