



# Let's Get Going with On-line Trip Planning & General Transit Feed Specification (GTFS)!

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## 2021 MN/WI Public Transit Conference

October 6, 2021 9:15 a.m. - 11:45 a.m.



U.S. Department of Transportation  
Federal Transit Administration

# Agenda

- General Transit Feed Specification: What? and Why?
- Ease Marketing / Outreach: Revise With Driver Availability
- Barriers to GTFS
- National RTAP and GTFS Builder: Excel toolkit

# National Rural Transit Assistance Program (RTAP)

- 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
- National RTAP offices are in MA and DC
- Learn more at [nationalrtap.org](http://nationalrtap.org)

The screenshot shows the homepage of the National Rural Transit Assistance Program (RTAP). At the top left is the logo for National RTAP, Rural Transit Assistance Program. To the right are links for 'Cloud Signup', 'Cloud Login', 'Chat Online', 'Email', and a phone number '888-589-6821'. Below this is a navigation menu with links for Home, About, News, Resource Center, Training, Toolkits, Web Apps, Webinars, Technical Assistance, Tribal Transit, and State RTAP. The main banner features a white transit bus on a rural road with the text 'Welcome to National RTAP' and the tagline 'Creating rural and tribal transit solutions through technical assistance, collaboration, and free training and transit industry materials'. Below the banner is a section titled 'What are you looking for?' with five categories: Information (Resource Library, Toolkits, Spotlight Articles, Webinars), Training (Training eLearning, The Point, Directory of Trainers), Web Apps (Cost Allocation Calculator, GTFIS Builder, ProcurementPRO, Website Builder), Assistance (Technical Assistance, Connect with Us, State RTAP Managers, Tribal Transit), and News & Events (Upcoming Events, National RTAP News, Sign up for eNews Conference).

# General Transit Feed Specification (GTFS)

## Static

[Home](#) > [Products](#) > [Transit](#) > [Static Transit](#) > [Reference](#)

## Reference

This document defines the format and structure of the files that comprise a GTFS dataset.

### Table of contents

1. [Term definitions](#)
2. [Field types](#)
3. [Dataset files](#)
4. [File requirements](#)
5. [Field definitions](#)
  - [agency.txt](#)
  - [stops.txt](#)
  - [routes.txt](#)
  - [trips.txt](#)
  - [stop\\_times.txt](#)
  - [calendar.txt](#)

# General Transit Feed Specification (GTFS)

## Static



Google Maps



Apple Maps



Bing Maps



Transit



Moovit



Citymapper

## Real-time

Flex - *is underway*



“Plan, Book, & Pay for Demand-Responsive Transit Agencies in CA, OR, and WA”

# GTFS-Real-time



7:52 AM–8:27 AM

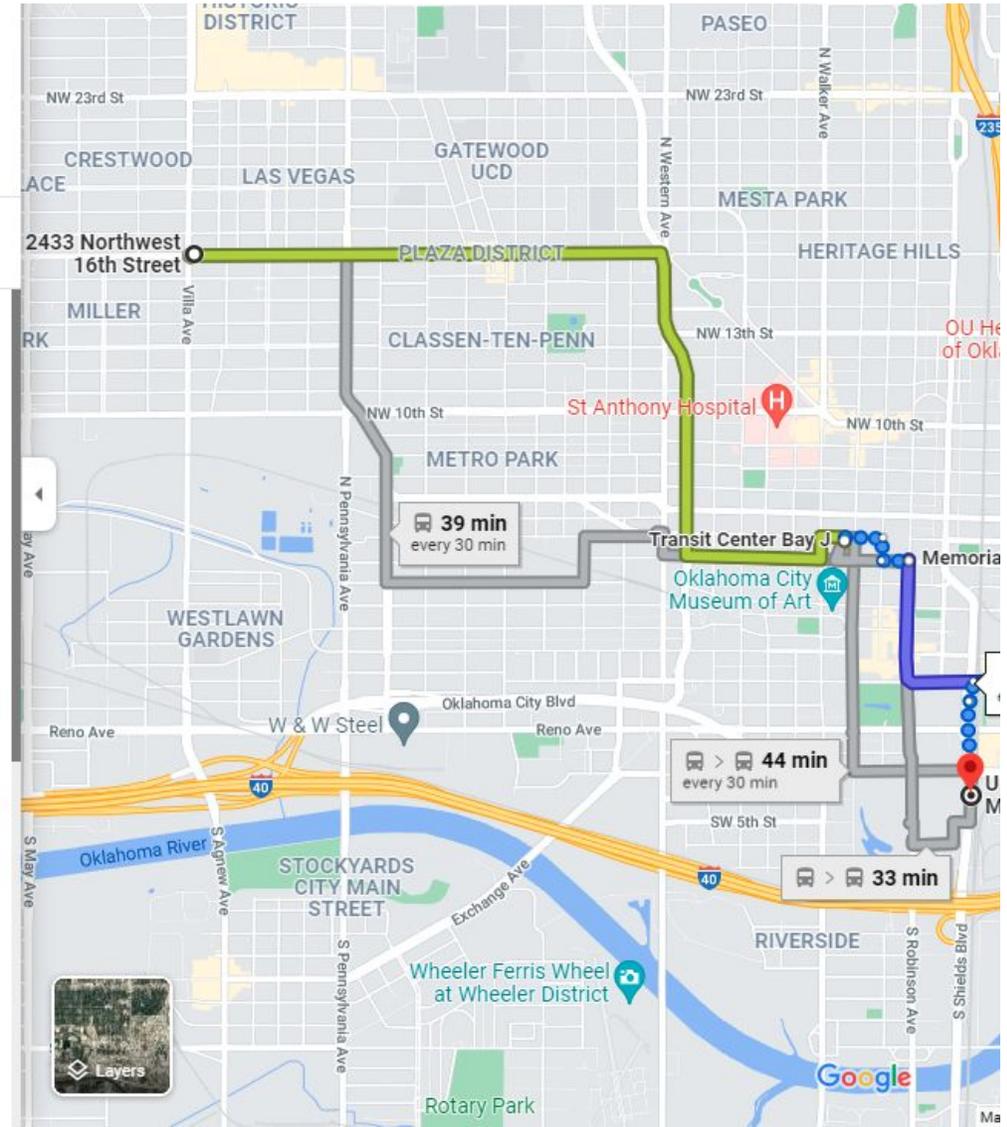
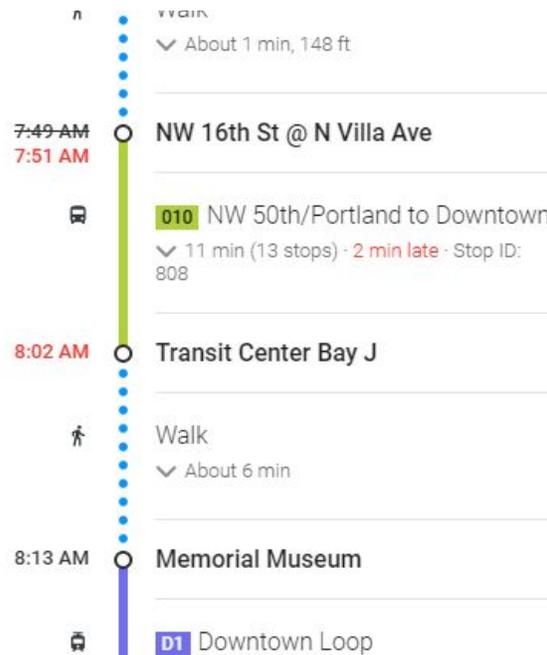
35 min



