



GTFS Lunch and Learn on Shapes

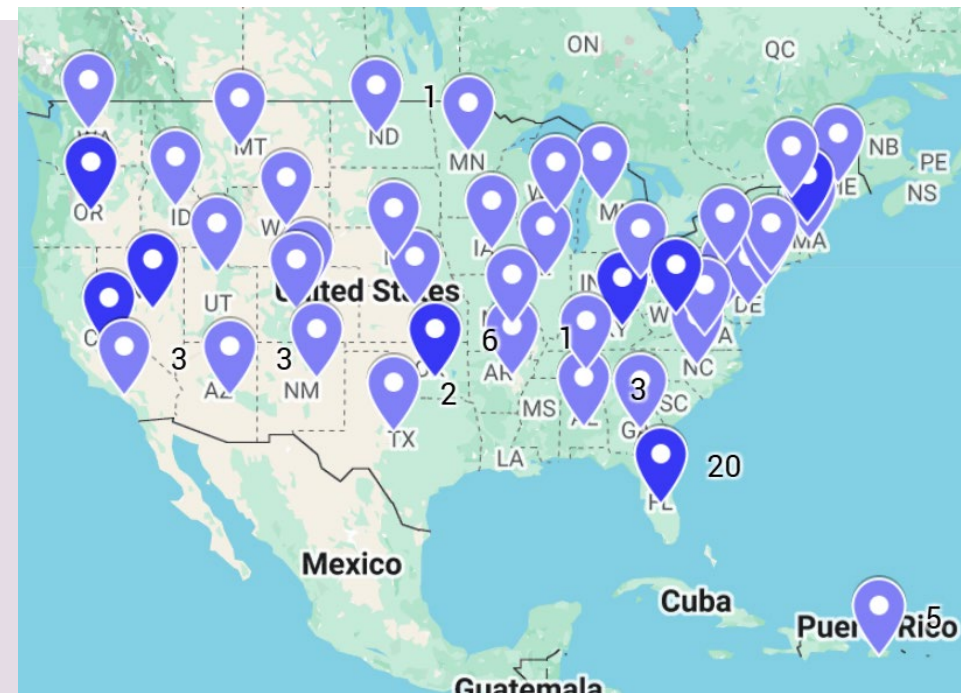
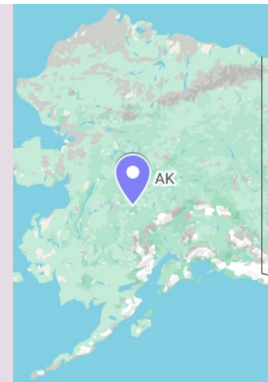
August 4, 2026, 2:00 to 2:45 PM EST



U.S. Department of Transportation
Federal Transit Administration

Webinar Agenda

- About National RTAP, Our Presenters
- What is “GTFS”?
- Shapes - Why and How to?
- Shapes - Best Practices
- State DOT Support
- Questions



46 States or Territories
represented today!

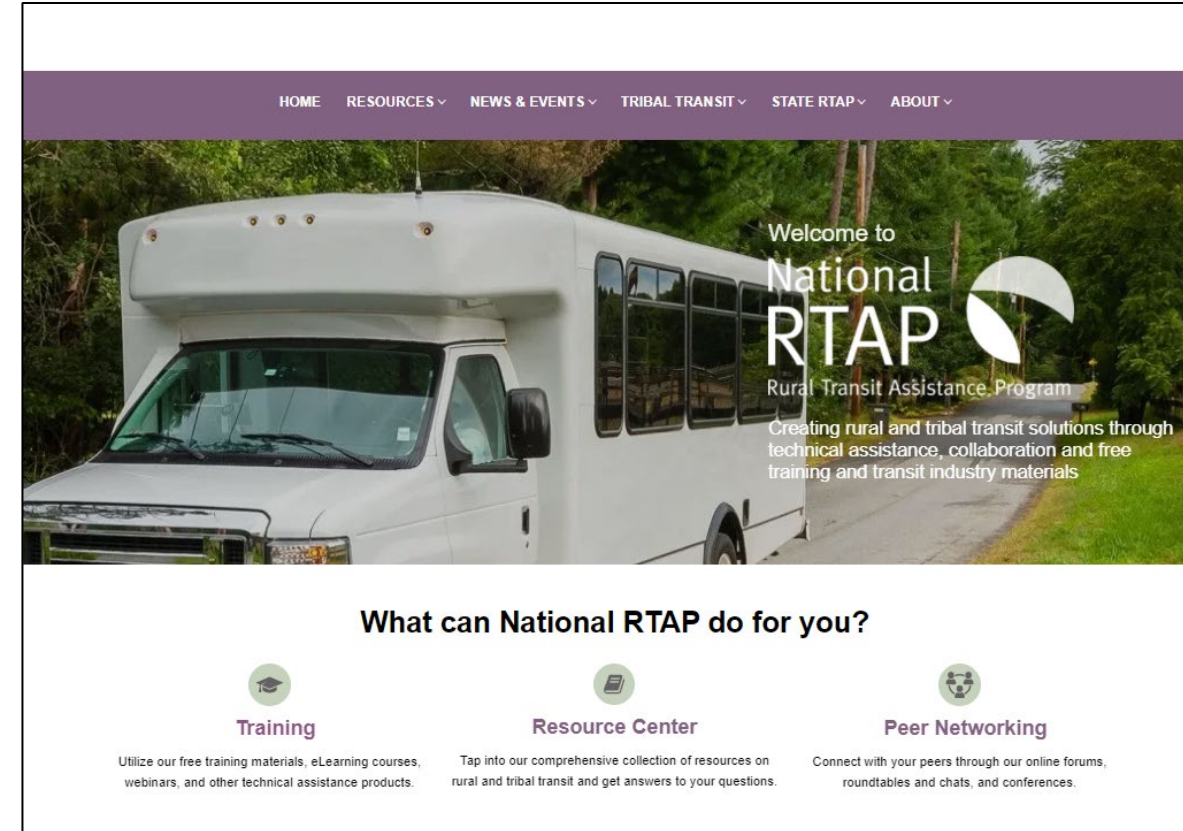
Presentation and Recording will be
posted to National RTAP
website

About National RTAP & Our Presenters

National Rural Transit Assistance Program

- Technical assistance center funded by FTA through the Section 5311 Program
- Provides free training materials and technical assistance to rural and tribal transit providers and state RTAP programs
- Review Board – state DOT and rural and tribal transit agency staff
- Learn more at nationalrtap.org

Reach us at
info@nationalrtap.org



National RTAP Resources and Services

Training

manuals, videos, slides,
and eLearning for front-
line staff and
management

Information

and best practices via
tech briefs, toolkits,
topic guides, articles,
and news

Technology Tools

for procurement, cost
allocation, website
building, RideSheet
DRT scheduling
platform, and GTFS

Peer Networking

and training via webinars,
conferences, roundtables,
and online forums

Assistance

through reference services
and tech support – bring us
your questions!

Presenters



Al Benedict

Community Grants/
Technology Tools Lead
National RTAP



Marcy Jaffe

GTFS Technical Support to
National RTAP
Transnnovation Inc



Joe Gallagher

Transportation Data
Analyst
Federal Transit
Administration

What is “GTFS”?

?

Dinkbee

Apple Ave.

