

2.3.3 GIS and ITS for Integrated Corridor Management

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The objective of the Integrated Corridor Management (ICM) initiative is to demonstrate how ITS technologies can efficiently and proactively manage the movement of people and goods in major transportation corridors. A known gap in the analysis of ICM is the performance and impacts of transit services when integrated in a corridor with adjacent facilities. This analysis gap is prevalent at the mesoscopic and microscopic simulation levels. Very few of these models can actually represent a transit network, estimate transit travel times, or dynamically adjust transit travel times at road segments and different decision points. On the other hand, travel demand forecasting models do represent transit level of service but may not accurately estimate accurate transit travel times in an integrated corridor management context. In order to fill the gap, a GIS application has been developed to model the potential mode shift to transit in response to high congestion on highways. The GIS application will be able to take the transit network and level of services from travel demand forecasting model, and the more detailed highway network and level of services from simulation models. It uses a pivot-point approach to estimate the mode shift to transit services. This approach can work with trip tables from any travel demand model, and with accurate travel times estimated by micro- and mesoscopic simulation models. It has the advantages of: a) being model-and vendor-neutral; and b) being universal enough so it can be applied to all ICM and non-ICM corridors.