



2007 KMPO Travel Demand Model Update

Final Report

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**500 108th Avenue NE
Suite 1200
Bellevue, WA 98004-5549
(425) 450-6200**

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Introduction

In 2005, Kootenai County developed the 2005 KMPO (Kootenai Metropolitan Organization) Travel Demand Forecasting VISUM Model. The KMPO Model provides the existing 2005 AM and PM peak hour traffic forecasts and is used as a base model to project future AM and PM peak hour traffic in the Kootenai County-wide area.

No matter how well validated an existing travel demand forecasting model is, public agencies (or model owners) update the existing base year model every year or every other year or every five years depending on the land use growth and transportation improvements in the modeling area. This is because the traffic on streets changes due to the changes in land use and transportation system.

The 2007 KMPO model update is expected to revalidate the 2005 existing base year model to reflect the most current 2007 traffic conditions. In addition, during the previous 2005 KMPO model application some enhancements were found necessary to improve the 2007 KMPO model accuracies and forecasting capabilities.

Basic technical information about the 2005 KMPO VISUM model is provided in the “Kootenai County (KMPO) – 2005 Transportation Model Documentation.” This report is focused on the 2007 KMPO travel demand model update, including enhancements.

Working with KMPO technical staff, HDR was consulted to provide the on-call modeling services on the 2007 KMPO model update, including enhancements, which are addressed in the following nine sections in this report:

1. KMPO Model Graphic User Interface (GUI)
2. AM/PM Peak Hour Trip Generation Update
3. 2007 KMPO Land Use Update
4. 2007 KMPO Auto Network Enhancements
5. AM/PM Peak Hour Trip Generation
6. AM/PM Peak Hour Trip Distribution
7. AM/PM Peak Hour Traffic Assignments
8. AM/PM Peak Hour Traffic Screenline Validation
9. Model Limitations and Improvements

More detailed technical specifications and model update descriptions are provided to assist the KMPO model users in their understanding of the model applications, data input and output, and validation results.

Attached appendices illustrate even more technical information related to the VISUM model script and parameter files, and the 2007 AM/PM peak hour detailed screenline validation spreadsheets.

1.0 KMPO Model Graphic User Interface (GUI)

1.1 KMPO GUI

As shown in Figure 1, the KMPO Model GUI is designed to prepare input and output files for the AM and PM peak hour traffic forecasts in the Kootenai County area. As illustrated in Appendix 1A: KMPOGUI.Py is a Python script file to open the interface by clicking the file.

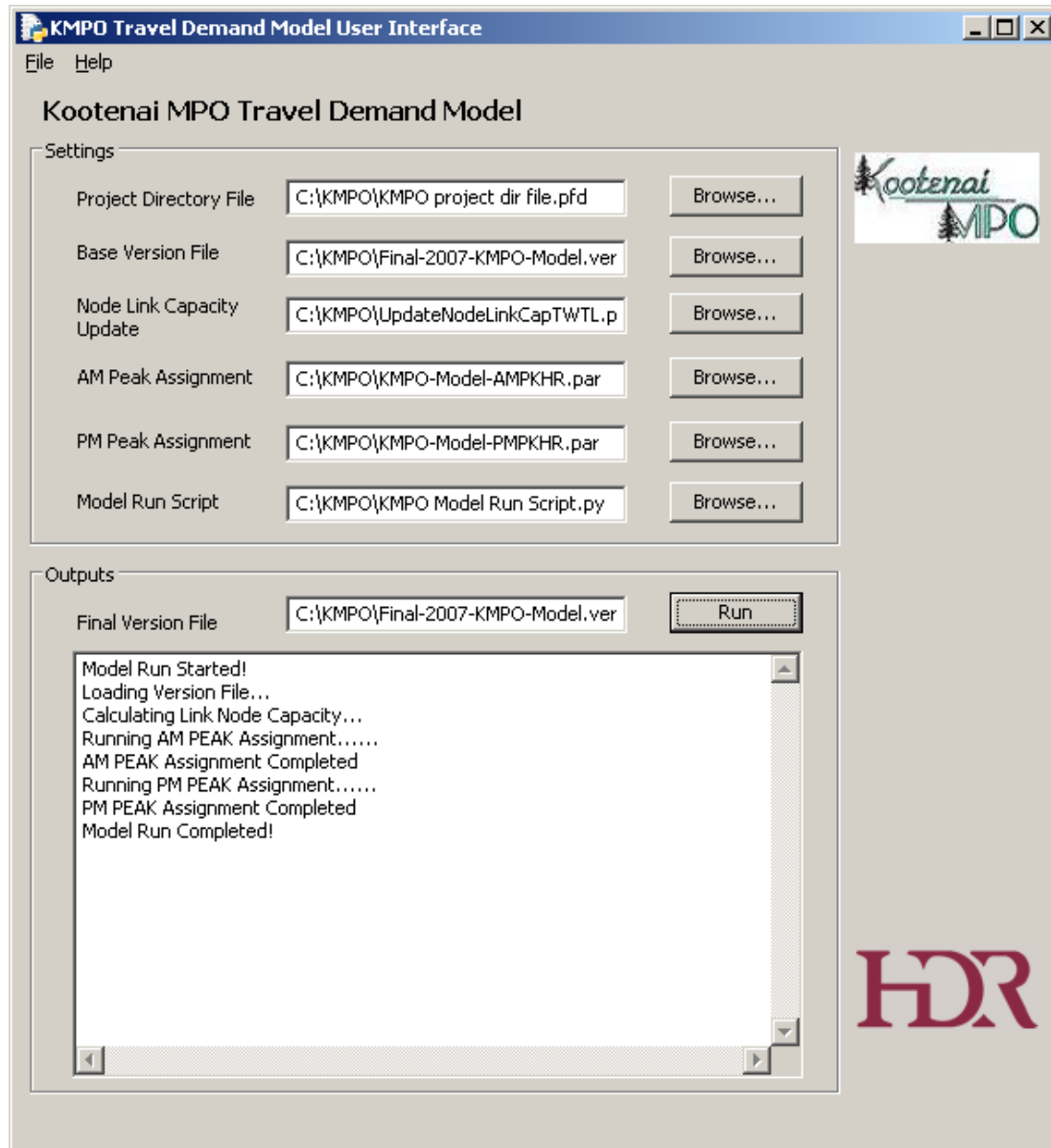


Figure 1: KMPO Model GUI

1.2 KMPO GUI Input File Setting

Project directory – KMPO Project dir file.pfd (shown in Appendix 1B) is a VISUM project directory file, which specifies where the model runs.

