SMART-NET TRANSPORTATION INTEGRATION PROJECT

The SMART-Net project proposes to construct a fiber-optic broadband infrastructure to connect City Halls in the South Bay sub-region. The purpose of the project is to support enhancements for mobility and accessibility systems, and networks that serve South Bay residents through services offered by municipalities.

To further enhance the capabilities of SMART-Net and the surrounding transportation system, additional transportation projects have been identified to leverage broadband infrastructure.

1) Regional Integration of Intelligent Transportation Systems (RIITS) SMART-Net Integration

This project will establish a high-speed connection through the South Bay SMART-Net to connect RIITS to a broadband internet service provider. This connection will create a secondary high-speed network connection that will supplement existing and planned fiber connections deployed in the sub-region to enhance data exchange and provide a central storehouse for transportation-related operational data.

2) Los Angeles County Department of Public Works (LACDPW) Traffic Control System and Information Exchange Network (IEN) SMART-Net Integration

This project will establish a virtual private network (VPN) connection through the South Bay SMART-Net to connect traffic signal control field elements in 10 cities (cities of Manhattan Beach, Carson, Hawthorne, Lawndale, Redondo Beach, El Segundo, Lomita, Torrance, Gardena and Inglewood)

OVERALL PROJECT ATTRIBUTES

1. Leverages SMART-Net to provide high-speed data connection to ITS field elements, central traffic control systems, traffic management centers, and data servers
2. Increases reliability and provides additional communication resiliency for traffic operations in the South Bay
3. Provides additional redundancies to the traffic control communications network and RIITS
4. High-speed connections to systems and servers will help manage congestion and increase safety in the South Bay

to the County of Los Angeles traffic management center (TMC) in Alhambra by establishing a SMART-Net node within the City of Alhambra. In addition, the VPN connection through the South Bay SMART-Net will provide a secondary high-speed network connection to the South Bay Cities that are part of the IEN.

3) Manhattan Beach Traffic Control System SMART-Net Integration

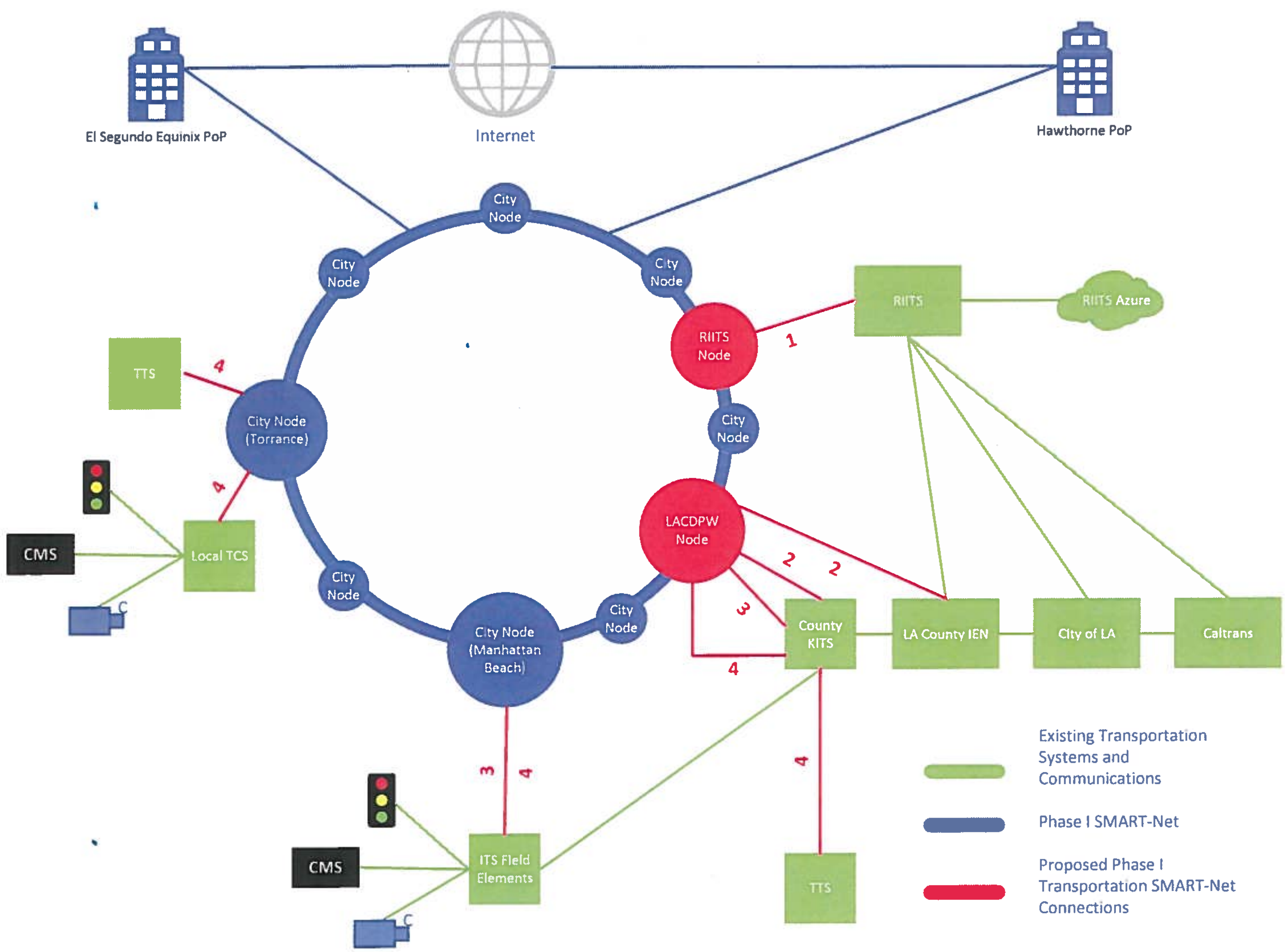
This project will establish a virtual private network (VPN) connection through the South Bay SMART-Net to connect traffic signal control field elements on Rosecrans Ave, Marine Ave, Manhattan Beach Blvd, Artesia Blvd, and Aviation Blvd in the City of Manhattan Beach to the County of Los Angeles traffic management center (TMC) in Alhambra. This VPN connection will create a secondary high-speed network connection that will complement existing wireless and fiber connections deployed in the sub-region to enhance central monitoring and control of the local traffic signals.