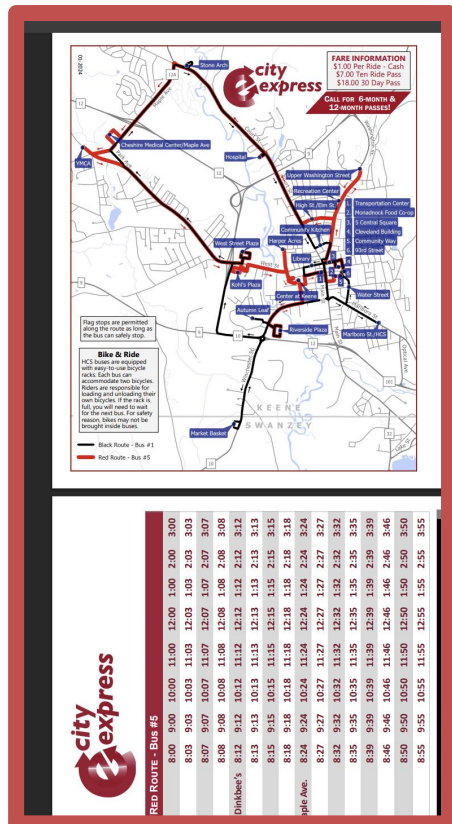


**CALL FOR 6-MONTH &
12-MONTH PASSES!**

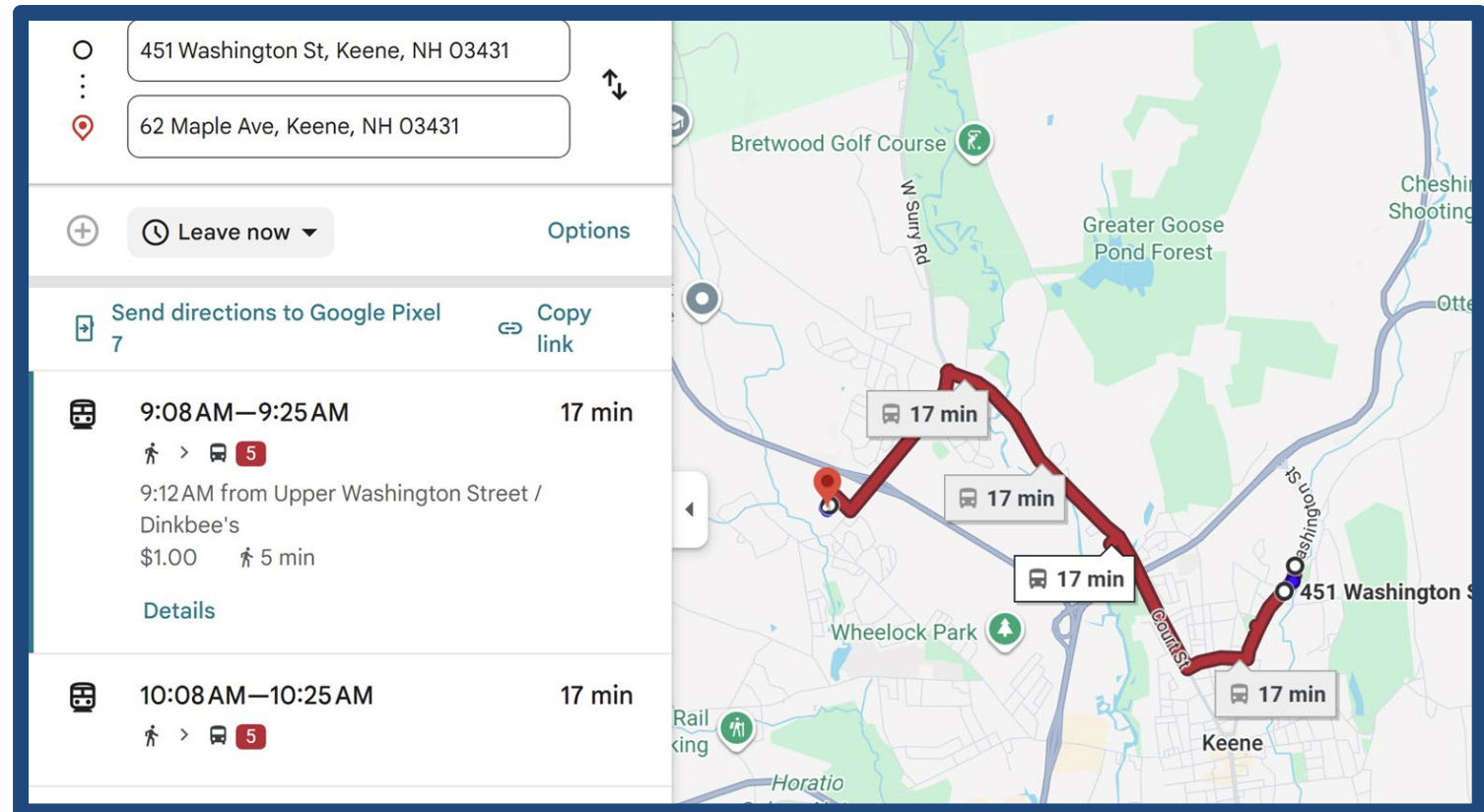
FARE INFORMATION
\$1.00 Per Ride - Cash
\$7.00 Ten Ride Pass
\$18.00 30 Day Pass

What is General Transit Feed Specification (GTFS)?

Transform paper or online timetable with precise stop locations to digital, standardized & easy-to-use trip plans



- agency.txt
- calendar.txt
- calendar_dates.txt
- fare_attributes.txt
- fare_rules.txt
- feed_info.txt
- routes.txt
- shapes.txt
- stop_times.txt
- stops.txt
- transfers.txt
- trips.txt



View All Next Departures & Locate Nearby Stops

Select
bus stop
icon

Elm @ SNHU Arena			
	10 Valley St/Mall Of NH	Downtown - Ve...	8:23 AM
	3 Brown Ave/Airport	Downtown - Veter...	8:24 AM
	12 South Beech St/Mall Of NH	Downto...	8:54 AM
	10 Valley St/Mall Of NH	Downtown - Ve...	9:23 AM
	3 Brown Ave/Airport	Downtown - Veter...	9:24 AM
	12 South Beech St/Mall Of NH	Downto...	9:54 AM
	10 Valley St/Mall Of NH	Downtown - V...	10:23 AM



Plan my trip in my language (Title VI); Print fewer timetables

Plan my trip interface showing transit options and a map.

Search Bar: Salir a la(s) [Dropdown] Opciones

Time/Date: 7:00 a.m. [Dropdown] mar, 8 sept [Dropdown]

Actions: Enviar instrucciones sobre cómo llegar a Google Pixel 7 Copiar vínculo

Transit Options:

- Option 1:** 7:48 a.m. (martes)—9:03 a.m. 1 h 15 min
BR-2 > 37
7:50 a.m. de Universidad Interamericana
Gratis 4 min
Detalles
- Option 2:** 7:41 a.m. (martes)—9:03 a.m. 1 h 22 min
BR-1 > 37
- Option 3:** 9:18 a.m. (martes)—10:23 a.m. 1 h 5 min
BR-2 > 37

Map: A map showing the route from Universidad Interamericana de... to Ruinas del Laz... o Antiguo Lep... via Bayamón. The route is highlighted in blue and green. Key locations include TOA BAJA, INGENIO, CATAÑO, BAYAMÓN, TOA ALTA, MINILLAS, and GUAYNABO. The map also shows Playa Parchola and VIEJO SAN JUAN.

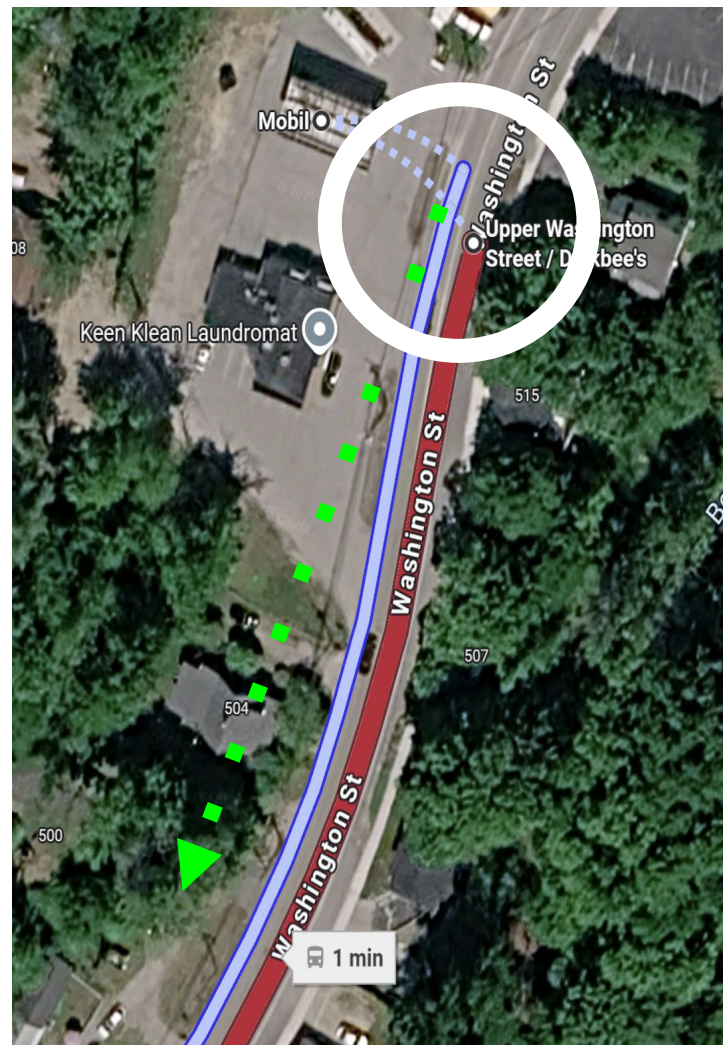
NJ Transit went paperless in 2026 for train timetables saving ~ \$500,000/year

Shapes - Why & How-to?

