



Washington Metropolitan Area Transit Authority

# Transparent Metro Data Sets

October 12, 2010



# 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)



# Rail Information Services

- **Rail Services**
  - ***Metro Lines***: List of all Metro stations by line
  - ***Metro Stations***: Information about a specific Metro stations
  - ***Elevator/Escalator Incidents*** : Elevator/escalator problems
  - ***Rail Path***: Sequence of stations between any two given stations
  - ***Rail Predictions***: Train arrival predictions at a given station
  - ***Rail Incidents***: System-wide alerts and delay information



# Bus Information Services

- **Bus Services**
  - ***Bus Positions***: Positions of all buses in the system
  - ***Bus Routes and Shapes***: Names and coordinates for bus routes
  - ***Bus Schedule***: Schedules by route and date
  - ***Bus Stops***: Names, coordinates and ID for all bus stops



# Data Provided by Transit Systems Via Webservice

	Web Services Returning Bus Data					Web Services Returning Rail Data						
	Bus Positions	Bus Route Shapes	Bus Routes	Bus Schedule	Bus Stops	Metro Line Summary	Metro Station Info	Metro Line Detail	Rail Elevator/ Escalator Incidents	Rail Path	Rail Station Prediction	Rail System Incidents
WMATA	X	X	X	X	X	X	X	X	X	X	X	X
SF BART						X	X	X		X	X	X
Los Angeles Metro			X	X	X	X	X	X		X		
Boston MBTA	X		X	X	X							
NYC MTA									X			
Chicago CTA	X	X	X	X	X							
Portland TriMet			X	X	X	X	X	X			X	



# 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 provides 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

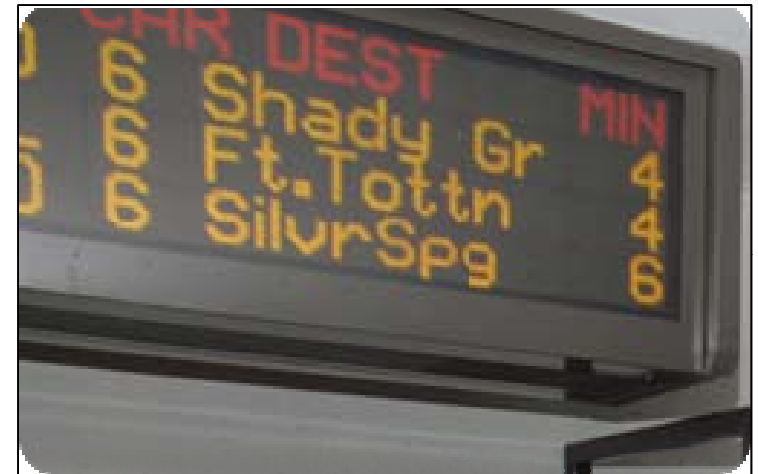






# Demonstration

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





# 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 User Community

- 213 developers have registered since August 15
- 140,000 successful API calls per day

## DC Metro Rails

Get real time train arrivals and rail alerts for the Washington DC Metro

Get around the city with DC Metro Rails and your Android phone. Use real time train arrivals and rail alerts to help you catch the next train. Find the nearest station entrance and get there with the map and compass. Favorite your most used stations or make a shortcut to them on your home screen.

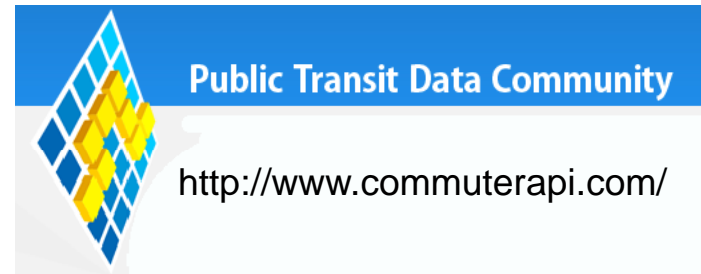


DC Metro Rails Android App



Metro Times Iphone App

Cars	Destination	Arrives In
6	Glenmont	3
6	Silver Spring	14
6	Grosvenor-Strathmore	5
6	Shady Grove	17
6	Grosvenor-Strathmore	19
6	New Carrollton	5
6	Largo Town Center	8





# The User Community – Window Unit

● Dupont Circle				
Line	Cars	Destination	Time	In :8
RD	8	Shady Grove	2	Gone
RD	6	Glenmont	6	Gone
RD	6	Shady Grove	6	Gone
RD	6	Silver Spring	12	4
RD	6	Shady Grove	14	6
RD	6	Glenmont	19	11

This station is a 8-minute walk away.

00:20

<http://www.flickr.com/photos/mringlein/4987275977/>



Thank You

- Questions?