

OmniLink

Case Study of Successful Flex Route–Capable Intelligent Transportation System Implementation

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Potomac and Rappahannock Transportation Commission's OmniLink is an intelligent transportation system (ITS) assisted, hybrid public transportation service that permits flexible routing combined with the time points of conventional fixed-route services. OmniLink promotes mainstreaming of a significant portion of the disabled population eligible for paratransit under the Americans with Disabilities Act (ADA) while reducing the cost of accommodating these passengers. State-of-the-art ITS technology is used to accommodate passenger requests for off-route trips (route deviations). It gives an accept or reject decision to call-takers while the caller is on the phone; schedules all pickups and drop-offs; provides dispatcher oversight; conveys on-time performance and communicates all other relevant information between drivers and the control center; and incorporates passenger counting, navigation assistance to the operator, vehicle inspection documentation, and other utilities. The ITS package includes full post-processing capability to support service analysis and optimization. Initial service began in 1995, but full ITS functionality was achieved only in 2003 after the second procurement attempt. The identified monetary benefits exceed monetary costs by a wide margin. This success can be attributed to more mature technologies, a turnkey project contract model, and refined, firm specifications based on both practical and academic experience. ITS configurations similar to OmniLink's have the potential to solve several common bus transportation problems in lower-demand areas. Examples of benefits include forgoing or reducing ADA paratransit costs, substituting for large buses at night, serving pedestrian-unfriendly streets, and probing for demand in previously unserved areas.