WA-Trans Project Status

Presented to the Partners Group

September 16, 2003

Status Topics

- Communications and Outreach
- Partner News
- Steering Committee News
- Related Efforts
- Funding and Resources
- Project Deliverables Update
- Future Activities

Communications and Outreach

- Tribal Transportation Symposium
- Presentation to Legislative Efficiency and Accountability Program (LEAP) Statewide Information Coordination Consortium.
- In contact with Elmira Forner, Transportation Commission member, regarding how WA-Trans may be useful for TPAC.

Communications and Outreach

- Attended demonstration of pilot project at WA Department of Corrections regarding geocoding registered sex offenders.
- Presentation to new executives of WSDOT's Strategic Planning and Programming Section.

Partner News - Meetings

- December 3
  - 9 a.m. - noon
  - 310 Maple Park Room 2F22, Olympia, Washington
- Scheduling 2 meetings for 2004. These will be announced prior to the December 3 meeting.

Partner News

- New Partners –
  - Lummi Nation – participating in Steering Committee,
  - Grays Harbor County,
  - Department of Corrections*
  - Department of Social and Health Services*
  - Upper Skagit Tribe*
  - Lower Ellwah Klallam Tribe*

*Participating but haven't formally agreed to partnership.

Steering Committee News

- Data model review completed,
- Beginning development of standards,
- Developing statewide over-arching direction for pilots to work under
  - Utilities
  - Communication
  - Disclaimers
  - Change management,
- Providing coordination for pilots.

Steering Committee Activities

- Meetings.
  - October 27 in Seattle (Puget Sound Regional Council)
  - December 8 in Olympia
  - All meeting are from 9 a.m. to 2 p.m.
- Next six months meetings scheduled at October meeting.

Related Efforts

- Puget Sound National Map Implementation
- Portland-Vancouver National Map Implementation
- Spokane National Map
- Idaho National Map
- Geospatial One-Stop

Puget Sound National Map Implementation

- Completed inventory of geospatial data holdings by USGS and Seattle-Tacoma area partners;
- Held meeting with principal partners forming steering/liaison committee.
- Sharing high-resolution imagery data collected for Seattle Tacoma urban area.
- Added metadata to Puget Sound Lidar Consortium Lidar data and will serve via NED.

Puget Sound National Map Implementation

- Have assembled best available data for all layers:
  - Completed initial integration of freely available USGS, other fed., and local data to create initial implementation layers for transportation boundary and Hydrography,
  - Elevation, land use and land cover, high resolution orthophotos and GNIS will be served by EDC.

Contact Lee Case of USGS at hlcase@usgs.gov for more information

Portland Vancouver National Map

- Cy Smith (OGIC) and Nancy Tubbs (USGS) are working on a general MOU between the State and USGS for implementation in Oregon. Nancy Tubbs meeting with Portland Metro contact and Clark County, WA to form agreements. Several action items underway related to high-resolution orthoimagery specs and draft data theme standards.

Contact Nancy Tubbs at ntubbs@usgs.gov for more information

Spokane National Map

- USGS is partnering with Spokane County and City of Spokane to collect building footprints over the County. USGS will use for structures layer in TNM and the City and County will use the layer in local administration and planning activities. Feature content and attribution was developed also to support homeland security.
- USGS purchasing 2002/2003 high res color imagery over Spokane Urban area.

For more information see Tracy Fuller at tfuller@usgs.gov

Idaho National Map

- An MOU between USGS and State is being prepared regarding TNM and State frameworks. A framework grant from USGS was instrumental in Idaho completing its initial OMB-sponsored I-Plan for framework data in Idaho.
- Several deliverables planned for 2004.

For more information see Tracy Fuller at tfuller@usgs.gov

Geospatial One-Stop

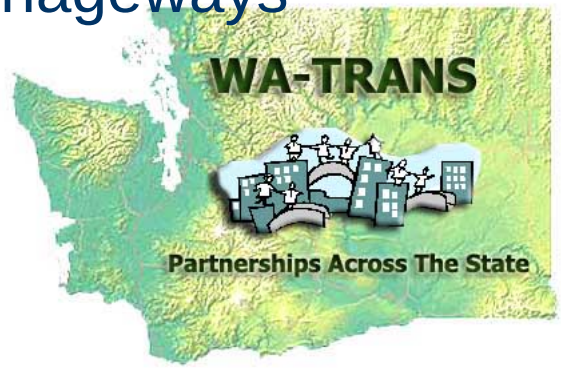
- Standards developed for Roads, Railroads, Transit, Airports and Waterways,
- Currently “harmonizing” those standards,
- Exchange standards,
- Information is at: http://www.geo-one-stop.gov/Standards/Transportation/index.htm.

