Gateway Cities Technology Plan For Goods Movement

Project Update for the I-710 CORRIDOR PROJECT EIR/EIS PROJECT COMMITTEE

Presented By:

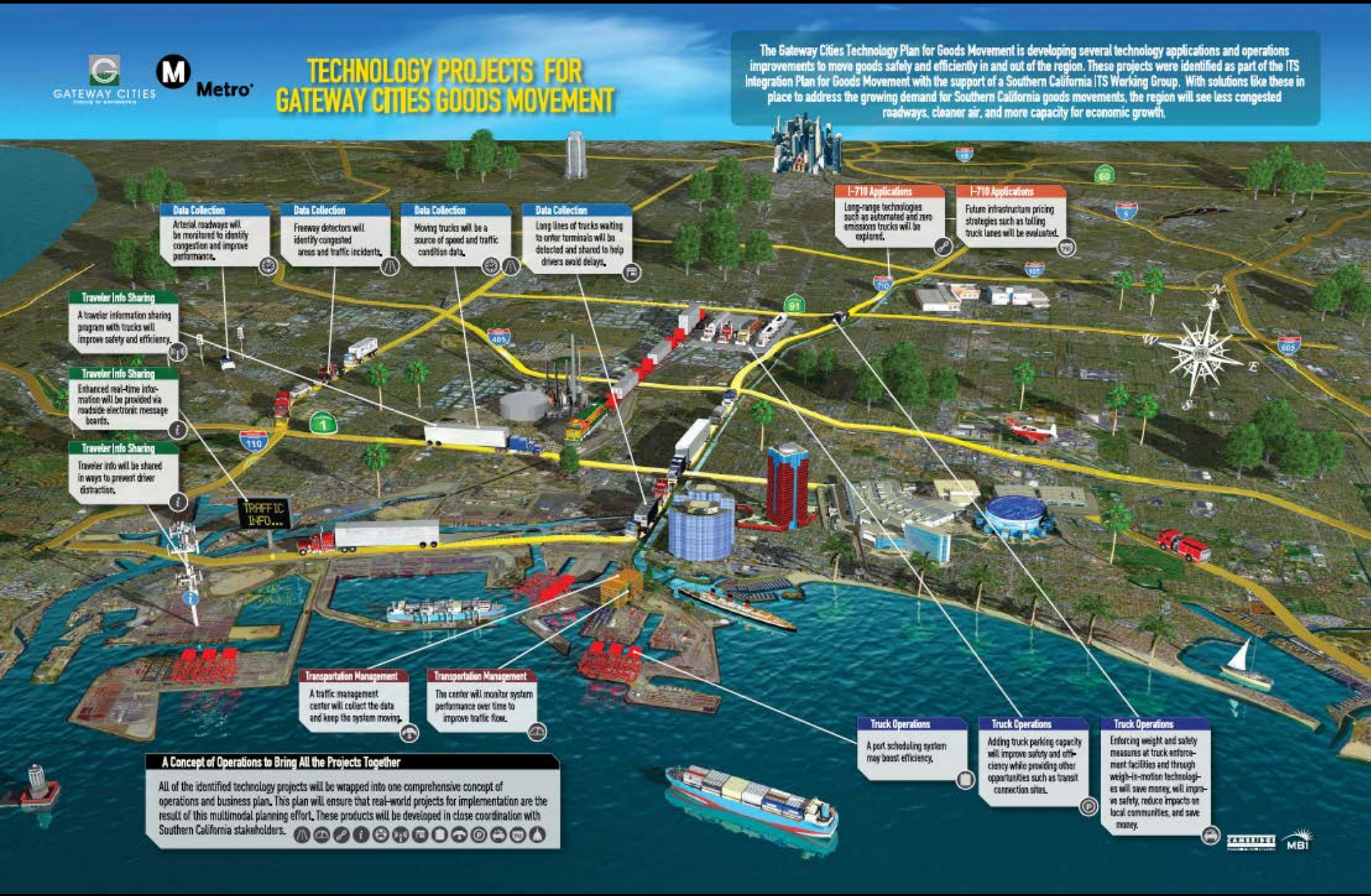
Gateway Cities COG

MTA

Cambridge Systematics

Quick Overview – Current Project

- Updated the Feasibility Studies since 2005 project to:
  - Accommodate recent regional developments – such as I-710 automation needs
  - Leverage recent advances technology
    - Traveler Information (LA SAFE/511)
    - Mobile Applications (smart phones)
    - Freight/Enforcement Technologies
- Create technology plan that leads to implementation
  - Concept of Operations and Business and Implementation Plan
- 18 month project length (11 months in)


