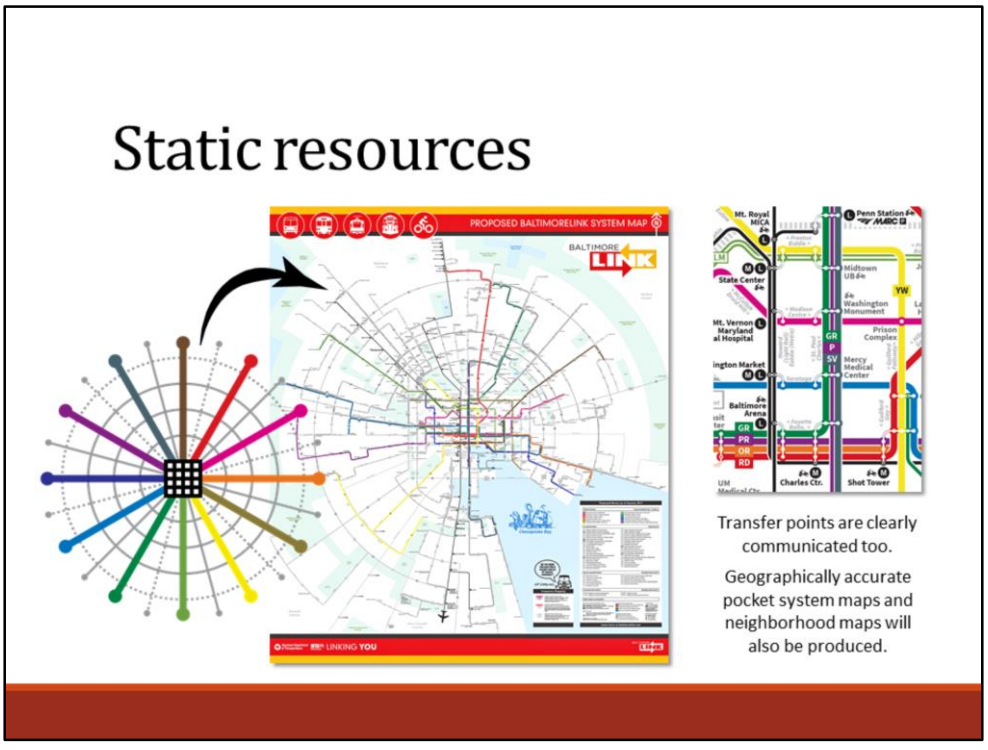
Empowering communities through open data

JAIME MCKAY, MDOT MTA DEPARTMENT OF PLANNING

Good morning everyone! My name is Jaime McKay and I am new member of the MDOT MTA Planning team. I'm here today to provide a snapshot of the transit data we have, and to share the ways it's being used and to challenge you to think of new ways it can be used.



Let's begin by providing an overview of our static resources. What types of static resources do we provide? We have schedules, geographic pocket maps, rider guides, BaltimoreLink.com, mta.Maryland.gov, and more!

Standard, with a twist

Accessible route sheets

CityLink Silver (SV)

Curtis Bay to Johns Hopkins University or Morgan State University

Frequent Daily Service / 24 hours

Effective June 18, 2017

Former routes: 3 and 64

Turn-by-turn Description

Northbound to Johns Hopkins or Morgan State

The branch serving Morgan State excludes line 17 (trips to Johns Hopkins University) of the below directions.

1. The route begins at Curtis Bay (on Spruce & Pennington) turning onto Pennington Avenue, heading south for a half mile.
2. Right onto Church Street, heading west for a half mile.
3. Right onto Virginia Avenue, heading north for a quarter mile.
4. Continue onto Sixth Street for a few hundred feet.

We've also listened to our ridership and created accessible route sheets, enabling individuals with visual impairments, older adults, and people new to transit and to our community to have a better understanding and greater context of the system.

