

Technology Applications are Improving Operations for Idaho Transit Providers

2011 National Rural ITS Conference
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Session T3: Emerging Technology for Rural Transit Providers

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M^cFARLAND **M**ANAGEMENT, 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

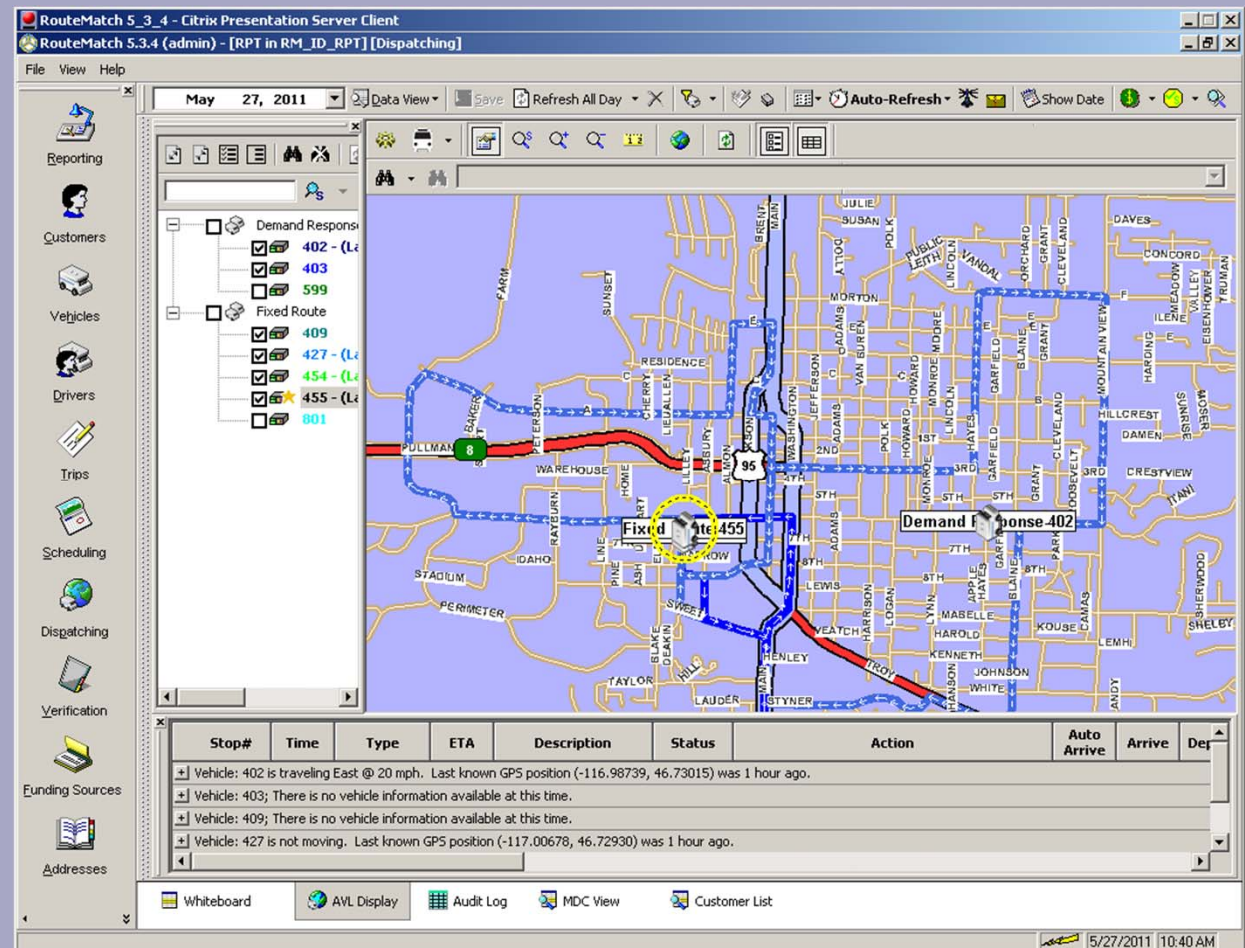
AVL/MDT

- 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

The screenshot displays the 'RouteMatch 5.3.4 - Citrix Presentation Server Client' window. The title bar indicates the user is 'RouteMatch 5.3.4 (admin)' and the session is '[RPT in RM_ID_RPT] [Customers]'. The interface includes a menu bar (File, View, Help) and a toolbar with icons for New, Save, and other functions. On the left, a vertical navigation pane lists various modules: Reporting, Customers, Vehicles, Drivers, Trips, Scheduling, Dispatching, Verification, Funding Sources, and Addresses. The 'Customers' module is selected, showing a list of customer names. 'Accola, Kristi' is highlighted. The main window displays the 'General' tab for this customer's profile. The 'General' section includes fields for Name (First Name: Kristi, Last Name: Accola), Address (Home: 1227 S Hanson Ave, Moscow, ID 83843), Primary Phone (1-208-301-0421), Secondary Phone (1-208-885-6280), Official Phone, Social Security, Email Address, Birthdate, Age, Language (English), and Gender (Female). There are checkboxes for 'Customer is Currently Active', 'Elderly', and 'Disabled'. The 'Trip Default Settings' section shows 'Mobility Type' set to 'Ambulatory', 'Associated Service' set to 'Demand Response', 'Load Time' set to 'Use default associated with Mobility Type (currently 3 min)', and 'Unload Time' set to 'Use default associated with Mobility Type (currently 3 min)'. A 'Comments' section is at the bottom. The status bar at the bottom right shows the date and time: 5/27/2011 10:21 AM.

RouteMatch 5.3.4 - Citrix Presentation Server Client
RouteMatch 5.3.4 (admin) - [RPT in RM_ID_RPT] [Customers]

File View Help

Reporting
Customers
Vehicles
Drivers
