Technology Applications are Improving Operations for Idaho Transit Providers

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Session T3: Emerging Technology for Rural Transit Providers

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McFARLAND MANAGEMENT, LLC
Technology Is A Tool

- Improve operational effectiveness and efficiency
- Increase safety
- Enhance ability to collect data
- Enable coordination
- Expand awareness of transit options
- Increase ridership
- Improve customer satisfaction
Technology Enabling Activities
Idaho Historical Perspective

• Restructuring
  – Planning: IMAP, I-WAY, Local Mobility Networks, etc.
  – Vision: *Coordinated and contemporary mobility management networks provide accessible and seamless services in an efficient, effective, and intelligent manner*
    – Established partnerships

• Funding
  – 2005 ITS Grant
  – 2010 ARRA Grant

• Significant investments
  – 511 System
  – Idaho ITS Study (2007)

• Development of Transit Technology Initiatives
Major Idaho Transit Technology Initiatives

- APTS
  - Demand Response Dispatch Software
  - Fixed Route Mgmt
  - Automated Vehicle Location (AVL)
  - Mobile Data Terminals (MDT)
  - En-route signage

- Traveler Information
  - GTFS data management
  - 511 Phone
  - 511 Website
  - Google Transit

- Mobility Management System
  - Idaho – Transportation, Reimbursement, Integration, and Performance System (I-TRIPS)
APTS Goals

• Improve operational efficiency
  – Demand Response
  – Fixed Route

• Enhance ability to collect data

• Enable coordination

• Do more with less!
  – Possibly expand services with same resources

Contracted with RouteMatch Software to provide APTS System
AVL/MDT

- Using GPS, locates buses and provides information to dispatchers
- Primary communication between buses and dispatch
- Logs information and sends to database
- Foundation for other technologies
Vehicle Location and Tracking

- Map based bus location in real time
- Other information - speed
- Playback function
- Precise stop location
Demand Response Dispatch Software

- Customer database
- Trip scheduling
- Dispatching
- AVL display
- Reporting
- Billing
Fixed Route Management

- Route/Stop Creation
- Vehicle/Driver/Run Assignment
- Dispatching
- On-Time Performance
- Ridership data collection
  - By route and stop
  - Boardings and alightings
- Fare collection
  - By type
  - By category
En-Route Signage

- Indoor/outdoor Monitors
- Outdoor signs at stops
- Information driven by AVL database
- Requires power and communication
# APTS Project Accomplishments

<table>
<thead>
<tr>
<th>Organization</th>
<th>AVL/MDT</th>
<th>Demand Response Dispatching</th>
<th>Fixed-Route Management</th>
<th>En-Route Signage</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRTA</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>Live with Fixed Route system; currently testing.</td>
</tr>
<tr>
<td>PRT</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Live with Demand Response and Fixed Route software; currently testing.</td>
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<tr>
<td>RPT</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Live with Demand Response software and Fixed Route systems. Currently testing.</td>
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<tr>
<td>Trans IV</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Complete and accepted.</td>
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<tr>
<td>TRPTA</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Live with Demand Response software. Fixed Route go-live scheduled in early September.</td>
</tr>
<tr>
<td>TVT</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Live with Demand Response software and Fixed Route systems. Currently testing.</td>
</tr>
<tr>
<td>VRT</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Under a separate contract, Route-Match is deploying the Demand Response Dispatching software. Fixed Route is desired, but currently unfunded.</td>
</tr>
<tr>
<td>Lewiston Transit</td>
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<td>✓</td>
<td>✓</td>
<td></td>
<td>Under a separate contract, Route-Match has deployed their Demand Response Dispatching software.</td>
</tr>
</tbody>
</table>
APTS - Impacts To Date

• Significant reduction in radio usage
• Able to provide same service with less resources
• Increased demand on dispatchers time
• Addressing few complaints from passengers
  – Service is not the same
• Fixed route software requiring extensive revisions – software updates nearing completion
Major Idaho Transit Technology Initiatives

APTS
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Traveler Information
- GTFS data management
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Mobility Management System
- Idaho – Transportation, Reimbursement, Integration, and Performance System (I-TRIPS)
Traveler Information Goals

• Actively manage and keep up-to-date GTFS information in the properly formatted files

• Expand dissemination methods of transit route, stop, and schedule information
  – Awareness of transit options

• Increase ridership

• Improve user satisfaction

Castlerock developing transit traveler information system
511 Transit System

• **MODES** – transit management software
  – Adjust daily schedules
  – Enter “events”
  – Database for map displays

• **511 Transit webpage**
  – Displays agencies, routes, stops, and schedules

• **511 Phone**
  – Currently can be transferred to transit provider’s phone

• **Google Transit**
  – Information provided for trip planning
Routes and Stops Displayed
Schedules Displayed
### Traveler Information Accomplishments

<table>
<thead>
<tr>
<th>Organization</th>
<th>Initial GTFS file Generated</th>
<th>Information Displayed on 511 Transit</th>
<th>Information Available On Google Transit</th>
<th>511 Phone Transfers to Providers</th>
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</thead>
<tbody>
<tr>
<td>CityLink</td>
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<td>✓</td>
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<tr>
<td>Lewiston Transit</td>
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<td>✓</td>
<td>✓</td>
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<tr>
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<td>✓</td>
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<tr>
<td>VRT</td>
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<td>Coming Soon</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>PRT</td>
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<td>✓</td>
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<td>✓</td>
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<tr>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>START Bus</td>
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<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
GTFS Tool Status

- **MODES – UPDATE (new tool)**
  - Agency
  - Routes/Stops
  - Schedule
  - Fares
  - Enable use of “Rainbow” lines

- Development under-way

- Training and role-out
  - Summer 2011
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I-TRIPS Goals

• Fully automate grants management process
  – Application – Agreements – Reimbursement

• Establish database of grant and operational data
  – NTD data collection
  – Foundation for performance management

• Track information to common thread
  – STRATEGIES

• Improve ability to REPORT performance
I-TRIPS Status

• System design to be complete by November 2011
• Begun system development (on designed components)
• System testing in December - January
• System available for data entry January 2012
• Role out
  – Operational data collection and reimbursement requests in Spring of 2012
  – New application cycle in January 2013
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Mobility Management System
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Focus on the Future

• APTS
  – Expand deployments to additional providers
  – Database sharing for enhanced coordination
  – Integrated automated passenger counters, stop annunciators, smart card system

• Traveler Information
  – Integration of AVL data for real time bus location
  – Apps for web info on enabled phones
  – 511 phone next bus information

• I-TRIPS
  – Expanding grant funding types
  – Integrated asset management functionality
Questions?

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