

Linx: A case study of rural ITS technology development

Primary Author: Chris Larson, The Software Ranch LLC

Secondary Author: Kim Billimoria, Yellowstone Business Partnership

Linx is a regional transportation cooperative formed to connect the Greater Yellowstone region, which includes 27 counties in the three states (Idaho, Montana and Wyoming) surrounding Grand Teton and Yellowstone national parks. Linx is a blended cooperative that includes both public and private transportation providers and integrates and markets its members' services as one system on www.linx.coop. Linx was formed in January of 2010 and currently has around 70 members. 2010 and 2011 are pilot and demonstration years for Linx, with 2010 having been spent mostly in technology and website development.

During its developmental stage, the Yellowstone Business Partnership (YBP) is providing administrative services for Linx. YBP is a non-profit committed to enhancing the environmental, social and economic well-being of the Greater Yellowstone region.

A big part of the Linx system is the associated technology that improves the rider's experience, facilitates trip planning and provides management tools for the transportation provider. The first part, improving the rider's experience, starts with LinxComm. This is the on-board technology that provides automatic vehicle location (AVL) and wi-fi as well as the potential for driver messaging, next stop information, etc. The data link is provided via a cell network. The second part, facilitating trip planning, is accomplished through the Linx trip planning website (www.linx.coop). The trip planner provides one stop shopping for planning a trip from point A to point B across multiple providers, viewing activities and destinations that are served via the Linx system, and adding attractions to a trip itinerary. The itinerary can be saved to the user's account for later review and access. The trip plan itinerary contains all necessary bus information such as start and stop addresses, reservation information, fare and optional walking directions for each segment of the trip. The trip planner is based on GTFS data files for each provider and GIS data for the 27 counties being served. The third part, provider management tools, is comprised of the LinxTransit suite of web based applications. Linx Provider uses the AVL information from each bus and the associated schedule to provide next stop information, current location, speed and direction. Reports can be generated that display on-time stats (on-time, left early, left late) for each bus, route or system wide by day, week or month timeframes. Current bus location can be displayed on a Google Map. LinxTransit allows the public easy access to the next stop time and distance from the stop to the next bus. This presentation explores the challenges, successes, failures and lessons learned associated with the development and deployment of each aspect of the Linx technology.