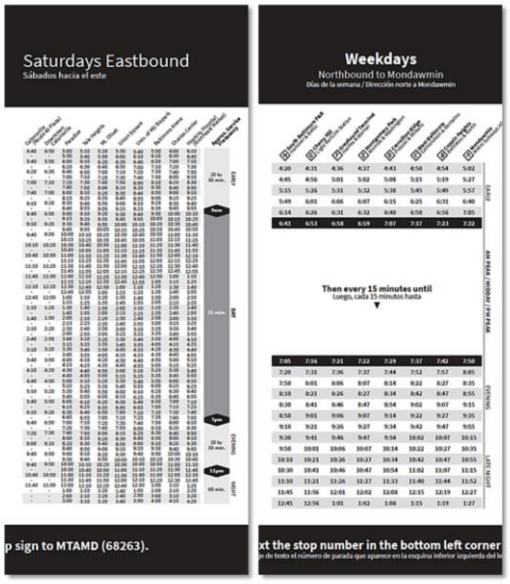

CityLink
June 18, 2017
LINKING YOU

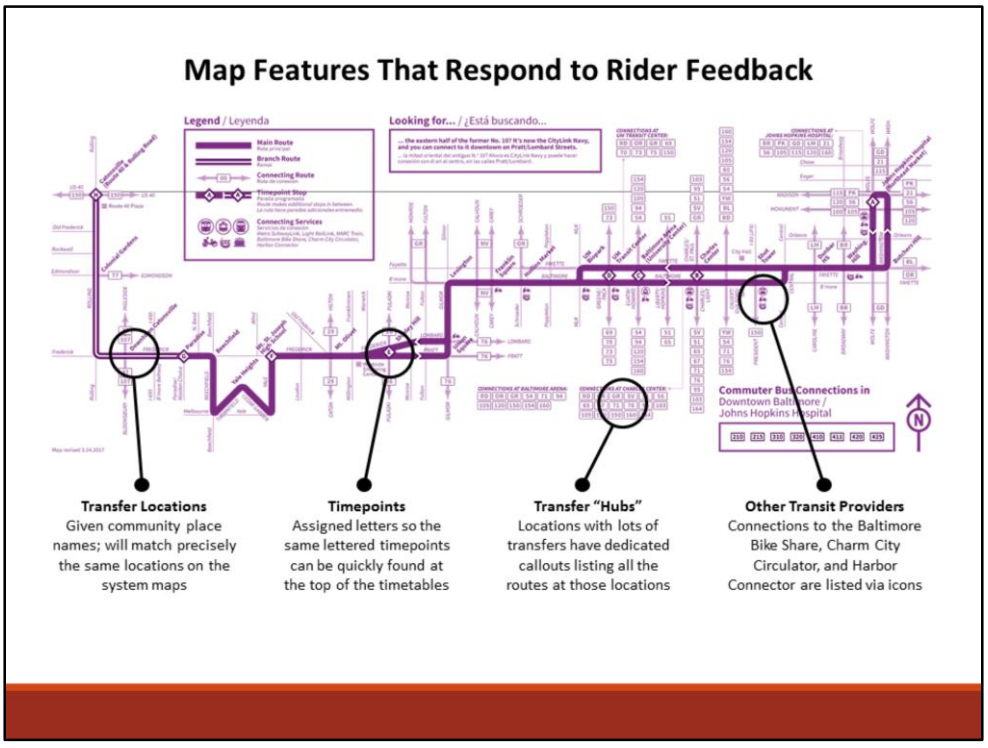
Design Process

We reviewed schedule designs with various stakeholders to add and refine desired features, and we studied international precedents for ideas.

One feature – frequency abridgement – was a direct outgrowth from Transit Choices feedback. Transit Choices noticed that early schedules (left) listed every single trip during frequent service periods, making the entries too difficult to read.

As a direct result of stakeholder input, we abridged the frequent portions and enlarged the entries.





Rider feedback was collected through comment cards, online comments, outreach events; and all comments were input into a database.

Interactive System Map

A Google Maps version of the system map; you can click on individual routes for their schedules.

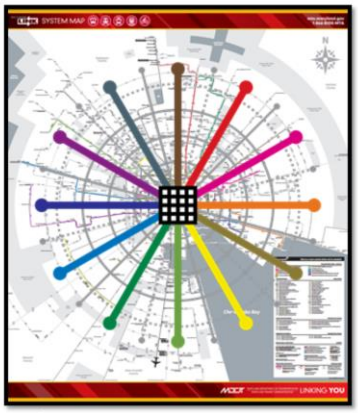
Abstract System Map

A "metro" style system map that's great for quickly answering questions like "What route goes from A to B to C?"

Geographic System Map

A more realistic system map that's great for answering questions like "Which street does this route turn on?"