Trips
Scheduling
Dispatching
Verification
Funding Sources
Addresses

Accola, Kristi
Altgrig, Gloria
Anderson, Betty
Andrews, Patricia
Atkison, Claudine
Atwood, Fran
Austin, Richard
Bennett, Jackie
Bentz, Marian
Bergman, Jessie
Boyd, Ray
Brehan, Christine
Brower, Bessie
Buerkle, Alice
Buskirk, Steven
Byers, Elaine
Cann, Goldie
Carlson, Debra
Centers, Ashley
Chaffino, Anita
Cole, Pauline
Conitz, Mary
Crenshaw, Donna
Crumley, Barb
Dahlke, Shannon
Danielson, Walter
Dater, Gwen
Desouky, Tina
Dockter, Clara
Dorendorf, Bob
Duross, Mickey
Dusten, Richard
Elliott, Gladys

Accola, Kristi

General

Name: Title: First Name: Kristi M.I.: Last Name: Accola Suffix:
Official Name:
Address: Home
Home Address same as Home Address?
1227 S Hanson Ave
Moscow, ID 83843 (Latah)
1227 S Hanson Ave
Moscow, ID 83843 (Latah)
Primary Phone 1- (208) 301-0421 Extension: Birthdate: Age:
Secondary Phone 1- (208) 885-6280 Extension: Language: English
Official Phone: Internal ID:
Social Security: - - - Gender: Male Female N/A
Email Address: Customer Created By: RouteMatch User
☒ Customer is Currently Active
☐ Elderly ☐ Disabled

Trip Default Settings

Mobility Type: Ambulatory Associated Service: Demand Response
Load Time:
☒ Use default associated with Mobility Type (currently 3 min)
☐ Specify a value for THIS Customer only 3 (minutes)
Unload Time:
☒ Use default associated with Mobility Type (currently 3 min)
☐ Specify a value for THIS Customer only 3 (minutes)
Attendant Count: 0
Mobility Type: Ambulatory

Comments

Comments:

General Misc Custom Fields Audit Log Fav Addresses Fav Trips Suspension

5/27/2011 10:21 AM

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

RMCA 3.0.1 - Citrix Presentation Server Client
Edit Run West - PM

Run Description: West - PM ☐ Allow deviations
Start Date: 5/26/2011 ☐ Special
End Date: 5/26/2012
Driver: <Unassigned>
Vehicle: 455
Notes:
Assign

Pull Out Location: <UI Campus> Student Union Building 628 S Deakin St Moscow, ID 83843 (Latah)
Pull In Location: <Garage> Latah Co. Fair Grounds 1021 Harold St Moscow, ID 83843 (Latah)
Pull Out: 12:31 Last Drop: 18:00
First Pick: 12:40 Pull In: 18:30

