Google Transit

Google maps

from: 325 5th Ave N, Seattle, WA 98109 (Experience Music Project)

Google Transit directions to Safeco Field

- 4:01pm - 4:31pm
  - 30 mins
- 4:11pm - 4:41pm
  - 30 mins
- 4:21pm - 4:51pm
  - 30 mins
- 4:32pm - 4:42pm
  - 30 mins
- 4:33pm - 4:43pm
  - 55 mins

Experience Music Project
325 5th Ave N
Seattle, WA 98109

$2.00 (as $1.73 driving)
Travel time: about 30 mins

Walk to 1st Ave & Clay St
Overview

- Transit Trip Planning using Google Transit
- Getting Your Service onto Google Transit
- Organizing and Managing Your Data
- The Idaho Experience
Transit Trip Planning Using Google Public Perspective

For a transit trip a user gets:

- Walking directions/time to get to the stop
- Route and direction of the bus you want to board
- The stop where you need to get off
- Walking directions/time to get from the stop to your destination
- Fare information
Agency Perspective

The advantages

- Create awareness of service
- Reduce call volume
- Improve customer service
- Customers can plan trips 24/7
Agency Perspective

The challenges

- Must provide detailed schedule data to Google – GTFS
- Agreement/commitment to maintain the data
- Ensure consistency with other published data
  - Printed schedules
  - Agency website
  - etc.
Getting Your Service Onto Google Transit

- Working with the data files
- Working with Google
- Meeting User Needs
Working with the data files

- Must meet Google Requirements – GTFS
- GTFS file published and internet accessible
- Some files/fields are “optional”
- Keeping the files current and posted
- Must test/validate each update
Working with the GTFS files

This is the file that Google needs...

…it contains a group of 12 text files...

…each of which has a number of fields.

Fields in each file

- agency.txt
- stops.txt
- routes.txt
- trips.txt

Each file contains a number of fields:

- route_id, service_id, trip_id, trip_headsign, trip_short_name, direction_id, block_id, shape_id
Working with Google

- Dedicated Google account
- Communication with Google
- Google feeds dashboard
- Seemingly endless number of steps
  - Feed validator
  - Schedule viewer
  - Google validation
  - Private preview
  - Random queries
  - Pre-launch checklist
  - Quality analysis
  - Engineering review
Meeting User Needs

- Optional fields and files
- Keeping data current
- Seasonal changes
Organizing and Managing your Data

- Data in the proper GTFS format
- View the data on Google Maps
- Manage data field associations
- Conduct testing and validation
- Publish file where Google can retrieve it
- Easy method to maintain the data
## BusFeeder - Overview

### Coeur d'Alene

Logged in as: brevert [logout]

### BusFeeder

#### Agency

<table>
<thead>
<tr>
<th>Stops</th>
<th>Routes</th>
<th>Trips</th>
<th>Schedule</th>
<th>Calendar</th>
<th>Fares</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edit Existing</td>
<td>Create New</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Select Route

- Green

#### Select Stop

- 2nd/Front

<table>
<thead>
<tr>
<th>Stop Name</th>
<th>Stop Code</th>
<th>Description</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Zone</th>
<th>Web URL</th>
<th>Type</th>
<th>Located</th>
<th>Parent Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd/Front</td>
<td></td>
<td></td>
<td>47.6728401184082</td>
<td>-116.7838973999023</td>
<td>[none]</td>
<td></td>
<td>Stop</td>
<td>Outside of a Station</td>
<td>[Select Parent Station]</td>
</tr>
</tbody>
</table>

#### Routes associated with this stop (CTRL+Click for multiple)

- Yellow: (South to the Casino and back)
- Green: (Southeast then north on Government way then back)
- Blue: (West on Seltice then northeast then south back to )
- Red: (West on I-90 and back on Seltice)
- Purple: (South from the Casino and back)

**Submit Changes** | **Delete Stop**

Map data ©2010 Google - Terms of Use
Information Flow

Transit providers enter and maintain transit data

BusFeeder

Formatted data is sent to Google and Idaho 511

Google Transit

Idaho 511

Transit users can access information via Internet
Tips and Tricks

- Basic process to capture service data
  - Current published schedules/maps
  - Agency contact familiar with service
- Map based interfaces make locations match w/Google maps
- Packaging the file
  - File name
  - Optional files/fields... omitted or left blank/empty?
- More...
Verify stop locations early then build shape files
Working with shape files

- Direction of shape file is important
- Shape nodes near stops (w/in 20 meters)
You don’t always have to use files the way Google specifies – frequencies.txt

- Intended for repeated trips where stop times of subsequent trips are uncertain
- Can be used to replicate trips without adding data for each run
- The “exact_times” field
Using the calendar.txt file effectively

- Used to designate
  - Days of the week that a trip runs
  - Start date and end date for service by trip

- Effective for
  - Planned schedule changes
  - Seasonal service modifications
Validate the GTFS file

### GTFS validation results for feed:

- **Generates**: Coeur d'Alene
- **Routes**: 5
- **Stops**: 78
- **Trips**: 10
- **Shapes**: 5
- **Effective**: March 10, 2009 to June 30, 2011

During the upcoming service dates Sun Jul 25 to Wed Sep 22:
- **Average trips per date**: 68
- **Most trips on a date**: 86, on 8 service dates (Fri Jul 30, Fri Aug 06, Fri Aug 13, ...)
- **Least trips on a date**: 50, on 9 service dates (Sun Jul 05, Sun Aug 02, Sun Aug 09, ...)

**Found this problem:**

1. **Warning**: Unrecognized Column
The Idaho Experience
Project Highlights/Overview

- 11 transit agencies
- Both rural and small urban
- Tasks were to
  - Collect and format data
  - Use Google tools to validate/test
  - Train agencies to maintain the data
  - Work with Google to launch on Google Transit
  - Provide technical support
- Data also being used for [Idaho 511 System](#)
Lessons Learned

- Begin coordination with Google Transit early
- Be prepared to consider revisions to your published data
- You may discover that the suggestions from Google improve your information
Questions?

BusFeeder

Google Transit

Idaho 511

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