

TRANSIT TECHNOLOGY WORKING GROUP IN VIRGINIA

Prepared by:



an Atkins company

Under contract to:



October 2010

Working Group Purpose and Objectives

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- Create a technology community for transit operators
- Discuss, develop and promote the use of transit technology standards
- Act as a resource for the exchange of ideas and general technology discourse
- Promote the Systems Engineering process for the development, procurement and deployment of transit ITS projects
- Develop an on-line information tool that provides technology-related documents, links and exchange forum
- Achieve this in six months

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Getting Started

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- Potential members from across the Commonwealth were recruited
- A good cross-section of transit providers was sought (urban, rural, small, large)
- All were known to have a strong interest in technology and ITS
- 11 members representing 10 agencies agreed to participate
- The original name was the “Transit Technology Standards Program”

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Timeline of Meetings and Events

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➤ Teleconferences were held

- May 21
 - Initial meeting, focused on areas of interest
 - Technology standards, standard procurement processes, data standards and ownership and APTA's related efforts
- June 18
 - Trimmed list to what could be achieved now
- July 16
 - Initiated discussion of Teamsite layout
- August 20
 - Webex with Teamsite demonstration

- All teleconferences included technical discussions beyond the planned agenda items.

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Teamsite

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➤ Brief Overview

- Collection of technology-related documents
 - Based on the Systems Engineering process of project development and implementation
 - Virginia and non-Virginia documents
- Discussion-board
- Latest links
- Lists all members' contact info
- Email alerts go to the entire group anytime something new is posted
 - Can be customized

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 - Concepts of Operation
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Announcements

This site is provided for the purpose of providing support documents, resources, links and more in an effort to advance the development and procurement of technology and ITS solutions for the Transit Technology Group-Virginia.

DRPT Website
<http://www.drpt.virginia.gov/>

ITS Strategic Plan
<http://www.drpt.virginia.gov/activities/files/STR-DRPT%20ITS%20Plan%202009-08-29.pdf>

ITSVA
<http://www.itsva.org/>

Add new announcement

Virginia Department of Rail and Public Transportation





Transit Technology Group - Virginia

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Concepts of Operation

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Team Discussions

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The Concept of Operations documents the total environment and use of the system to be developed in a non-technical and easy-to-understand manner. It presents this information from multiple viewpoints and provides a bridge from the problem space and stakeholder needs to the system level requirements.

New		Upload		Actions		View: All Documents	
Type	Name	Comment:	Modified	File Size			
	Concepts Of Operations for Other States		8/10/2010 8:45 AM				
	HRTransitConsOps		8/11/2010 10:21 PM	352 KB			
	NTI_Best Practices for Using Geographic Data in Transit	Please go to page 110 for Concept of Operations content.	8/16/2010 10:29 AM	972 KB			
	VDOTNROCCTVMasterPlanCombined		8/11/2010 11:53 AM	6204 KB			
	VDOTNROConOpsGuideandTemplate		8/11/2010 11:54 AM	3022 KB			
	VDOTNRODetectorMasterPlancombined		8/11/2010 11:56 AM	3900 KB			
	VDOTOverHeightVehicleDetection		8/11/2010 1:49 PM	744 KB			



Transit Technology Group - Virginia

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Latest Links

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 **Recycle Bin**

New 

Actions 

View: **All Links** 

Type	Edit	URL	Notes
		virginia Department of Rail and Public Transportation	
		Short Film-A Case for Open Data in Transit	
		MBTA Website-Documents/Presentations on Open Data	
		VT Bus Tracker	
		Open Data Article by Jon Sorensen	
		US Today Smartphone App For Transit	

Data Standards

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- There are many acceptable 'standardized' ways of organizing and transferring data: static or real-time.
- Some of the more common ones relevant to transit and ITS are:
 - GTFS – general transit feed specification originated by Google; offered a paradigm shift in the transit industry via non-proprietary data standard.
 - TCIP – transit communications interface profiles; approved APTA standard; very complex
 - SAE J-2354 – defines multimodal traveler itinerary requests and responses
 - SIRI – service interface for real-time information; from Europe

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Data Standards

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- Selecting and implementation of a non-proprietary data format is important to transit providers.
- Standard data sets foster subsystem and multi-agency communication.
- Often proprietary formats can be restrictive or cost prohibitive to convert to a non-proprietary format.
- There is an immediate need in Virginia for widespread adoption of non-proprietary data formats.
- All future procurements should be cognizant of this.
 - DRPT plans to fully support this initiative.