GATEWAY CITIES
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TECHNOLOGY PROJECTS FOR GATEWAY CITIES GOODS MOVEMENT
The Gateway Cities Technology Plan for Goods Movement is developing several technology applications and operations improvements to move goods safely and efficiently in and out of the region. These projects were identified as part of the ITS Integration Plan for Goods Movement with the support of a Southern California ITS Working Group. With solutions like these in place to address the growing demand for Southern California goods movements, the region will see less congested roadways, cleaner air, and more capacity for economic growth.
Data Collection
Arterial roadways will be monitored to identify congestion and improve performance.
Data Collection
Freeway detectors will identify congested areas and traffic incidents.
Data Collection
Moving trucks will be a source of speed and traffic condition data.
Data Collection
Long lines of trucks waiting to enter terminals will be detected and shared to help drivers avoid delays.
I-710 Applications
Long-range technologies such as automated and zero emissions trucks will be explored.
I-710 Applications
Future infrastructure pricing strategies such as tolling truck lanes will be evaluated.
Traveler Info Sharing
A traveler information sharing program with trucks will improve safety and efficiency.
Traveler Info Sharing
Enhanced real-time information will be provided via roadside electronic message boards.
Traveler Info Sharing
Traveler info will be shared in ways to prevent driver distraction.
TRAFFIC INFO...
Transportation Management
A traffic management center will collect the data and keep the system moving.
Transportation Management
The center will monitor system performance over time to improve traffic flow.
Truck Operations
A port scheduling system may boost efficiency.
Truck Operations
Adding truck parking capacity will improve safety and efficiency while providing other opportunities such as transit connection sites.
Truck Operations
Enforcing weight and safety measures at truck enforcement facilities and through weigh-in-motion technologies will save money, will improve safety, reduce impacts on local communities, and save money.
A Concept of Operations to Bring All the Projects Together
All of the identified technology projects will be wrapped into one comprehensive concept of operations and business plan. This plan will ensure that real-world projects for implementation are the result of this multimodal planning effort. These products will be developed in close coordination with Southern California stakeholders.
CALTRANS
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BACKGROUND RESEARCH

This research will identify the latest applicable trends, practices, and regional priorities to serve as a foundation for Plan development.

ITS Plans Research and Updates

This task will provide critical outputs including: status of all relevant ITS and Good Movement initiatives in the region, scan of similar types of goods movement based ITS deployments around the country with "lessons learned", driver distraction issues, potential funding mechanisms, and potential automated truck platoon applications.

Stakeholder Interviews

Stakeholder interviews are a critical core component of data collection. Key interviewees will include:

- MTA
- Gateway Cities
- Caltrans
- POLB
- POLA
- City of Los Angeles
- City of Long Beach
- SCAG
- Marine Terminal Operators
- LADPW
- Shippers and Distributors
- Other Stakeholders

FEASIBILITY STUDIES

Each Feasibility Study will explore an ITS program/ application and develop a conceptual design for a preferred alternative. Studies are grouped into functional areas.

Note: All of the Feasibility Studies are closely related, but we've highlighted some critical relationships with red arrows.

Traveler Info Data Collection

- Freeway Detection
- Arterial Info
- Arterial Travel Times
- Queue Detection
- Truck Fleet Communications
- Truck Data Collection

Freight Focused Traveler Info Data Sharing

- Transportation Management
- Truck Info Integration
- 911 Emergency Notification
- Performance Monitoring

Goods Movement Efficiency

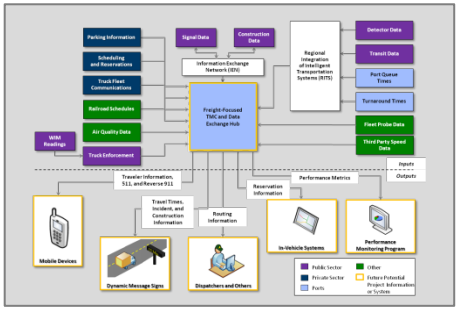
- Scheduling System
- Truck Parking
- Truck Enforcement
- Future Infrastructure
- NEW New Projects

IMPLEMENTATION PLANNING

The Implementation Planning stage of the project will build on the findings of each Feasibility Study to produce an implementable operations and business plan strategy.