Poll: I will travel south toward Rec Center - Green Arrow

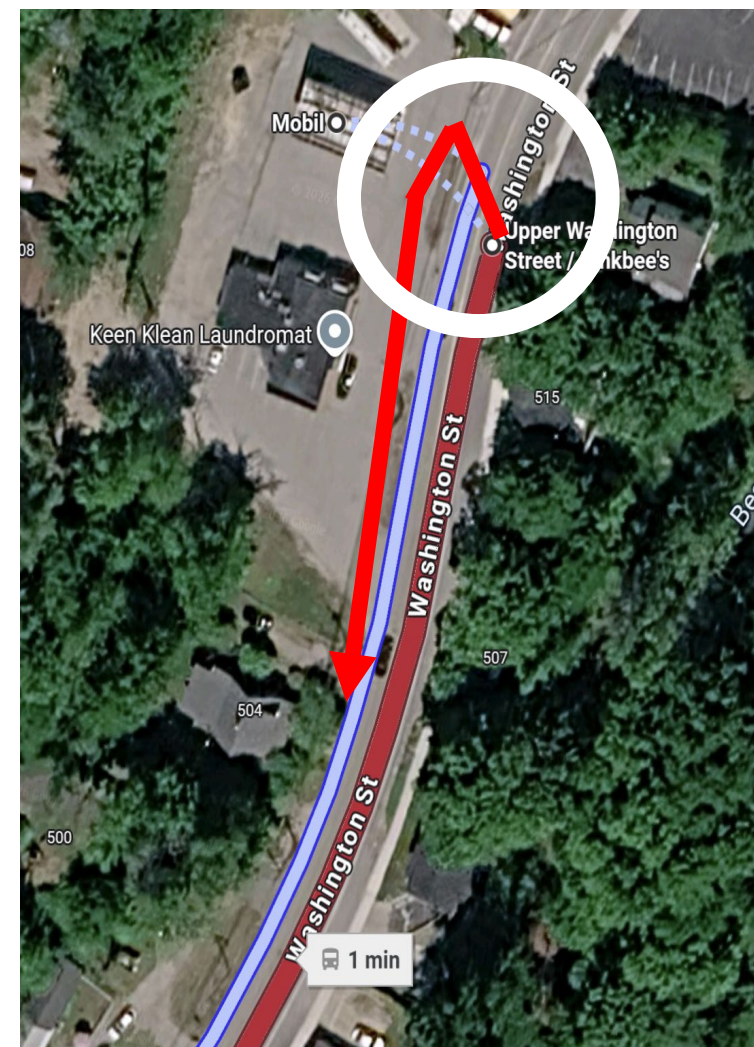
Yes or No:

Will I be confident to stand on the side of the street with the bus traveling north for my bus?



Shape : Confirms I will travel south toward Rec Center

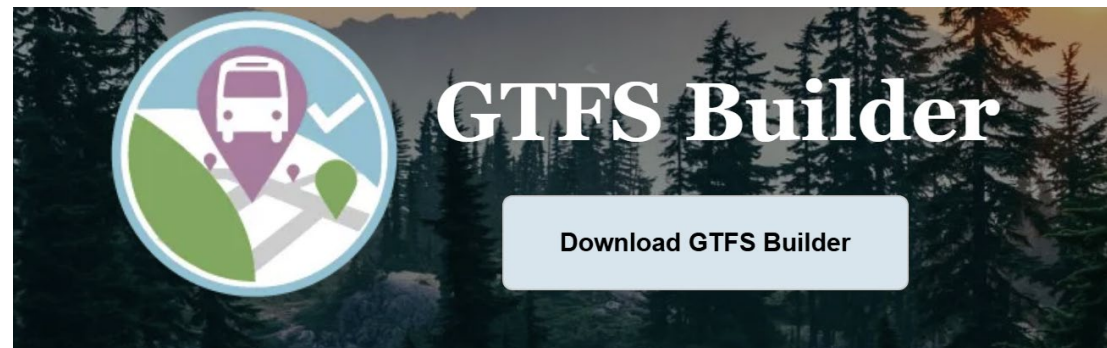
Adding a shape confirms the turnaround at Gas Station / Dinkbee's



Managing Data in Excel / GTFS Builder

Free tools & tech assistance to > Generates text files,
shapes, shape_id by trip variation & direction

>> validate >> host >> publish



<https://www.nationalrtap.org/Technology-Tools/GTFS-Builder/Support>

GTFS Builder Stops > Shapes - MyMaps Confirm Stop Locations

-  Pontiac Senior High-Rise
-  Pontiac Towers
-  Dollar General
-  OSF St.James
-  Walmart Supercenter
-  Sullivan Center
-  CVS

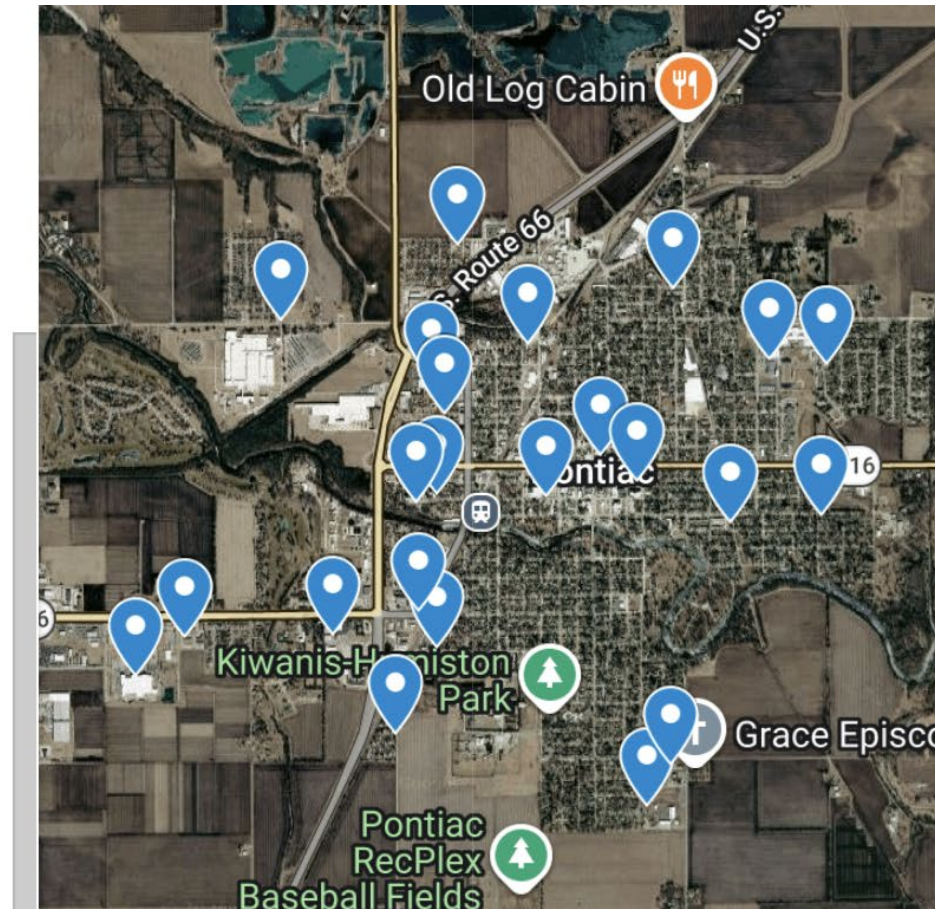
☒ Untitled layer 

 Driving





☐ Base map



Map Stops and
and shapes
(video)