7:52 AM from NW 16th St @ N Villa Ave · 3 min late

\$2.75    15 min    every 30 min

## DETAILS



# Mobile Apps with GTFS-Static & GTFS-Real-time



**Moovel**  
Plans and compares transportation options.  
For Android, Apple iOS



**Roadify**  
Provides real-time arrival information, trip planning, service advisories, tweets, and user comments.  
For Android, Apple iOS



**Sendero GPS**  
Transit information for wayfinding use by people who are visually impaired.  
For BrailleNote and VoiceNote GPS system



**Sense Navigation**  
Transit Information for wayfinding use by people who are visually impaired.  
For BrailleSense and Voice SenseNotetakers



**Smart Ride**  
Searches for nearest stops, provides arrival information, displays a map, plans transit trips.  
For Apple iOS



**Swiftly**  
Provides real-time arrival info, multi-modal trip planning, live maps, and user-generated reports.  
For Android, Apple iOS



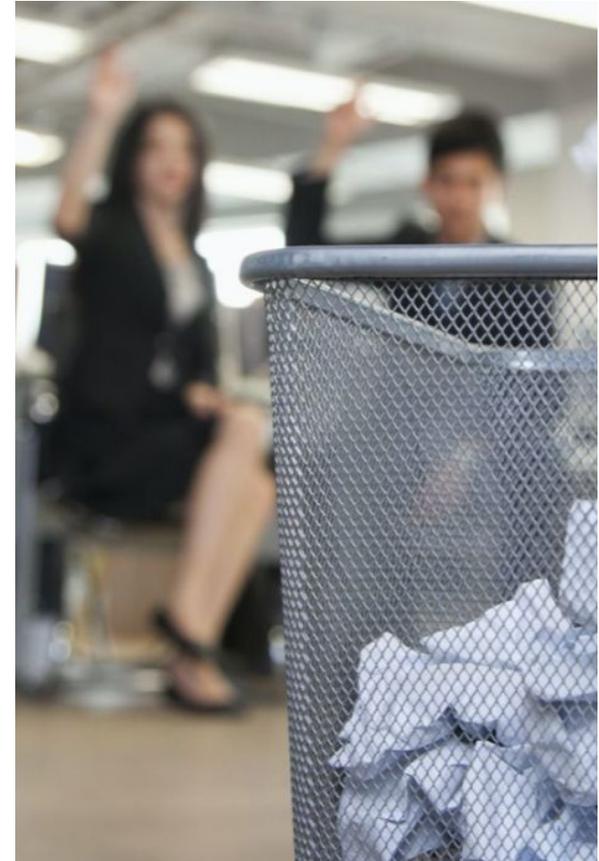
**Transicast**  
Stops, routes and next bus times. Track your location through stop-by-stop announcements, and search stops by location or address.  
For Android



**TransitScreen**  
Provides real-time transit arrivals for all types of public transit — bus, rail, bikeshare, carshare, ridehailing, etc.  
For dedicated monitors

<http://trimet.org/apps/index.htm>

# What Is the Cost and Time to Publish Timetables?



# Converting Paper Schedule to Digital

SERVING THE COMMUNITY MONDAY-FRIDAY			
GREYHOUND CONNECTOR			
TRANSIT INTERCITY 1			
Indian Hills	5:50	Noline's	10:55
San Carlos Marketplace	5:55	San Carlos Marketplace	11:10
Boys & Girls	6:05		
Noline's	6:20	<b>Apache Burger (Greyhound Connector)</b>	11:20
Rising Sun	6:55	Bashas	11:23
Bylas Store	6:58	Noline's	11:25
Assembly of God	7:00		
Navajo Point (R.T.G.)	7:05	Noline's	1:40 PM
San Carlos Apache Healthcare	7:25	Bashas	1:50 PM
Game & Fish	7:28	San Carlos Marketplace	2:00 PM

The screenshot shows a digital transit application interface. At the top, the origin is 'Noline's, Arizona 85542' and the destination is 'San Carlos Marketplace, San Carlos, AZ'. Below this, there are controls for departure time (11:15 AM) and date (Mon, Sep 20). A list of transit options is displayed, including 'San Carlos Local' and 'Globe' with their respective schedules and durations. A map on the right shows the route in red, connecting the origin to the destination via San Carlos and Noline's.

