



TNExT: Using GTFS for Network Planning 2014-2018

APTA State Partnership Conference
Minneapolis Minnesota
August, 17th, 2018

History of TNExT

2011: ODOT Begins to support GTFS Data creation and maintenance for Trip Planning

- Over time leading to - 65 Oregon Agencies: Oregon-gtfs.com

2014: ODOT partners with OSU to develop GTFS Tool.

2017: TNExT migrated to Trillium Transit/Interline

<https://oregon.tnext.io/?&n=--&dbindex=12>

2016-2018: TNExT data used in discretionary grant processes, Oregon Public Transportation Plan (OPTP) and network assessments.

Basic Architecture

Back End

PostGIS Database

- General Transit Feed Spec
 - OneBusAway
- Census Data
- Geographies of Interest
 - Census Place
 - Transit Region
 - County
 - Congressional District
 - Census Urban Areas

Front End

On Map Reports:

- Interactive Map Interface
- Leaflet.js Library

Tabular Reports

- Display Database Tables
 - Export csv and metadata
 - Change Report Parameters

Statewide Performance Measures

7 Performance Measures Tracked via TNEXT:

1. Percent of Population Served by Transit
2. Share of Rural Population Served by Transit
3. Access to Frequent Rural Transit Service
4. https://public.tableau.com/views/UrbanRuralAnalysis/Story1?:embed=y&:display_count=yes&publish=yes
5. Service Miles per Capita
6. Transit Access to Employment and Employees
7. Agency Connectivity
8. Key Transit Hub Usage

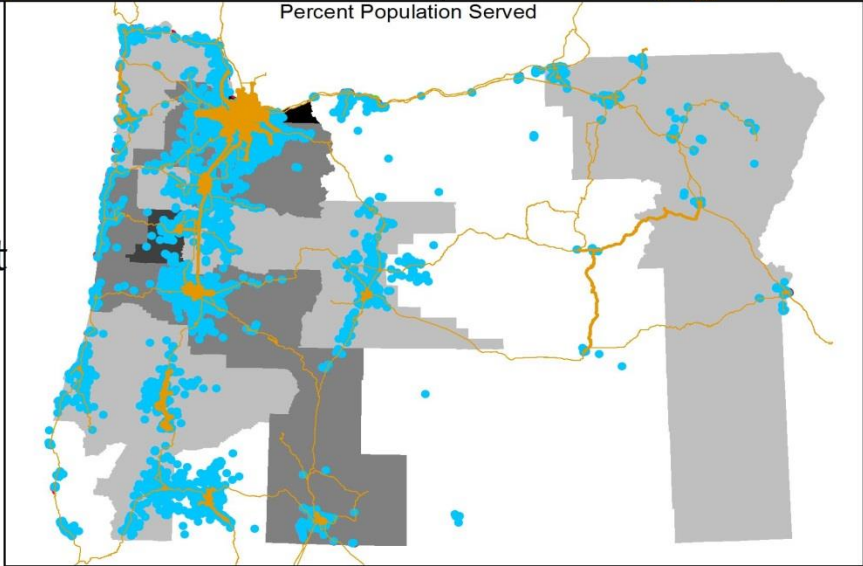
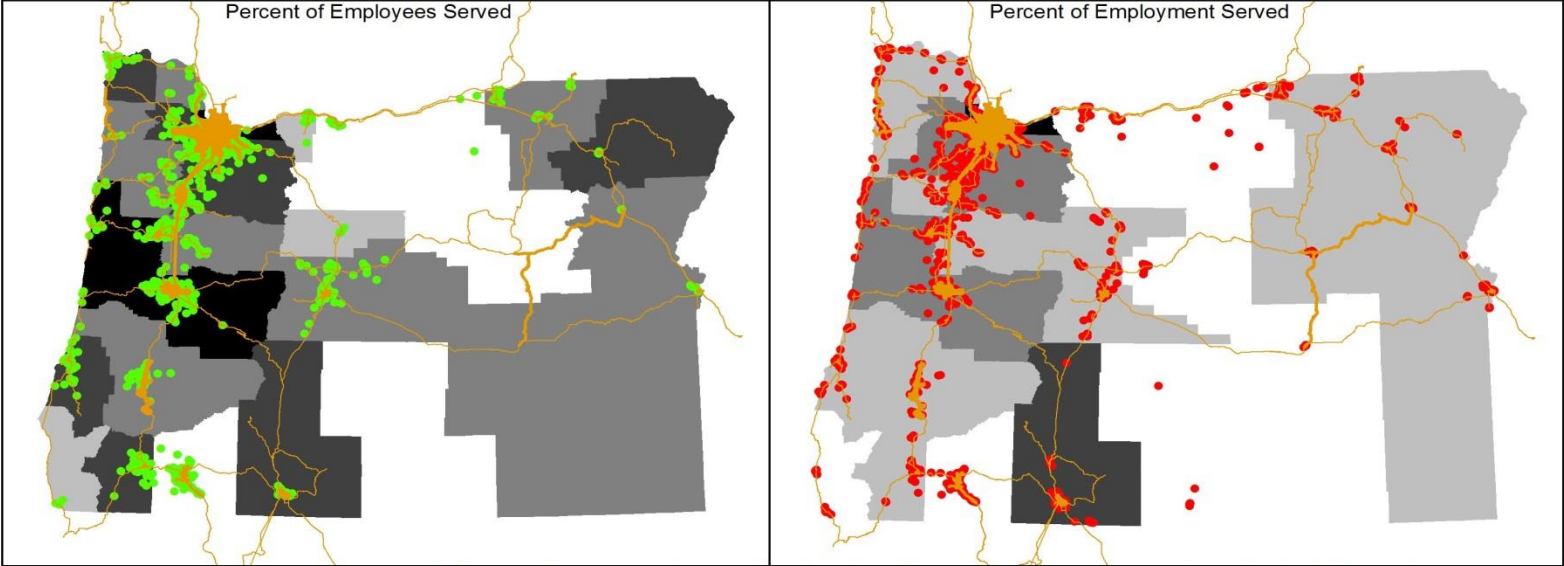
https://public.tableau.com/views/KeyTransitHubChanges/KeyTransitHubMetrics?:embed=y&:display_count=yes&publish=yes