Trips assigned to this run

Remove	Trip Description	Route Pattern	Scheduled Start
<input type="checkbox"/>	West Route 12:40	West Route	12:40
<input type="checkbox"/>	West Route 13:10	West Route	13:10
<input type="checkbox"/>	West Route 13:40	West Route	13:40
<input type="checkbox"/>	West Route 14:10	West Route	14:10
<input type="checkbox"/>	West Route 14:40	West Route	14:40
<input type="checkbox"/>	West Route 15:10	West Route	15:10
<input type="checkbox"/>	West Route 15:40	West Route	15:40
<input type="checkbox"/>	West Route 16:10	West Route	16:10
<input type="checkbox"/>	West Route 16:40	West Route	16:40
<input type="checkbox"/>	West Route 17:10	West Route	17:10
<input type="checkbox"/>	West Route 17:40	West Route	17:40

Select Trips to be added

Filter By Day of Week: Sun Mo Tue Wed Thu Fri Sat

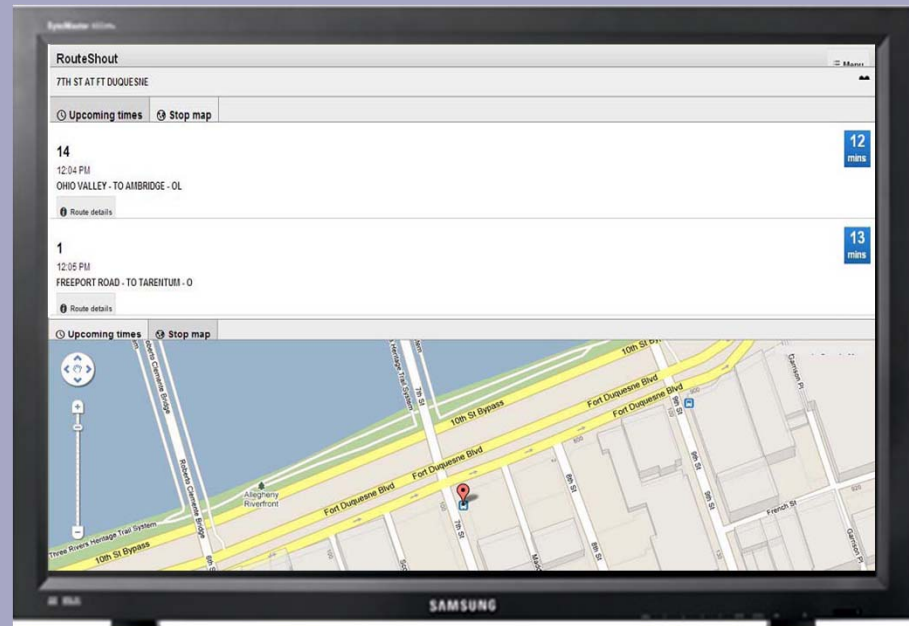
Filter By: All

Select	Trip Description	Route Pattern	Scheduled Start	Scheduled End	Days	Special	Run
<input type="checkbox"/>	LM Commuter AM	LM Commuter	6:50	8:30	Mon, Tue, Wed, Thu, Fri	<input type="checkbox"/>	
<input type="checkbox"/>	LM Commuter PM	LM Commuter	16:30	18:10	Mon, Tue, Wed, Thu, Fri	<input type="checkbox"/>	
<input type="checkbox"/>	Jazz East 06:40	JazzFest-East	6:40	7:00	Wed, Thu, Fri	<input type="checkbox"/>	
<input type="checkbox"/>	Jazz East 07:10	JazzFest-East	7:10	7:30	Wed, Thu, Fri	<input type="checkbox"/>	
<input type="checkbox"/>	Jazz East 07:40	JazzFest-East	7:40	8:00	Wed, Thu, Fri	<input type="checkbox"/>	
<input type="checkbox"/>	Jazz East 08:10	JazzFest-East	8:10	8:30	Wed, Thu, Fri	<input type="checkbox"/>	
<input type="checkbox"/>	Jazz East 08:40	JazzFest-East	8:40	9:00	Wed, Thu, Fri	<input type="checkbox"/>	
<input type="checkbox"/>	Jazz East 09:10	JazzFest-East	9:10	9:30	Wed, Thu, Fri	<input type="checkbox"/>	
<input type="checkbox"/>	Jazz East 09:40	JazzFest-East	9:40	10:00	Wed, Thu, Fri	<input type="checkbox"/>	
<input type="checkbox"/>	Jazz East 10:10	JazzFest-East	10:10	10:30	Wed, Thu, Fri	<input type="checkbox"/>	
<input type="checkbox"/>	Jazz East 10:40	JazzFest-East	10:40	11:00	Wed, Thu, Fri	<input type="checkbox"/>	
<input type="checkbox"/>	Jazz East 11:10	JazzFest-East	11:10	11:30	Wed, Thu, Fri	<input type="checkbox"/>	
<input type="checkbox"/>	Jazz East 11:40	JazzFest-East	11:40	12:00	Wed, Thu, Fri	<input type="checkbox"/>	
<input type="checkbox"/>	Jazz East 12:10	JazzFest-East	12:10	12:30	Wed, Thu, Fri	<input type="checkbox"/>	
<input type="checkbox"/>	Jazz East 12:40	JazzFest-East	12:40	13:00	Wed, Thu, Fri	<input type="checkbox"/>	
<input type="checkbox"/>	Jazz East 13:10	JazzFest-East	13:10	13:30	Wed, Thu, Fri	<input type="checkbox"/>	
<input type="checkbox"/>	Jazz East 13:40	JazzFest-East	13:40	14:00	Wed, Thu, Fri	<input type="checkbox"/>	
<input type="checkbox"/>	Jazz East 14:10	JazzFest-East	14:10	14:30	Wed, Thu, Fri	<input type="checkbox"/>	