# Where Tribal Transit Is Available: San Carlos Apache Tribe

**Bylas Housing Authority, Mount Turnbull**  
**Tribal Enrollment Office, 350 San Carlos**

Depart at **6:00 AM** Thu, Sep 16

Send directions to your phone

**6:49 AM–7:52 AM** 1 hr 3 min  
San Carlos Local  
6:58 AM from Bylas Store  
\$1.50 11 min

**8:56 AM–10:09 AM** 1 hr 13 min  
Safford to Globe > San Carlos Local

**2:01 PM–3:04 PM** 1 hr 3 min

Tribal Enrollment Office San Carlos

170

70

1 hr 3 min

70

1 hr 3 min

Gila River

Bylas

Bylas Housing Authority

SAN CARLOS RESERVATION

# Details to Walk from Housing Authority to Nearest Bus Stop

8:56 AM - 10:09 AM  
(1 hr 13 min)



🚶 > 🚌 **Safford to Globe** > 🚌 **San Carlos Local** > 🚶

9:05 AM from Bylas Store  
\$1.50 🚶 13 min

**ADD TO CALENDAR**

**SCHEDULE EXPLORER**

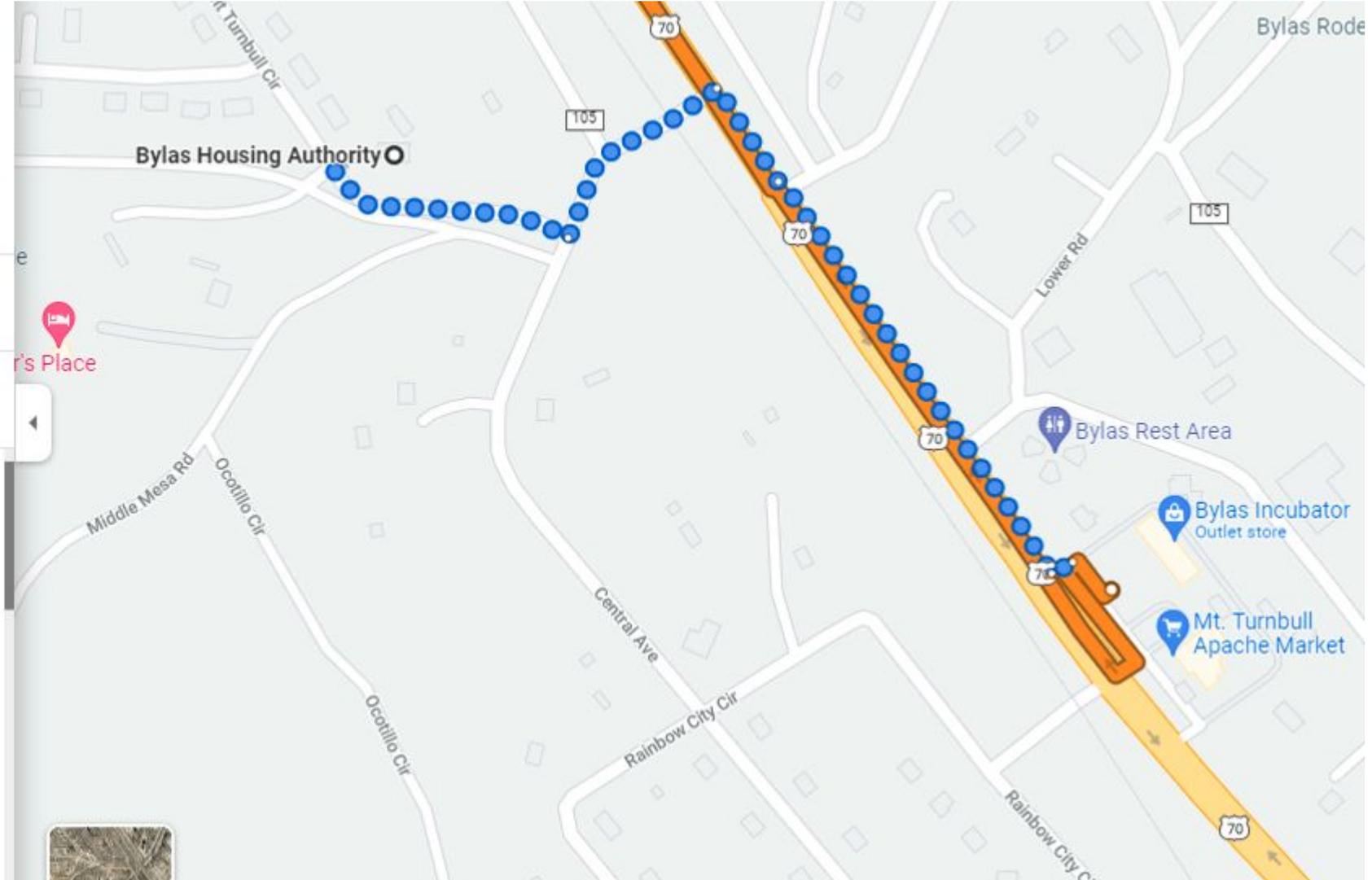
8:56 AM **Bylas Housing Authority**  
Mount Turnbull, Bylas, AZ 85530

