



**Washington Metropolitan Area Transit Authority**

# Transparent Metro Data Sets Developer Conference

August 9, 2010



# Agenda

- Welcome
  - Suzanne Peck, CIO, WMATA
- The Transparent Data Sets Program
  - Jamey Harvey, Chief Enterprise Architect, WMATA
- Questions & Answers

## Also On-Hand:

**Peter Shaskin**  
*Lead Engineer, WMATA*

**Bill Rigney**  
*Program Manager, WMATA*

**Ed Wells**  
*GIS, WMATA*

**Christian Kent**  
*Access Services, WMATA*

**Angela Gates**  
*Public Relations, WMATA*

**Ronald Holzer**  
*Strategic Communications, WMATA*



## Overview – Key Points

- The Transparent Data Sets program provides software developers with access to real-time Metro data via an easy-to-use API
- The service is available at no charge
- Both for-profit and not-for-profit application developers are welcome to use the service
- To register and receive an API key:



[developer.wmata.com](http://developer.wmata.com)



# Overview – Program Goals

- Make transit information more widely available to more people in more places
- Support transparency and provide a better customer experience
- Create a healthy ecosystem of Metro applications and regional applications including web, mobile, visualizations and whatever people dream up
- This program will grow over time and supplement our GTFS download, RSS feeds and other data products available at:  
[http://www.wmata.com/rider\\_tools/developer\\_resources.cfm](http://www.wmata.com/rider_tools/developer_resources.cfm)
- You can help



# Technical Specifications

- Transparent Data Sets data is hosted on the **Azure cloud** computing platform - there is no impact on WMATA infrastructure
- Webservices support both **REST** and **JSON** message formats
- Developer registration and key issuance is managed by **Mashery**, a leading provider of API management services
- Each application you develop will require its own **key**; you can manage multiple keys from a single account
- Applications in development will be initially limited to no more than **two calls per second / five thousand calls per day**
- Thresholds can be increased on an individual application basis as an application grows in popularity



# Bus Data Coming Soon

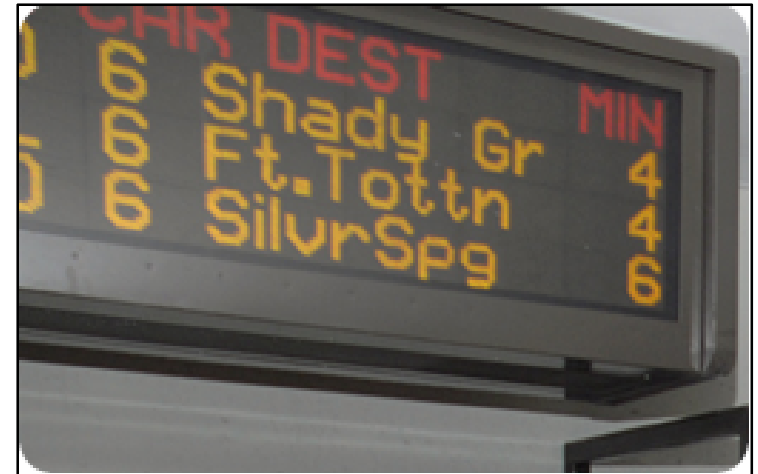
- The initial release will provide Metrorail data; Metrobus data will be available in the fall
  - Significant effort currently underway to enhance bus stop data
  - Effort is scheduled for completion in the beginning of November
  - Bus services will be available immediately upon completion of effort
  - GTFS file will also be updated





# Demonstration

- <http://developer.wmata.com/>
  - News
  - Registration
  - Documentation



- Demo: PHP Station Arrivals



# Announcing The Metro Developer Challenge

- Crowdsourcing solutions to challenges facing Metro's customers
- Developers can choose to compete in up to three different application categories
  - 1) Providing riders with improved access to real-time data where and when they need it
  - 2) Making the data more accessible and useful to riders with disabilities
  - 3) Providing riders with better regional, multi-modal transportation information
- First prize in each category:

\$300





# Challenge Category Number 1

## *Improve Access to Real-time Data for for Riders*

- **Challenge:** Riders want real-time actionable information about what is happening now in our transit system. Fill that gap.
- **Examples**
  - A mobile application that alerts riders to emerging issues that develop during their commute
  - An application that integrates the transit system with surrounding businesses, attractions and popular destinations
  - A widget for bloggers and webmasters to take advantage of real-time alerts





## Challenge Category Number 2

*Make the data more useful and accessible and useful for riders with disabilities*

- **Challenge:** Metro provides accessible transportation services and facilities, but seniors and people with disabilities need to know about them if they are to use them safely and effectively.