Base Version – Base-2007-KMPO-Model.ver is a 2007 Base KMPO VISUM Model version file in the project directory.

Node Link Capacity Update – UpdateNodeLinkCapTWTL.par (shown in Appendix 1C) is a link and node capacity update parameter file.

AM Peak Assignment – KMPO-Model-AMPKHR.par (shown in Appendix 1D) is an AM peak hour model run parameter file that feeds the trip generation, trip distribution, and trip assignment model run.

PM Peak Assignment – KMPO-Model-PMPKHR.par (shown in Appendix 1E) is a PM peak hour model run parameter file that feeds the trip generation, trip distribution, and trip assignment model run.

Model Run Script – KMPO Model Run Script.py (shown in Appendix 1F) is a complete GUI Python file to report the model run comments and errors.

1.3 KMPO GUI Output File

Final Version – Final-2007-KMPO-Model.ver is a final 2007 Base KMPO VISUM Model version file saved in the project directory after the complete AM/PM Peak Hour Model runs.

1.4 KMPO GUI Model Run Comments

If the model is performing smoothly and correctly, the GUI comment area should display the comments as shown in Figure 1:

```
Model Run Started!  
Loading Version File ....  
Calculating Link Node Capacity ...  
Running AM Peak Assignment .....  
AM Peak Assignment Completed  
Running PM Peak Assignment .....  
PM Peak Assignment Completed  
Model Run Completed!
```

Otherwise, there will be error or warning messages that will suggest where the running problems are for modelers to track.

Even if the model run is completed successfully without any error or warning message, it is only an indication that the trip generation, trip distribution and assignments for AM peak hour and PM peak hour are run. Modelers will still need to verify if the model results are reasonable by comparing the new model version with the old model version to evaluate changes in the results.

2.0 AM/PM Peak Hour Trip Generation Update

After reviewing the 2005 KMPO AM and PM peak hour trip generation rates in Table 9 and Table 10 of the “Kootenai County (KMPO) 2005 Transportation Model Documentation,” respectively, HDR found three errors with respect to Hotel, Recreational, and Outer Single Family Dwelling Unit land use categories.

2.1 Hotel Land Use

In the 2005 KMPO model, the Hotel land use is based on Rooms but the trip rates are based on Employees; therefore, both AM and PM peak hour trip generation rates are updated to reflect the trip rates per room in the 2007 KMPO model.

2.2 Recreational Land Use

In the 2005 KMPO model, the Recreational trip generation rates should be based on occupied recreational spaces instead of recreational spaces; therefore, both AM and PM peak hour trip generation rates are updated to reflect the trip rates per occupied recreational space in the 2007 KMPO model.

2.3 Outer Single Family Dwelling Unit Land Use

In the 2005 KMPO model, the Outer Single Family Dwelling Unit (SFDU) generation rates should be based on the occupied Outer SFDU instead of total SFDU; therefore, both AM and PM peak hour trip generation rates are updated to reflect the trip rates per occupied Outer SFDU in the 2007 KMPO model.

2.4 2007 AM Peak Hour Trip Generation Rate Update

Table 1 shows the updated AM peak hour trip generation rates, which are applied in the 2007 KMPO AM Peak Hour Model Run.

2.5 2007 PM Peak Hour Trip Generation Rate Update

Table 2 shows the updated PM peak hour trip generation rates, which are applied in the 2007 KMPO PM Peak Hour Model Run.

Table 1: Updated AM Peak Hour Trip Rates in 2007 KMPO AM Model

				Home to Work		Work to Home		Home to Retail		Retail to Home		Home to Other		Other to Home		Non Home Based		Total		
Land Uses		Units	Orig	Dest	Orig	Dest	Orig	Dest	Orig	Dest	Orig	Dest	Orig	Dest	Orig	Dest	Orig	Dest	Total	
7	Hotel	Room	0.000	0.071	0.018	0.000	0.000	0.000	0.000	0.000	0.000	0.061	0.054	0.000	0.287	0.071	0.358	0.202	0.560	
8	Recreation	Spaces	0.000	0.071	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.081	0.047	0.000	0.019	0.051	0.068	0.203	0.270	
9	Outer SFDU	DU	0.029	0.000	0.000	0.003	0.006	0.000	0.000	0.002	0.043	0.00	0.000	0.019	0.006	0.003	0.084	0.026	0.110	

Table 2: Updated PM Peak Hour Trip Rates in 2007 KMPO PM Model

				Home to Work		Work to Home		Home to Retail		Retail to Home		Home to Other		Other to Home		Non Home Based		Total		
Land Uses		Units	Orig	Dest	Orig	Dest	Orig	Dest	Orig	Dest	Orig	Dest	Orig	Dest	Orig	Dest	Orig	Dest	Total	
7	Hotel	Room	0.000	0.003	0.056	0.000	0.000	0.000	0.000	0.000	0.000	0.049	0.042	0.000	0.182	0.277	0.281	0.329	0.610	
8	Recreation	Spaces	0.000	0.002	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.131	0.142	0.000	0.020	0.054	0.203	0.187	0.390	
9	Outer SFDU	DU	0.004	0.000	0.000	0.065	0.035	0.000	0.000	0.057	0.084	0.000	0.000	0.155	0.012	0.038	0.135	0.315	0.450	

3.0 2007 KMPO Land Use Update

Land use data are important inputs to travel demand forecasting models because land uses generate travel activities and demands. To make accurate travel demand forecasts, modelers should strive to verify the accuracies of land use data in the traffic analysis zones (TAZ). KMPO staff took several rounds of land use reviews and verifications with local jurisdictions to ensure there are not errors in the land use data by TAZ.