🚶 **Walk**  
⤴ About 9 min, 0.4 mi

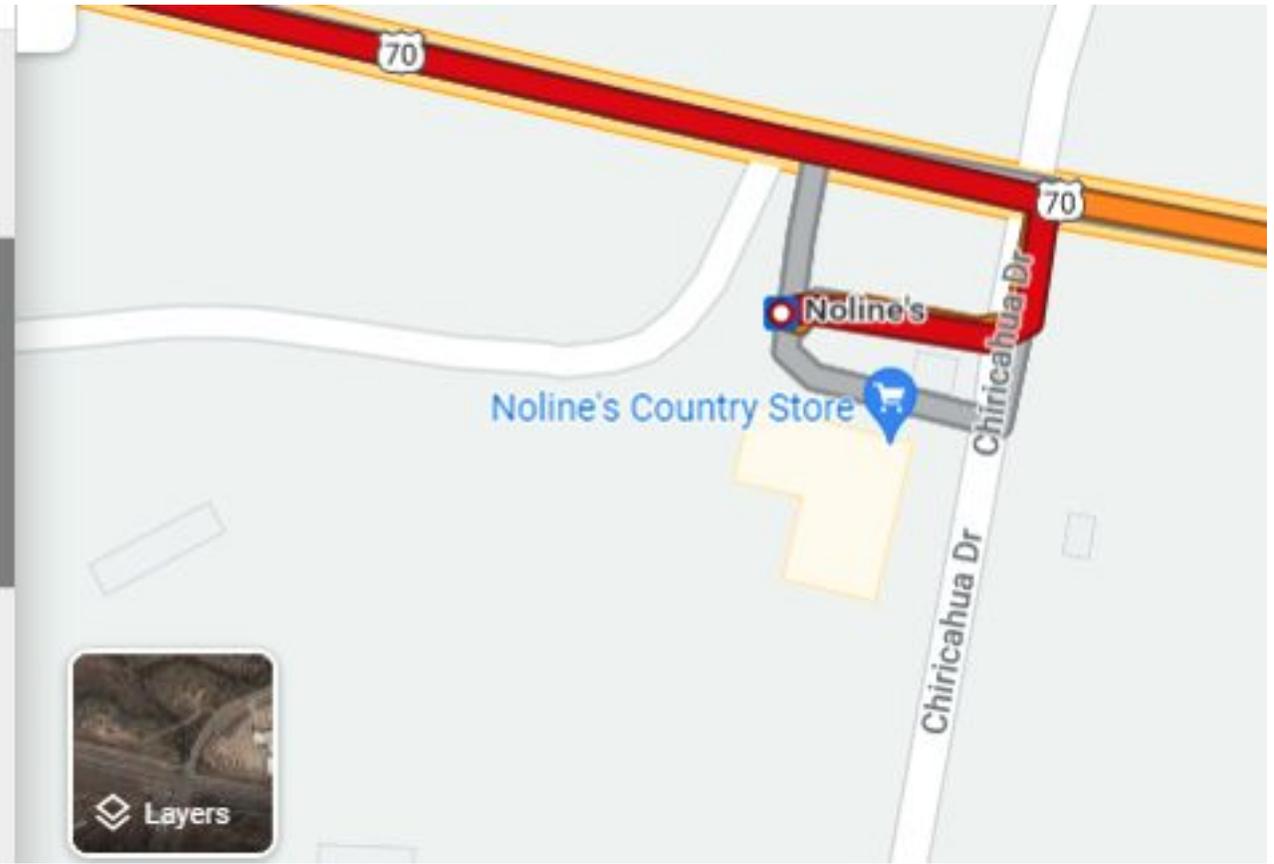
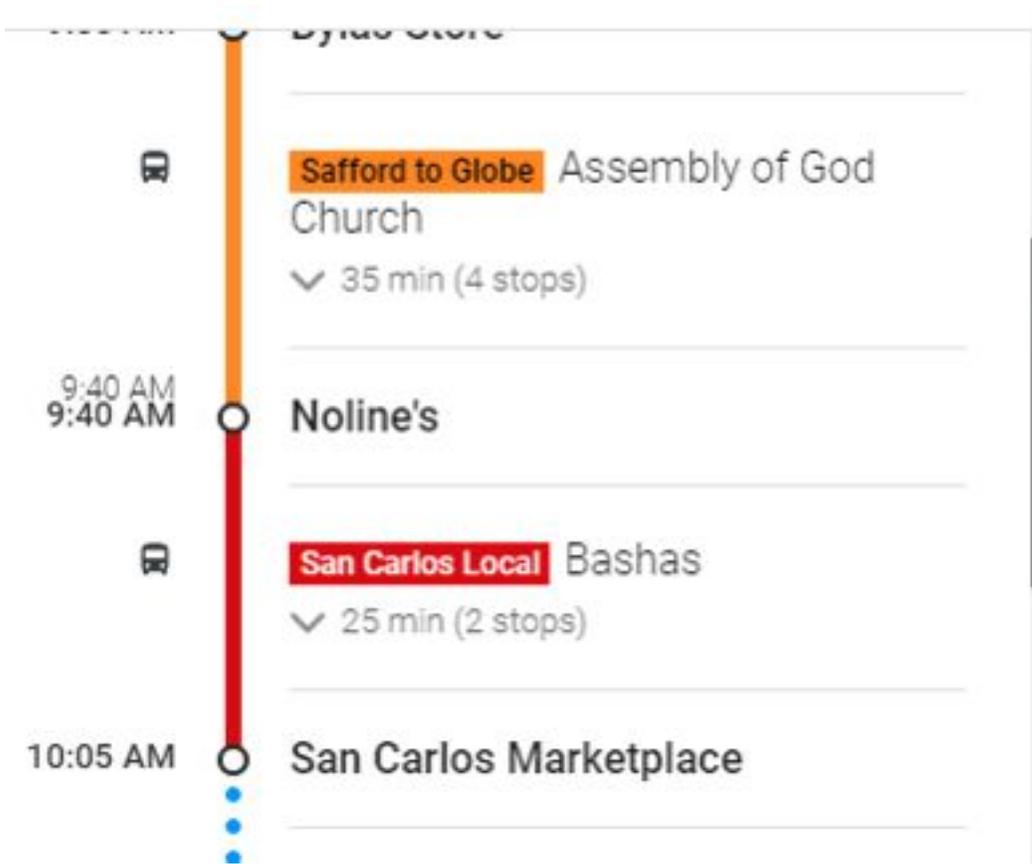
Use caution - may involve errors or sections not suited for walking

