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# Siemens ITS – City of Seattle

## Next Generation ITS Center City Project

### Overview

The Next Generation ITS Center City Project's main focus is to use the Arterial Active Traffic Management (AATM) capabilities of the CONCERT system to dynamically change signal timing on key arterials in the downtown area. The CONCERT ATMS (Advanced Traffic Management System) combines data from multiple sources in order to make timing plan change decisions.

### Objective

The CONCERT system will collect real-time data from the Seattle Department of Transportation (SDOT) travel time measurement system, the Tactics central traffic control system, and the Washington State Department of Transportation (WSDOT) freeway management system to detect event-based and recurring congestion. When congestion is detected, rules will be

triggered that select alternate timing plans to mitigate the congestion.

### Concept of Operation

*Current operation (before CONCERT)* – A fixed Time of Day schedule is used to determine when signals transition from AM peak, off peak, and PM peak timing plans, regardless of traffic volume.

*Future operation (with CONCERT)* – The CONCERT system will use detector and travel time data to decide when to transition to the next timing plan, earlier or later than the preprogrammed times, so that the signals are always running the timing plan appropriate for the actual traffic conditions.



## Incident Management

- CONCERT will identify the cause of incidents related to traffic accidents or blockages on I-5, Alaskan Way Viaduct (AWV), or the Battery Street tunnel.
- CONCERT will use detector data, travel time data, and WSDOT ramp detector data to trigger on the rapid increase in congestion on local streets resulting from these incidents, and respond with an incident plan to help mitigate the congestion. Incident plans can include signal timing changes and traveler information messages.

## Special Event Traffic Management

- CONCERT will use all available data to predict and address congestion around event areas such as Seattle Center and the stadiums.
- As with Incident Management, CONCERT will trigger pre-planned incident response plans to help mitigate congestion.

## Traveler Information

- Five electronic dynamic message signs (DMS) will be installed at key locations to inform drivers of problem areas and/or to take action by using alternate routes to avoid those areas.
- Automatically send preprogrammed messaging to the appropriate DMS based on the event/incident detected.