3.1 Land Use Assumptions

In the 2005 KMPO model, sixteen land use categories were made based on NAICS codes. In the 2007 KMPO land use update, all of these land use categories are kept except for Land Use Category 12: Waterfront Units, which are actually included in LU Category 1: Single Family Units, for a total of fifteen land use categories.

3.2 2007 Land Use Summary

After KMPO staff updated the 2007 land use by TAZ, a control total check was made to ensure that the primary residential dwelling units match the local census data. Table 3 shows the total 2007 land use data.

As shown in Table 3, the 2007 household number should be less than the sum of SFDU + MFDU + OUTER SFDU, which is $41,259 + 9,651 + 13,159 = 64,069$ because of the vacancy factor. Assuming a 5% -10% vacancy rate in the KMPO area, the residential total households should account for a range of 57,660 and 60,860. Since the 2005 Spokane/Kootenai County Regional Travel Survey reports 52,345 households in the KMPO area in 2003 (Table 4 of Page iii), a growth rate range of 10%-16% is assumed to occur between 2003 and 2007. This four-year residential growth rate range is a reasonable assumption.

Table 3: 2007 KMPO Land Use Data Summary

Land Use Type	Total Units in KMPO Area	Units of Measurement
LU1: SFDU (Single Family Dwelling Units)	41,259	Dwelling Units
LU2: MFDU (Multi-Family Dwelling Units)	9,651	Dwelling Units
LU3: Retail	13,221	Employees
LU4: Commercial (FIRES)	11,197	Employees
LU5: Industrial	6,287	Employees
LU6: Schools	23,010	Students
LU7: Hotel	2,602	Rooms
LU8: Recreation	18,870	Spaces
LU9: Reserved for Outer Zone SFDU	13,159	Dwelling Units
LU10: Post Secondary Schools	10,508	Students
LU11: Agriculture	350,692	Acres

LU12: Waterfront Units	Not Used	Dwelling Units
LU13: Publicly owned lands	304,993	Acres
LU14: Utilities plus transportation	8,879	Employees
LU15: Medical	7,991	Employees
LU16: Government	3,062	Employees

Note: FIRES stands for Finance, Insurance, Real Estate and Services

4.0 2007 KMPO Auto Network Enhancements

Between 2005 and 2007, several roadway improvement projects were made in the KMPO area. The 2007 roadway network should include these improvements to reflect what's on the ground in 2007. KMPO staff coded seven roundabouts in the 2007 KMPO model.

Another major network update is the centroid connector revisions. Centroid connectors are coded in travel demand models to emulate local driveways for vehicle trips to access and egress TAZ centroid. In the 2005 KMPO model, quite a few centroid connectors were directly connected to intersections, making 5-leg or 6-leg intersections in the model. Such an erroneous coding was corrected in the 2007 KMPO VISUM Model network.

4.1 Network Link/Node Delay Function Calibration

After the 2007 auto network was enhanced, it was found that higher vehicle traffic was assigned to the state and interstate freeway facilities. There are two sources of over-assigning traffic on freeway facilities: (1) the arterial and local street intersections experience higher than expected delays and thus result in freeways being more attractive to motorists; and (2) the freeway facilities are assumed higher speed or higher capacities.

Calibration was made to adjust freeway link delay functions by reducing the capacity by 25% (as shown in Figure 2, $c=0.75$) to simulate freeway delays more reasonably.

Volume-delay function parameters
✕

Volume-delay function

Type TMODEL_LINKS

Function $t_{sat} = (t_0 + a) \cdot (1 + d \cdot (sat + f)^b)$ $sat \leq sat_{crit}$

$t_{crit} = (t_0 + a') \cdot (1 + d' \cdot (sat + f')^{b'})$ $sat > sat_{crit}$

$$sat = \frac{q}{q_{max} \cdot c}$$

where satCrit =

Parameters

a	<input style="width: 20px;" type="text" value="0"/>	b	<input style="width: 20px;" type="text" value="4"/>	c =	<input style="width: 20px;" type="text" value="0.75"/>	d	<input style="width: 20px;" type="text" value="0.3"/>	f =	<input style="width: 20px;" type="text" value="0.15"/>
a'	<input style="width: 20px;" type="text" value="0"/>	b'	<input style="width: 20px;" type="text" value="10"/>	d'	<input style="width: 20px;" type="text" value="0.3"/>	f'	<input style="width: 20px;" type="text" value="0.15"/>		

Closed

Figure 2: KMPO Model Link Volume-Delay Functions

Intersection node delay functions were also revised to be a constant as shown in Figure 3 below, to further calibrate the arterial and local street traffic turning volumes. At several freeway interchanges, 15-45 seconds of delay were assumed for some turns to reduce over-assignment of traffic entering or exiting freeway.