Head southeast on Mount Turnbull Cir toward Central Ave

Turn left onto Central Ave



# Timing for Transfer



# Four Minutes Walk to Enrollment Office + Bus Fare \$1.50

**SCHEDULE EXPLORER**

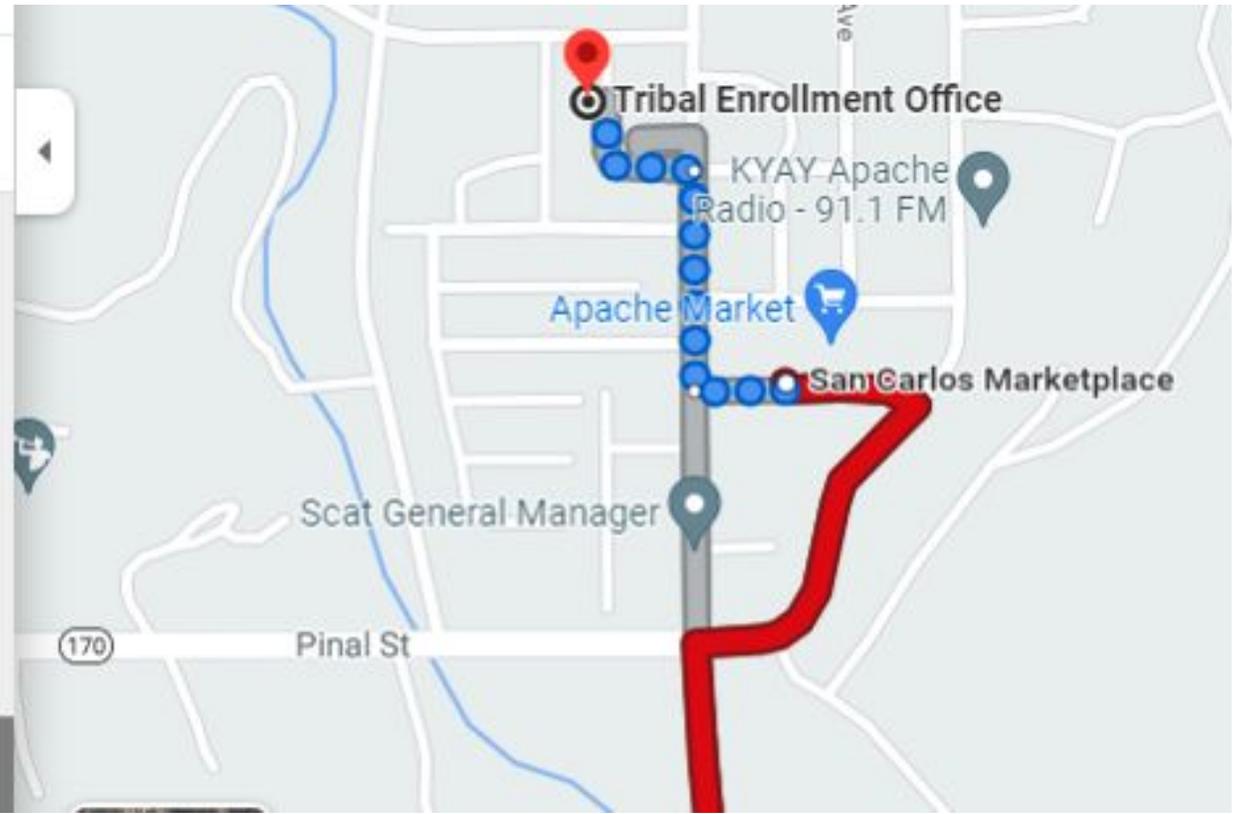
 **Walk**  
About 4 min, 0.2 mi

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**10:09 AM**  **Tribal Enrollment Office**  
350 San Carlos Ave, San Carlos, AZ 85550

Cost: \$1.50

**Tickets and information**  
[San Carlos Apache Nnee Bich'o Nii Public Transit - 1 \(928\) 475-5023](#)



# Meet Title VI - Low English Proficiency - Other Languages

The screenshot displays a transit application interface. On the left, a blue header contains the origin and destination: "Bylas Housing Authority, Mount Turnbull" and "Tribal Enrollment Office, 350 San Carlos". Below this, the departure time is set to "上午6:00" (6:00 AM) on "9月16日周四" (Thursday, September 16). A button labeled "将路线发送到您的手机" (Send route to your phone) is visible. The main content area lists two transit options:

- Option 1:** Departure at 上午6:49 (Thursday) - Arrival at 上午7:52. Total travel time: 1 小时 3 分钟 (1 hour 3 minutes). Mode: 步行 > 巴士 San Carlos Local.
- Option 2:** Departure at 上午8:56 (Thursday) - Arrival at 上午10:09. Total travel time: 1 小时 13 分钟 (1 hour 13 minutes). Mode: 步行 > 巴士 Safford to Globe > 巴士 San Carlos Local > 步行. Additional details: 上午9:05 从Bylas Store发车 (9:05 AM departure from Bylas Store), US\$1.50, 步行 13分钟 (13 minutes walking).

On the right, a map shows the route from "Bylas Housing Authority" (拜勒斯 Bylas) in the south to "Tribal Enrollment Office" (San Carlos Marketplace) in the north. The route is highlighted in orange and red, passing through "Noline's". Three callout boxes indicate a travel time of "1 时 3 分" (1 hour 3 minutes) for different segments of the route. The map also shows "SAN CARLOS RESERVATION" and "Bylas" (拜勒斯).

# To Publish GTFS-Static at Trip Planners



Fixed Route: anyone can ride



+

Website  
(with up-to-date  
schedules)

+

Legal agreement

Contract between Google and \_\_\_\_\_ Transit

## Google Online Agreements

### Background Information

Google is accepting transit data for use in Google products and services. If your organization is interested in participating in this program, please verify that the Contact Information below is correct and that the person listed is a qualified representative from your organization. That person needs to read and accept our terms and conditions to initiate the transit data collection process.

### Agreement

#### Google Transit Agreement

This Google Transit Agreement is entered into by and between Google LLC, organization in the state of Delaware, and its affiliates ("Google"), and the entity agreeing to these terms ("Licensor"). This agreement will be effective as of the date you click the "Accept and Sign Up" button below (the "Effective Date"). If you are accepting on behalf of your employer or

# Apache Transit Website

**San Carlos Apache Tribe Nnee Bich'o Nii Services**

Promoting education, training & employment

[Welcome](#) [About Us](#) [Programs](#) [Apache Transit](#)  
[Success Stories](#) [Apply](#) [Contact Us](#)

## Apache Transit



# Publish Your Schedule At Your Website

<b>SERVING THE COMMUNITY MONDAY-FRIDAY</b>			
<b>GREYHOUND CONNECTOR</b>			
<b>TRANSIT INTERCITY 1</b>			
Indian Hills	5:50	Noline's	10:55
San Carlos Marketplace	5:55	San Carlos Marketplace	11:10
Boys & Girls	6:05		
Noline's	6:20	<b>Apache Burger (Greyhound Connector)</b>	11:20
Rising Sun	6:55	Bashas	11:23
Bylas Store	6:58	Noline's	11:25
Assembly of God	7:00		
Navajo Point (R.T.G.)	7:05	Noline's	1:40 PM
San Carlos Apache Healthcare	7:25	Bashas	1:50 PM
Game & Fish	7:28	San Carlos Marketplace	2:00 PM

# License Agreement: Decoded

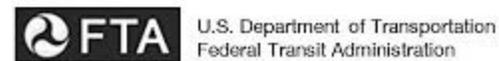
Attorney Reviewed Sample Legal Agreement : October 2020



## Demystifying Trip Planner Licensing Agreements Webinar

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October 27, 2020, 2:00-3:00 PM ET