<https://youtu.be/A0yzTqDf3Z0?si=6ZdBBoSZUzc4dWz0&t=932>

With tmail or Google account

<https://www.google.com/maps/d/>

GTFS Builder - MyMaps Driving Directions for each shape_id

The screenshot displays the GTFS Builder MyMaps interface. On the left, a list of locations is shown, including Pontiac Senior High-Rise, Pontiac Towers, Dollar General, OSF St.James, Walmart Supercenter, OSF St.James, Walmart Supercenter, Sullivan Center, and CVS. Below this list, a section titled "Directions from 1510 S. Locust-Pr..." is visible, with a checked box for "Driving". The directions list includes: A 1510 S. Locust-Prairie Horiz..., B Livingston County Health De..., and C Sterling Estates. An "Add Destination" link is also present. At the bottom left, there is a "Base map" checkbox.

The main map area shows a satellite view of a region in Pontiac, Michigan. A blue line indicates the driving route, starting from a point labeled "C" (Sterling Estates) and ending at a point labeled "A" (1510 S. Locust-Prairie Horiz...). The route passes through the Pontiac Correctional Center and Kiwanis-Humiston Park. A blue location pin is placed at the starting point "C".

On the right side of the map, a blue toolbar contains several icons: a left arrow, a right arrow, a hand icon, a location pin icon, a share icon, a route icon, and a scale bar. Below the toolbar, a black button with white text reads "Add directions".

Videos and Training Guides for Shapes

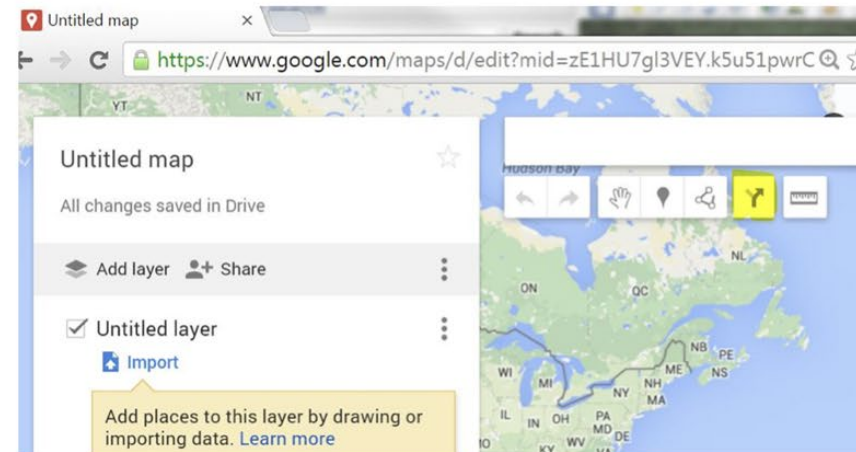
[How-to Shapes with GTFS Builder](#)

Video ~ 15 min

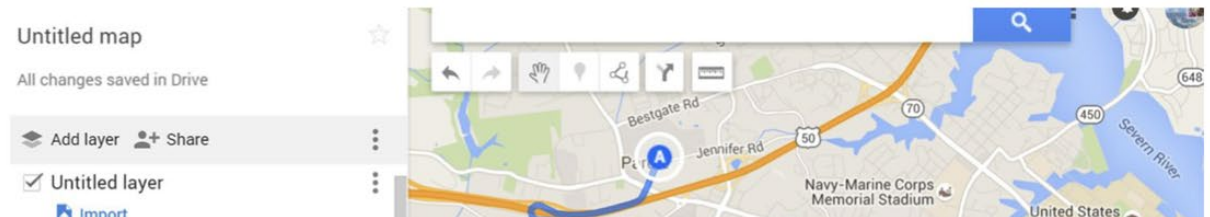
Assign a shape_id for each direction

Then validate / view / confirm stops are on the correct side of the road

Use Directions tool (we highlighted in yellow for you)



Create a new map using start and end point of bus route
(you can use places,



[Shapes Step-by-Step Guide](#)

GTFS Managers, Data Visualizers & Options For Shapes

- [Actionfigure](#)
- [AddTransit](#)
- [Arcadis/IBI Group](#)
- [Avail Technologies Inc](#)
- [Cal-ITP \(California Integrated Travel Project\)](#) - offers free agencies. Email: hello@calitp.org
- Excel 3D - no link - explore your Microsoft 360 license
- [GMV Syncromatics](#)
- [Giro](#)
- [GTFS-X](#) (GTFS-Flex editor)
- [GTFS Editor](#)
- [GTFS Studio](#) (validate/view/need shape_id)
- [GTFS Vision](#)

Partial List

- [Mobility Database](#) (visualizer)
- [Moovit](#)
- [Optibus/Trillium Solutions](#)
- [Passio Technologies](#)
- [QGIS](#)
- [Radiola](#)
- [TransitFare](#)
- [Transit.land](#) (visualizer)
- [Transit-Lens](#) (visualizer)
- [Transnnovation Inc](#)
- [TransLoc](#)
- [Trapeze Group](#)
- [TripSpark](#)
- [Via/Remix](#)



<https://www.nationalrtap.org/TechnologyTools/GTFS-Buider/Support#OtherGTFSDataManagers>

Validate GTFS: Resolve Errors

Mobility Data - data consistency

<https://gtfs-validator.mobilitydata.org/>

Mecatran - additional best practices

<https://gtfsvtor.mecatran.com/utw-test/web/pub/gtfsvtor>

Summary

Agencies included

- Rusk County Transit
 - website: <https://rctc.online/>
 - phone number: (715) 532-1000
 - email: sheryl.kislingwerner@rctc.online

Feed Info

Publisher Name: Rusk County Transit
Publisher URL: <https://rctc.online/>
Feed Email: sheryl.kislingwerner@rctc.online
Feed Language: English
Feed Start Date: 2024-05-01
Feed End Date: 2026-05-01
Service Window: 2024-05-01 to 2026-05-01 (?)

Specification Compliance report

0 notices reported (0 errors, 0 warnings, 0 infos)

Notice Code

Made with ♥ by [MobilityData](#)

calendar_dates.txt - 1 WARNING

- 1 WARNING Useless calendar date

	service_id	date	exception_type
L2	WS	20241224	2

calendar.txt

	service_id	monday	tuesday	wednesday	thursday	friday	saturday	sunday	start_date	end_date
L2	WS	0	0	1	0	0	1	0	20240501	20260501

WARNING service_id Useless calendar date: it is specified as removed (type 2), but the calendar WS is not active on 2024/12/24.

Tune-up Data Quality - Riders Need

Top Quality GTFS Data Files Checklist

Powerful Rider Trip Planning with Top-Quality GTFS Data-
Lets bring your data up a notch!



Calendar/Calendar_dates/Holidays

Part of GTFS Feed	How to check it is correct & What to do	Images
Service_end Date is Expired in calendar	- Expired day may be extended as published with riders uncertain which agency on the page is expired - Confirm both calendar and feed_info for start and end dates	 We don't have the most recent timetables for this area.

