

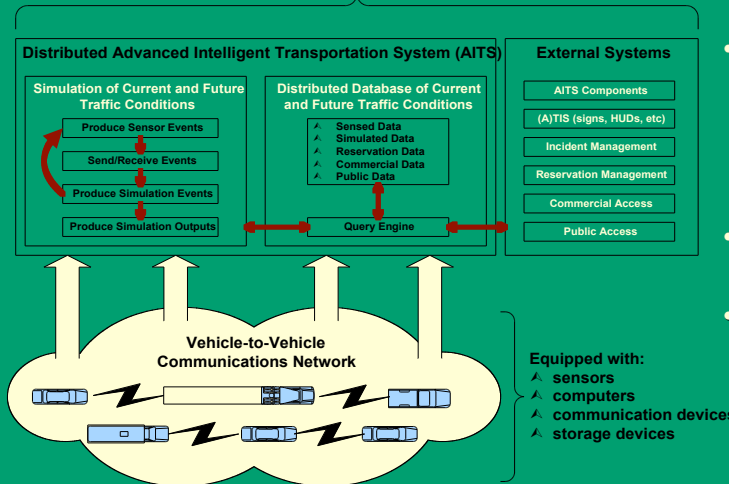
# Simulation-based Operations Planning for Regional Transportation Systems

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## Vehicle-based Advanced Intelligent Transportation System (AITS)

Exploit onboard sensing and computing resources in vehicles to provide new technologies to augment and enhance existing AITS and other systems.

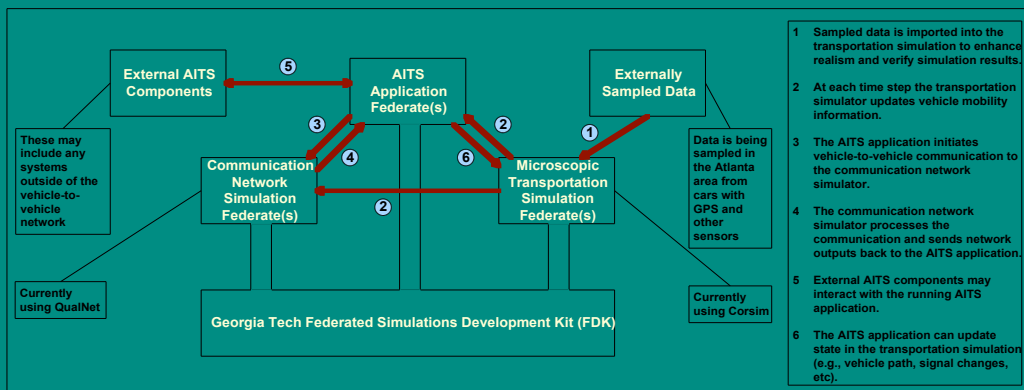


### Goals

- Simulation of current and future traffic conditions
- Well-known interfaces for integration purposes
  - Data sources
  - Complimentary systems
  - Client systems
- Data-based QoS
  - Timeliness, fidelity
- Reservation systems
  - End-to-end
  - Per-Link
  - Public transportation

## Test Bed for Integrated Transportation and Communication Simulation

(support for simulating vehicle-based AITS)



## Research Issues

- Reservation system methods
  - Using simulation to support reservations
- Vehicle-to-vehicle network architectures and protocols
  - Ad-hoc, cell-based, or hybrid
- Updateable simulations
- Distributed, time-managed simulation in unstable networks
  - e.g., wireless ad-hoc networks
- Integration services
  - e.g., web services, grid computing
- Fault Tolerance