Concept of Operations

The concept of operations which will demonstrate how the fourteen feasibility projects will work together in an overall operational program. The concepts of operations will provide project management, and public and private stakeholders with a clear understanding of the operational and general technical capabilities of the system. This concept of operation will address the roles of both the public and private sectors.



Business Plan

The final stage of this project is the development of a comprehensive business and implementation plan for ITS goods movement in the Gateway Cities. This plan will build on roles defined in the concept of operations to clearly describe the activities required for successful implementation and their sequence, raise the awareness of program benefits, build momentum with the required stakeholders, and facilitate their ultimate implementation.

IMPLEMENTATION

ITS Task Force Oversight

Work Completed to Date

- Task 1 – Background Research *(completed)*
  - Interviewed regional stakeholders, subject matter experts, and relevant vendors
  - Documented status or current ITS/Goods Movement systems and plans
- Task 2 – User Needs *(completed)*
  - **Conducted surveys of drayage trucking companies (dispatchers and drivers)**
  - Documented user needs across all subject areas
- Task 3 – Develop Alternative Concepts For Meeting Needs *(underway)*
  - **Held two Vendor Showcases**
  - Sketched out initial solutions
  - Project Definition Documents

Four Surveys

- Regional Drayage Dispatcher Survey
  - 235 respondents
- Harbor Trucking Association Questionnaire
  - 28 respondents
- Regional Drayage Trucker Survey
  - Over 400 respondents
- USDOT National Drayage Survey
  - Over 300 respondents

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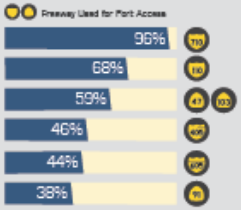
GATEWAY CITIES

Gateway Cities Survey Results

The Gateway Cities Technology Plan is focused on identifying and implementing technology that can help move goods safely and efficiently in and out of the region. As part of this project, we spoke with Southern California's trucking communities to find out their needs, frustrations, and hopes related to travel within the region. One survey of over 400 trucker drivers and over 200 dispatchers focused on traveler information. Another questionnaire focused on the needs of the local drayage community. Finally, we've included information from a national freight traveler information survey to supplement these local findings. We thank all participants for their time and especially thank the FHWA, Harbor Trucking Association, and Ports of Long Beach and Los Angeles for their support. This document contains some of the highlights of what we learned.

In the survey of local truck drivers and dispatchers, researchers found that:

Not surprisingly, the I-710 is the most heavily used freight corridor for port access.

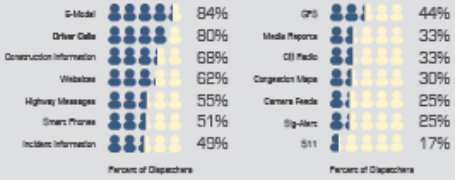


Over (50% of the dispatchers said their trucks also travel on key regional arterials such as Alameda/Henry Bridges and Anaheim.

Truck Drivers use traveler information to make key decisions:

Truck Drivers get their traveler information from a variety of traditional and technology based sources:

Dispatchers in the region use the following sources of information:

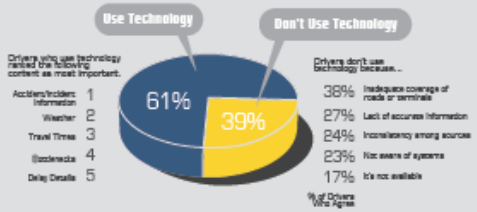


Based on responses to a questionnaire for local drayage truckers, researchers found that:

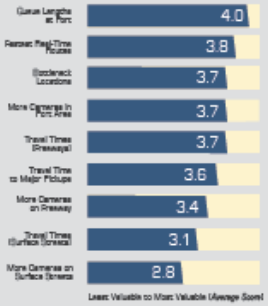
Marine terminal gates were rated as the highest location for delay.