Legend: Trip assigned to a run

En-Route Signage

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



APTS Project Accomplishments

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

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

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- 511 Phone
- 511 Website
- Google Transit

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

511 http://hb.transit.idaho.gov/main.jsf

Idaho Transportation Department **Transit Info**

I-way.org Transit Providers Highway Info Links

Switch to Schedules --- Select Map --- Go Future Info: []

--- Bus Transit ---

- ☐ Coeur d'Alene - Citylink
- ☐ Teton Valley - START Bus
- ☐ Northwestern Trailways
- ☐ Pocatello - PRT
- ☐ Targhee - TRPTA
- ☐ Sun Valley - Mountain Rides
- ☐ Salt Lake Express
- ☐ Nampa - Treasure Valley Transit
- ☐ Moscow - Valley Transit
- ☐ Lewiston Transit

--- System Info ---

- Major Stops
- Stops
- Route Shields
- Buses
- One Way

--- Transit Reports ---

- Delays
- Alerts
- Other Info

Map Satellite Hybrid

Map data ©2011 Google - Terms of Use

MODES
DEMO



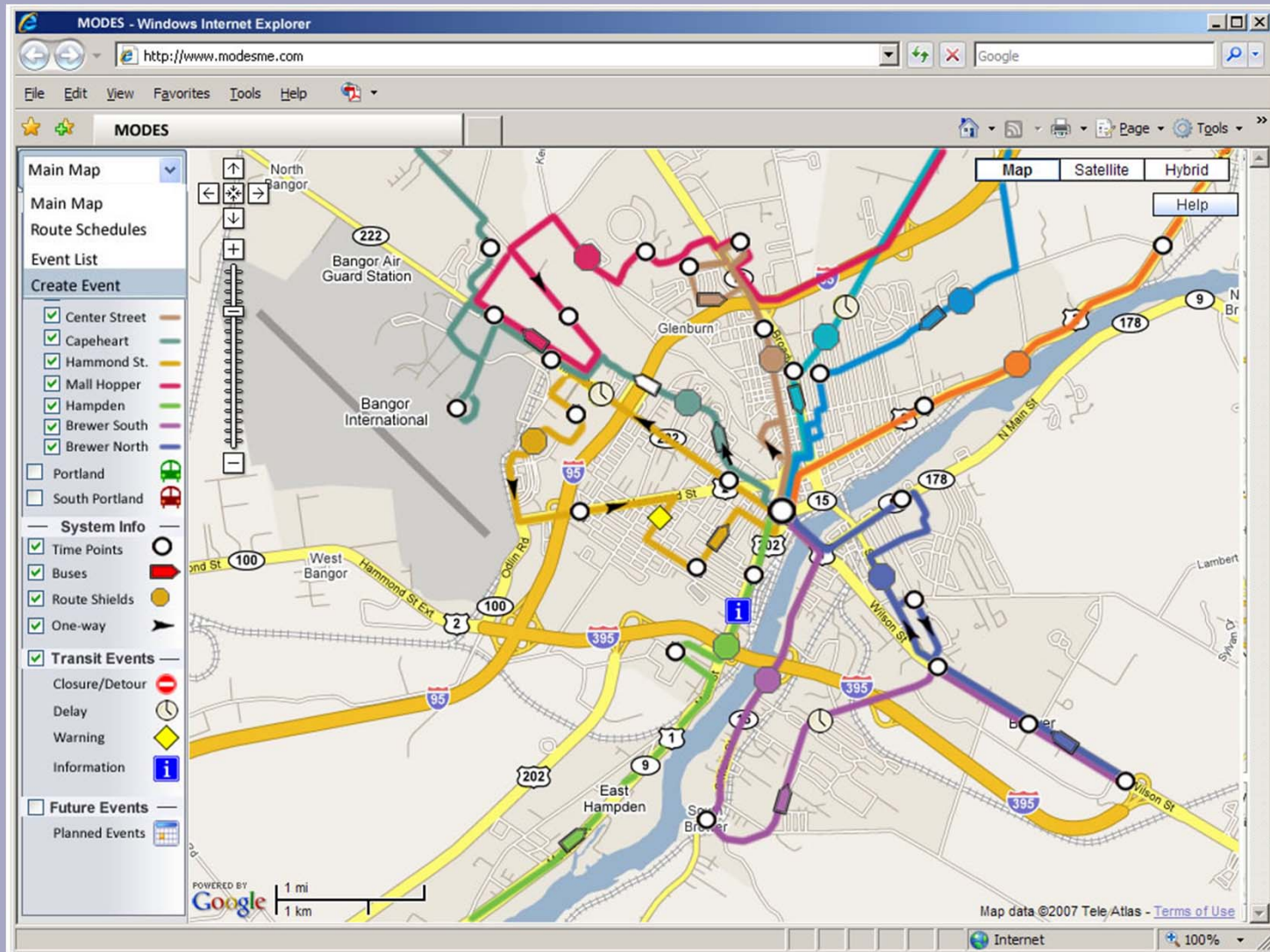
511 DEMO



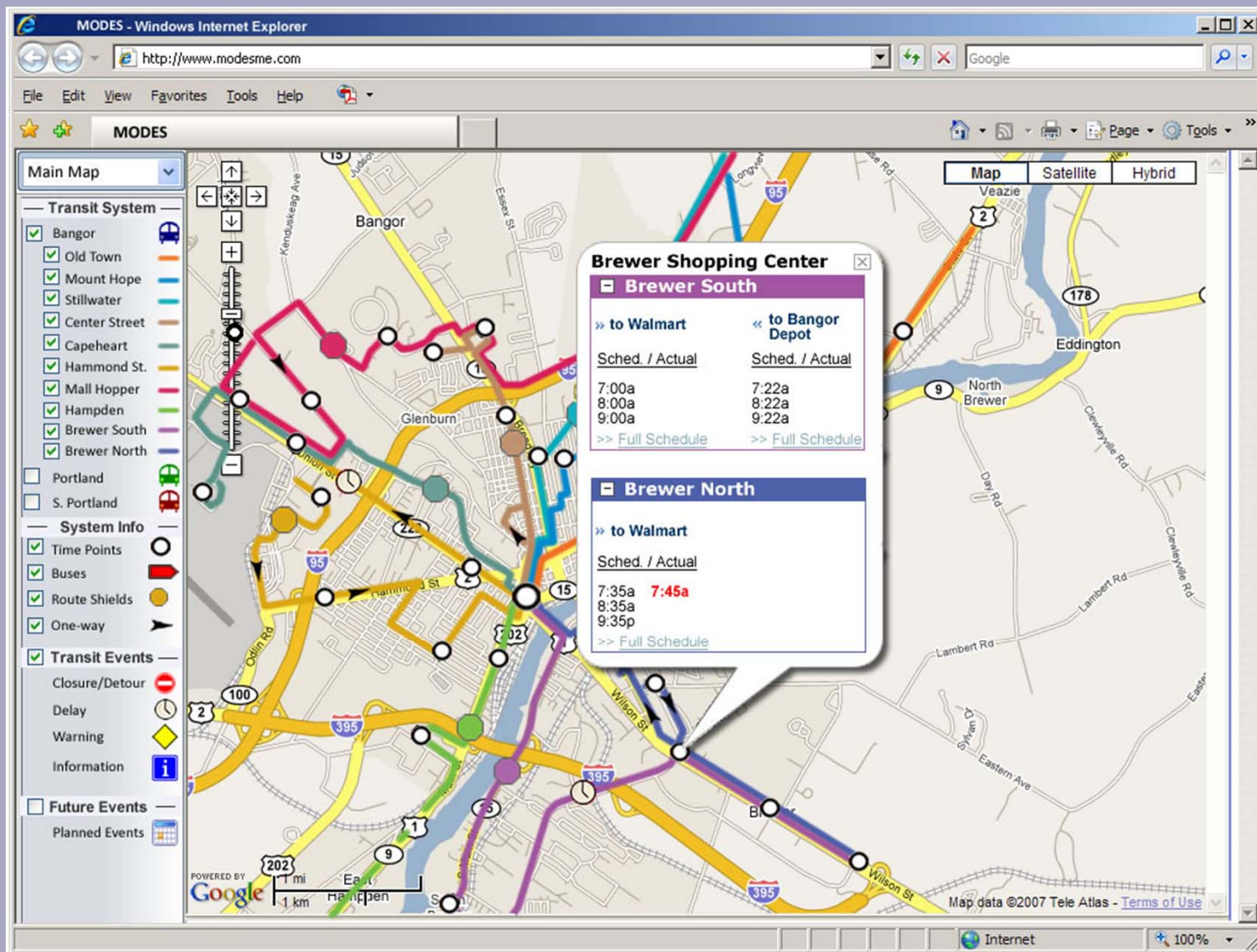
GOOGLE
DEMO



Routes and Stops Displayed



Schedules Displayed



Traveler Information Accomplishments

Organization	Initial GTFS file Generated	Information Displayed on 511 Transit	Information Available On Google Transit	511 Phone Transfers to Providers
CityLink	✓	✓	✓	✓
Northwestern Trailways	✓	✓	✓	✓
RPT	✓	✓	✓	✓
Lewiston Transit	✓	✓	✓	✓
TVT	✓	✓	✓	✓
VRT	✓	Coming Soon	✓	✓
MRTA	✓	✓	✓	✓
PRT	✓	✓	✓	✓
Salt Lake Express	✓	✓	Not accepted*	✓
TRPTA	✓	✓	✓	✓
START Bus	✓	✓	✓	✓