4) Signal Phase and Timing (SPaT) Data Sharing SMART-Net Integration

This project will establish a virtual private network (VPN) connection through the South Bay SMART-Net to connect to an agency's central traffic control system (TCS) to a 3rd party data server. This VPN connection will create a high-speed network connection that will have the ability to share Signal Phase and Timing (SPaT) data from the TCS to vehicles that are equipped to receive the data.

Project fact sheets for each of these projects have been prepared and provide more information regarding the need, benefits, and costs. In addition, high-level logical diagrams have been prepared illustrating the connections between SMART-Net, the agencies, the central traffic control systems, and ITS field devices. The following attachments provides an overall high-level diagram illustrating the integration of all projects within SMART-Net.

South Bay SMART-Net Transportation Integration Logical Diagram



Proposed Transportation Benefits of Additional SMART-Net Connections

1. *Regional Integration of ITS (RIITS) SMART-Net Integration*

- Connection will allow for additional communications redundancy for existing integrated transportation systems
- Connection will provide RIITS with secondary PoP access increasing bandwidth and reliability for data exchange over the internet

2. *LACDPW Traffic Control System and Information Exchange Network (IEN) SMART-NET Integration*

- Connection to KITS will provide additional network backbone to supplement existing fiber-optic and wireless communications network deployed by LACoDPW (Carson, El Segundo, Hawthorne, Lawndale, Lomita, Manhattan Beach, & Unincorporated County)
- Connection will create additional communications redundancy with Cities of Inglewood, Gardena, Torrance, Redondo Beach, & LACoDPW operated central traffic control systems
- Connection will provide LACoDPW with an alternate PoP access increasing bandwidth and reliability for data exchange over the internet

3. Manhattan Beach Traffic Control System SMART-Net Integration

- TCS connection will provide alternate communications path for City to LA County TMC, and serve as part of the core communications network for ITS field elements.

4. Signal Phase and Timing (SPaT) Data Sharing SMART-Net Integration

- Connections will allow agency's TCS to share signal phase and timing (SPaT) data to Traffic Technology Services (TTS) or other 3rd Party Data Providers.