<https://n-catt.org/guidebooks/top-quality-gtfs-data-files-checklist/>

<https://gtfs.org/documentation/schedule/schedule-best-practices/>

Host GTFS at a weblink that does not change ("Permalink")

At your website:

Confirm the file URL does not change each time you update or upload a new version (WordPress settings)



[Rider News](#) ▾ [Routes & Schedules](#) ▾ [Services](#) ▾ [Opportunities](#) ▾ [About TranGO](#) ▾

Thursday, November 27, 2025, in observance of Thanksgiving
Thursday, December 25, 2025, in observance of Christmas Day
Thursday, January 1, 2025, New Year's Day

[GTFS Data](#)

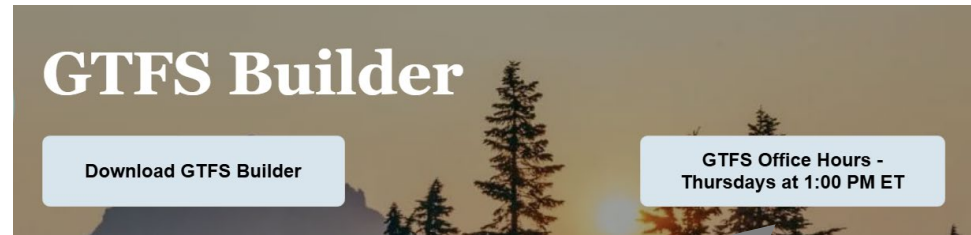
National RTAP, free hosting

<https://www.nationalrtap.org/Technology-Tools/GTFS-Builder#UploadGTFS>

Thursday GTFS Builder Open Office Hours & 1:1 Tech Assistance

Each Thursday* 1-1:30pm EST

No registration needed



Link available on our support page

<https://www.nationalrtap.org/Technology-Tools/GTFS-Builder/Support>

<https://us06web.zoom.us/j/81979444828>

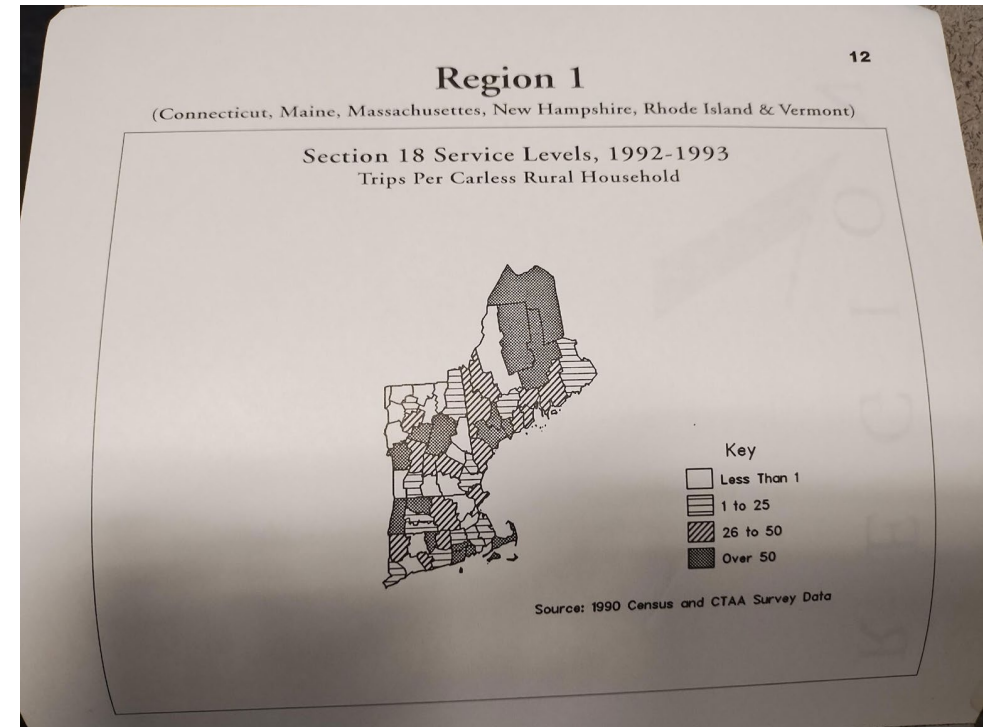
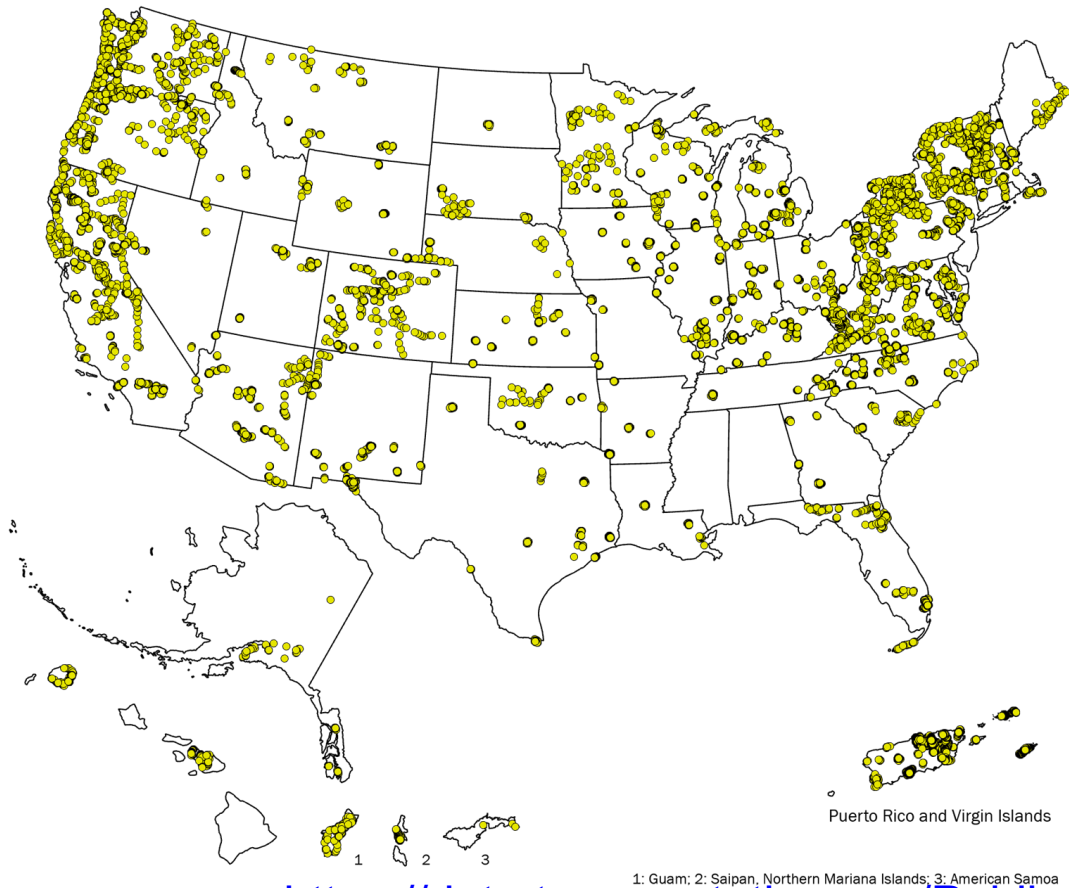
*No meetings on Thanksgiving or other major federal holidays that fall on Thursdays



1:1 training with
Liz Horsecapture
Fort Belknap Tribe

Shapes - Best Practices

GTFS is giving FTA a more complete picture of transit service in rural America...