In the national survey sponsored by FHWA, researchers found that:

About 61% of drivers use technology (such as GPS and traveler info websites) for routing decisions.



Dispatchers in the region rated the value of the following improvements to traveler information:



VENDOR SHOWCASE

- ITS and Commercial Vehicle Technology Vendors
  - Key Finding:
    - Private sector moving quickly
    - Rapid development of technology since 2008 study
    - Private sector addressing some needs already
    - More technology options available
  - Two-day Session - January 10th and 11th
  - Detailed Summary Available

VOLVO

perceptics
imaging technology solutions

SENSYS Networks

NAVTEQ

INRIX

TOMTOM

Advent

TELVENT

VENDOR SHOWCASE – 2 – APRIL 4TH

Mercedes-Benz

- Connected Vehicles – Mobile Technology integration with Automobiles

TRANSCORE

- Trucking Communication Devices
- Transportation Management

DRIVEWISE
Good drivers aren't born, they're built

- Smart phone "infrastructureless" weigh station bypass,
- Additional CV enforcement technologies.

VOLVO

- Truck Platooning

Parking Carma

- Online Parking Network – online and mobility parking reservation and payment technology

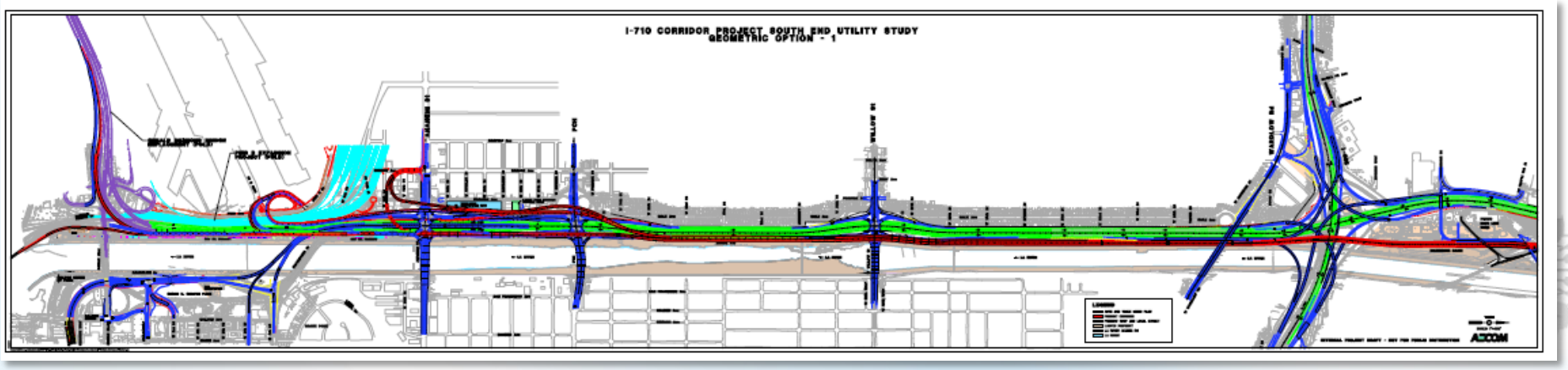
ITERIS Innovation for better mobility

- Performance Measurement System
- Traveler Information

I-710 Coordination - Overview

- Four areas of coordination
  - Coordinate with 3 Separate/Concurrent 710 Utility Studies
  - Research Advanced Platooning and Autonomous Freight Vehicles
  - Research road-pricing alternatives including: truck-only tolling lanes; congestion pricing; and, other pricing options
  - Coordinate with ongoing zero emissions efforts along the corridor