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Open Data – The Vision

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- The national trend is for transit agencies and others to make static and real-time information available to developers at no charge.
 - Originated in the U.S. by TriMet (Portland, OR)
- The government as a platform:
 - Focus on the core business and services
 - Government does not have to provide the only (and all) services and solutions
 - Fully leverage the free expertise and ideas of others

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Open Data – Putting it Out There

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- Enables application developers access to data through “crowdsourcing” strategies.
- As of October 2010 (according to www.citygoround.org):
 - 114 transit agencies in the U.S. are providing open access to their data
 - Most is static GTFS data
 - Some is real-time bus location/arrival
- Examples:
 - TriMet
 - MTC – SF Bay Area
 - MBTA - Boston
 - Chicago Transit Authority
 - King Co Metro
 - MTA - NYC

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Open Data – Putting it Out There

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- Most agencies do not test, support or advocate individual applications (or 'apps').
- Most provide a list of 3rd party apps on the agency's website.
- Data use agreements are typically required for developers.
- All data is provided 'as-is' and can change without notice.
- Most large agencies or college towns can tap into 3rd party developers. Lots of interest.

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The Applications Developer

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- A non-agency group or individual interested in developing a product or service.
- Most products (or 'apps') are developed for an applications store: iPhone or Google Android.
 - Could be a scrolling LED sign or other informational displays
- Typically offer schedule and bus arrival info
- Apps are purchased by the end user (i.e., \$0.99) or provided free; some with advertising support.
- Free access to open data makes this possible.
- A lot of transit riders, especially students, have flooded the market with their own apps.

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3rd Party Apps Developed

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➤ TriMet - Portland



[jtrimet](#)

Provides arrival information and a Java client library for TriMet web services.

For Android



New [Junaio](#)

Uses augmented reality to search for nearest stops, provide arrival information, display a map.

For iPhone 3GS/4, Android



[MyTriMet.com](#)

Provides arrival information.

For mobile web browsers, web browsers, iPad



[PDX Bus](#)

Provides public transit directions (trip planning), searches for nearest stops,



[PDX Transit Finder](#)

Searches for nearest stops, provides arrival information, displays a map.



[PDXT.org](#)

Provides arrival information.

For phones with text messaging

➤ MTC- SF Bay Area



iNap: Transit alerts when nearing your destination



Path2Go: Free real-time traveler information delivered to your mobile phone or web browser. U.C. Berkeley researchers are seeking early adopters to test this app and help evaluate how real-time information can encourage and assist travelers in making better travel decisions. Please join their field test.



RailBandit: Train schedules and service alerts



TransiCast: Real-time public transit departures



Transitly: Personalized real-time public transit departures

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3rd Party Apps Developed

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- LED display at coffee shop - Boston



- Desktop bus tracker widget - Chicago

62 State & Kinzie South Bound	
2 MIN	To Harlem #6584
4 MIN	To Harlem #6603
11 MIN	To Harlem #6531
12 MIN	To Harlem #6585

As of 5:22 PM

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Workshop in Charlottesville

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➤ Workshop

- September 15 at CAT's new facility
- 14 attendees
- Morning and afternoon sessions
- Topics covered included:
 - Data formats
 - RITIS – single location for multimodal info for DC metro
 - SIRI – transit-specific, highly extensible, MTA (NY) may adopt
 - VT Bus Tracker,
 - Developer experiences,
 - Open Data initiatives and process, and
 - Agreements and Policy
- Allowed for extensive technical and policy discussion
- Immediate needs and potential future activities were identified

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Workshop Outcomes

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- RITIS wants and will take all agency's data: static and real-time in any format.
- Work with all transit operators to put data in a standard format
- Assess the possible creation of a standard real-time data format for Commonwealth (i.e., Blacksburg RTF)
- Assess developing a single hosting location for all static and real-time data
- Assess RITIS acting as host for all data

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