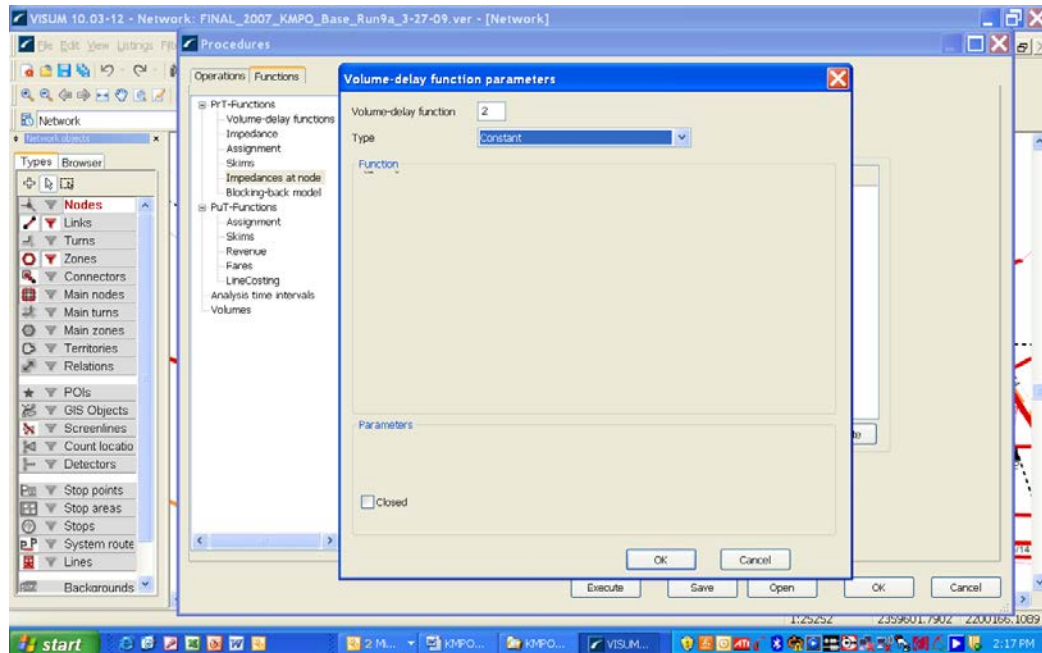


Figure 3: 2007 KMPO Model Node Volume-Delay Functions (Assumed a Constant)

4.2 2007 External Trip Update

In the 2007 KMPO model, the trips coming from and to external areas are not based on the land use data for trip generation but instead are based on the existing 2007 directional traffic counts at the external stations. Fifteen external stations (TAZ 576 – TAZ 591) were coded in the 2007 KMPO model to conceptually represent external TAZs.

Table 4 lists all of AM and PM peak hour directional traffic count data at each of the external TAZs. Note X-I stands for “from External to Internal” and vice versa.

Table 5 and Table 6 respectively list the 2007 AM and PM peak hour external-external through trips, which were also extracted from the external traffic counts and balanced as input to the 2007 KMPO model.

4.3 2007 Link Traffic Count Update

The 2007 AM and PM peak hour traffic counts were coded by KMPO staff in the KMPO model for the purpose of model validation. Regression analyses can be directly performed by using the model volumes to compare with the peak hour traffic counts.

Counts for other time periods were also coded by KMPO staff, such as: AM Peak Period (6 AM – 9 AM), Mid-day Period (9 AM – 3 PM), PM Peak Period (3 PM – 6 PM), Night Period (6 PM – 6 AM), and 24-Hour Daily Period (6 AM – 6 AM), which will be used to verify the daily volume forecasts.

Table 4: 2007 AM/PM Peak Hour Counts at External TAZs

TAZ No	2007 KMPO Model Count Locations	XI-Counts-AM	IX-Counts-AM	XI-Counts-PM	IX-Counts-PM
576	State Hwy. 41 - N. County Line	236	133	154	268
577	US 95 - N. County Line	298	275	342	409
578	Bayview Road - N. County Line	17	6	17	19
580	E. Canyon Rad - E. County Line	5	16	15	8
581	I-90 - E. County Line	279	400	486	521
582	Future	0	0	0	0
583	State Hwy. 3 - S. County Line	75	131	125	108
584	Heyburn Rd. - S. County Line	15	8	15	22
585	US 95 - S. County Line	175	202	248	251
586	W. Worley West Rd. - W. County Line	2	1	3	3
587	State Hwy. 58 (E. Hoxie Rd.) - W. County Line	79	57	89	135
588	W. Riverview Drive - W. County Line	77	94	110	90
589	I-90 - W. County Line	1413	2147	2440	1910
590	Seltice Way - W. County Line	136	191	300	257
591	State Hwy. 53 (Trent Ave.) - W. County Line	171	459	380	289
	Total Counts	2978	4120	4724	4290

Table 5: 2007 AM Peak Hour External-External Through Traffic Volumes

Zones		576	577	578	580	581	582	583	584	585	586	587	588	589	590	591	
Name	395.5	State H	US 95 -	Bayview	E. Cany	I-90 - E	Future	State H	Heyburn	US 95 -	W. Wor	State H	W. Rive	I-90 - W	Seltice	State H	
	396.1	Desirable	12.8	26.4	0.6	1.5	38.4	0.0	12.6	0.8	19.4	0.1	5.5	9.0	206.1	18.3	44.1
576	State Hwy. 41 - N. County Line	31.4	0.0	0.1	0.0	0.0	0.2	0.0	0.1	0.0	0.1	0.0	0.0	0.0	31.0	0.1	0.2
577	US 95 - N. County Line	39.6	0.1	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.1	39.3	0.1	0.3
578	Bayview Road - N. County Line	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0
580	E. Canyon Rad - E. County Line	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
581	I-90 - E. County Line	37.1	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	36.8	0.1	0.3
582	Future	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
583	State Hwy. 3 - S. County Line	10.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.9	0.0	0.1
584	Heyburn Rd. - S. County Line	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
585	US 95 - S. County Line	23.3	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.0	0.1	0.2
586	W. Worley West Rd. - W. County Line	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
587	State Hwy. 58 (E. Hoxie Rd.) - W. County Line	10.5	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4	0.0	0.1
588	W. Riverview Drive - W. County Line	10.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1	0.0	0.1
589	I-90 - W. County Line	187.9	12.4	25.7	0.6	1.5	37.3	0.0	12.2	0.7	18.8	0.1	5.3	8.7	0.0	17.8	42.7
590	Seltice Way - W. County Line	18.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	17.9	0.0	0.1
591	State Hwy. 53 (Trent Ave.) - W. County Line	22.7	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	22.6	0.1	0.0