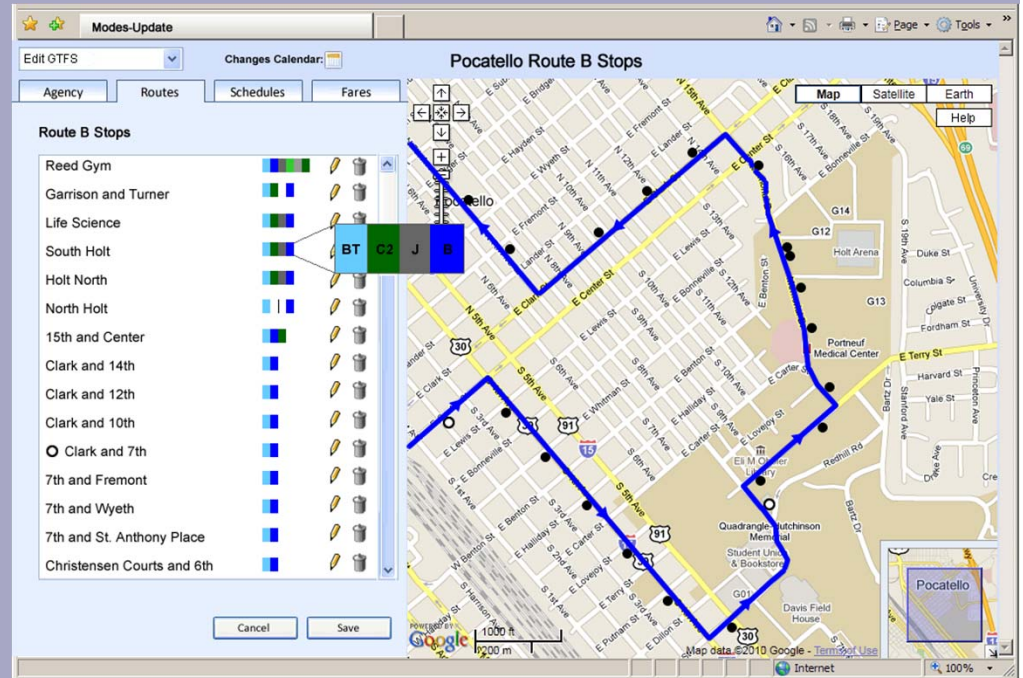
GTFS Tool Status

- 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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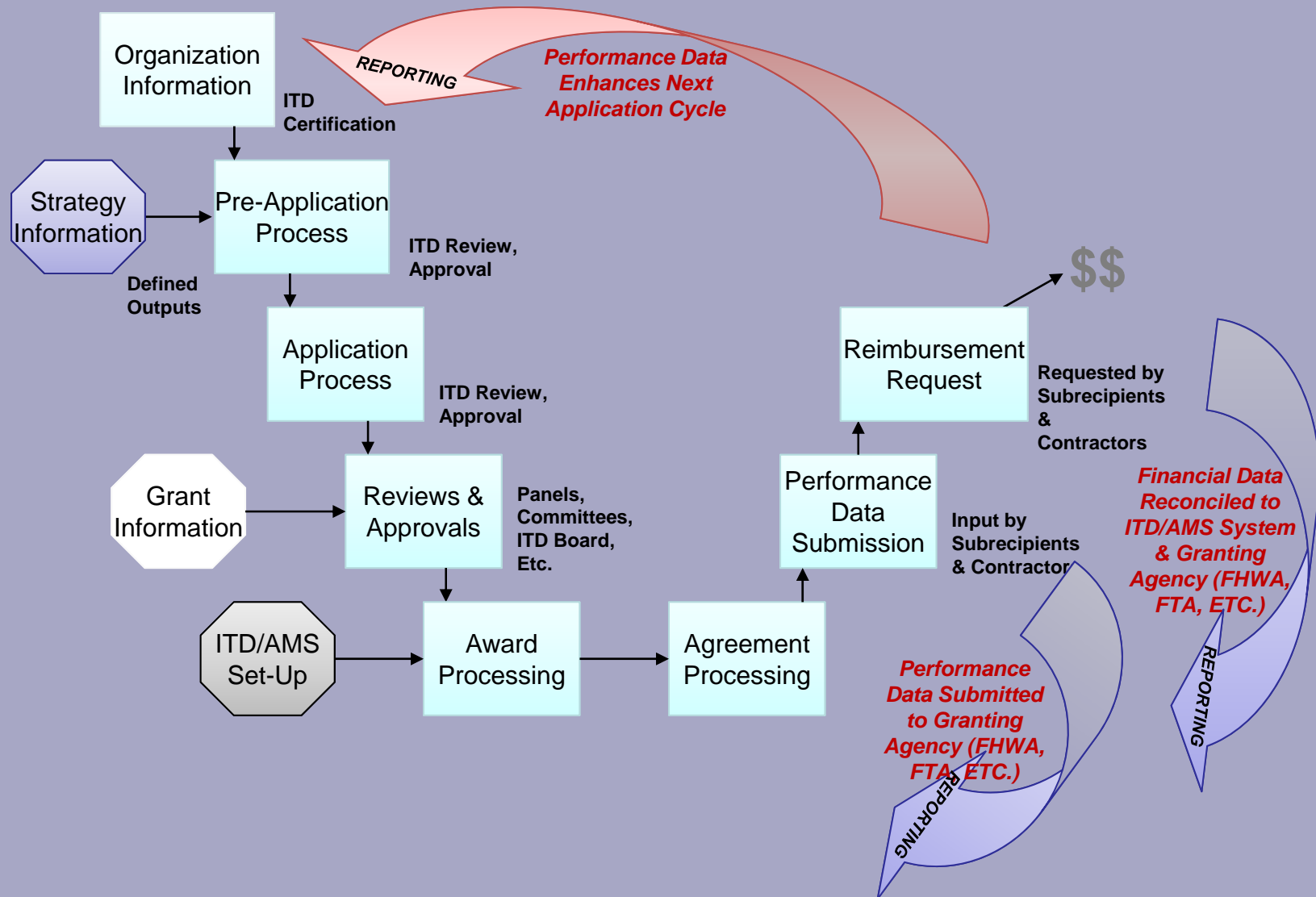
- Idaho – Transportation, Reimbursement, Integration, and Performance System (I-TRIPS)

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

Mobility Management System

Idaho – Transportation, Reimbursement, Integration and Performance System



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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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?

More Information:

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