Funding and Resources

- Funding Efforts.
  - Request for U.S. Senate earmark for pilot in WSDOT Northwest Region focused on transportation related business needs.
  - Working on State Planning and Research (SPR) Pooled Funding for Washington/ Oregon pilot. Scope is significantly expanded. More to follow on this.

Deliverables Status

- Requirements Specifications
  - Business Need Priorities
  - Data Needs
  - Specific Implementation Requirements
- Data Model
  - Use Oregon All-roads,
  - Extend for LRM, bi-directional carriageways
  - Add Ferries, Rail, Inland Water-ways, Aviation



Deliverables Status

- Standards
  - First draft defined by Steering Committee,
  - Refined by pilots.
- Over-arching Statewide Direction
  - To provide direction so pilots support overall statewide objectives and a statewide implementation,
  - Have asked WSDOT to host WA-Trans.
- More on both later.

Future Activities

- Completing data model (with Oregon),
- Complete proposal for OR/WA pilot (more details later),
- Complete standards and over-arching vision,
- Beginning working on specific pilots,
- Continue to seek funding opportunities and establish new partnerships.

WA-Trans Data Model

Evaluation Criteria for Data Models

- Evaluated in terms of individual business needs
  - Supports,
  - Does not address but can be supported with linked attribution,
  - Does not address and we don’t know how it would,
  - Does not address, extensions of data model needed,
  - Blocks.