Table 6: 2007 PM Peak Hour External-External Through Traffic Volumes

Zones		576	577	578	580	581	582	583	584	585	586	587	588	589	590	591	
Name	750.8	State H	US 95 -	Bayview	E. Cany	I-90 - E	Future	State H	Heyburn	US 95 -	W. Wor	State H	W. Rive	I-90 - W	Seltice	State H	
	751.1	Desirable	46.9	71.6	3.3	1.4	91.2	0.0	18.9	3.9	43.9	0.5	23.6	15.8	334.3	45.0	50.6
576	State Hwy. 41 - N. County Line	24.5	0.0	0.4	0.0	0.0	0.5	0.0	0.1	0.0	0.2	0.0	0.1	0.1	22.5	0.3	0.3
577	US 95 - N. County Line	54.4	0.6	0.0	0.0	0.0	1.1	0.0	0.2	0.0	0.5	0.0	0.3	0.2	50.2	0.6	0.6
578	Bayview Road - N. County Line	2.7	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0
580	E. Canyon Rad - E. County Line	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0
581	I-90 - E. County Line	77.3	0.8	1.3	0.1	0.0	0.0	0.0	0.3	0.1	0.8	0.0	0.4	0.3	71.7	0.8	0.9
582	Future	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
583	State Hwy. 3 - S. County Line	19.9	0.2	0.3	0.0	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.1	0.1	18.1	0.2	0.2
584	Heyburn Rd. - S. County Line	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0
585	US 95 - S. County Line	39.4	0.4	0.6	0.0	0.0	0.8	0.0	0.2	0.0	0.0	0.0	0.2	0.1	36.2	0.4	0.5
586	W. Worley West Rd. - W. County Line	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
587	State Hwy. 58 (E. Hoxie Rd.) - W. County Line	14.2	0.1	0.2	0.0	0.0	0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.1	12.9	0.1	0.2
588	W. Riverview Drive - W. County Line	17.5	0.2	0.3	0.0	0.0	0.4	0.0	0.1	0.0	0.2	0.0	0.1	0.0	16.0	0.2	0.2
589	I-90 - W. County Line	388.0	43.3	66.5	3.1	1.3	85.2	0.0	17.4	3.5	40.7	0.5	21.8	14.5	0.0	41.7	47.1
590	Seltice Way - W. County Line	47.7	0.5	0.8	0.0	0.0	1.0	0.0	0.2	0.0	0.5	0.0	0.3	0.2	43.8	0.0	0.6
591	State Hwy. 53 (Trent Ave.) - W. County Line	60.4	0.6	1.0	0.0	0.0	1.3	0.0	0.3	0.1	0.6	0.0	0.3	0.2	55.6	0.6	0.0

5.0 AM/PM Peak Hour Trip Generation

The KMPO VISUM model trip generation is categorized by four primary trip purposes. After the AM and PM peak hour trip generation model is run, the total KMPO region-wide trip productions and attractions are summarized to compare with the expanded travel survey samples reported in the “Spokane and Kootenai County Regional Travel Survey Final Report.”

5.1 AM Peak Hour Trip Generation Validation

Table 7 lists the 2007 AM peak hour trip generation model results compared with the AM 3 hours (6 AM – 9 AM) expanded sample trips and AM peak hour (7 AM – 8 AM) expanded sample trips.

The AM peak hour model results show reasonable comparison with the survey results as the modeled vehicle trips include external inbound, outbound, and through trips. The 2007 AM peak hour modeled externally related trips are totaled 2,978 (Table 4) – 396 (Table 5) = 2,582 while the difference between model trips and surveyed trips is about 2,582. Since the surveyed trips only include the KMPO households, the modeled trips are about 11% higher than the expanded survey trips.

Table 7: 2007 AM Peak Hour Trip Generation Validation Results

TRIP PURPOSE	AM-Period Expanded Survey Trips	AM Peak Hour Surveyed Vehicle Trips	AM Peak Hour Model Vehicle Trips	AM Peak Hour Model/Survey % Difference
Home Based Work	19,123	8,946	9,411	5.2%
Home Based Retail	4,696	1,307	1,488	13.9%
Home Based Other	38,041	8,698	10,247	17.8%
Non-Home Based	17,694	5,285	5,672	7.3%
Total	79,554	24,236	26,818	10.6%

5.2 PM Peak Hour Trip Generation Validation

Table 8 lists the 2007 PM peak hour trip generation model results compared with the PM 3 hours (3 PM – 6 PM) expanded sample trips and PM peak hour (5 PM – 6 PM) expanded sample trips.

The PM peak hour model results show reasonable comparison with the survey results as the modeled vehicle trips include external inbound, outbound and through trips. The 2007 PM peak hour externally related trips are totaled 4724 – 751 = 3,973 while the difference between model trips and surveyed trips is about 3,976. Since the surveyed trips only

include the KMPO households, the PM peak hour modeled trips are about 12% higher than the expanded survey trips.

Table 8: 2007 PM Peak Hour Trip Generation Validation Results

TRIP PURPOSE	PM-Period Expanded Survey Trips	PM Peak Hour Surveyed Vehicle Trips	PM Peak Hour Model Vehicle Trips	PM Peak Hour Model/Survey % Difference
Home Based Work	13,406	5,805	6,400	10.3%
Home Based Retail	19,463	5,328	6,123	14.9%
Home Based Other	49,406	11,722	13,312	13.6%
Non-Home Based	43,826	9,924	10,919	10.0%
Total	126,101	32,778	36,754	12.1%

6.0 AM/PM Peak Hour Trip Distribution

The KMPO VISUM model trip distributions by four primary trip purposes are based on Gravity Model functions. The a, b, and c parameters in the Gravity Model functions are re-calibrated in the 2007 KMPO model to fit the trip length distribution patterns in terms of frequencies and average travel times reported in the “Spokane and Kootenai County Regional Travel Survey Final Report.”

6.1 Gravity Model Parameters

Figure 4 displays the home-based work gravity model function parameters and other trip distribution characteristics, such as: direction of the trip distribution balance to production; doubly constrained balancing by Multi procedure; multi-parameters with maximum number of iterations being 10 and quality factor being 3.

The screenshot shows a dialog box titled "Choice model for A_H-W" with two tabs: "Options" and "Function graph". The "Options" tab is active and contains the following settings:

- Function type:**
 - Logit: $f(U) = e^{(c U)}$
 - Kirchhoff: $f(U) = U^c$
 - BoxCox: $f(U) = e^{[c (U^b - 1) / b]}$
 - Combined: $f(U) = a U^b e^{(c U)}$
 - TModel: $f(U) = 1 / (U^b + c U^a)$
- Parameters:**
 - a: -0.5
 - b: 0.55
 - c: 20
- Direction of the distribution:**
 - Production distribution
 - Attraction distribution
- Doubly constrained: Balancing by Multi procedure
 - Initial matrix balancing according to:**
 - Production totals
 - Attraction totals
 - Mean of both totals
 - Minimum of both totals
 - Maximum of both totals
 - Multi-Parameters:**
 - Max. no. of iterations: 10
 - Quality factor: 3

Buttons at the bottom: Reset, OK, Cancel.

