Cherriots West Salem Connector

Flexible On-demand Transit

Featured Category

Increased Transit Use

Unique Attributes

- Small buses can traverse neighborhood streets
- Routes change based on demand
- Bus only runs when requested
- Last mile transit solution, connects neighborhoods to frequent transit routes
- Transit solution for low density suburban development

Location

Salem, Oregon

Milestones

- 2014:   Capturing the Ride Study
- 2014-15:   Further Research and Planning
- 2015:   Pilot Project Implementation

Applicable GHG Reduction Strategies

- Transit Service and Facilities

This case study is an illustration of strategies from the Transportation and Land Use Greenhouse Gas (GHG) Reduction Toolkit, and is intended to help local jurisdictions explore actions and programs that can reduce GHG emissions from transportation.

Challenges

How do you provide efficient transit service within a development pattern consisting of a network of winding suburban streets that don't support regular bus routes?

Smaller buses can traverse neighborhood streets, enabling pickup and drop-off points to be closer to people's homes and reducing the walking distance to transit. Buses only run when requested and routes change in response to demand.

Book a Trip

Book a trip in advance on your smartphone, tablet or computer at **book.cherriots.org**. You can also call **503-361-7551**.

Wait at Intersection

Arrive at the intersection of your chosen Connector point by the start of your 10 minute pickup window. When we're on our way, we'll notify you via text, call or email (your choice).

Share Your Ride

Rides are shared with your neighbors in West Salem. Other riders will be picked up and dropped off along your route.

Arrive or Transfer

After a short ride, arrive at your destination. You can also transfer to Cherriots at the Glen Creek Transit Center or Safeway to get to downtown Salem.

Background

In 2014 a group of graduate students from Portland State University examined the barriers to accessing transit service that riders faced in West Salem, South Salem and Keizer through the "Capturing the Ride" project. They conducted public outreach to determine how people felt about the Cherriots bus system and what solutions could make it easier for people to ride the bus. The report examined flexible transportation options for a low density land use pattern, dominated by residential development. The project sought to provide a service that would meet the communities' transit needs better than the fixed routes. Cherriots planning staff conducted further research and identified an on-demand, flexible transit service as the best solution, and in 2015 launched the West Salem Connector pilot.

The Connector is a reservation-based, on-demand transit service. When riders book trips online or by calling, software automatically generates a trip manifest and that information is then relayed to the bus drivers via on-board tablets. The path of the bus changes every hour based on demand, with one scheduled stop at the Glen Creek Transit Center. Drivers pick up and drop off riders in a 14-passenger cutaway bus. Riders pay using the standard Cherriots fares on the bus.

Implementation of the service coincided with a complete system redesign, which resulted in the West Salem Connector replacing two existing routes, Routes 22 and 23.

In total, the Connector service area is 2.38 square miles, a 31% increase in the service area covered by Routes 22 and 23. Additionally, fixed route service between the Glen Creek Transit Center and Salem's Downtown Transit Center was increased from hourly to every 15 minutes.

Conclusions

Providing efficient transit service to low density suburban areas is challenging to traditional fixed-route transit service. A flexible, on-demand transit service provides an efficient solution for this type of land use pattern, allowing transit agencies to cater their service to the demand of individual riders. Transit agencies are not likely to save on operations costs using an on-demand service model, but they should be able to more efficiently increase the coverage area in low-density neighborhoods without additional funding.

Using software that allows for "smart" dispatching and routing is the key to a successful service model. By eliminating the need for a dedicated dispatcher, labor costs are reduced and allows the transit agency to provide advanced booking in near real-time. Additionally, riders are able to book trips themselves using an online interface. Software also allows riders to call in so that transit staff can book trips for riders without access to the internet.

Transit agencies exploring this type of service will need to balance the trade-offs between flexibility and certainty. The more flexible transit service is, the more uncertain the pickup and drop-off times are for the rider. Software can be used to retain certainty by using text messages to alert riders when their bus is on the way, and allowing riders to track their bus using their smartphone. Additionally, allowing the booking of recurring trips can be useful for daily commuters.

Switching to a non-traditional transit service model can potentially confuse existing riders. The transition to the service model was aided by using using simple to understand language on rider materials, that clearly explained the process for booking a trip and told riders what they could expect on their trip. A three-month transision period gave riders time to get registered and move to the Connector service while fixed route service was still operating.

During the first year of service, the Connector has averaged 3.3 boardings per revenue hour. Although ridership is within the target range, staff believe that more can be done to increase ridership without increasing revenue hours or peak vehicles.

Key Successes

- 79% increase in the number of people within walking distance to transit service over previous routes
- Span of the service day extended an hour later into the evening
- 81% increase in revenue hours over previous routes
- 84% of riders reported a "good" or "very good" experience in a ridership survey
- 93% of trips for the Connector were on time in the first year of the pilot

Quantifying GHG Reduction

The Transportation and Land Use Greenhouse Gas Reduction Toolkit estimates reduction ranges for several of the strategies mentioned in this case study. Those strategies with quantified reduction ranges are:

- Increasing Public Transportation Options (up to 1.1%)

While strategies are often combined to maximize effectiveness, the reduction

The Toolkit is a component of the Oregon Sustainable Transportation Initiative (OSTI), which was formed to address the requirements of Senate Bill 1059 (2010).

For more information please visit:

http://www.oregon.gov/ODOT/Planning/Pages/GHG-Toolkit.aspx

Oregon Department of Transportation

Oregon Department of Land Conservation and Development