

Test & Evaluation Project Summary

At the request of the Uptown Area (Galleria), the City of Houston and Houston TranStar, SWTC assisted Uptown relative to understanding the intricacies and potential costs associated with a wireless network for this area. As background, Located in the Galleria area, Uptown is positioned to become a model/prototype environment for the City of Houston's surveillance and traffic signal control validation, development and testing, incident detection and management requirements. Similarly, Uptown has achieved Priority Corridor status. As a result, Uptown has received funds that will be used to enable unique technological solutions to complex traffic management problems. These include traffic incident management, information dissemination and signalization.

To address these issues, Uptown engaged SWTC to study Uptown's existing deployment and to make planning suggestions for the area as it moves forward. Uptown's objectives are related to traffic management-related capabilities consistent with Priority Corridor objectives. As a result, these are focused on the following:



Incident Management  
Information Dissemination  
Signalization.

A variety of wireless technologies were considered for the Uptown project. These included free-space optics, 2.4 Ghz (various technologies), 5.8 Ghz and others. These technologies were studied relative to:



Scalability  
Applicability for mission critical applications  
Interferers  
Security concerns  
Terrain considerations, etc.

In order to minimize security exposure and disruptions, SWTC suggested that the wireless (preferably licensed) portion of the network be planned for use as a short-haul local "access" technology. Along these lines, it was suggested that this local access technology be used to deliver traffic signal, traffic controller and appropriate video information to a fiber optic backbone network provided by TxDOT, Harris County, Houston Metro or the City of Houston. This backbone network would then be used to deliver traffic signal, traffic controller and appropriate video information to Houston TranStar for operations, management and control purposes.

Status: Complete, although SWTC continues to provide advice and counsel on an as-needed basis.