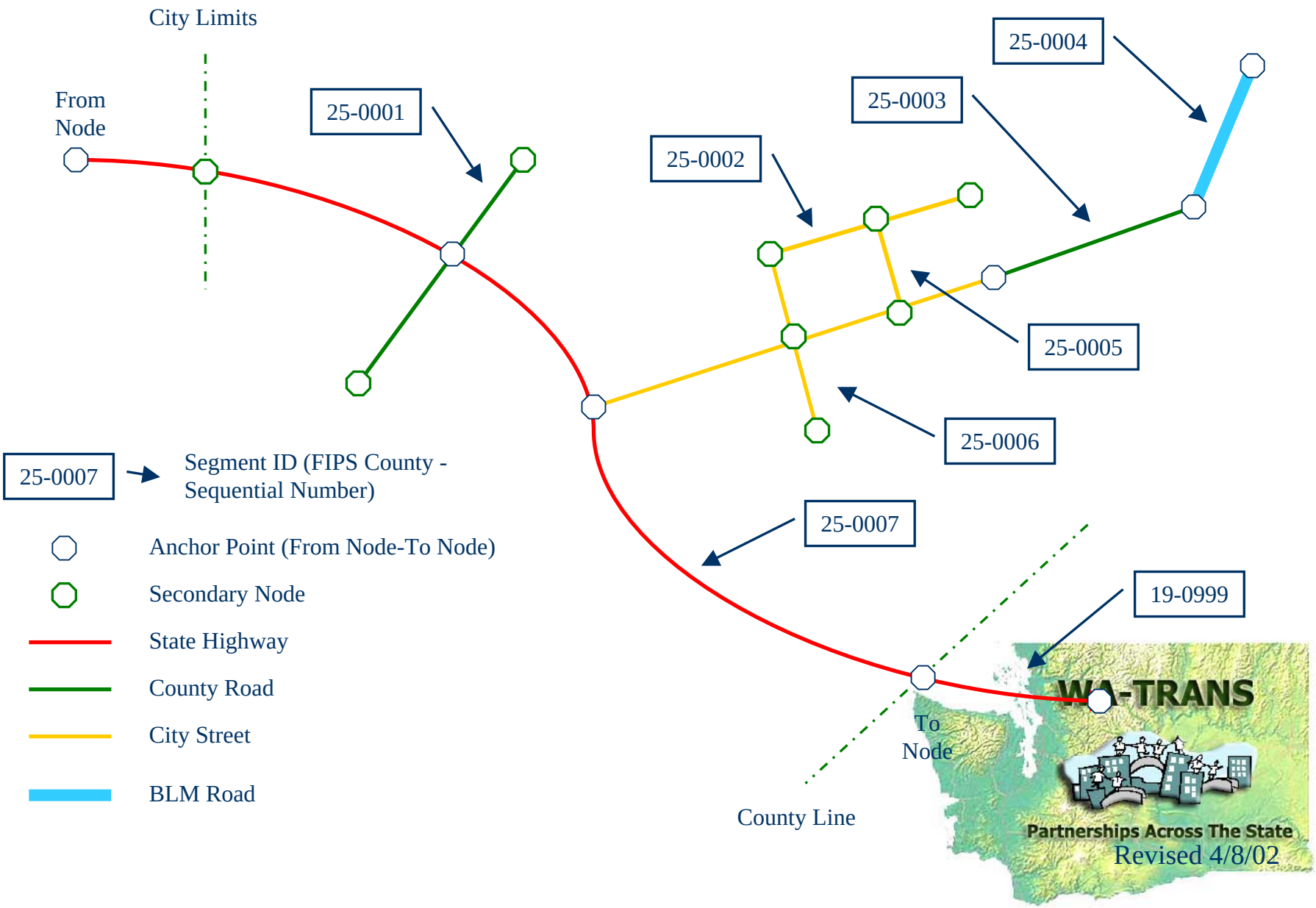
Evaluation Process

- Evaluated against Oregon All-Roads, IRICC Roads Standard and Geospatial One-Stop Standards,
- Superficial evaluation. If the documentation and information didn't show a particular functionality it assumed that the model wouldn't support that.

Evaluation Results

- Use Oregon All-roads,
- Extend for LRM,
- Make sure it will handle “bi-directional” carriageways,
- Make sure Indian Reservation Roads can be explicitly designated,
- Add Ferries, Rail, Inland Water-ways, Aviation.

Oregon's FIT-Transportation
All Roads Project



Oregon FIT-Trans Minimal Data Structure

REQUIRED:

ITEM NAME	*TYPE*	*WIDTH*	*Description*
SHAPE	Shapeline	9	segment shape/geometry (generated internally)
UNIQUE_ID	Number	15.2	framework topological identifier (generated internally)
F_NODE	Number	8	from node; start point identifier for the segment
T_NODE	Number	8	to node; end point identifier for the segment
LOCAL_ID	String	11	local feature identifier
LENGTH	Number	16	Calculated length in map units (to 3 decimal places)
RDOWNER	String		Entity responsible for maintenance of segment
RDNAME	String	72	Entire street name
FROMLEFT	Number	10	Left low address range
TOLEFT	Number	10	Left high address range
FROMRIGHT	Number	10	Right low address range
TORIGHT	Number	10	Right high address range
MBEG	Number	10	Beginning RDOWNER mile measure (to 3 decimal places)
MEND	Number	10	Ending RDOWNER mile measure (to 3 decimal places)
CITY	String	32	City of segment
COUNTY	String	3	County FIPS code for segment
STATE	String	2	State FIPS code for segment
FUNC_CLASS	Number	2	Functional Class assigned by owner (superclass table?)

Model Core: Segments, Points and Segment Descriptions (LRS)

Segment

Segment Identifier	numeric	<pk>
Original Data Contributor Identifier	varchar(3)	<fk1>
Update Data Contributor Identifier	varchar(3)	<fk2>
Owner Identifier	numeric	<fk5>
Manager Identifier	numeric	<fk4>
FIPS State Identifier	varchar(2)	<fk3>
Segment Local Identifier	varchar(9)	
Segment Create Date	datetime	
Segment Update Date	datetime	
Segment Validate Date	datetime	
Segment Retire Date	datetime	
Segment Status Code	char(1)	
Segment Object Code	char(1)	
Segment Length Number	decimal(9,2)	
Segment Geometry	ntext	

Road Segment Number

Road Segment Number Identifier	numeric	<pk>
Road Segment Number	varchar(15)	

Road Segment Name

Road Segment Name Identifier	numeric	<pk>
Road Segment Name	varchar(50)	

Segment Description

Segment Description Identifier	numeric	<pk>
Segment Identifier	numeric	<fk4>
Segment FROM Point Identifier	numeric	<fk6>
Segment TO Point Identifier	numeric	<fk5>
Original Data Contributor Identifier	varchar(3)	<fk1>
Update Data Contributor Identifier	varchar(3)	<fk2>
Length Accuracy Measurement Method Code	char(3)	<fk3>
Segment Description Local Identifier	varchar(9)	
Segment Description Create Date	datetime	
Segment Description Update Date	datetime	
Segment Description Validation Date	datetime	
Segment Description Retire Date	datetime	
Segment Description Status Code	char(1)	
Segment Description Local Length Number	decimal(9,2)	
Segment Description Begin Milepoint	decimal(5,2)	
Segment Description End Milepoint	decimal(5,2)	
Segment Description Left Low Address	varchar(10)	
Segment Description Right Low Address	varchar(10)	
Segment Description Left High Address	varchar(10)	
Segment Description Right High Address	varchar(10)	
Segment Description Left Zip Code	varchar(10)	
Segment Description Right Zip Code	varchar(10)	