When you visit BaltimoreLink.com, you'll see our three different types of maps. For the interactive system map you can save your own copy and add your own points of interest, frequent destinations, and more

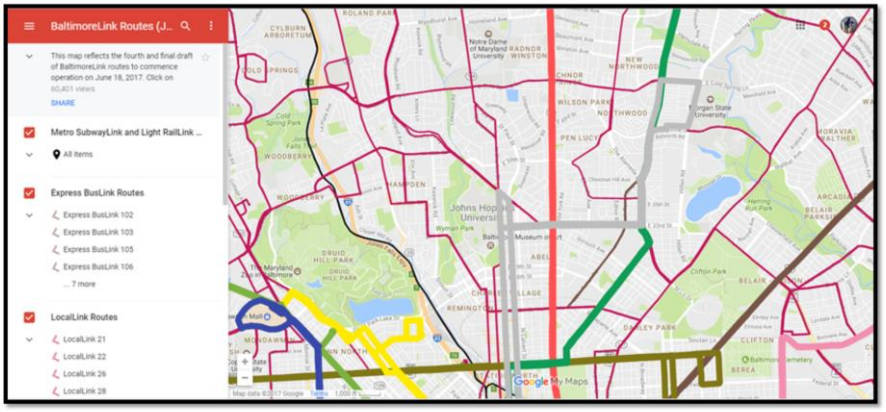


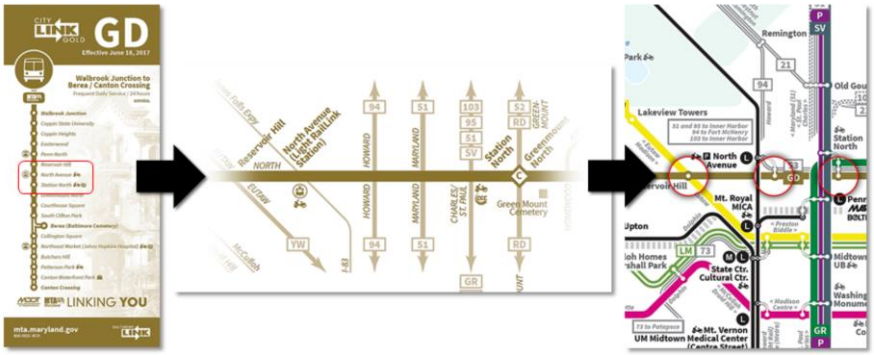
Abstract Map

Geographic Map

...also available to riders as a pocket map!

Interactive Google Map



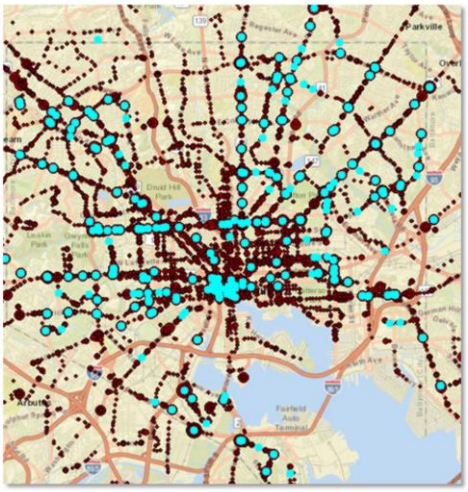


We've shown you a series of different options with our new schedules and maps, and this is how they LINK up together. Our points of interest and destinations are consistent throughout, leading to more effective wayfinding.

But… what else?

What else are we able to provide? And in what formats do we provide this information?

MD iMAP



Bus Stop data available on Open Data and can be downloaded as a KML or shapefile. You can see where your stop ranks in ridership and where shelters are distributed. It's important to note that the ridership data is from pre-BaltimoreLink while the route information is for BaltimoreLink, and of course that we're in the midst of making updates on bus stops so the data is going to have some flaws.

Ridership data is updated based on the pick – the three times a year schedule change which occurs in September, February, and June.

To better understand the trends in our ridership, we take a look at this in a longer range so we can have a more well-rounded picture of the data. If you look up on Imap and it says fall, that’s why.

What GTFS represents

Brief History of GTFS

GTFS allows agencies to easily publish their route data

Google Transit Specification Feed → ***General*** Transit Specification Feed

Portland's **TriMet** developed, and was the first to implement, GTFS as we know it today

Can be used for **trip planning**, **data visualization**, and **improved accessibility** for users

After traveling internationally in the summer of 2005, Bibiana McHugh at TriMet was frustrated that she couldn't access transit information on a mapping program like Mapquest and certainly couldn't plan a trip by transit with the same ease as a driving trip. When she returned stateside, she sent inquiries to Google, asking if they had plans to incorporate transit data into their mapping services and if TriMet could partner in the endeavor. TriMet worked with Google to prepare TriMet's data set in a format that would work for Google Maps, a difficult task, according to McHugh.