I-710 Utility Coordination



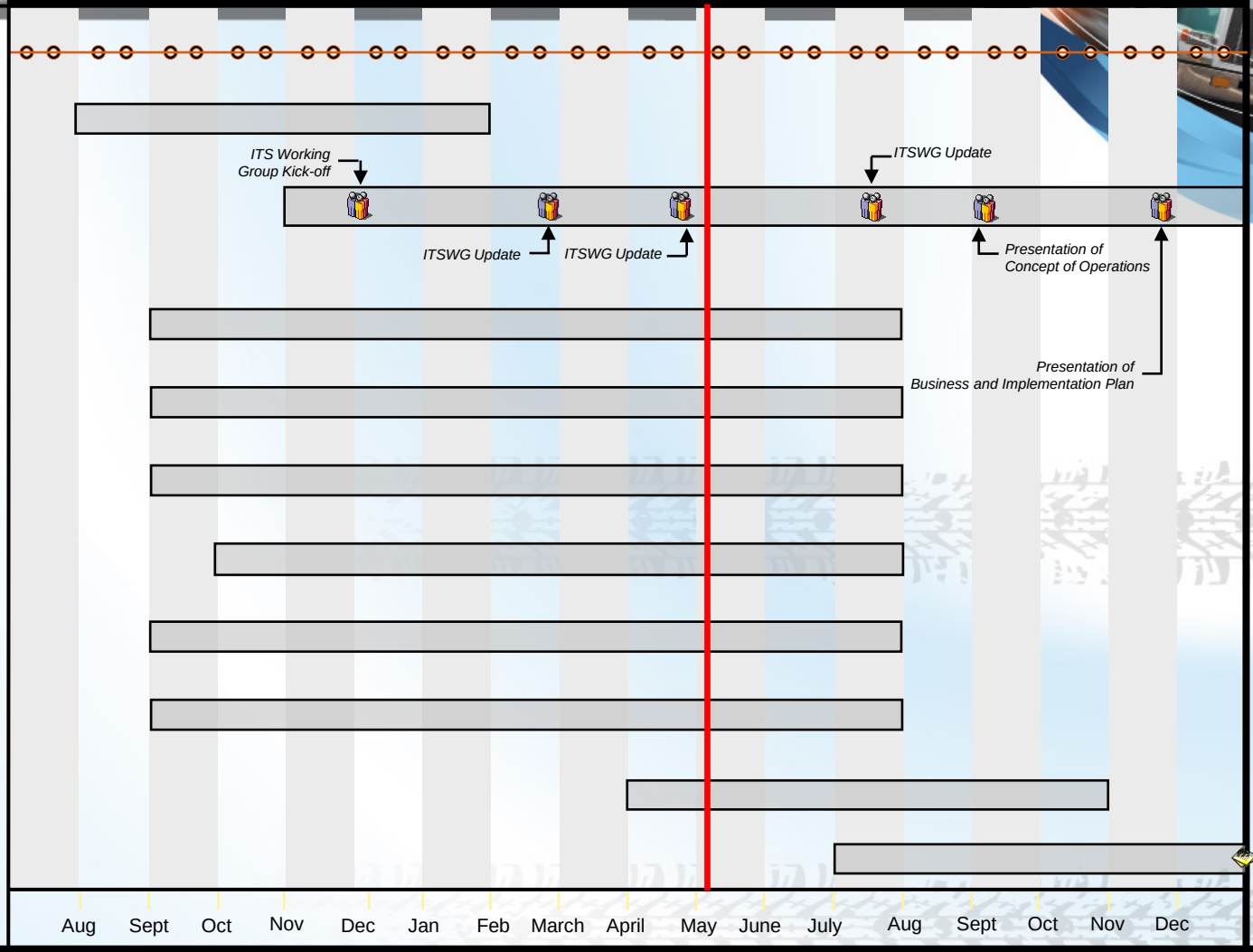
- Last meeting 4/10/12
  - Device location
  - Impact on conduit, pull-boxes, vaults etc.
- Current Activity
  - Catenary definition – related to electrical requirements sizing of the I-710 zero emission corridor

I-710 Coordination

- Zero Emissions Catenary Systems -- Background
  - I-710 EIR/EIS Alternative Technology Study,
    - Conventional low emission trucks (New Diesel, LNG, CNG, etc.)
    - Zero emission trucks
    - Automated Fixed Guideway (e.g. Mag-Lev)
      - For now, Zero Emission Trucks will be the subject of the I-710 EIR/EIS environmental evaluation.
  - Siemens has deployed analogous systems internationally that can be scaled for the I-70 concept

Key Project Elements

Project Schedule



Legend

- *Final Report*
- *ITS Working Group Meeting*
- *Bi-Monthly Progress Meetings*

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Gateway Cities Technology Plan for Goods Movement

Project Schedule

Last Updated: April 30, 2012

QUESTIONS?