

SoundCast Current and Future Tasks

Technical Working Group

PSRC

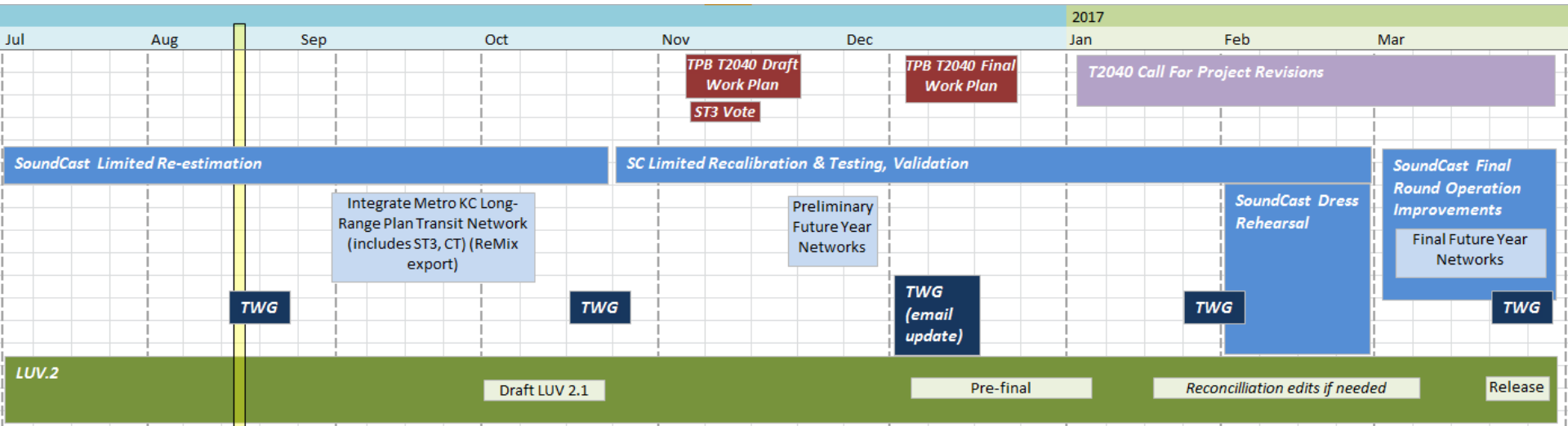
Novemeber 2016

Agenda

- Recap Progress reported at last meeting
- Progress since last meeting
- Review Model Results

Working T2040 Modeling Prep Timeline

DRAFT



Progress Reported at last TWG

- Reviewed Estimation Results
 - Auto Ownership Model
 - Tour Mode Choice Models
- Truck Model Improvements
- Reviewed T2040 Plan Update Timeline

Progress Since Last Meeting

- Received GPS Expanded Survey from RSG
 - Survey VMT per capita went from 14.9 to 17.3
- Major run time improvements
 - Full model run now takes ~17 hours.
- External, Airport Trips
 - Using observed data to create trip tables
- Estimated Models:
 - Model Estimation is basically complete
- Beginning Model validation/calibration

External and Airport Trips

- IXXI Work trips are now based on LEHD Flow Data
 - Increased volume further into the region.
 - Non Work Trips distributed using gravity model.
 - Updated external flows now match WSDOT counts
 - Using a Daysim feature that accounts for IXXI trips.
- Using Airport Survey to create trip table.
 - Implemented a mode choice model for these trips.