Data Contributor

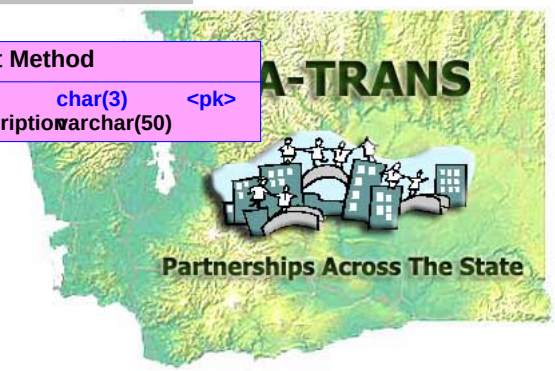
Data Contributor Identifier	varchar(3)	<pk>
Jurisdiction Type Code	char(5)	<fk>
Data Contributor Name	varchar(50)	

Segment Point

Segment Point Identifier	numeric	<pk>
Original Data Contributor Identifier	varchar(3)	<fk2>
Update Data Contributor Identifier	varchar(3)	<fk1>
Horizontal Accuracy Measurement Method Code	char(3)	<fk4>
FIPS State Identifier	varchar(2)	<fk3>
Segment Point Object Code	char(1)	
Segment Point Local Identifier	varchar(9)	
Segment Point Location Description	varchar(255)	
Segment Point Status Code	char(1)	
Segment Point Latitude Number	decimal(9,6)	
Segment Point Longitude Number	decimal(9,6)	
Segment Point Create Date	datetime	
Segment Point Update Date	datetime	
Segment Point Validation Date	datetime	
Segment Point Retire Date	datetime	
Segment Point Geometry	ntext	