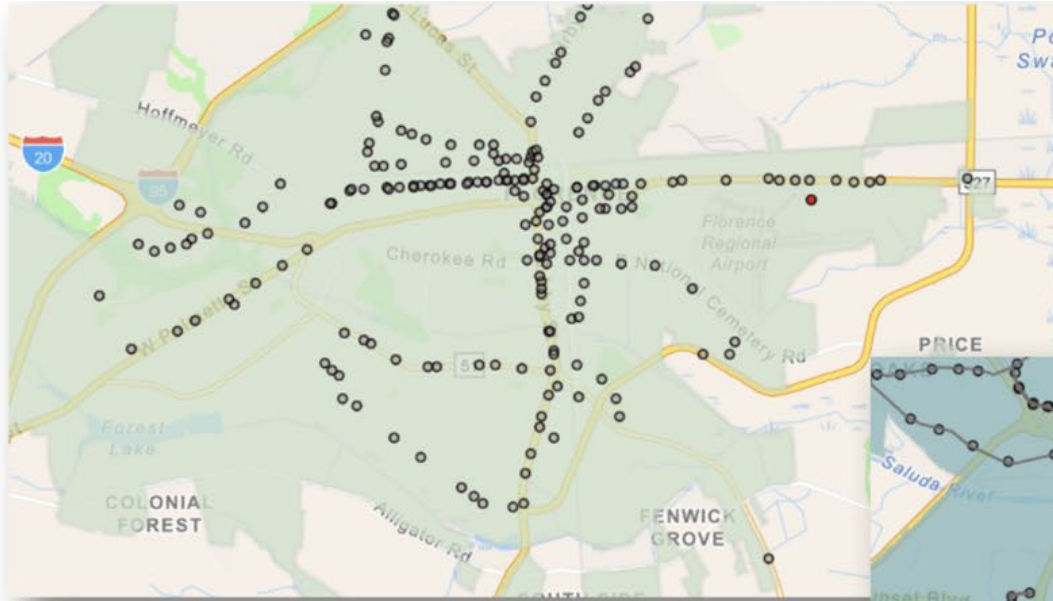


Rural Transit Atlas circa 1994

Map data from https://data.transportation.gov/Public-Transit/General-Transit-Feed-Specification-Weblinks/2u7n-ub22/about_data

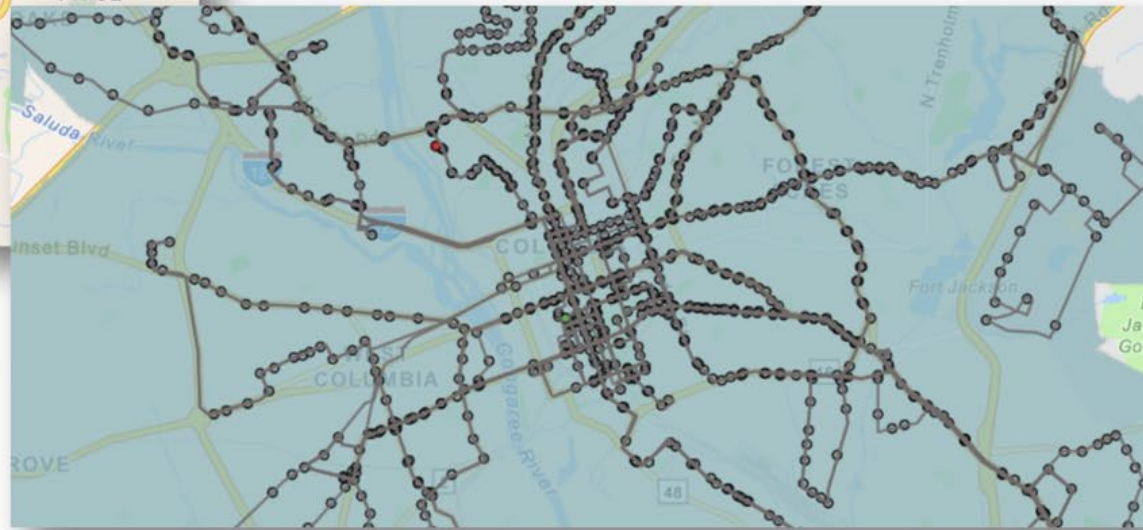
Slide courtesy J. Gallagher, FTA

shapes.txt illustrate where your service goes, supports planning decisions



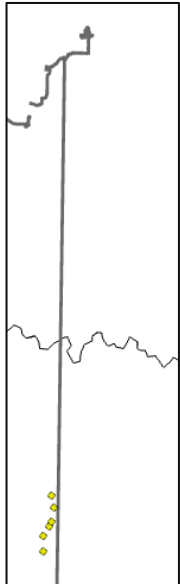
shapes.txt is required for all reporters beginning in next year. It is a simple add-on that NRTAP can help you build, and it adds so much more detail to your GTFS feed

20% of rural GTFS feeds already have shapes.txt



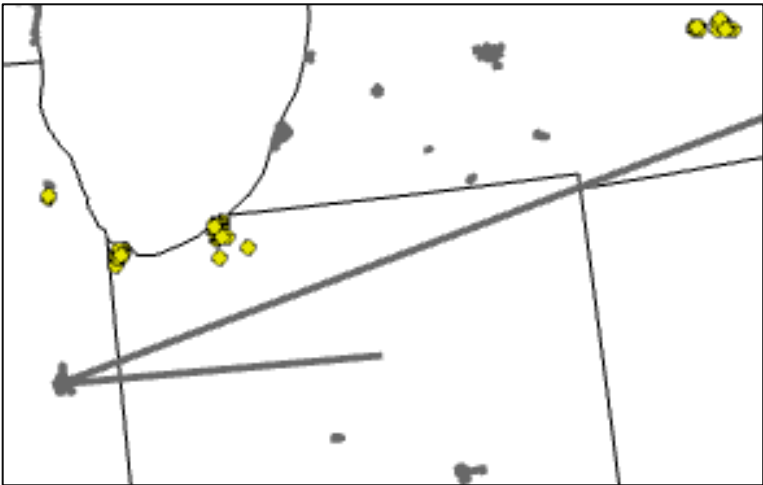
<https://www.bts.gov/national-transit-map>

If your transit network has suddenly grown an arm, crossed state lines, or entered the ocean...



shape_id	shape_pt_lat	shape_pt_lon	shape_pt_sequence	shape_dist_traveled
langstonbryantmallout	1	-97.26395	66	1.72

Erroneous Latitude Value

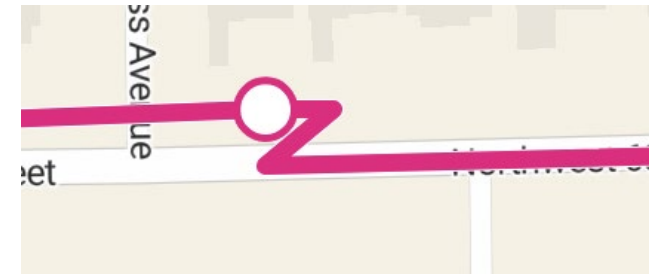


ROUTE_7non_SHAPE	41.11480	-87.86214	401
ROUTE_7non_SHAPE	41.11375	-87.86234	402
ROUTE_7non_SHAPE	41.11370	-41.11370	403
ROUTE_7non_SHAPE	41.11381	-87.86345	404

Duplicated Latitude Value

Shapes Precision – Best Practices

- ❑ Centerline of the road - matching start & end
- ❑ Do not connect the path to the stop - remain on centerline
- ❑ Confirm that the bus stop is correct side of the road
- ❑ Nearest point ahead of the stop, not after (avoids zigzag)
- ❑ Meets National Transit Database RY2026 mandate