Estimation Status

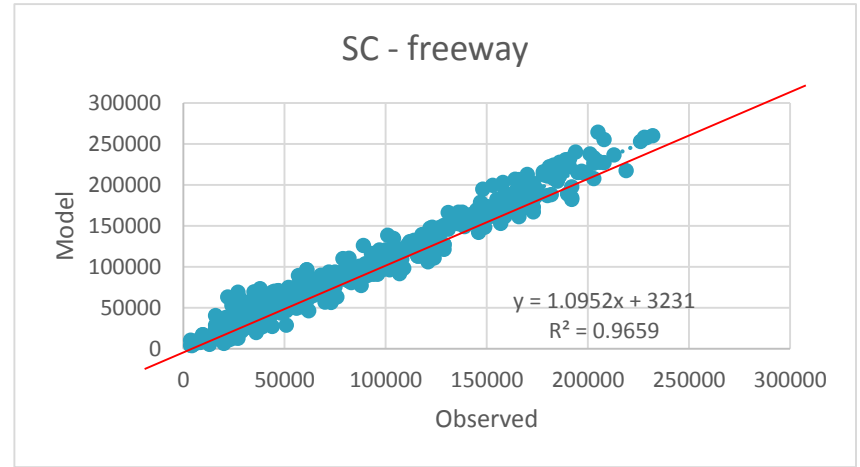
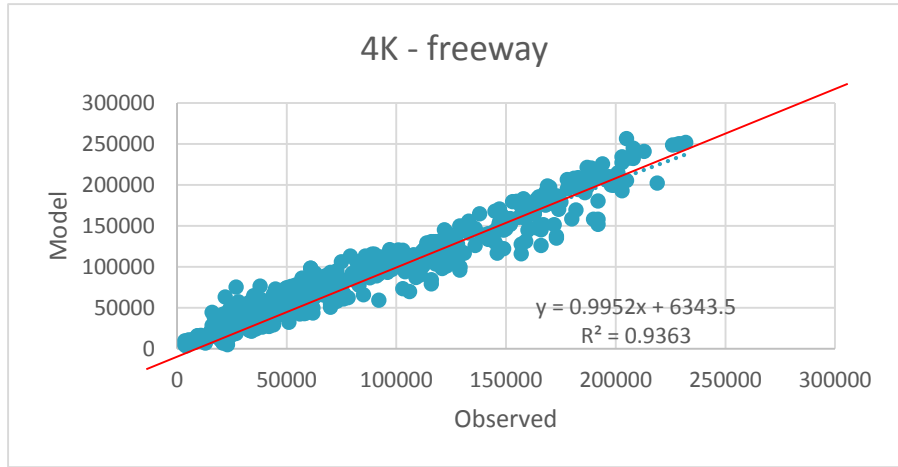
- Auto Ownership
- Transit Pass Ownership
- Pay to Park at Work
- Tour Mode
- Trip Mode
- Exact Number of Tours
- Work Location*
- School Location
- Work-based Subtour Generation
- Other Tour Destination
- Tour Time models
- Trip Time Model
- Intermediate Stop Generation/Location*