Real-time data sensors  
from SDOT and WSDOT



Figure 1

AWV signal timing plan

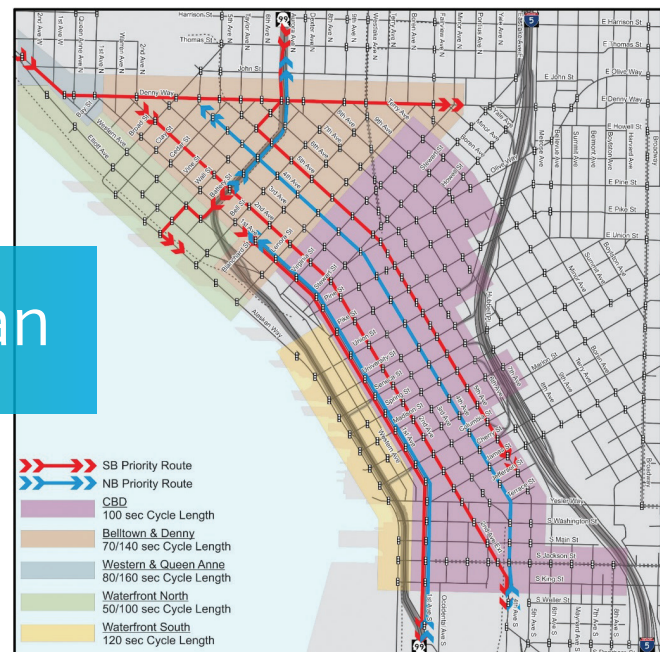
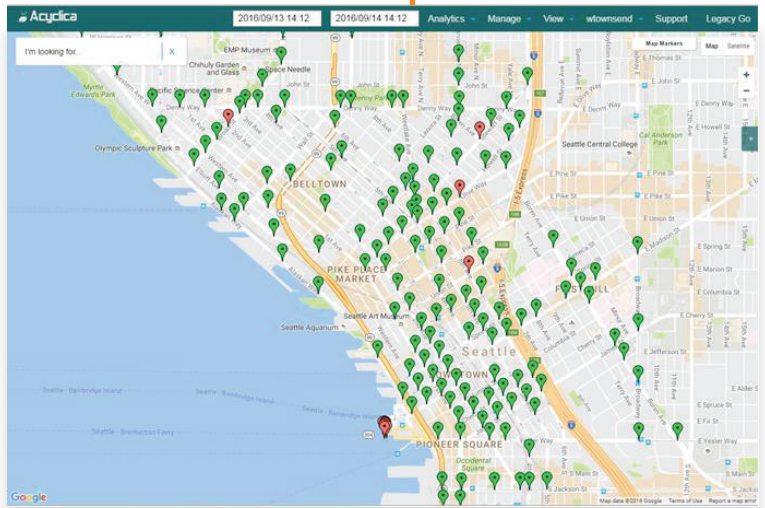
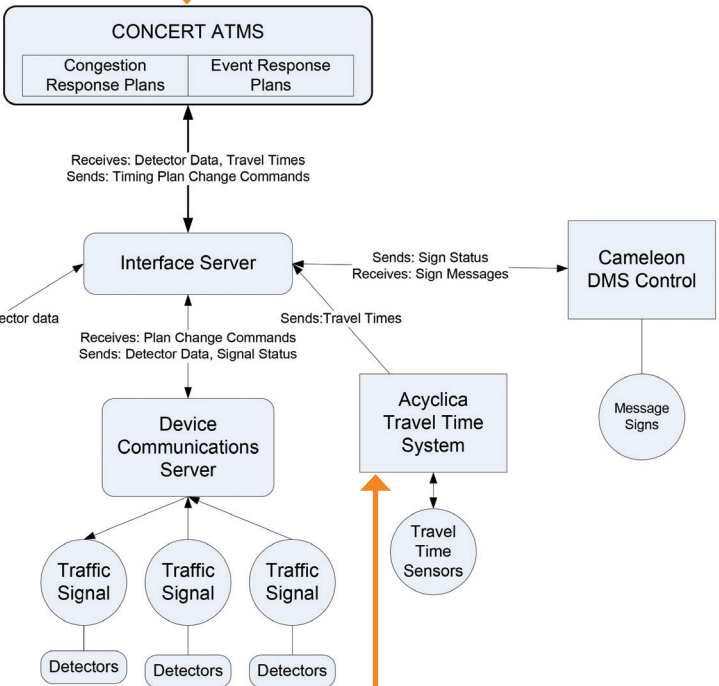
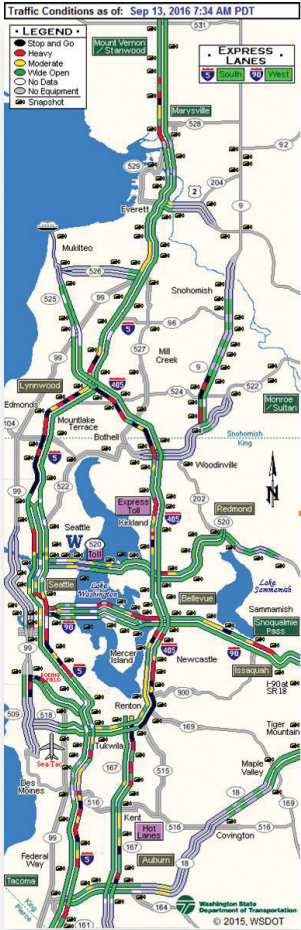
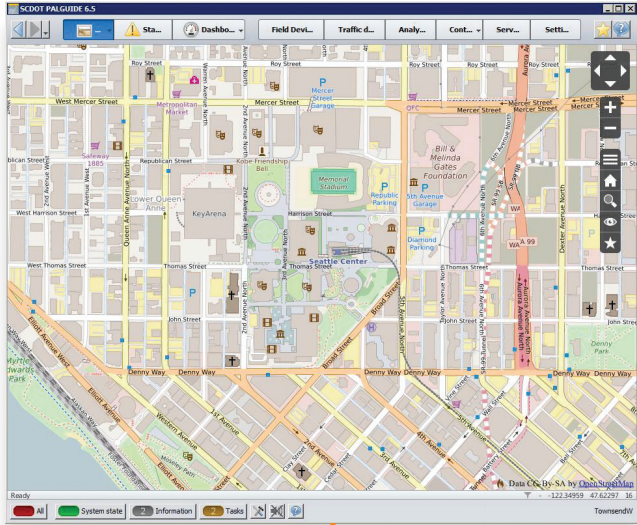


Figure 2



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