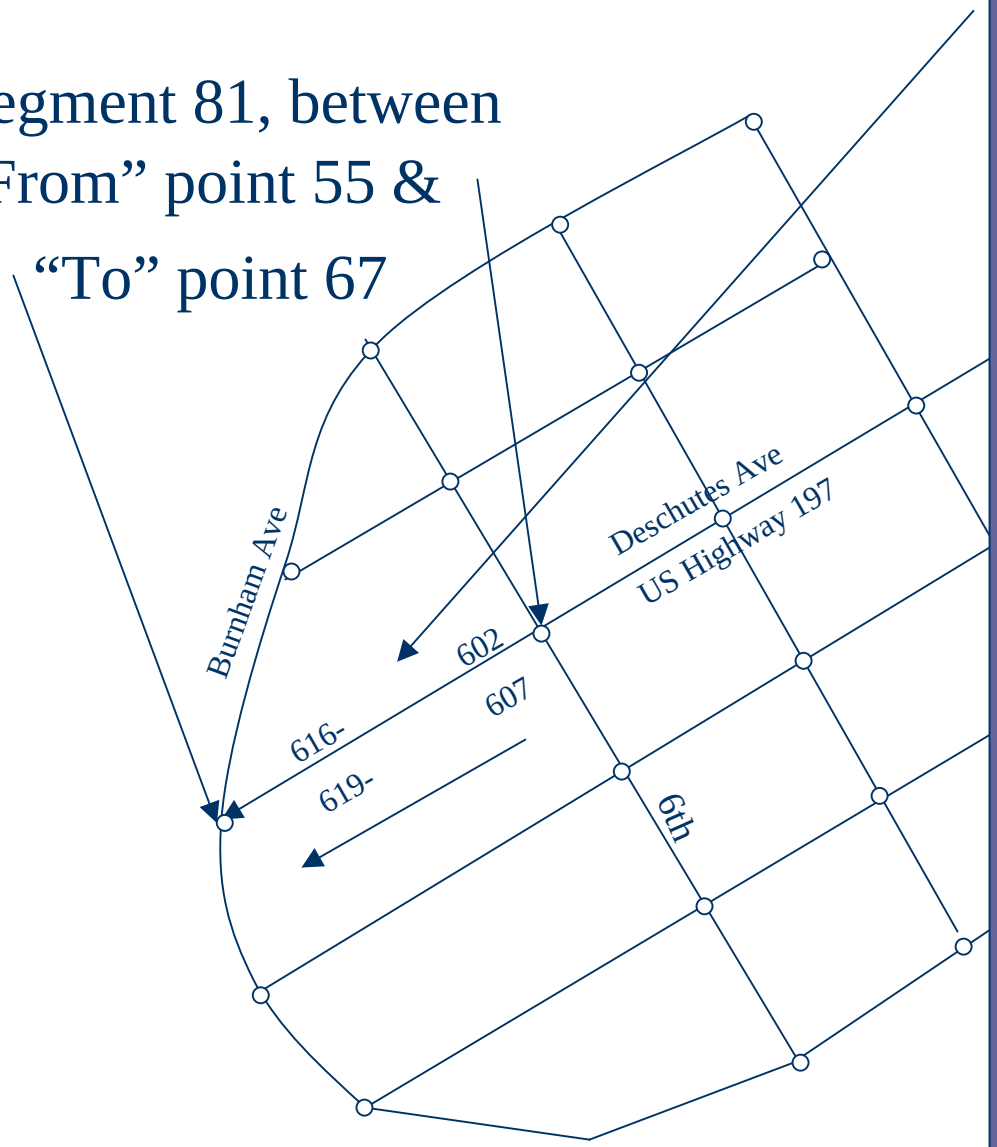
Length Accuracy Measurement Method

Length Accuracy Measurement Method Code	char(3)	<pk>
Length Accuracy Measurement Method Code Description	varchar(50)	



Example of Segments and Points in Maupin, OR

Segment 81, between
"From" point 55 &
"To" point 67



Names
Deschutes Ave (Maupin)
US HWY 197
OR HWY 004 --The Dalles-California Hwy

Segment ID - 81
Direction of line for coding attributes
From -- 55
To-- 67
Data Contrib. ID --293
41 + 293 + . S. + 000000081
St.FIPS+Data Contrib.+Obj Cd+Locl ID =FGDCID
= 41293.S.0000000081

LRS
OR Hwy 1 Route # 000400100S00
Beg. MP OR Highway 1 45.09
End MP OR Highway 1 44.97 (reversed)

OR Hwy 2 Route #
Beg. MP OR Highway 2 Not Used
End MP OR Highway 2 Not Used

City Route # CI_001
Beg. MP County 1.31
End MP County 1.43
Offset NA

Beg Address Left 601
End Address Left 699
Beg Address Right 600
End Address Right 698

Data Model Expansion

- Partner with Oregon
  - Use their data modeler
- Team developed from WA-Trans Steering Committee
- Still looking for participants with expertise in:
  - Railroad data,
  - Ferries data,
  - Freight data,
  - Ports data,
  - Aviation Data.

Data Model Expansion

- Planning on a one-day meeting in October,
- Determine work to be completed and define what should be done,
- Schedule the rest of the needed meetings,
- Between meetings the data modeler will work on the model,
- Meetings to be held in Vancouver.