"Transit data is extremely complex," she said. "There is a temporal element and special element and it takes a relational database in order to manage all of that information." She added, "A lot of agencies have this fear that it will be misrepresented or won't be used accurately."

Because TriMet was proactive with its data, the subsequent GTFS very closely resembled the operator's data feed. Google Transit Trip Planner launched onDecember 7th, 2005, and for most of the first year, TriMet was the only operator available on Google Maps. Today Google Maps has agreements with hundreds of transit providers around the world.

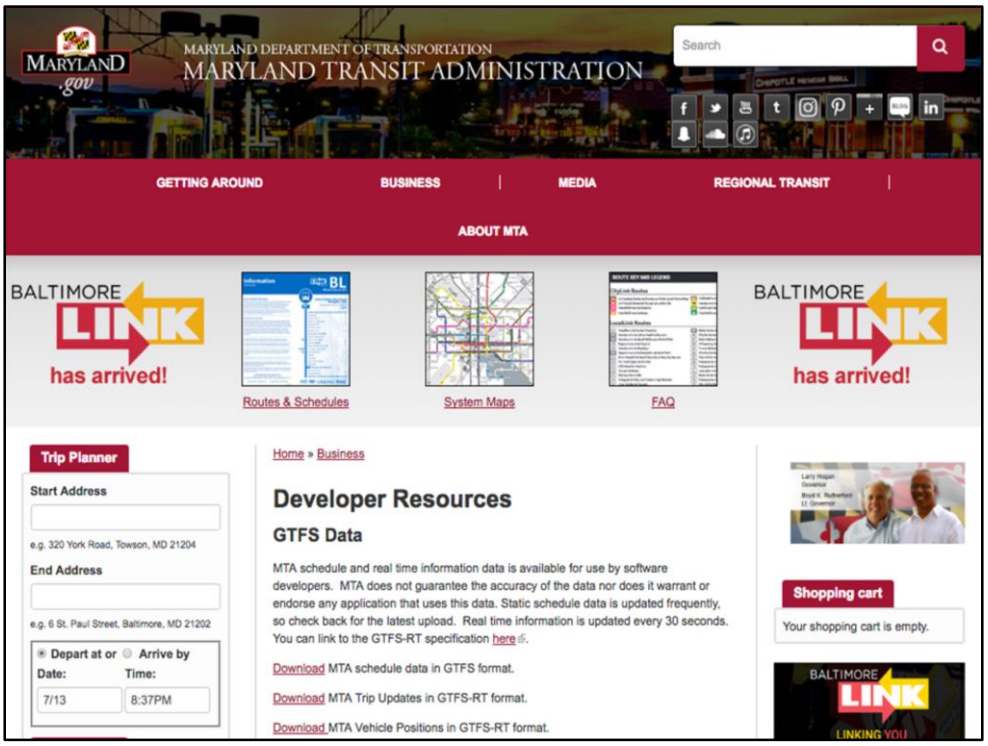
Easy input. Advanced results.

GTFS enables users to transform simple information into advanced routing-capable data

