Advanced traffic management system aiming less congestion and lower cost

1. AI Traffic Management
Predict traffic situations in the area without sensors

2. High-precision wide area traffic simulator
Predict future traffic situation
Predict traffic situations from road-side sensors and vehicle probe information

1. Learn from historical data by “AI”
   “AI” learns correlation between vehicle probe and sensor info. near intersection.

2. Applying learned “AI” to the system, predict future traffic situation in the area without sensors using real-time probe and sensor info.

   - Complement deficit probe data
   - Estimate and predict by fusing probe info. with sensor info.
More accurate reproduction of traffic situations by using traffic compensation technique, which replaces “influences on narrow street and short trip (not covered in conventional simulator)”, with “eliminate and inject dummy vehicle from and to road network covered in simulator”
Ex

Comparison between actual and simulated data
Change of total congestion length in Tokyo in the Great East Japan Earthquake (2:46pm, March 11, 2011)

Simulation result
in case that if earthquake occurs at 6:45am and traffic demand suppression by 20% from ordinary days

Apply to traffic measures
Prevent fatal congestion by managing traffic in emergency case

Source: ITS-WC 2014 Detroit