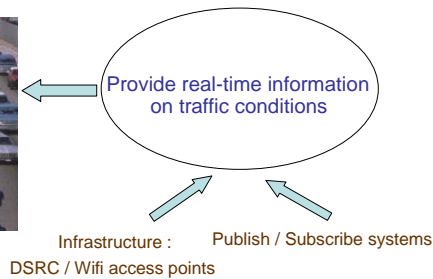


TRAC: An Architecture for Real-Time Dissemination of Vehicular Traffic Information

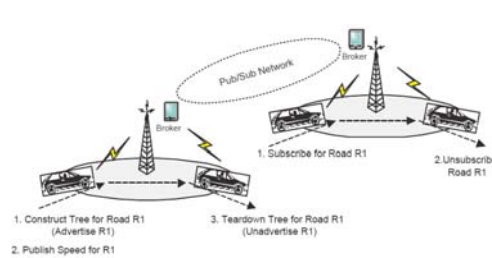
Shravan Rayanchu* Sulabh Agarwal* Arunesh Mishra* Suman Banerjee* Samrat Ganguly†

University of Wisconsin-Madison* NEC Labs †

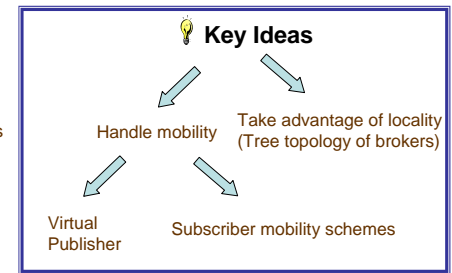
PROBLEM: VEHICULAR TRAFFIC CONGESTION



Why is traditional pub/sub not suitable ?

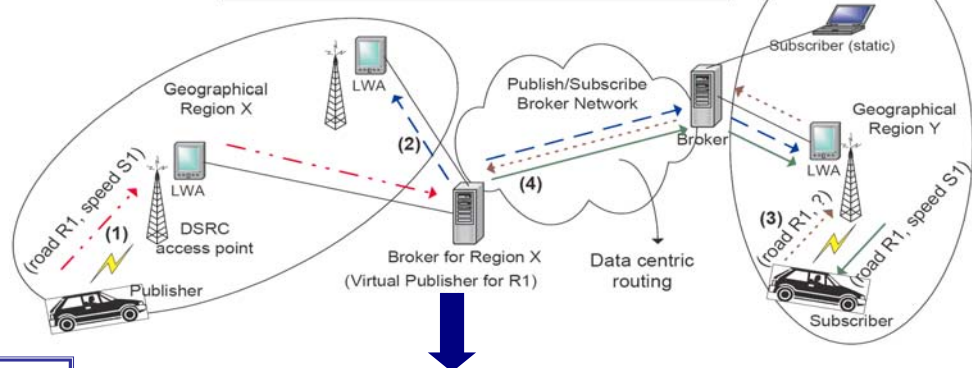
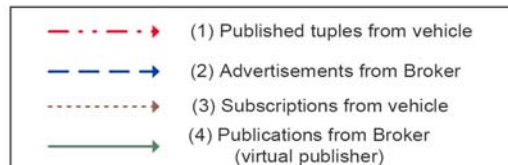
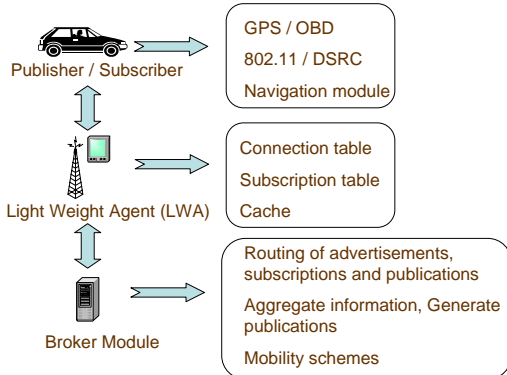


- Number of publishers/subscribers
- Mobility
- Locality of publications/subscriptions
- Location dependence
- Publication significance
- Connection time
- Time sensitivity

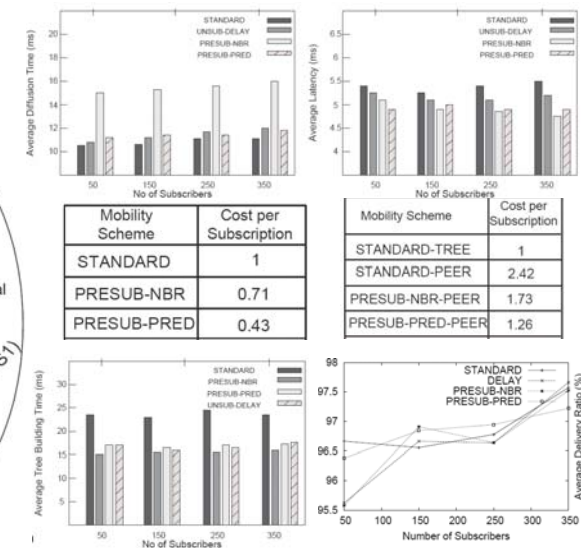


ARCHITECTURE AND ALGORITHMS

Entities in TRAC



SIMULATION RESULTS



Subscriber Mobility Handling Schemes

PRESUB-NBR: Send subscriptions to neighboring APs within a radius

PRESUB-PRED: Send subscriptions to APs on road segments in the subscribed path

Virtual Publisher

Stateless method of publishing

Multicast tree per data item(s)

- Latency/ Diffusion time are not affected by increase in speed, number of subscribers, subscription length
- 99.5% delivery ratio at 70 mph
- Tree topology better than peer-acyclic topology

Scalable Architecture