WA-Trans Pilot Projects

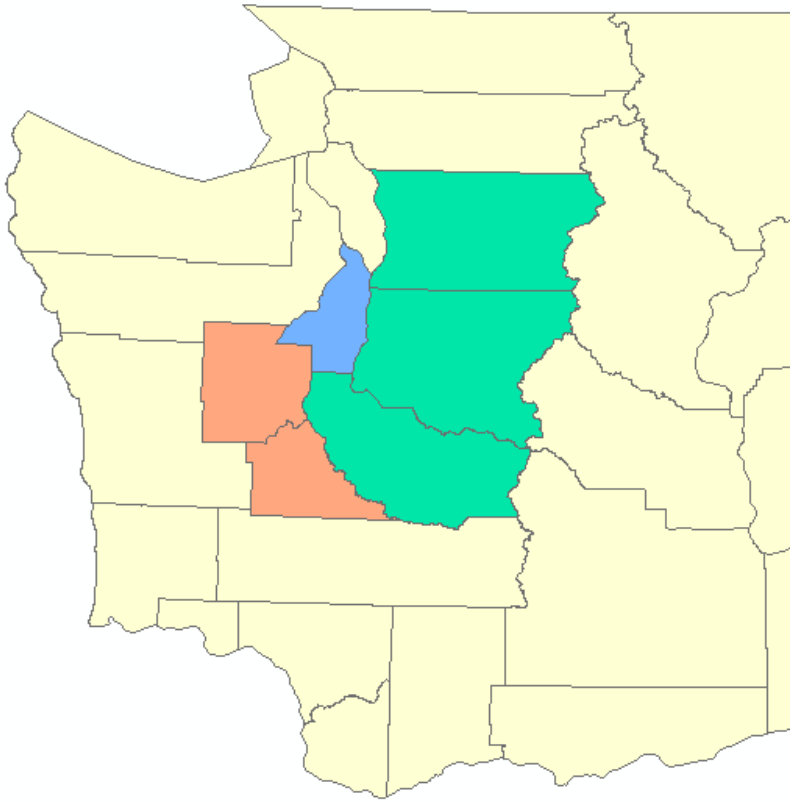
Project Status

- We are looking at two separate pilot projects.
- We have to complete the data model and standards before we can begin.
- We also have to develop a change management process to facilitate working on multiple pilots at once and preserving a statewide implementation view.

Specific Pilot Project Opportunities

- Sound Transit, Puget Sound Regional Council, National Map Pilot
- Testing:
  - Data integration
  - Data model
  - Use of local data by federal agencies
  - Transit related business needs
  - Regional planning related business needs

Puget Sound Pilot Opportunity



Sound Transit

PSRC

National Map

Puget Sound Pilot Status

- Waiting for data model and standards completion to move forward,
- Received some idea of what Sound Transit may want to do with the data, which drives requirements and scope,
- PSRC needs less accurate data but a larger geographic location.

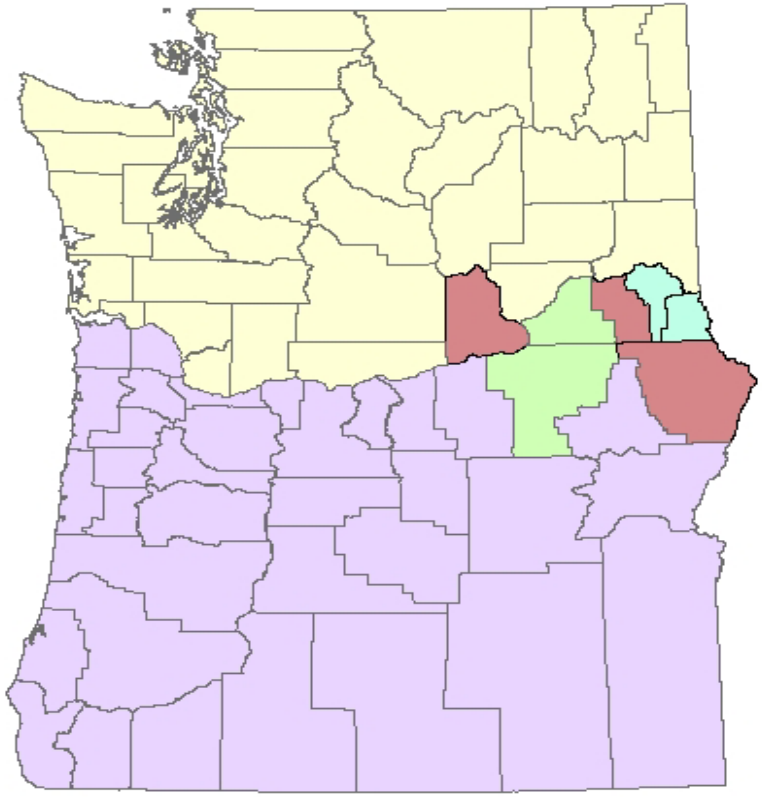
Puget Sound Pilot Requirements

- High accuracy centerline and addresses required for geocoding (AVL application),
- Must be able to lay transit data on-top.
- Requires rail data,
- Many more requirements to be gathered.

Specific Pilot Project Opportunities

- Oregon/Washington pilot in Umatilla and Walla Walla Counties,
- Partnering with ODOT,
- Testing:
  - Data integration across state lines,
  - Data model,
  - Rural data issues,
  - Tribal data integration.

Walla Walla/Umatilla Cross Border



Phase I

Phase II

Phase III

Oregon/Washington Pilot Extension

- We expect to extend this pilot east into Idaho.
- We will begin testing:
  - Maintenance,
  - Development of a “universal translator”,
  - Software solutions for integration and update,
  - Software solutions for QA/QC,
  - Software solutions for upload and download,
  - Synchronization of multi-state databases.

OR/WA Pilot Status

- Regular phone meetings with ODOT and U of O partners,
- Work breakdown structure developed,
- Estimation underway,
- Meeting with WSDOT Research Director and ODOT Research Director in Portland on Monday,
- Draft proposal under development.