GTFS-flex
Trip planning for demand-response transportation

Thomas Craig, CEO, Trillium
thomas@trilliumtransit.com
What is GTFS-flex?
GTFS is behind transit in Google Maps: 6 continents, ~7,000 cities, 1 million+ transit stops
GTFS is also used in *hundreds* of apps

- OneBusAway
- Moovit
- Google Maps
- Apple Maps
- Transit
- OpenTripPlanner
- Bing Maps
- Rome2Rio
But trip planning isn’t available for all transit riders.
Trip planning is an option if there’s:

- Fixed routes
- Fixed times
- Fixed stops
- (Plus user access to software and hardware.)
We need to provide equal access

Fixed route users with smartphones get a simple process

● Enter origin
● Enter destination
● Get on your way
All users deserve equal access to trip planning.
So what about?

Hail-and-ride (flag stops)

Point deviation & checkpoint service

Deviated Fixed-Route

Zone-Based (Dial-A-Ride)
Problem
Many don’t know that flexible transit even exists.
Solution
Make demand responsive transit more *discoverable*.
Enter: GTFS-flex
(gtfsflex.com)

Adds to GTFS
● Service areas and locations
● Service times
● Travel speeds
● Rider instructions
## Option 1: departs approximately Oct 4th 7:07am
1 hr, 55 min +

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<td>Call 802-748-8170 two days before your trip to request pickup.</td>
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<td>Depart</td>
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<td>Arrive</td>
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<td>7:26am to 7:46am</td>
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### Service areas
- Waterford
- St. Johnsbury
- Barnet

### Service times and speeds
- Green Mountain Transit to National Life

### Rider instructions
- Dial-a-Ride
- Call 802-748-8170 two days before your trip to request pickup.
So we can understand systems like CARTS Soldotna, Alaska

map.ridecartsak.org
GTFS-flex also seeks to allow visualization and analysis.
Current Projects
From: 17873 Rd 24, Corcoran
To: 22223 Carson Ave, Visalia
Departing after 7:51 PM on June 16th

Show trip on Interactive Map
Edit Trip

Here are the best trips for you:

⚠️ Some of your trips leave on a different day than your request.
⚠️ Some of your trips require advance reservation.

1. 7:05 am - 9:35 am
   2 hr 29 min
   Trip Date: Th, 06 18th
   Board Dial-a-Ride
   Call 1-800-431-9711 at least one day in advance to schedule your ride.

Example website integration: ridetcat.org
Mobility as a Service or MaaS

Stanislaus County and San Joaquin County in California
Flag stopping maps (gatra.org and mvrta.com)
What can you do right now?
Problems

● You have no good way to **allow users to book trips** themselves.
● You **don’t have extra budget** to spend on expensive technology.
● You **can’t easily collaborate** with fixed-route services.
Solutions

- GTFS-flex could allow you to show up in trip planners.

... if those trip planners existed.
Next steps

- **Complain!** You and your riders should have trip planning too.
- GTFS-flex is a partial solution, but more (e.g. booking software) is needed.
- Lobby larger organizations to lead, or organize with others.
Questions?

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CEO, Trillium  
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503-567-8422 ext. 4
National RTAP - GTFS-Builder

No-cost toolkit & technical support

Marcy Jaffe, MBA, MPA

Transnnovation Inc
Simple Excel-based toolkit =

1. Locate bus stops
2. Build your schedule in Excel
3. Add holiday dates + other details
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Interim Flex
GTFS-Builder
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Continuous-pick-up/drop-off = On-demand
Riders Discover Flex DAR & Call in

Public transport services may be impacted due to COVID-19.

Send directions to your phone

8:34 AM (Monday)—8:53 AM 19 min

8:34 AM from Woodland Dr call Dial-A-Ride 3604524511 for pickup 24 hours ahead
$3.00

DETAILS
Real-time Innovation

@ Metro Transit
Will AVL* on the bus generate GTFS?

- Most AVL & fare services require GTFS-static
- Be aware many AVL do not generate real-time for Google Maps
- Learn more about TransitClock for Metro in Minn.

*Automated Vehicle Locator (AVL)
Case Study: Disruption & The TransitClock

On 2019-10-24, a protest combined with a football game disrupted transit service. Unlike other predictions methods, the Kalman Filter recognized unusual operating conditions and adapted predictions accordingly.

Credit: Eric Lind, Metro Transit
The Transit Clock @ Metro Transit

Key Staff:
- Laura Matsen
- Eric Lind
- Joey Reid
- Ben Rajkowski

The TransitClock
- Sean Óg Crudden
- Simon Berrebi, PhD

http://transitclock.org
Demystifying Trip Planning License Agreements (Webinar)

Oct 27 2020
2pm EST
Questions?

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