Figure 4: Home-Based Work Gravity Model Functions and Parameters

Figure 5 displays the Home-Based Retail gravity model function parameters and other trip distribution characteristics discussed above.

Figure 6 displays the Home-Based Other gravity model function parameters and other trip distribution characteristics.

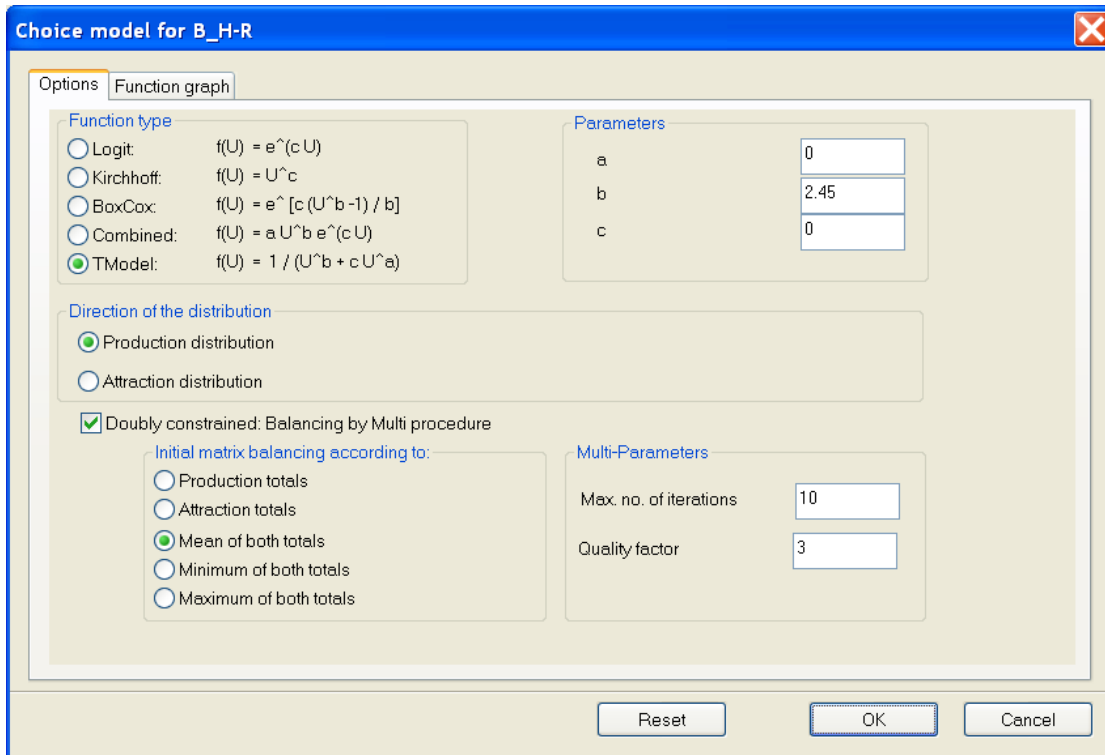


Figure 5: Home-Based Retail Gravity Model Functions and Parameters

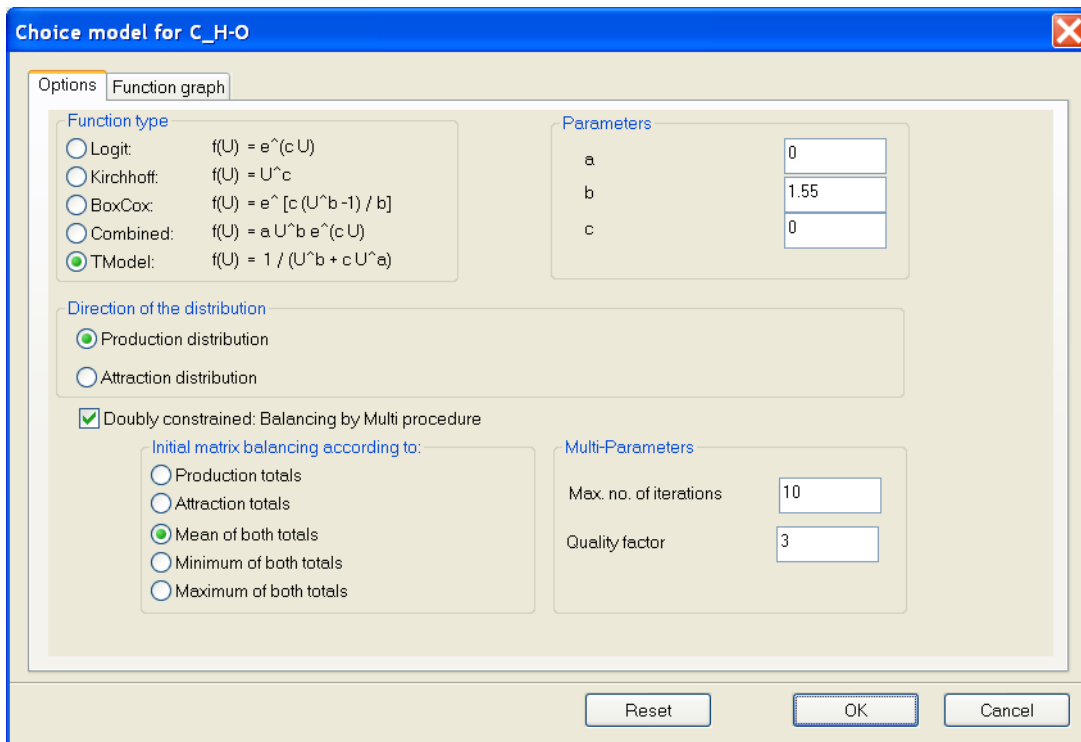


Figure 6: Home-Based Other Gravity Model Functions and Parameters

Figure 7 displays the Non-Home-Based gravity model function parameters and other trip distribution characteristics.