<https://youtu.be/-tYVwGICCqg>

# No Website? Website Builder





**Raymond-South Bend area**  
**Peninsula area**  
**Naselle area**

**Email Address:** [pactran](mailto:pactran@pactransit.com)  
 Director

Home
Schedules & Maps
Dial-A-Ride
Bus Fares
Catch the Bus
What's New?
Policies

Contact Us
Board of Directors
Trolleys

**Extended Routes, Reduced Schedules**  
**Call: 360-875-9418/360-642-9418**  
**Effective April 26, 2021**

Printable Route 20 Schedule

Route 20 Ilwaco to Oysterville Weekdays							
Leaving From	Northbound						
<b>ILWACO PORT</b>	5:30 AM	8:00 AM	8:45 AM	10:20 AM	11:45 AM	12:45 PM	
<b>County Offices</b>	---	8:10 AM	8:55 AM	10:30 AM	11:55 AM	12:55 PM	
<b>North Third Street—LB</b>	5:40 AM	8:20 AM	9:05 AM	10:40 AM	12:05 PM	1:05 PM	
<b>Jack's—Ocean Park</b>	5:55 AM	8:35 AM	9:20 AM	10:55 AM	12:20 PM	1:20 PM	
<b>Surfside Inn</b>	6:00 AM	8:40 AM	9:25 AM	11:00 AM	12:25 PM	1:25 PM	
<b>Oysterville/Stackpole Rd.</b>	6:05 AM	8:45 AM	9:30 AM	11:05 AM	12:30 PM	1:30 PM	

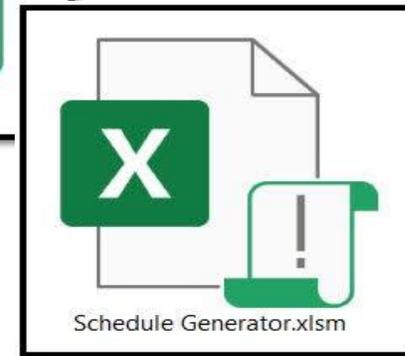
Digital Timetable from GTFS Builder  
 embedded in Pacific Transit website using  
 Website Builder

# Barriers? No Budget



Google Earth Pro  
Desktop Version

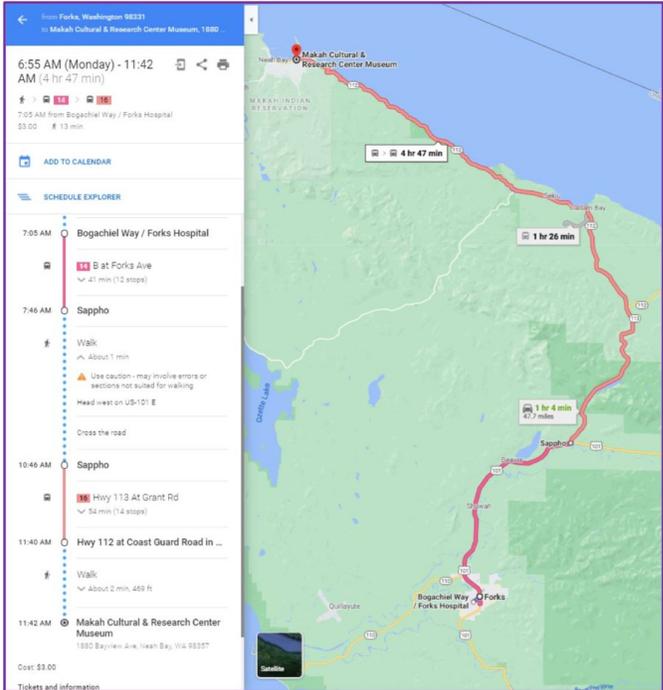
Google My Maps



Simple toolkit in Excel and no annual license fees

# GTFS Builder Learning / Support Tools

Guidebook  
How-To Videos  
with  
New data features for  
continuous pick-up and  
drop-off



**GTFS BUILDER**

**GTFS BUILDER GUIDEBOOK**  
May 2021

National RTAP  
Rural Transit Assistance Program

A Program of the Federal Transit Administration, Administered by the Neponset Valley TMA

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

# What Does GTFS Builder Trip Plan Data Look Like?

	A	B	C	D	E	F
1	agency_id	agency_name	agency_url	agency_timezone	agency_lang	agency_phone
2	sancarlos	San Carlos Apache Nnee Bich'o Nii Public Transit	<a href="http://scat-tanf.org/transit/">http://scat-tanf.org/transit/</a>	America/Phoenix	en	(928) 475-5023