Results: 4K & SoundCast

Results: Screenlines

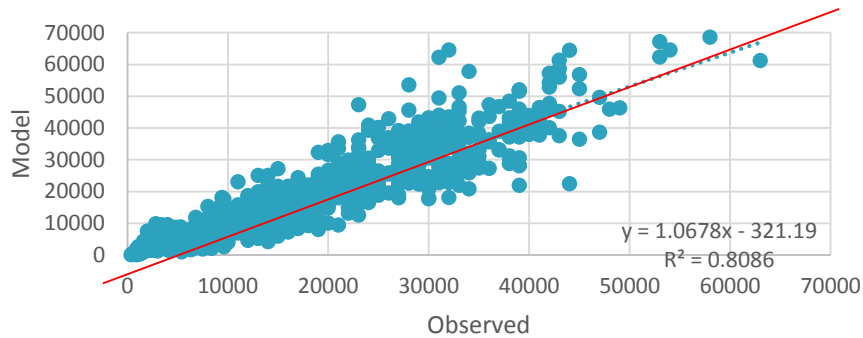
Screenline Vehicle Volumes - All Facilities			4K			SoundCast	
Number	Screenline Name	Type	Observed Daily Volume	Model Daily Volume	% Difference	Model Daily Volume	% Difference
4	Tacoma - East of CBD	Primary	283,164	306,908	8%	333,100	18%
14	Auburn	Primary	540,866	264,948	2%	271,000	0%
15	South King	Primary		285,669		269,200	
22	Tukwila	Primary	245,433	212,336	-13%	222,500	-9%
23	Renton	Primary	85,258	66,955	-21%	61,700	-28%
29	Seattle - South of CBD	Primary	469,433	511,447	9%	516,200	10%
30	South Bellevue	Primary	362,151	347,782	-4%	378,600	5%
32	Cross-Lake	Primary	234,150	252,072	8%	242,500	4%
35	Ship Canal	Primary	507,450	594,003	17%	557,500	10%
37	Kirkland-Redmond	Primary	375,697	409,412	9%	403,100	7%
41	Seattle - North	Primary	338,825	368,268	9%	371,100	10%
43	Lynnwood-Bothell	Primary	255,467	276,712	8%	275,200	8%
44	Bothell	Primary	268,625	282,331	5%	287,500	7%
46	Mill Creek	Primary	365,342	379,249	4%	383,000	5%
2	Parkland	Secondary	275,733	258,406	-6%	244,800	-11%
3	Puyallup	Secondary	119,401	118,452	-1%	113,300	-5%
7	Tacoma Narrows	Secondary	80,000	87,374	9%	90,200	13%
18	Maple Valley	Secondary	75,982	72,404	-5%	67,800	-11%
19	SeaTac	Secondary	72,335	81,292	12%	71,900	-1%
20	Kent	Secondary	557,842	526,061	-6%	497,400	-11%
54	Gig Harbor	Secondary	61,503	77,895	27%	93,300	52%
57	North Kitsap	Secondary	100,890	83,363	-17%	78,100	-23%
58	Agate Pass Bridge	Secondary	21,000	25,891	23%	23,100	10%
60	Cross Sound	Secondary	17,412	25,624	47%	30,000	72%
66	Preston-Issaquah	Secondary	91,451	87,590	-4%	82,300	-10%
71	Woodinville	Secondary	87,944	129,877	48%	123,800	41%
Seattle			1,315,708	1,473,718	12%	1,444,800	10%
Rest of King			2,997,734	3,018,729	1%	2,979,300	-1%
Pierce			819,801	849,035	4%	874,700	7%
Snohomish			620,809	655,961	6%	658,200	6%
Kitsap			139,302	134,878	-3%	131,200	-6%
Total			5,893,354	6,132,321	4%	6,088,200	3%