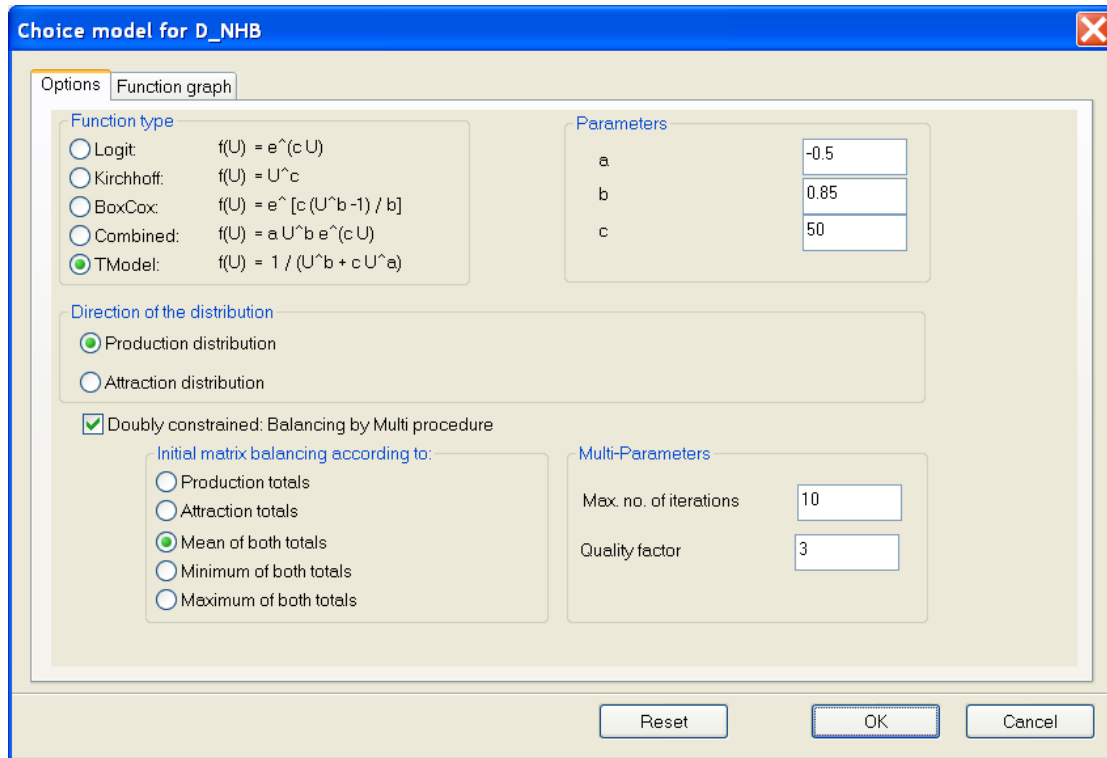


Figure 7: Non-Home-Based Gravity Model Functions and Parameters

The trip distribution utility parameters are summarized in Table 9 below:

Table 9: 2007 KMPO Model Gravity Model Parameters

Trip Purpose	Trip Distribution Parameter		
	a	b	c
HB-Work	-0.50	0.55	20.00
HB-Retail	0.00	2.45	0.00
HB-Other	0.00	1.55	0.00
Non-Home Based	-0.50	0.85	50.00

6.2 Gravity Model Calibration/Validation Results

Compared with the Gravity Model Parameters (as shown in Table 11 of the 2005 KMPO Model Documentation) in the 2005 KMPO model, the 2007 KMPO model has quite different parameters. This is because the 2007 KMPO model has the trip distributions calibrated to the 2005 regional travel survey by trip purpose.

As shown in Table 10, the average model trip time roughly matches the average survey travel time for overall KMPO region-wide, despite some average travel time variations by trip purposes.

Table 10: 2007 AM and PM Peak Hour Average Trip Time (Minutes) – Model vs. Survey

Trip Purpose	Survey	Model AM		Model PM	
	TT	TT	AM %diff	TT	PM %diff
HBW	20	16	-20.9%	17	-15.0%
HBR	15	16	7.5%	15	-2.1%
HBO	18	19	8.7%	16	-6.6%
NHB	16	16	-0.1%	16	-2.2%
Average TT	17	17	1.0%	16	-5.7%

As shown in Figure 8, the Home-Based Work trip length frequency distribution for AM and PM both demonstrate similar patterns to the survey-reported trip length frequency patterns. So do the Home-Based Retail, Home-Based Other, and Non-Home Based trip distribution patterns as shown in Figures 9-11.

