Economic Costs of Congestion
National: $121 Billion, $818 per commuter

State of Maryland:
The metropolitan Washington, D.C. region ranked as the most congested city in the US in 2011.

Congestion Mitigation Strategies
Connected and Automated Vehicles
Active/Integrated Traffic Management
• Advanced Traffic Signal Control
• Variable Speed Limits
• Managed Lanes
• Traveler Information Systems
Demand Management Strategies
• Tele-Working and New Technology
• Flexible Work Hours
• Car-pooling
• Increased Public Transportation
• Dynamic Tolling

Related Work at NTC@Maryland
Quantifying the Cost Effectiveness of Freeway Service Patrol Programs
Integration of Variable Speed Control and Travel Time Information to Minimize Recurrent Highway Congestion
HOV Lane Performance Monitoring System
Data Collection of Freeway Travel Time Ground Truth with Bluetooth Sensors

US Congestion Sources
- Special Events/Other
- Poor Signal Timing
- Weather
- Work Zones
- Traffic Incidents
- Bottlenecks

Percent of Statewide Freeways/Expressways Congestion Cost by Source (Total Congestion Cost = $1.27B)
- Auto Delay
- Truck Delay
- Wasted Fuel
- Air Emissions Cost

Congestion Mitigation
Relation to Economic Competitiveness