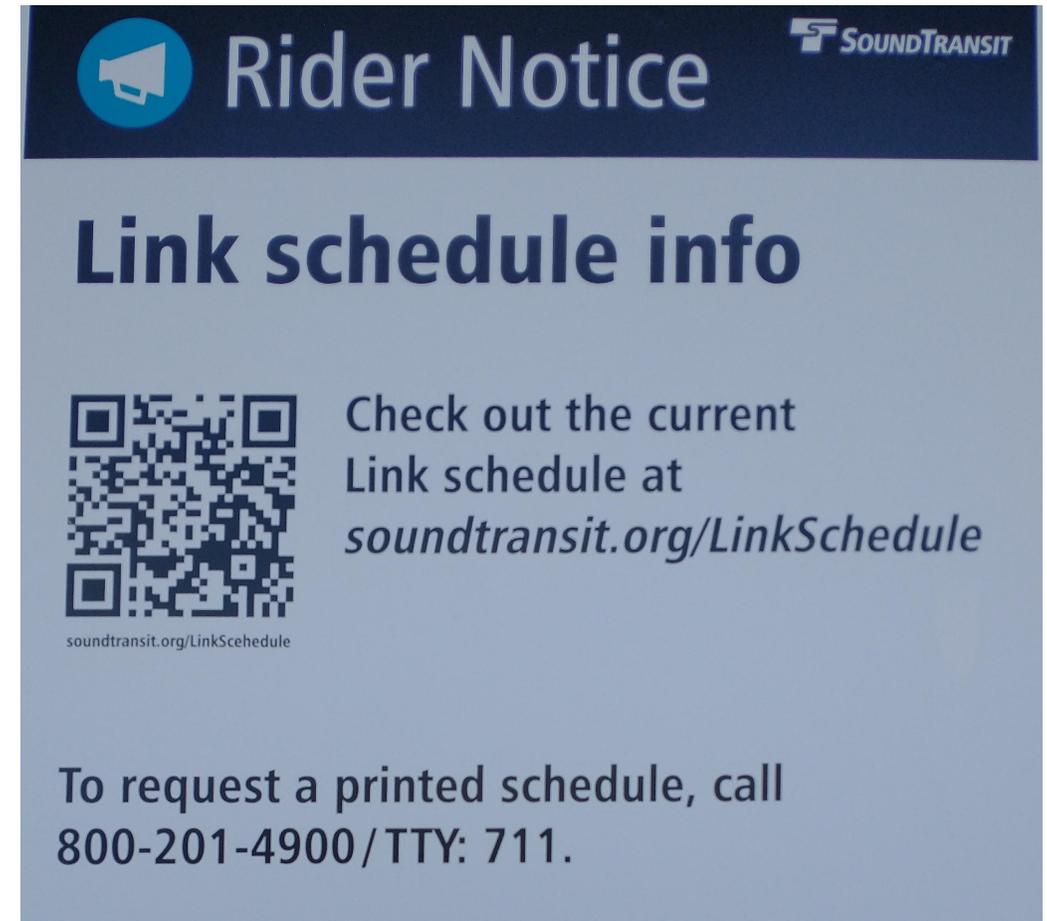
	A	B	C	E	F	G
1	stop_id	stop_code	stop_name	stop_lat	stop_lon	zone_id
2	1001		Navajo Point (R.T.G.)	33.141004	-110.125220	bylas
3	1002		Assembly of God Church	33.132458	-110.120159	bylas
4	1003		Bylas Store	33.119942	-110.109979	bylas
5	1004		Indian Hills	33.364724	-110.463248	sc
6	1005		Boys & Girls	33.345693	-110.452141	sc
7	1006		San Carlos Marketplace	33.352118	-110.451719	sc
8	1007		Rising Sun	33.103434	-110.108642	bylas
9	1008		Bashas	33.299340	-110.459205	sc
10	1009		S.C. Post Office	33.353734	-110.452911	sc
11	1010		Gilson Wash Headstart	33.352013	-110.461467	sc
12	1011		7M.W. Headstart	33.372540	-110.448972	sc
13	1012		Noline's	33.292886	-110.438325	sc
14	1013		Apache Burger (Greyhound)	33.302103	-110.470417	globe
15	1014		Good 2 Go	33.394998	-110.769594	globe
16	1015		Blue Stone Road	33.321663	-110.442519	sc
17	1016		Apache Gold Casino Resort	33.358435	-110.668280	gold

# Schedule: Sample San Carlos Apache Safford - Globe Route

1	Trip_group	route_id	service_id	direction_id	trip_headsign	stop_id	stop_name	time point	wheelchair_accessible	T01	T02
2	Safford_Globe_AM_out								1	safford_globe_ob:C	
3		safford_mtwtf		0	Wal-Mart Safford	1012	Noline's	1		6:40:00	
4		safford_mtwtf		0		1024	San Carlos Apache Healthcare	1		6:50:00	
5		safford_mtwtf		0		1001	Navajo Point (R.T.G.)	1		7:10:00	
6		safford_mtwtf		0		1002	Assembly of God Church	1		7:15:00	
7		safford_mtwtf		0		1003	Bylas Store	1		7:20:00	
8		safford_mtwtf		0		1029	Ft. Thomas High School	1		7:35:00	
9		safford_mtwtf		0		1030	East Arizona College (E.A.C.)	1		7:55:00	
10		safford_mtwtf		0		1028	Wal-Mart Safford	1		8:10:00	
11											
12	Safford_Globe_AM_in								1	safford_globe_ib:C	
13		safford_mtwtf		1	Apache Gold Casino	1028	Wal-Mart Safford	1		8:15:00	
14		safford_mtwtf		1		1022	Safford M.V.D.	1		8:20:00	
15		safford_mtwtf		1		1030	East Arizona College (E.A.C.)	1		8:30:00	

# How GTFS Helps Tribal Transit Agencies?

- **Marketing:** No-cost global billboard with bus stops and next departures on the map that plans a trip
- **Sustainable:** Fewer printed schedules
- **Equity: Title VI:** multiple languages
- **Equity: Offline Schedules** (through Apps) with Accessibility (reads each stop along a trip)
- **Equity: ADA Trip checks**
- **Asset Management/Bus stop inventory**
- **Interagency transfers**



The graphic is a dark blue header with a white megaphone icon and the text "Rider Notice" in white. To the right is the "SOUNDTRANSIT" logo. Below the header, the text "Link schedule info" is written in a large, bold, dark blue font. To the left of this text is a QR code. To the right of the QR code, the text "Check out the current Link schedule at" is followed by the URL "soundtransit.org/LinkSchedule" in a smaller, italicized font. Below the QR code is the URL "soundtransit.org/LinkSchedule" in a small font. At the bottom, the text "To request a printed schedule, call 800-201-4900/TTY: 711." is written in a dark blue font.

**Rider Notice** 

## Link schedule info



Check out the current Link schedule at [soundtransit.org/LinkSchedule](https://soundtransit.org/LinkSchedule)

soundtransit.org/LinkSchedule

To request a printed schedule, call 800-201-4900/TTY: 711.

# Launch Timeline

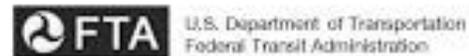


# GTFS For ADA Route Check: Saves Time

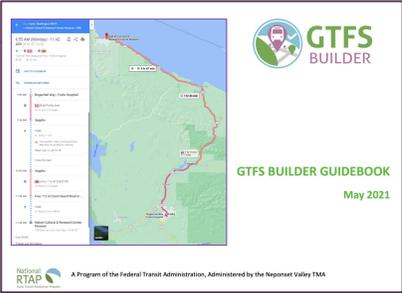
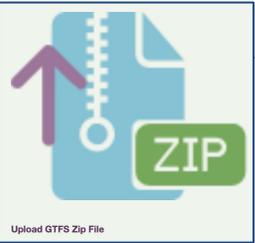


## Demystifying Trip Planner Licensing Agreements Webinar

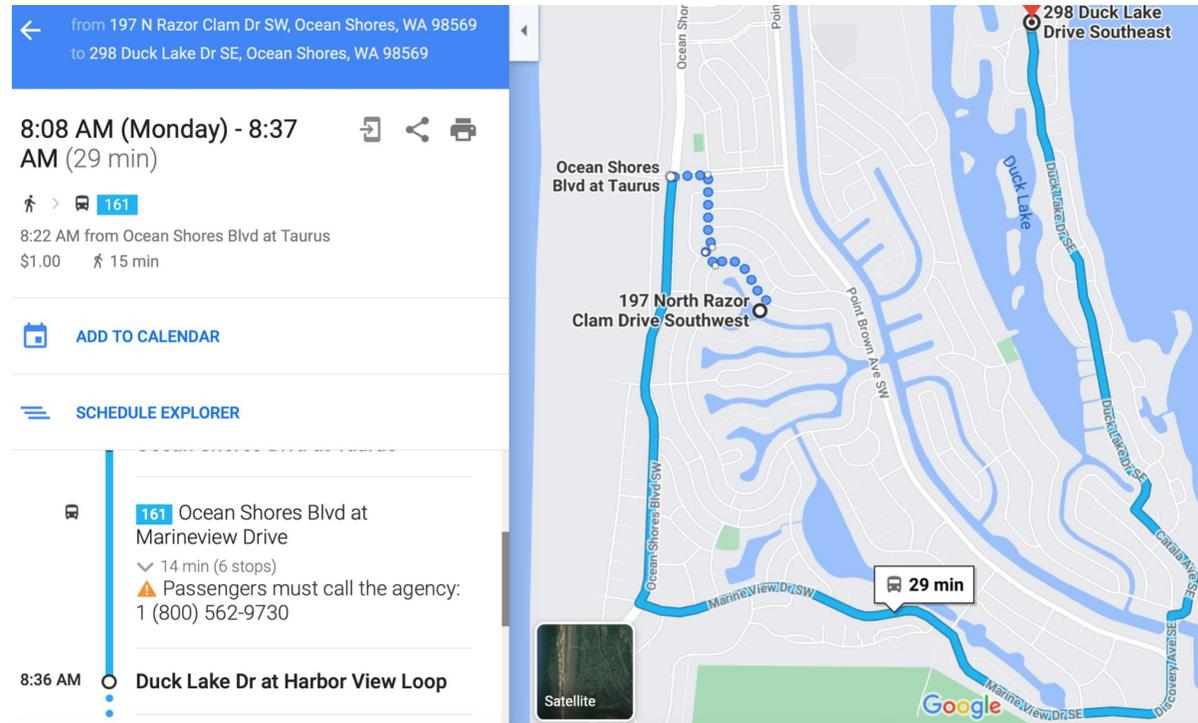
October 27, 2020, 2:00-3:00 PM ET



# Re-Cap Overcoming Barriers To Publishing GTFS-static

<b>Barrier to Publishing GTFS</b>	<b>NRTAP Action Plan</b>
Website (out of date or none)	Free Website Builder 3.0
Budget	No-cost toolkit 
No-cost agreement	Detailed video reviews & you are not the first Tribal Nation to sign this agreement
URL or Link to GTFS files (to publish at FACES and National Transit Map)	No-cost Hosting with stable URL 

# Publishing On-Demand Services



For On-Demand Transit: Allow Riders to find the service with “Passenger Must Call for a Pick-up” which leads to a call with Dispatch to schedule a ride

# Success with GTFS Builder

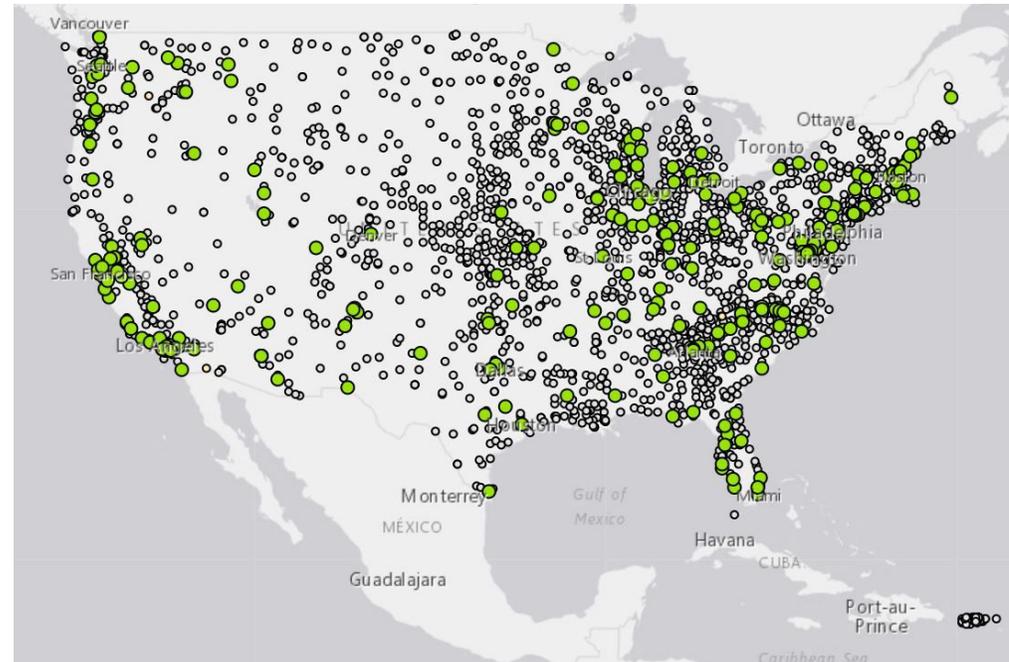
650 routes in progress or launched  
97 agencies



 Launched

 In Progress

# National Transit Map? Is Your Tribal Transit A Green Dot?



 United States Department of Transportation

Bureau of Transportation Statistics:  
National Transit Map

[https://www.bts.gov/national-transit-map/  
about](https://www.bts.gov/national-transit-map/about)

**Questions?**

# Follow-up/Reach-Out/Refer Others

## National Rural Transit Assistance Program - GTFS Builder

[nationalrtap.org](http://nationalrtap.org)

[info@nationalrtap.org](mailto:info@nationalrtap.org)

Find us on Facebook, Twitter, YouTube,  
LinkedIn & Instagram

### Neil Rodriguez

National RTAP, Tribal Transit Program Mgr

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360-643-1002