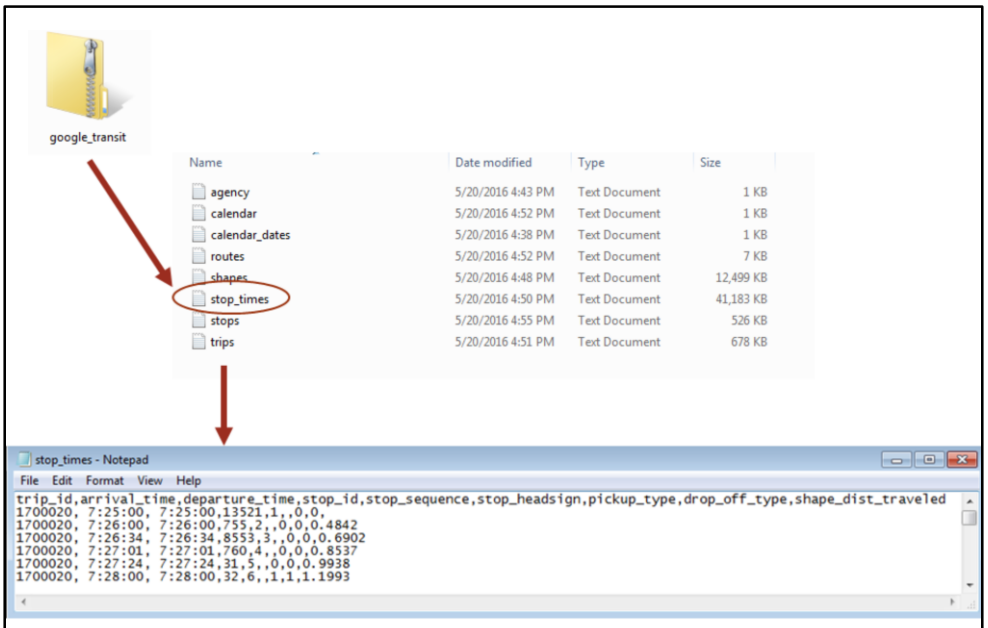
Transit data (such as stops, routes, fares, etc.) are entered into these tools, whether Excel, software, or web-based tools

These tools save time and convert "**plain data**" into the specific format required for a GTFS feed

The goal of Google Transit was to make it as easy for users to plan public transit trips as it was to get driving directions. The developers at Google wanted the format for GTFS feeds to be as simple as possible to give even smaller transit agencies the ability to adopt the standard, leading to their decision to use comma separated values (CSV) files. Even today, a GTFS feed is a compressed ZIP file containing CSV files. Each file models a particular aspect of transit information: stops, routes, trips, and other schedule data.