Oregon Public Transit Plan Performance Measures

Revised Metrics to Align with Data from TNExT Tool:

1. Percentage of communities (census places with population with population >2500) that are connected to the statewide transit network
2. 4 Metrics Related to Amtrak Cascades Connectivity
3. Percentage of people 65+, with income \leq federal poverty level, or with disability, who are within a .5 of a transit stop at various levels of service.
4. Percentage of the general population, employees, and jobs which are within a .5 of a transit stop served by moderate to high frequency service.
5. Public transportation revenue hours/miles per capita per year.
6. Wednesday, Saturday, and Sunday service hours/miles.
7. Avoided annual vehicle miles traveled (VMT).
8. Percentage of the population who live in rural areas which provide access to a transit stop compared to urban areas and the state average.
9. System wide frequency (service miles divided by route miles) for Wednesday, Saturday, Sunday.

Population Analysis



April 2018 Routes
Route Frequency

- 2 - 40
- 41 - 118
- 119 - 284
- 285 - 576
- 577 - 1468

Population Locations

- 1 Dot = 150

Job Locations

- 1 Dot = 150

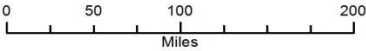
Worker Locations

- 1 Dot = 150

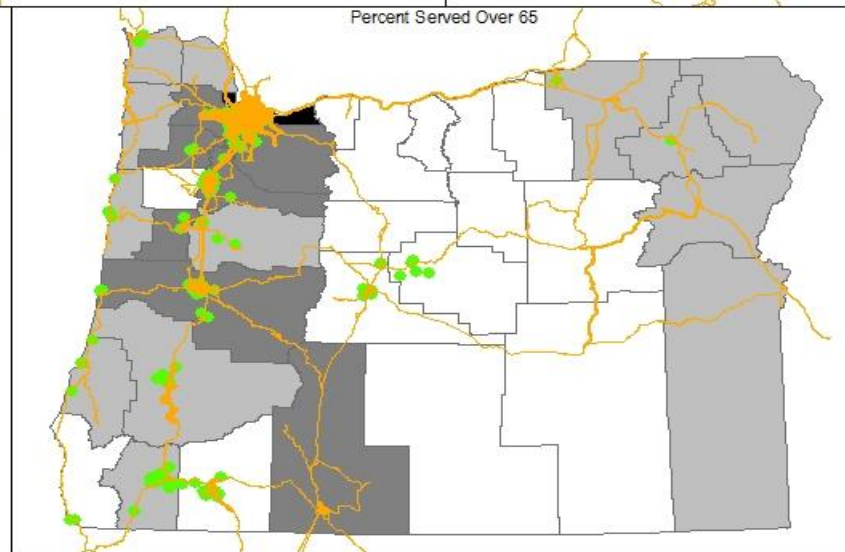
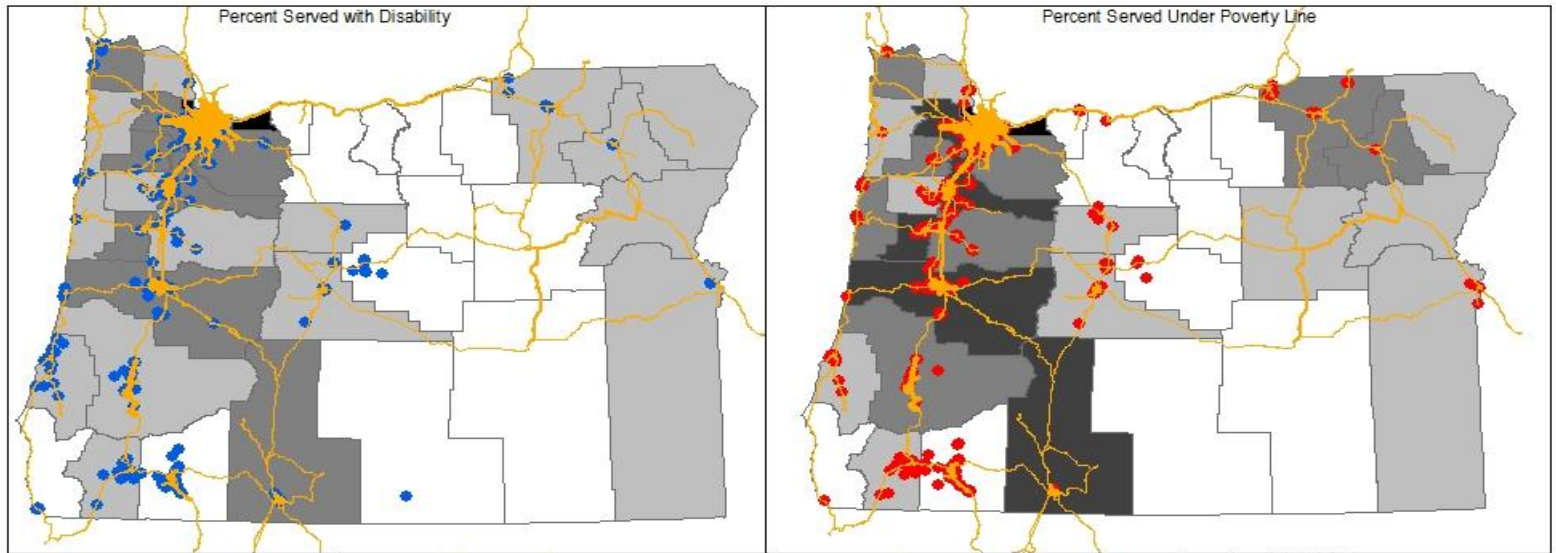
Oregon Counties
Percent Served

- 0.000000 - 0.200000
- 0.200001 - 0.400000
- 0.400001 - 0.600000
- 0.600001 - 0.800000
- 0.800001 - 1.000000

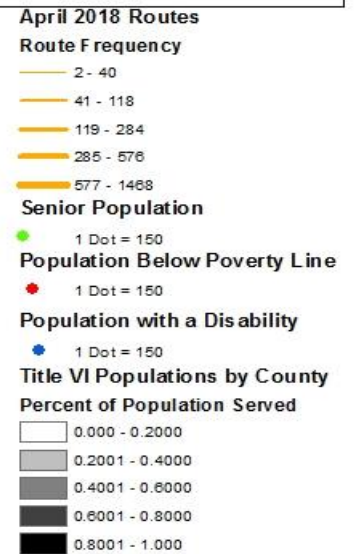
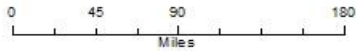
Transit Access:
 Total Population
 and Employment



Title VI Analysis



Transit Access:
Populations of
Concern



Next Steps

Oregon Transit Network Study

HB 2017 Performance Measures

Traffic Analysis:

Examining relationship between high vehicle traffic corridors and intercity transit frequency.

Ridership Metrics:

GTFS-ride data provided by OSU:

https://public.tableau.com/views/RidershipDataDashboard/Ridership?:embed=y&:display_count=yes