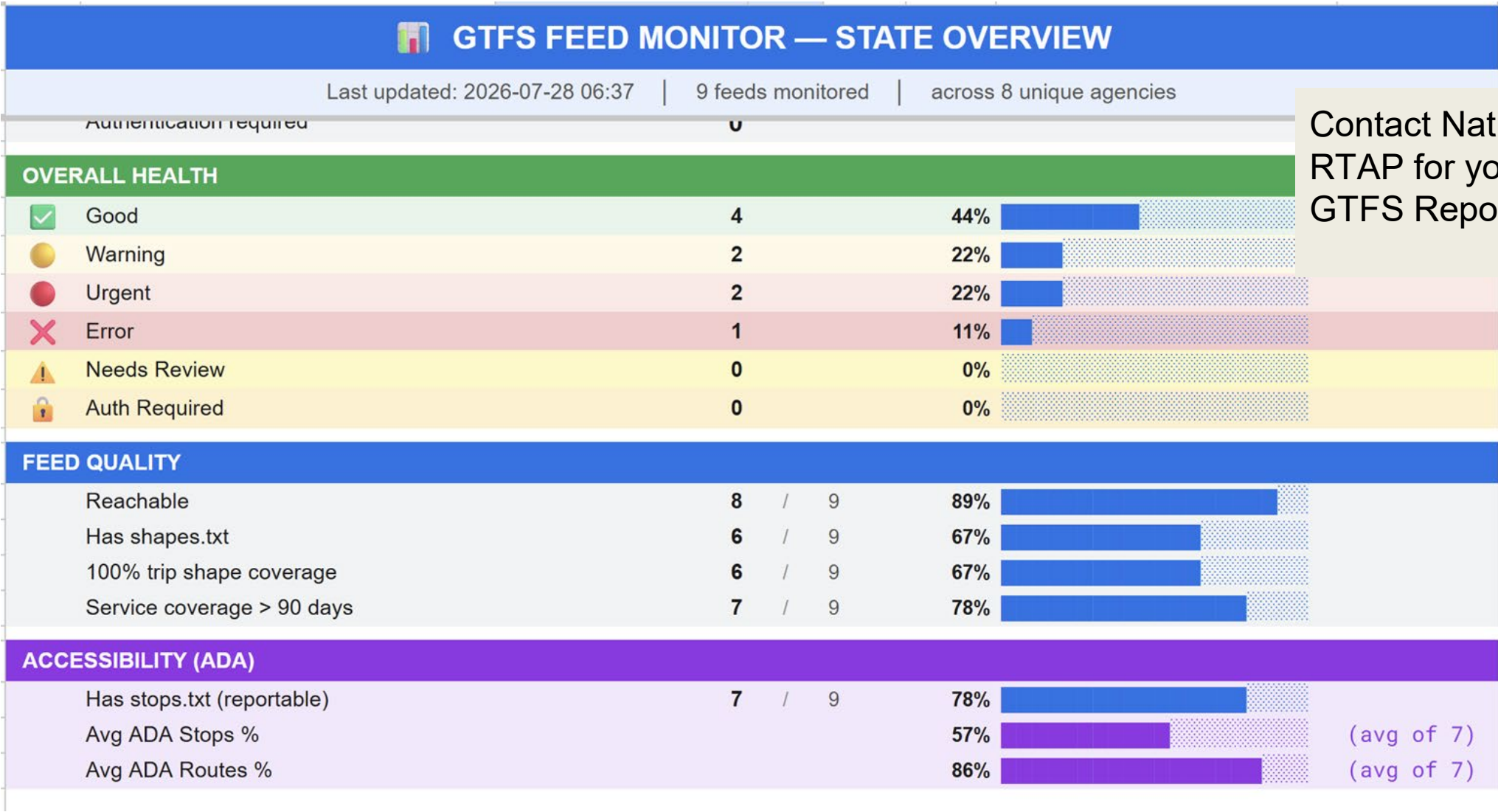
<https://gtfs.org/resources/gtfs-schedule-feature-guides/shapes/>

State DOT Support

State DOTs Role & Benefits of Managing GTFS

- ❑ State DOTs have the best sense of rural transit needs and resources
 - ❑ Coordinate inter-agency transfers & evaluate gaps & duplicate services
- ❑ Visualize, assess and assure data quality
- ❑ Assist with Emergency Planning - knowing all routes/assets
- ❑ Builds Technical Capacity & Strengthens Local Partnerships
 - ❑ Teaching agencies “how-to” generate shapes
 - ❑ For State DOTs, saves time and resources
- ❑ Maintain state GTFS repository, your source of true trip planning data

Explore With National RTAP: Your State's GTFS "Health"



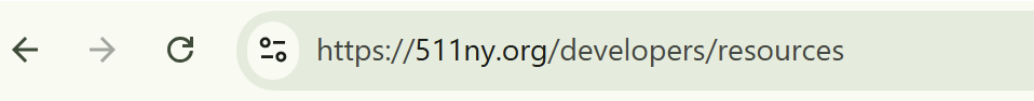
Contact National RTAP for your State GTFS Report

Deeper Dive: Your State's GTFS "Health"

Overall Status	Service Health	URL	Days to feed_end	Shape %	ADA Stops %
✓ OK	✓ OK	https://rap	536	100%	100% (593/593)
✓ OK	✓ OK	https://coo	521	100%	99% (360/364)
✓ OK	✓ OK	https://rap	187	100%	0% (0/393)
✓ OK	✓ OK	https://ww	522	100%	100% (24/24)
● Shapes.txt Empty	✓ OK	https://rap	—	0%	0% (0/6)
● Shapes.txt Empty	✓ OK	https://rap	156	0%	0% (0/28)
✗ HTTP 404	—	https://cni	—	—	—
● Service < 45 Days	● service expires in 33 days ca	https://rap	—	100%	—
● feed_end_date Passed	● feed_end_date passed 28 day	https://tric	-28	100%	100% (27/27)

State DOT : Consider Publishing Your State GTFS Directory

NY's "511NY.org"



Public Feeds

The following feeds, in GTFS format, are available for download and u

- [TOR Transport of Rockland](#) (last updated: 12 Jun 2026)
- [Steuben County Transit](#) (last updated: 06 Jan 2026)
- [Staten Island Ferry](#) (last updated: 22 Jun 2026)
- [North Country Express](#) (last updated: 30 Oct 2025)
- [City Of Glen Cove](#) (last updated: 06 Jul 2026)
- [Centro](#) (last checked: 13 Jul 2026, last updated: 13 Jul 2026)
- [Oswego County Public Transit](#) (last updated: 20 Jan 2026)
- [Gloversville Transit System](#) (last updated: 20 Jul 2026)
- [Lake Champlain Ferry](#) (last checked: 27 May 2026, last update
- [Chemung C TRAN](#) (last updated: 26 Jun 2025)

<https://511ny.org/developers/resources>

FTA Publishes GTFS from NTD - NH

General Transit Feed Specification weblinks

NTD ID	Agen...	City	St...	Organ...	Repor...	Age	UZA ...	Prima...	Weblink
10002	Manchester	Manchester	NH	Independen	Reduced Re		Manchester	163,289	https://rapid.nationalrtap.org/
10086	Cooperative	Dover	NH	Independen	Full Reporte		Dover-Rock	72,391	https://coastbus.org/sites/d
10087	City of Nash	Nashua	NH	City, County	Full Reporte		Nashua, NH	242,984	https://rapid.nationalrtap.org/
10119	University C	Durham	NH	University	Reduced Re		Dover-Rock	72,391	https://rapid.nationalrtap.org/
10133	Boston Expi	Concord	NH	Private-For-	Reduced Re		Boston, MA	4,382,009	https://rapid.nationalrtap.org/
10159	VNA Home	Keene	NH	Private-Non	Rural Repor		New Hamps	768,345	https://www.swrpc.org/wp-c
10161	Belknap-Me	Concord	NH	Private-Non	Rural Repor		New Hamps	768,345	https://cnhrpc.org/wp-conte
10172	Tri-County C	Berlin	NH	Private-Non	Rural Repor		New Hamps	768,345	https://tricountytransit.org/
11156	Southweste	Keene	NH	Private-Non	Rural Repor		New Hamps	768,345	https://rapid.nationalrtap.org/

https://data.transportation.gov/Public-Transit/General-Transit-Feed-Specification-Weblinks/2u7n-ub22/data_preview

GTFS Managers, Data Visualizers & Options For Shapes

- [Actionfigure](#)
- [AddTransit](#)
- [Arcadis/IBI Group](#)
- [Avail Technologies Inc](#)
- [Cal-ITP \(California Integrated Travel Project\)](#) - offers free agencies. Email: hello@calitp.org
- Excel 3D - no link - explore your Microsoft 360 license
- [GMV Syncromatics](#)
- [Giro](#)
- [GTFS-X](#) (GTFS-Flex editor)
- [GTFS Editor](#)
- [GTFS Studio](#) (validate/view/need shape_id)
- [GTFS Vision](#)