- **Examples**

- A voice-based application that provides transit information for the blind, not only to choose routes or schedules, but also to navigate within transit facilities and find the accessible entrances, elevator service, or warnings of hazards
- An application that advises riders who require elevator access of elevator availability/outages and travel alternatives to navigate around outages
- A web-based tool that facilitates multi-modal travel for paratransit (MetroAccess) customers by identifying connections to fixed-route services (Metrorail and Metrobus)



# Challenge Category Number 3

## *Improved Multi-Modal Transportation Information*

- **Challenge:** Serving the District of Columbia, Maryland and Virginia, Metro serves a wide variety of geographic communities. Create an application that links Metrobus and Metrorail services to regional transit services in surrounding counties.
- **Examples**
  - An application that integrates Metro transit options with AMTRAK, MARC and VRE schedules.
  - An application that creatively serves a specific community (Washington's thriving bicycling community for example)



# The Metro Developer Challenge – Contest Rules

- The deadline for contest submissions is **Monday January 10**
  - The deadline will provide developers with plenty of time to incorporate the forthcoming Bus data feeds into their applications.
  - Detailed submission instructions will be published at the [developer.wmata.com](http://developer.wmata.com) developer website
- Both for-profit and not-for-profit applications will be considered
- Applications will be judged by the following panels:
  - Contest 1: Riders Advisory Council
  - Contest 2: Accessibility Advisory Committee
  - Contest 3: Jurisdictional Coordinating Committee



# Interacting With Metro

- Metro cannot provide developer-level support
- Metro is very committed to creating and supporting a thriving developer community
  - Registered developer listserv
  - Unmoderated comments supported in API documentation
  - Facebook developer community – WMATA Transparent Data Sets API Developer Community  
<http://www.facebook.com/group.php?gid=116742961708067>
- Deployment support
  - Rate limit adjustments
  - Promotion at [wmata.com](http://wmata.com)
- Your contact: **wrigney@wmata.com**



**Thank You**

- Questions?

## Transparent Data Sets – Rail Methods\* to be Released August 11

Rail Lines	Rail Stations	Rail Station Info	Rail Elevator/ Escalator Incidents	Rail Path	Rail Station Prediction	Rail System Incidents
Returns the start and end station for each line	Returns information about a specific Metro station	Returns list of all Metro stations by line	Returns a description of elevator/escalator problems at stations as displayed on PIDs	Returns the sequence of stations between two given stations	Returns train arrival predictions at a given station	Returns system-wide alerts (delay information)
<b>Line Color</b> ("BLUE") for a specific line	<b>Station code</b> for each station in the Metro system	<b>Station codes</b> for all stations along a specific Metro line	<b>Elevator/escalator outage information</b> for a given station	Train's <b>Distance to Previous station</b> in feet	<b>Number of cars</b> in a train	<b>Date &amp; Time</b> of incident alert
<b>End Station Code</b> which indicates the last station along a specific line	<b>Line Color(s)</b> associated with each station in the Metro system	<b>Line color</b> for a specific line		Code that indicates the <b>rail line</b> ("RD")	The <b>Destination</b> of the train ("SHADY GR")	<b>Delay Severity</b> associated with the alert
<b>Start Station Code</b> which indicates the first station along a specific line	<b>Latitude</b> of each station in the Metro system	<b>Latitude</b> of each station along a specific line		The <b>Sequence Number</b> of the station in the path of a rail line	<b>Destination Code</b> for the train	<b>Long description</b> of the alert
<b>Line Code</b> for a specific line ("BL")	<b>Longitude</b> of each station in the Metro system	<b>Longitude</b> of each station along a specific line		<b>Station Code</b> of the next station in a train's path	The <b>Destination name</b> of the train ("SHADY GROVE")	<b>Emergency indicator</b> ("NO")
	<b>Name</b> of each station ("MEDICAL CENTER")	<b>Name</b> of each station		The <b>Name of the next station</b> in a train's path	<b>Line Name</b> of the train ("RD")	<b>Incident id number</b> for the alert
					<b>Location code</b> for the train ("A10")	<b>Incident Type</b> ("Station Incident")
					The <b>Location Name</b> for the train ("Medical Center")	<b>Lines Affected</b> by incident
						<b>Passenger delay</b> caused by incident
						<b>Incident Location Full Name</b> ("EAST FALLS CHURCH")

\* Summary information only. This table does not describe all response fields associated with each method.

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