This is a snapshot of our Developer Resources page, which you can find online by navigating to https://mta.maryland.gov/content/developer-resources. You're able to access our Static GTFS feed, which provides all of the same information you can find on our schedules (including when and where the bus runs, how much it costs, and more!). You're also able to downtown our MTA Trip Updates in GTFS-Real Time or RT format, or MTA Vehicle Positions in GTFS-RT format.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stops 5/20/2016 4:55 PM Text Document 526 KB
trips 5/20/2016 4:51 PM Text Document 678 KB
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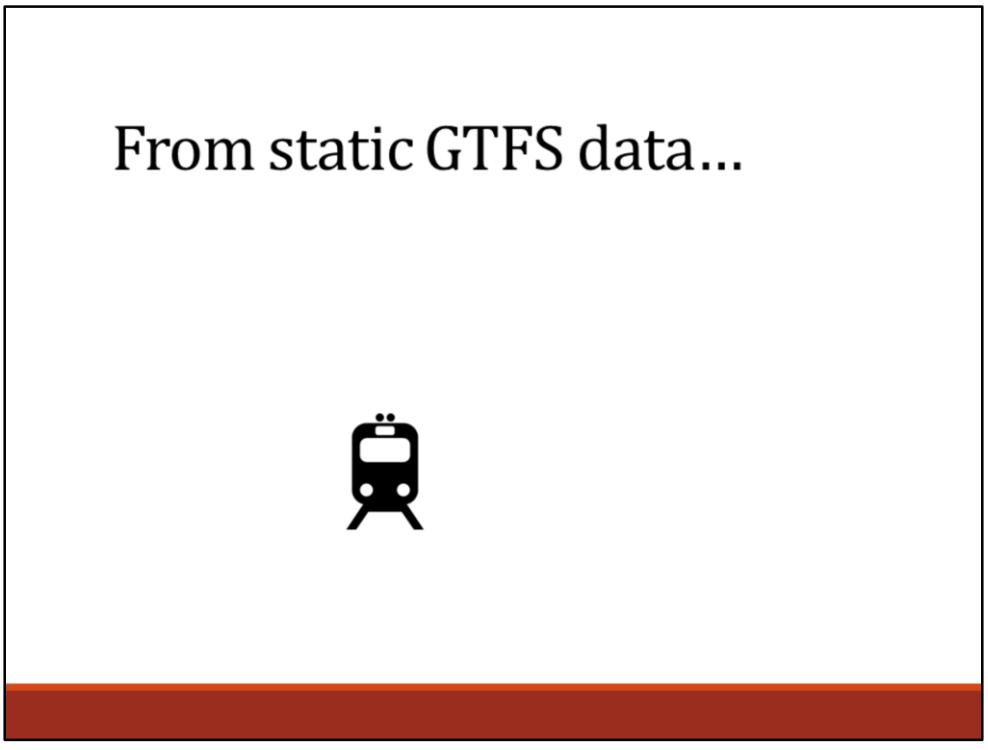
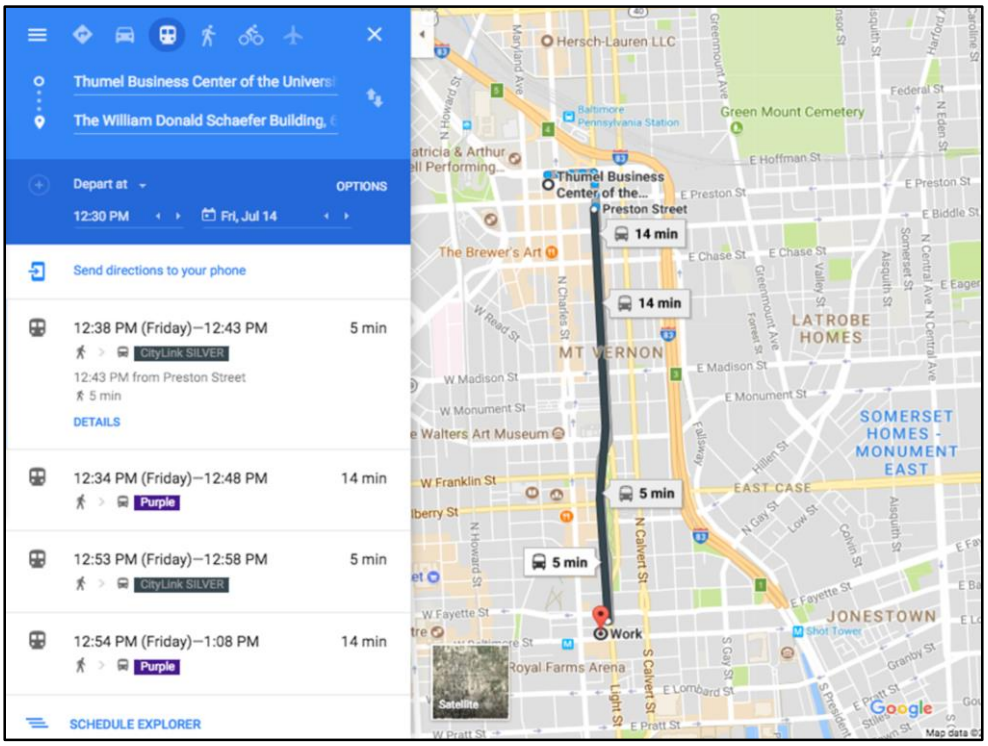


From static GTFS data we can share the data with third parties, including the Transit app, Google Maps, Bing Maps, and some you'd never think of, like WalkScore and Zillow.



One of the most frequently used apps that relies on updated, accurate GTFS data is Google Maps. Here you can see an example of two different systems' GTFS – the Charm City Circulator, and our MTA feed, describing the potential trip planning options available. This is a very useful tool – but what else do we use GTFS for?

Title VI &
Low-English Proficiency

- 100+ languages
- Screenreading device-compatible

Emergency Preparedness

- Datasharing with MEMA/FEMA

Walk Score

Mapnificent

Title VI of the Civil Rights Act requires that all publicly funded agencies and authorities provide accommodations to those who may require it. GTFS fits in nicely with these requirements because trip planning software can translate information into hundreds of languages, removing the need to have access to those on staff. Additionally, for those with visual impairments, GTFS can be read aloud using a sight reading device.

Filling in the Gaps

WHERE DO YOU FIT IN?

How can we as a community support one another as we work to provide the best data possible? Outside of GTFS and static bus stop data, what other types of information can you use? We know realtime information is big right now and we've recognized that ours currently has limitations but are working to improve that.

Thank you!

Ms. Jaime McKay

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For more information on routes, maps, and schedules, please visit
BaltimoreLink.com *or* **mta.maryland.gov**

For access to our developer resources, please visit
https://mta.Maryland.Gov/content/developer-resources

For access to MD iMAP, please visit: imap.maryland.gov

For access to the Maryland open data portal, please visit: https://data.maryland.gov/

How can we as a community support one another as we work to connect our regions and provide the best data possible?