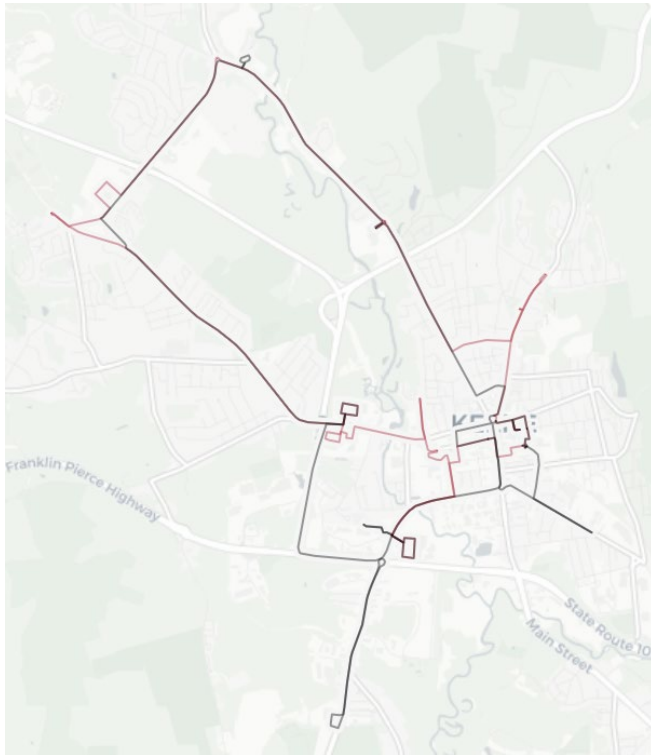
Partial List

- [Mobility Database](#) (visualizer)
- [Moovit](#)
- [Optibus/Trillium Solutions](#)
- [Passio Technologies](#)
- [QGIS](#)
- [Radiola](#)
- [TransitFare](#)
- [Transit.land](#) (visualizer)
- [Transit-Lens](#) (visualizer)
- [Transnnovation Inc](#)
- [TransLoc](#)
- [Trapeze Group](#)
- [TripSpark](#)
- [Via/Remix](#)

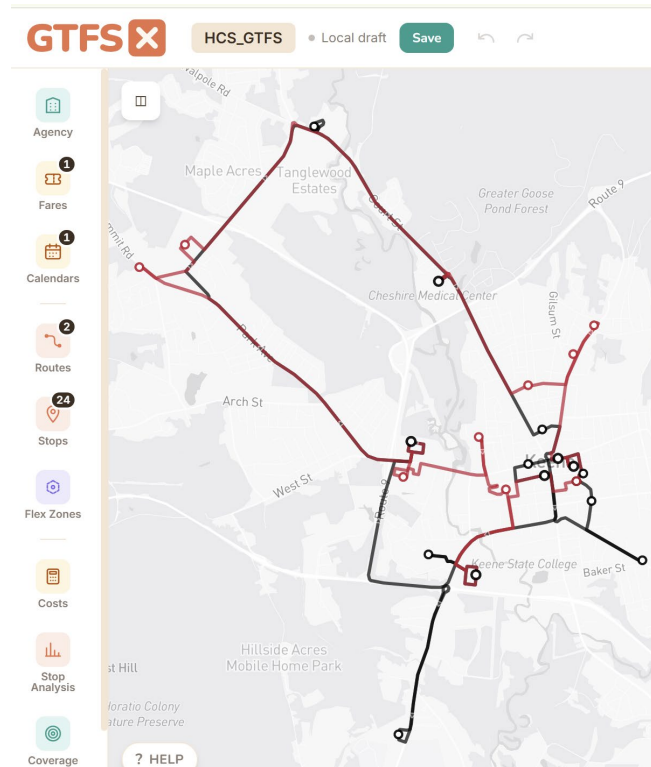


<https://www.nationalrtap.org/TechnologyTools/GTFS-Buider/Support#OtherGTFSDataManagers>

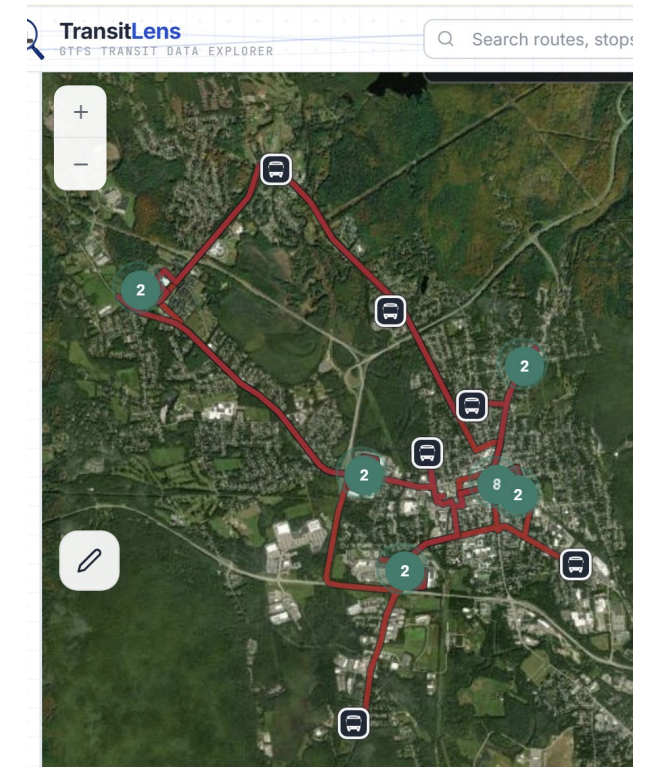
Examples of GTFS Visualizers



Mobility Database



GTFS-X



Transit Lens



❑ Polling Question: State DOT or Regional MPO Support

Questions
Use the Q&A

TACL: The Transportation Technical Assistance Coordination Library



A platform to access transportation coordination resources from transportation technical assistance centers and the [Federal Transit Administration \(FTA\)](#).

Participating Past and Current FTA supported technical assistance centers

- [National Aging & Disability Transportation Center \(NADTC\)](#)
- [National Center for Applied Transit Technology \(N-CATT\)](#)
- [National Center for Mobility Management \(NCMM\)](#)
- [National Rural Transit Assistance Program \(NRTAP\)](#)
- [Shared-Use Mobility Center \(SUMC\)](#)

<https://transportation-tacl.org>

Upcoming National RTAP/FTA Events

Learn About TACL - The Transportation Technical Assistance Coordination Library

August 12, 2:00-3:00 EST

Register: https://us06web.zoom.us/webinar/register/WN_2G2neU76QyyjdAwDWypY8w#/registration

Website Builder Support:

Every Tuesday at 1:00-1:30 PM ET

GTFS Builder Support:

Every Thursday at 1:00-1:30 PM ET

The screenshot displays the National RTAP website homepage. At the top, a header asks "What can National RTAP do for you?" and lists three main categories: Training (with a graduation cap icon), Resource Center (with a document icon), and Peer Networking (with a group of people icon). Below this, a section titled "Featured National RTAP Resources" shows a grid of eight images with labels: Conferences (bridge), Training Modules (stack of papers), eLearning Courses (bus interior), Technology Tools (map), Webinars (person at computer), Toolkits (office desk), Topic Guides (bus stop), and Spotlight Articles (person with bicycle). The bottom section is divided into "Resource of the Month" (highlighting "Mobility Management in Rural and Tribal Areas" with a thumbnail of a document) and "Upcoming Events" (listing a featured event: "GTFS Lunch and Learn on Shapes, August 4, 2026, 2:00-3:00 PM ET" and a calendar view for Monday, August 3).

<https://www.nationalrtap.org/News/Calendar>

To register or to access recordings, slides, or summaries, go to:

[nationalrtap.org/Training/Peer-Roundtables-and-Chats](https://www.nationalrtap.org/Training/Peer-Roundtables-and-Chats) and [nationalrtap.org/Webinars](https://www.nationalrtap.org/Webinars).

Thank You!

National Rural Transit Assistance Program

nationalrtap.org

info@nationalrtap.org

Find us on Facebook, YouTube, LinkedIn & Instagram, 888-589-6821

Learn about upcoming events & resources!

Al Benedict, Technology Tools/Community Rides Grant Program Leads

albenedict@nationalrtap.org

Marcy Jaffe, NRTAP GTFS Builder Technical Assistance

marcy@mjcaction.com

Joseph Gallagher, FTA Transportation Data Analyst

joseph.gallagher@dot.gov



U.S. Department of Transportation
Federal Transit Administration