Results: Freeways

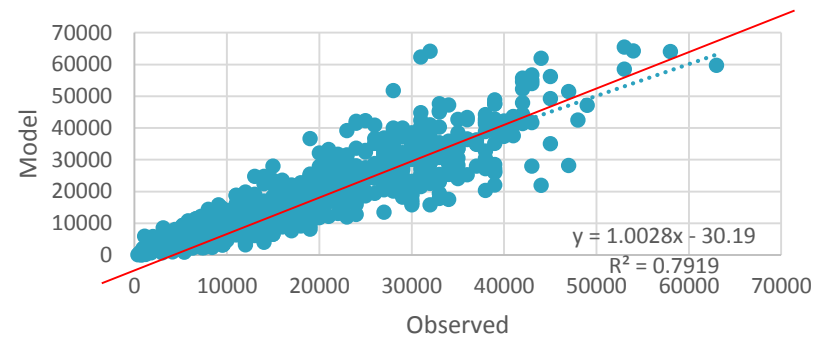


Results: Arterials

4K - arterial

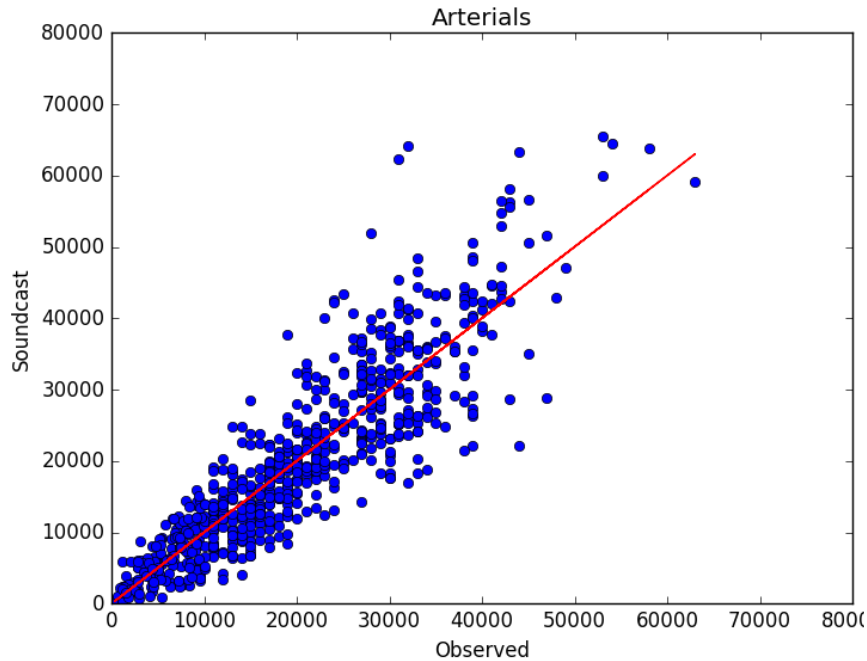


SC - arterial

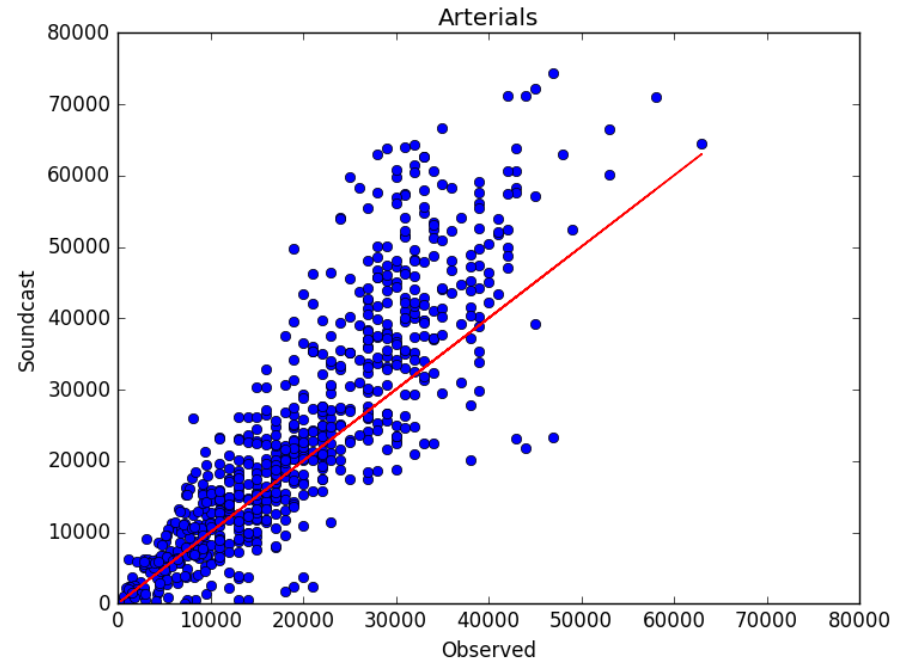


Test: No Arterial Delay

Arterial Delay at 50%



No Arterial Delay



Results: Tableau

<http://public.tableau.com/profile/brice.nichols#!/vizhome/Soundcast-Survey-Comparison/SoundcastResults>

Light Trucks/Commercial Vehicles

- Light Truck Category is intended to capture commercial vehicle trips.
- Both the Survey and Soundcast do include some portion of these types of trips.
- This is a hard category to validate:
 - No counts.
 - No observed Data (flows).

Light Trucks/Commercial Vehicles

- Soundcast currently meets the regional target of 82.5 million VMT.
- Soundcast is low on Tours Per Person
 - 1.27 vs. 1.65
- Soundcast is low on Survey VMT per capita:
 - Soundcast: 15.9
 - Survey: 17.5
 - That is 6.0 million additional VMT (but 17.3 is only 5.2)
 - Light truck model produces ~5.2 million VMT
 - We will test dropping light trucks and calibrate Daysim (e.g. tours per person) in an attempt to come close to 17.5 Survey VMT per person and still hit the target of 82.5 million VMT.
 - https://public.tableau.com/shared/Q7J9BM3N9?:display_count=yes

Next Steps

- Calibrate Time of Day models.
- Calibrate Transit.
 - Observed Boardings and Survey tell a slightly different story!
- Test Dropping Light Trucks: