



## Background

The overall purpose of the modeling effort was to create existing condition VISSIM models for the following corridors:

- 1. OR 217 (entire length from US 26 to I-5, including ramp connections)
- 2. I-5 (I-405 to Wilsonville Rd, including ramp connections)
- 3. I-205 (I-84 to I-5, including ramp connections)

The first step in developing the VISSIM models for ODOT was to utilize Portland Metro's regional travel-demand VISUM model. The basic approach for the integration is to use VISUM to generate the base network, O-D matrices and routing that is to be imported into VISSIM. The node and link numbers are thus consistent across VISUM and VISSIM, making data interchange an efficient process.















## **VISUM Network Adjustment**

Node

• Control Type: Uncontrolled, Two-way Stop, Two-way Yield, All-way Stop, Signalized, Roundabout

Links

- Speed, Road Name, and Link Closure
- On-ramp speed must be adjusted to match up with mainline speed (to eliminate merging behavior issue)

## Turns

- Turn Type and Closure/Restrictions
- All Turn Types on Freeway segments are set to "2. Straight". ANM Import sets Reduced Speed Area for Turn Types other than "2. Straight"











Developing Den	nand for Simulation
Time Series Demand [	Data
AM Time Series	PM Time Series

From Time	To Time	I-205	I-5
6:00:00	6:15:00	4.359168	4.196176
6:15:00	6:30:00	5.638534	5.681128
6:30:00	6:45:00	6.815789	6.714734
6:45:00	7:00:00	6.697186	6.874903
7:00:00	7:15:00	6.693219	6.877391
7:15:00	7:30:00	7.34288	7.760931
7:30:00	7:45:00	7.728175	7.409999
7:45:00	8:00:00	7.211035	7.178535
8:00:00	8:15:00	6.505811	6.490492
8:15:00	8:30:00	6.202832	6.280486
8:30:00	8:45:00	6.300577	6.292001
8:45:00	9:00:00	5.85765	6.113292
9:00:00	9:15:00	5.534631	5.53193
9:15:00	9:30:00	5.675987	5.8699
9:30:00	9:45:00	5.785273	5.404421
9:45:00	10:00:00	5.651251	5.32368

From Time	To Time	OR217	I-205	I-5
14:00:00	14:15:00	4.431015	4.739704	4.69072
14:15:00	14:30:00	4.87776	4.832778	4.844766
14:30:00	14:45:00	4.842606	5.108789	4.902149
14:45:00	15:00:00	5.016801	5.130925	5.123881
15:00:00	15:15:00	4.945614	4.863122	5.167625
15:15:00	15:30:00	5.147604	5.060085	5.165149
15:30:00	15:45:00	5.366335	5.153316	5.300969
15:45:00	16:00:00	5.096834	5.285068	5.219276
16:00:00	16:15:00	5.376868	5.181848	5.352594
16:15:00	16:30:00	5.495644	5.320225	5.239799
16:30:00	16:45:00	5.424088	5.428543	5.2363
16:45:00	17:00:00	5.257508	5.292068	5.276984
17:00:00	17:15:00	5.346117	5.196717	5.219204
17:15:00	17:30:00	5.298107	5.503193	5.536999
17:30:00	17:45:00	4.943494	5.414141	5.173292
17:45:00	18:00:00	4.900231	4.976636	4.990583
18:00:00	18:15:00	4.888696	4.62003	4.601118
18:15:00	18:30:00	4.678242	4.4657	4.614364
18:30:00	18:45:00	4.454303	4.335623	4.381192
18:45:00	19:00:00	4.212133	4.091488	3.963036















Standarding         Total         Total         Total         Total         Total         Total           13 AM Southbourd (2007:00)         Total         Vision         Total         Total         Vision	VISUM Demand 6,771 1,125 2,110 2,134 8,766 528	VISSIM Volume 6,583 1,094 2,032 2,147	Count vs. visUM 0.1%	t Da Difference (% Count vs. VISSIM	visum visum
Section 2 - Control Content Control Control Control Control Control Control Control C	VISUM Demand 6,771 1,125 2,110 2,134 8,766 528	VISSIM Volume 6,583 1,094 2,032 2,147	Count VISUM 0.1%	t Da Difference (% Count VISSIM	i) VISUM VS.
•         2-         Hour Ramp Volume AND Peak : VISSIM           15/20/5000         Court VISM         VISM         Court VISM         VISM         Court VISM           15/20/5000         Court VISM         VISM         Court VISM         VISM         Court VISM           15/20/5000         Court VISM         VISM         Court VISM         VISM         Court VISM           15/20/5000         Court VISM         VISM         Court VISM         Court VISM         Court VISM           15/20/5000         Court VISM         VISM         Court VISM         Court VISM         Court VISM           15/2000         Court VISM         VISM         Court VISM         Court VISM         Court VISM           15/2000         Court VISM         Court VISM         Court VISM         Court VISM         Court VISM           15/2000         Court VISM         Court VISM         Court VISM         Court VISM         Court VISM           16/2000         Court VISM         Court VISM         Court VISM         Court VISM         Court VISM         Court VISM           16/2000         Court VISM	VISUM Demand 6,771 1,125 2,110 2,134 8,766 528	VISSIM Volume 6,583 1,094 2,032 2,147	Count vs. visUM	Difference (% Count VISSIM	ita VISUM VISUM
S2- HOUR Ramp Volume AKV Peak : VISUM (200790)         Cont Data         VISUM VISUM Volum         VISUM Cont VISUM VISUM         Difference (b) VISUM VISUM           15 Muselsouri (200790)         Cont Data         VISUM VISUM         Cont VISUM         VISUM VISUM         VISUM VISUM VISUM         VISUM VISUM VISUM VISUM         VISUM VISUM VISUM VISUM VISUM         VISUM VISUM VISUM VISUM VISUM VISUM VISUM VISUM VISUM VISUM VISUM VISUM VISUM VISUM VISUM VISUM V	VISUM Demand 6,771 1,125 2,110 2,134 8,766 528	VISSIM Volume 6,583 1,094 2,032 2,147	Count vs. visUM	t Da Difference (% Count vs. VISSIM	ata <sup>3)</sup> VISUM VS.
L         Court (799°900)         Court Densate         Difference (5) Court Vision         Difference (5) Court         Sign Vision         Court Vision         Difference (5) Vision         Sign Vision         Sign Vision         Sign Vision         Court Vision         Vision         Sign Vision         Sign Vision         Sign Vision         Court Vision         Vision         Sign Vision         Sign Vision         Court Vision         Vision         Sign Vision         Sign Vision         Court Vision         Sign Vision         Court Vision         Vision         Sign Vision         Sign Vision         Sign Vision         Court Vision         Vision         Sign Vision         Sign Visi	VISUM Demand 6,771 1,125 2,110 2,134 8,766 528	VISSIM Volume 6,583 1,094 2,032 2,147	Count vs. vISUM 0.1%	Difference (% Count vs. VISSIM	VISUM VS.
L5 AM Southbourd (7507:500)         Count Data         VISUM Venum         Othersec (%) Conc         VISUM Venum         Count Conc         VISUM Venum         Count Conc         VISUM Venum         Count Conc         VISUM Venum         L5 AM Northbourd Venum         L5 AM Northbourd Venum         Count Conc         VISUM           15 AM Southbourd (7507:500)         7.269         7.291         7.210         1.7%         0.9%         1.1%         L5 AM Northbourd Venum         5.673         0         2.78         0.9%         1.1%           16 M Mortion St. 50 Mortion Are.         0.01         4.283         4.537         -         7.2%         3.88         -         4.47         1.84         0.01         -         2.85         3.88         -         4.47         1.84         0.01         -         2.85         3.88         -         3.88         -         3.88         -         3.88         -         3.88         -         3.88         -         3.88         -         3.88         -         3.88         -         3.89         1.85         2.85         3.88         -         3.85         3.88         -         3.85         3.85         3.85         3.85         3.85         3.85         3.85         3.85         3.85         <	VISUM Demand 6,771 1,125 2,110 2,134 8,766 528	VISSIM Volume 6,583 1,094 2,032 2,147	Count vs. VISUM 0.1%	Difference (% Count vs. VISSIM	VISUM VS.
Is Add Northwork         Total         Walker         Northwork         Northwork         Northwork         Northwork         Set Mathematical Set Mathematic	VISUM Demand 6,771 1,125 2,110 2,134 8,766 528	VISSIM Volume 6,583 1,094 2,032 2,147	Count vs. VISUM 0.1%	Count vs. VISSIM	VISUM vs.
(7:00*-9:00)         Data         Data         Point         Vis.	Demand 6,771 1,125 2,110 2,134 8,766 528	Volume 6,583 1,094 2,032 2,147	vs. VISUM 0.1%	vs. VISSIM	vs.
Image: Section of the sectio	6,771 1,125 2,110 2,134 8,766 528	6,583 1,094 2,032 2,147	0.1%	VISSIM	
15 Munime         7,209         7,201         7,203         7,210         7,78         6,783         1,155           16 Werder's X         00         -         4,42         448         -         -         1,455         1,455         1,455         1,455         1,455         1,455         1,455         1,455         1,455         1,455         0,673         2,233         1,233         1,389         -         -         0,376         3,485         0,0         -         1,465         0,0         -         1,465         0,0         -         1,465         0,0         -         1,465         0,0         -         1,465         0,0         -         1,465         0,0         -         1,465         0,0         -         1,465         0,0         -         1,465         0,0         -         1,465         0,0         -         1,465         0,0         -         1,465         0,0         -         1,465         0,0         -         1,465         0,0         1,465         0,0         1,465         0,0         1,465         0,0         1,465         1,465         1,465         1,465         1,465         1,465         1,465         1,465         1,465         1,465	6,771 1,125 2,110 2,134 8,766 528	6,583 1,094 2,032 2,147	0.1%	0 7837	VISSIM
Internet of the sector of the secto	2,110 2,134 8,766 528	2,032		-2.7%	-2.8%
198         Off         2,199         1,399         -         -         0,378           184         Off         2,229         2,233         -         2,378         564         Off         -         1,699         0         -         1,699         1,699         1,699         1,699         1,699         1,699         1,699         1,699         1,699         1,699         1,690         1,690         1,690         1,690         1,690         1,690         2,690         2,693         590	2,134 8,766 528	2,147		1	-2.8%
Armona n.h.         Ori         1.410         (1.423)         1         2.537           1-65         Ori         -         4.63         -         -         2.537           1-65         Ori         -         4.63         -         -         2.537           5W Hords Aw.         Ori         -         1.699         1.565         -         -         2.565           9405         Ori         7.882         2.855         0.56         -         -         2.565           5W Hords Aw.         Ori         7.88         5.86         0.58         -         4.65         5W Gords Aw.         0.77         7.57         3.739         0.56         -         4.655         5W Softed Aw.         0.77         3.73         3.57         5.57         2.576         5.58         5.58         5.57 </td <td>8,766 528</td> <td></td> <td></td> <td></td> <td>0.6%</td>	8,766 528				0.6%
i.ed/         Off         Output         Diff         Output         SM Roadzm Ave         On         -           J-607         Off         0.007         3.86         -         -         2.4 mg         500         Adds         0         -         -         2.4 mg         500         Adds         0         -         -         4.4 mg         -         -         4.4 mg         - <td>528</td> <td>8,600</td> <td></td> <td></td> <td>-1.9%</td>	528	8,600			-1.9%
SW tool Ave.         off         1.609         1.566         .         2.86           H-455         On         7.88         2.896         3.80         4.605         0.77         7.97         3.98		493	-	-	-6.6%
Ho3         h         Gen         Set 2         Set 5         Set 3         Set 5         Set 3         Set 5         Set 3         Set 5         Set 3         Set 3<	4,026	3,919	-		-2.7%
SW techta         Orf         7.5         5.66         0.33         -         -         4.66         SW Certest Acce         011         1.035         1         1.035         1         9.00         Content Acce         011         1.035         1         1.035         1         1.035         1         1.035         1         1.035         1         1.035         1         1.035         1         1.035         1         1.035	666	654	-0.9%	-2.6%	-1.8%
SW Bertha         Off         7.25         7.23         7.39         0.3%         1.5%         2.2%         SW Termiliger Mot         0         1.383         0           SW Jornson Holl         Off         47.3         47.8         6.48         1.1%         2.2%         SW Termiliger Mot         0.1         1.383         0.01         1.383         0.01	194	206	2.1%	8.6%	6.4%
SW Mitheman Bird.         Off         373         389         1.1%         3.2%         4.3%         SW Mutheman Bird.         On         1.600         3           SW Tarkor Berry HL.         Off         332         338         2.0%         5.2%         3.3%         5W Mitheman Bird.         Off         3	1,327	1,317	-0.6%	-1.3%	-0.7%
SW Sping Garden St.         Off         932         337         338         1.5%         2.0%         5.5%         3.5W Sping Garden St.         Off         0.11         0.71           SW Taylors Ferry AL         Off         40.1         933         330         2.0%         5.2%         3.5%         3.5W Taylors Ferry AL         017         0.73         3W Taylors Ferry AL         017         1.70         1.71         1.70         1.70         1.70 <td< td=""><td>1,603</td><td>1,620</td><td>-0.4%</td><td>0.6%</td><td>1.1%</td></td<>	1,603	1,620	-0.4%	0.6%	1.1%
SW Tapitor Herry Hd.         Off         401         393         380         2.0%         5.2%         3.3%         30% gring fundless No         00         4.57           SW Dightor Herry ML         00         455         460         450         1.16         0.86         3.0%         3.0%         30% gring fundless No         30%         30% gring fundless No         30%	795	752	-	-4.1%	-5.4%
SW Captor Iviny, SW Barbur Wold, On         On         455         460         499         1.1%         0.8%         0.3%         30%         0.0%         1.10         1.00	575	598	0.3%	4.4%	4.1%
SW Burbur (Mu)         Off         Alss         1,83         1,803         1,334         1,063         -0.35         -0.166         -0.126 <td>1/5</td> <td>1 005</td> <td>-2.2%</td> <td>10.1%</td> <td>12.0%</td>	1/5	1 005	-2.2%	10.1%	12.0%
SW Dartmouhl         Oil         682         680         660         661 <t< td=""><td>1.161</td><td>1,115</td><td>-1.1%</td><td>-5.0%</td><td>-4.0%</td></t<>	1.161	1,115	-1.1%	-5.0%	-4.0%
SW Dartmouth St.         Or.         Sorg         Sease         Sorg         Sease         On         2200           0F 1217         Ort         553         555         555         556         557         556         556         557         556         557         556         557         556         557         557         556         556         557         556         556         557         556 <td>660</td> <td>647</td> <td>0.8%</td> <td>-1.3%</td> <td>-2.0%</td>	660	647	0.8%	-1.3%	-2.0%
OP         253         555         238         0.465         1.055         0.665         530         0.574         0.75         0.574         0.75         0.574         0.75         0.574         0.75         0.754         0.75         0.754         0.75         0.754         0.75         0.754         0.75         0.754         0.75         0.754         0.75         0.754         0.75         0.754         0.75         0.754         0.75         0.754         0.75         0.754         0.75         0.754         0.75         0.754         0.75         0.754         0.75         0.754         0.75         0.754         0.75         0.755 </td <td>286</td> <td>284</td> <td>-1.4%</td> <td>-2.2%</td> <td>-0.8%</td>	286	284	-1.4%	-2.2%	-0.8%
OR.217         On         D.874         J.884         O.885         O.985         O.155         O         D.514         J.724         D.874         J.874         J.876         J.876 <thj.876< th=""> <thj.976< th=""> <thj.976< t<="" td=""><td>543</td><td>525</td><td>-0.5%</td><td>-3.9%</td><td>-3.4%</td></thj.976<></thj.976<></thj.876<>	543	525	-0.5%	-3.9%	-3.4%
Carman Dr. Common Dr. Bit Model         Off         28.812         28.89         22.78         0.26         1.96         2.156         0.000 WW         017         984           Lower Boones Ferry Bit         Off         J.B65         J.B74         J.456         0.956         5.96         0.962.27         017         3.00         J.073         1.00         J.074         J.65         0.056         0.05         0.056         0.05         0.06         J.074         J.65         0.056         0.056         0.056         0.073         0.07         0.07         0.07         0.07         0.07         0.07         J.026         0.07         J.078         0.07         J.078         0.07         J.078         0.07         J.78         0.07         J.78         J.078         J.078 <td>1,514</td> <td>1,530</td> <td></td> <td>1.0%</td> <td>1.0%</td>	1,514	1,530		1.0%	1.0%
Carman Dr. Development Prof.         On         4.09         4.09         3.86         0.2%         5.5%         0.52.17         0.71         -	991	988	0.7%	0.4%	-0.3%
Operations Fory         Off         1.885         1.891         1.724         1.4%         0.5%         0.9%         Carman Dr.         OI         1.007         1.007         0         1.007         1.007         0         1.007         1.007         0         1.007         0         1.007         1.007         0         1.007         1.007         0         1.007         1.007         1.007         1.000         1.001         1.000	3,421	3,391			-0.9%
Rd.         On         L568         L566         L616         O.1%         L30K         3.2%           SW Nyberg St.         Orf         2.025         2.023         D.1%         1.4%         Lower Bioense Ferry Ma.         00         3.269         0	1,083	1,044	0.9%	-2.7%	-3.6%
SW Nyberg St.         Off         2.052         2.055         2.023         0.1%         1.4%         1.6%         Lower Boones Ferry M         Off         0.368         0.388 <th0.388< th="">         0.388         0.388<!--</td--><td>1,243</td><td>1,198</td><td>-1.3%</td><td>-4.9%</td><td>-3.6%</td></th0.388<>	1,243	1,198	-1.3%	-4.9%	-3.6%
Inc.         Om         Lots         Lozz         Lozz <thlozz< th="">         Lozz         <thloz< td=""><td>1,582</td><td>1,542</td><td>-0.4%</td><td>-3.0%</td><td>-2.5%</td></thloz<></thlozz<>	1,582	1,542	-0.4%	-3.0%	-2.5%
1-205         Off         -         -         -         1.33%         SW Myberg St.         On         -         2.03%           0.0         -         3.180         -         -         2.04%         -         2.04%         -         0.01         -         2.04%         -         2.04%         -         0.01         2.042         2         2.04         -         0.01         2.042         2         2.04         -         0.01         2.042         2         0.01         2.042         2         0.01	1,090	1,039	-1.3%	-4.0%	-3.3%
On         -         3,180         3,118         - <th< td=""><td>2.056</td><td>1.969</td><td>0.7%</td><td>-3.6%</td><td>-4.2%</td></th<>	2.056	1.969	0.7%	-3.6%	-4.2%
SM Researce Form Perl On 240 230 240 0.2% 0.1% 0.2%	1.717	1,669	-0.7%	-3.5%	-2.8%
	3,677	3,606	-		-1.9%
399 DUDIES FEI Y RU. UII 340 337 340 10.78 0.78 1.205 0ff - 4	2,509	2,509			0.0%
011 411 430 429 1.270 4.3% 3.2% 0ff 1002 1009 - 0.7% 0.7% 01%	857	815	2.0%	-3.0%	-4.9%
SW Wilsonville Rd. 0n 968 959 970 -0.7% 0.7% SW Boones Ferry Rd. 0n 825	819	860	-0.7%	4.2%	5.0%
1-5 Mainline - 5992 7.087 - 14% Off 1,401 1		1,374	1.3%	-1.9%	-3.1%
SWIMilroppilla Pd 0n 1,680 1	1,419	1,684	1.5%	0.3%	-1.2%
Sty Wilsonning Rd. Off 1,275 1	1,419 1,705	1,254	-0.1%	-1.7%	-1.6%













