



GTFS Builder Step 2

June 20, 2013



U.S. Department of Transportation
Federal Transit Administration

What Does National RTAP Offer for You?

- Comprehensive offering of FREE resources
 - Help you do your job better and manage costs
 - Supplement State RTAP programs
 - Especially important when budgets are tight
- One-stop shopping for technical assistance products and services
 - If we can't help with your request, we'll connect you with someone who can
- Commitment to innovation
 - Forward-thinking products and technology initiatives to address rural transit challenges
 - You don't have to be a tech expert – know-how and support are provided!
- www.nationalrtap.org

Agenda

- Step 1: Gather bus stop locations
- **TODAY Step 2 – Build schedules**
 - Presenter - Marcy Jaffe
 - Review Step 1 assignment: bus stop data collection
 - Build schedules
 - Topics covered today can be viewed at the Support Center
- Step 3: Complete data, validate & post
- Questions

National RTAP Support Center

- www.nationalrtap.org >> Web App >>> Support Center

The screenshot shows the National RTAP in the Cloud Support Center website. At the top left is the National RTAP logo (Rural Transit Assistance Program). To its right is the text "National RTAP in the Cloud Support". Below this is a navigation bar with buttons for "HOME", "FORUMS", "SUBMIT A REQUEST", and "CHECK YOUR EXISTING REQUESTS". The main content area is titled "Forums / GTFS Builder - How-To Videos" and features a search bar with a "Search" button. Below the search bar, there are two columns of forum posts. The left column is titled "First thing First (3) »" and lists three items: "Download: GTFS Builder - Check List", "Cloud: Create Your Organization Account in The Cloud", and "Cloud: Create Your User Account". Below this is a section titled "OVERVIEW VIDEOS/WEBINARS (5) »" with three items: "Overview 1: Should My Agency Proceed To GTFS Build...", "Overview 2: Summary view of Files Generated & Comm...", and "Overview 3: Webinar: Overview". The right column is titled "2013 GTFS Builder Step 1: Gather Bus ... (21) »" and lists three items: "1.0 Pre-flight, Jump in", "1.1 What I need to start?", and "1.2 GTFS Builder Concepts and Terms". Below this is a section titled "2013 GTFS Builder Step 2: Build Sched... (10) »" with three items: "2.1 Overview: Schedules Workbook", "2.2 Build the Schedules Stop-by-Stop to Generate stop...", and "2.3 Managing and Updating Trip Variations (delete a sto".

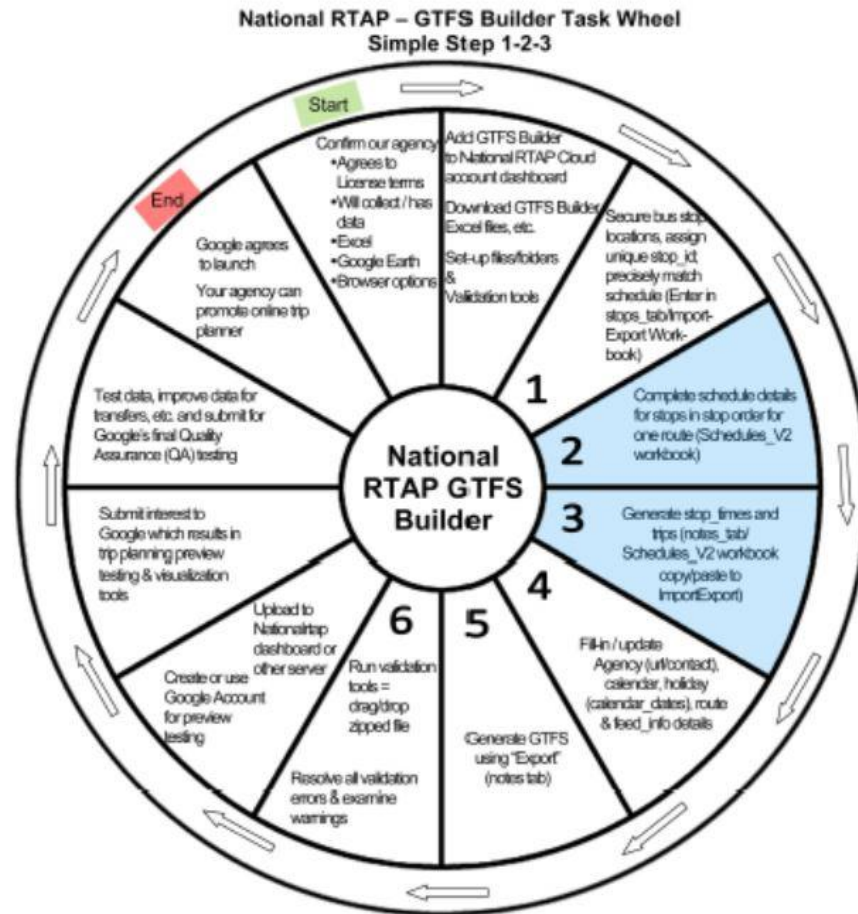
Review Step 1: Bus Stop Geocoding

- Open chat for feedback in securing, organizing or gathering bus stops geocoding?
- What questions came up? May post reply @ Support Center
- What questions should we help answer today?

Overview Schedules_V2

- Task Wheel
- Which Data in Trip Plan
- Detailed walk-through of Schedules_V2 workbook
- Key Features
- Homework: Build one schedule/trip/route; generate stop_times + trips

Task Wheel – Step 2



Schedules Data in a Trip Plan

National RTAP General Transit Feed Specification (GTFS) Builder
 Associating GTFS Builder data management Import/Export workbook with sample trip plan

Import/Export workbook colored tabs correlate the following data

Notes agency calendar calendar_dates fare_attributes fare_rules frequencies routes shapes stops stop_times trips transfers feed_info

Transit directions to Shelton Civic Center

A Skate Park
 E Wallace Kneeland Blvd
 Shelton, WA 98584

Walk to Wallace Kneeland
 About 1 min (75 ft)

Wallace Kneeland
 Bus towards Olympia
 7:30am - 7:35am (5 mins, 5 stops)

Civic Center

B Shelton Civic Center
 525 W Cota St
 Shelton, WA 98584

Travel time: about 6 mins Cost: \$1.50 (vs. \$1.28 driving)

fare_attributes, fare_rules

agency_name, agency_url, agency_fare_url, agency_phone

Local agency information:
 Contains more information on fares, schedules, and service advisories
 Mason Transit - Ticket prices: (800) 281-9434 (201) 272-2221

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices

stop_name, stop_lat, stop_lon

stop_headsign or trip_headsign

Feed_version (only visible when logged-in at your agency's Google "preview" account)

National RTAP
 Rural Transit Assistance Program
<http://www.nationalrtap.org>
 (888) 589-6821

FTA United States Department of Transportation
 Federal Transit Administration

Building upon Your Agency's Schedule data

- Demo/Walk-through
- GTFS Builder supports “business as usual”
 - Can use Excel schedule format
 - Integrates with run cards

Basic Schedule & Pattern Variations

- Remember Trip/pattern concept
- Create trips variation or by days of the week by copy/paste or reference

Timepoint vs. Non-timepoint

- **Timepoint:** mark as “1”
- Intermediate/non-timepoints fill with time or “*” (not blank)

timed_stop										
C	D	E	F	G	H	I	J	K	L	M
service_id	direction_id	trip_head_sign	stop_id	stop_name	stop_head_sign	pickup_type	drop_off_type	timed_stop	wait_time	T01
		Shelton to								R6c:151 R6
sat	0	Olympia	12	Wallace Kneeland	Olympia			1		7:30:00
sat	0		25	Gateway Center	Olympia				*	
sat	0		42	Barkley Square	Olympia				*	
sat	0		423	Olympic Highway N be	Olympia				*	
sat	0		421	Olympic Highway N be	Olympia				*	
		Shelton to								
sat	0	Olympia	4	Civic Center	Olympia			1		7:35:00
sat	0		4005	First just south of Cote	Olympia				*	*
sat	0		23	Red Apple	Olympia			1		7:40:00
sat	0		27	Cole Road P & R @ H	Olympia			1		7:45:00
sat	0		28	Kamilche Transit Cent	Olympia			1		7:55:00

- *Necessary to build the timetable; helpful for applications that compare scheduled times & real-time*

Which Route? What Days? Direction_id?

- route_id, might be #, name
- service_id group trips by day of the week
- direction_id:
 - Outbound = 0
 - Inbound = 1
 - Loop = 0
 - Default is zero (0)

Which Route? What Days? Direction_id?

Routes	route_id	service_id	direction_id	trip_head_sign	stop_id	stop_name	stop_head_sign
Bus Route:R6c				Shelton to			
	6	sat	0	Olympia	12	Wallace Kneeland	Olympia
	6	sat	0		333	new stop	Olympia
	6	sat	0		25	Gateway Center	Olympia
	6	sat	0		42	Barkley Square	Olympia
	6	sat	0		423	Olympic Highway N be	Olympia
	6	sat	0		421	Olympic Highway N be	Olympia
				Shelton to			
	6	sat	0	Olympia	4	Civic Center	Olympia
	6	sat	0		4005	First just south of Cota	Olympia
	6	sat	0		23	Red Apple	Olympia
	6	sat	0		27	Cole Road P & R @ H	Olympia
	6	sat	0		28	Kamilche Transit Cent	Olympia
	6	sat	0		6002	Mud Bay Road at Yau	Olympia
	6	sat	0		29	Capital Mall	Olympia
	6	sat	0		101	Harrison at Kenyon to	Olympia
	6	sat	0		6003	Harrison at Division	Olympia
	6	sat	0		30	Olympia Transit Cente	Olympia

Headsigns

- Trip_headsign defaults to last stop, best not to leave blank
- Stop_headsign offers “in the direction of” City Hall, Library, Mall, etc.

- Why enter both?

SAMPLE_DATA_GTFSSchedules_V2_20110711 [Compatibility Mod

D	E	F	G	H
direction_id	trip_headsign	stop_id	stop_name	stop_headsign
0	Shelton to Olympia	12	Wallace Kneeland	Olympia
0		333	new stop	Olympia
0		25	Gateway Center	Olympia
0		42	Barkley Square	Olympia
0		423	Olympic Highway N be	Olympia
0		421	Olympic Highway N be	Olympia
0	Shelton to Olympia	4	Civic Center	Olympia
0		4005	First just south of Cota	Olympia
0		23	Red Apple	Olympia
0		27	Cole Road P & R @ H	Olympia
0		28	Kamilche Transit Cent	Olympia
0		6002	Mud Bay Road at Yau	Olympia
0		29	Capital Mall	Olympia
0		101	Harrison at Kenyon to	Olympia
0		6003	Harrison at Division	Olympia
0		30	Olympia Transit Cent	Olympia

Output Schedules_V2: Stop_times & Trips

- From *Notes* Tab
- **Clear Data**
- **Generate** stop_times & trips
- Proof data using “Timed Stops Schedule”

Schedule Workbook: Common Errors

- times out of order – not logical
- using exact trip name twice (error 457) – must be unique for that trip
- unexpected data (Type 13 mismatch) – e.g. “(“ or “&”
- times past midnight must be 25:00, 25:30 (not 01:00:00)
- changing time format
- forgetting to enter a “*” for intermediate times, between timepoints; do not leave cell within the trip blank; or adding the * if not part of a trip

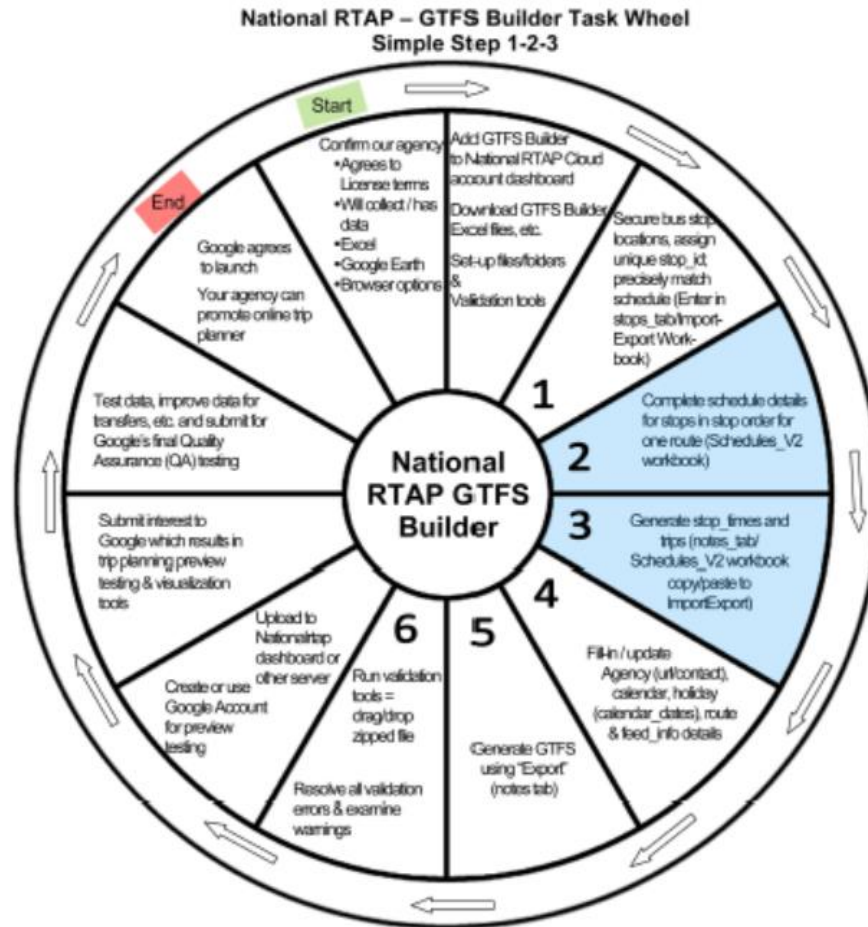
Do not Reset Odd Format for Time

- Why time appear as HH_MM_SS and not HH:MM:SS

Step 2 Assignment: Build one schedule

- Put together one trip for one route (or more) for next week using Schedule_V2
- Generate stop_times and trips
- Resolve any errors, if needed

Step 2 Builds Schedules



Preview Step 3

- Look over ImportExport workbook

A	B	C	D	E	F
route_id	agency_id	route_short_name	route_long_name	route_desc	route_type
1	Mason		1 Shelton to Belfair via Highway 3		3
2	Mason		2 Shelton to Belfair via Highway 106		3
3	Mason		3 Belfair to Bremerton (connections with Kitsap Transit and WA State Ferries)		3
4	Mason		4 Belfair Vicinity		3
5	Mason		5 Shelton South Loop		3
6	Mason		6 Shelton to Olympia		3
7	Mason		7 Shelton North Loop		3

Contact Information

www.nationalrtap.org

GTFS Builder Dashboard

888-589-6821

support@nationalrtap.org