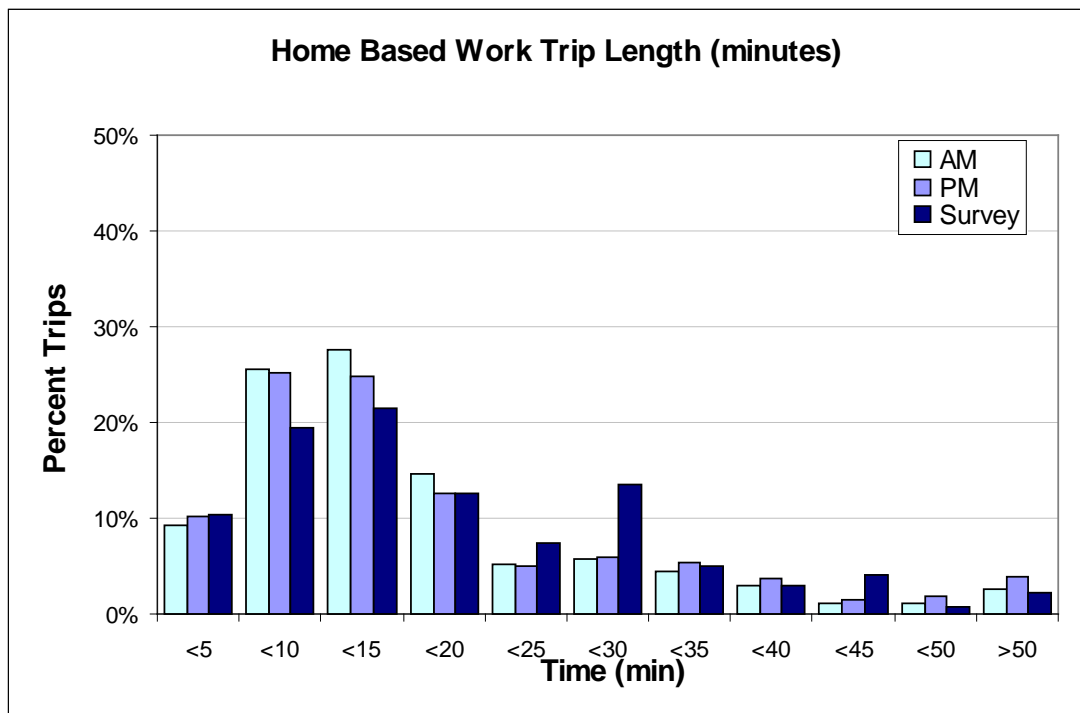


Figure 8: Home-Based Work Trip Distribution Calibration Results

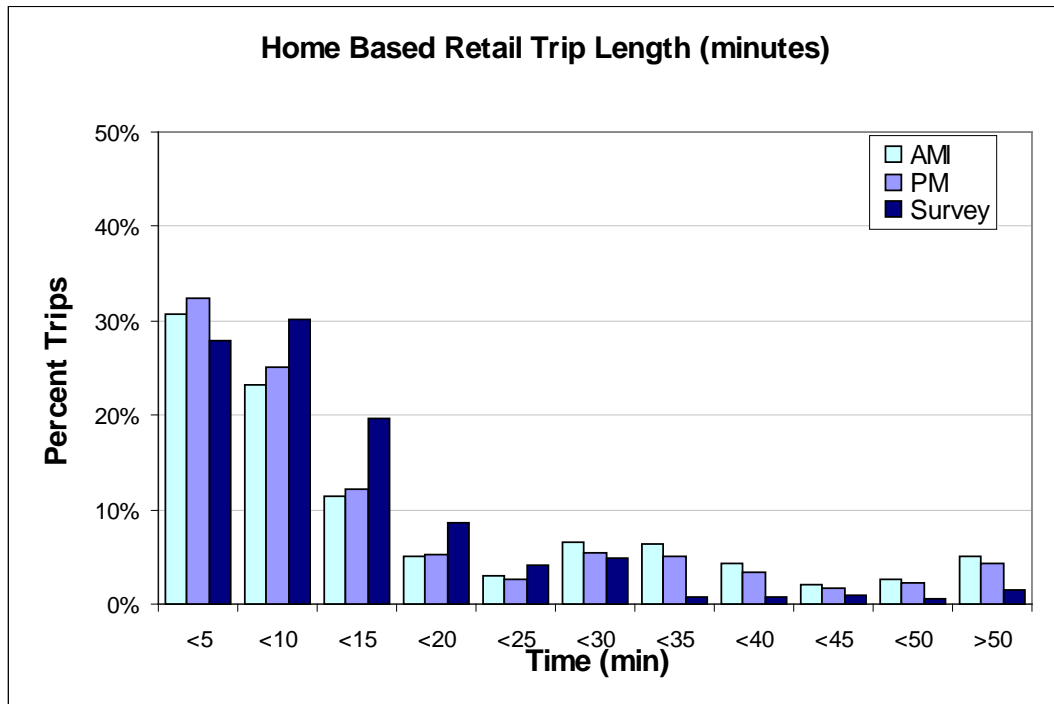


Figure 9: Home-Based Retail Trip Distribution Calibration Results

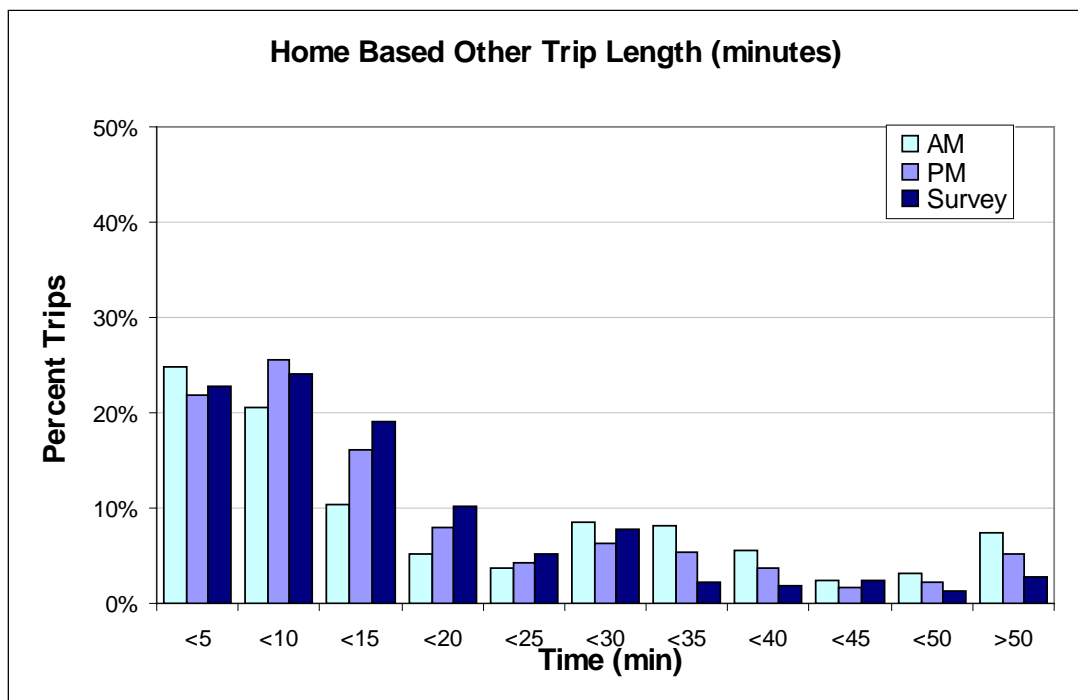


Figure 10: Home-Based Other Trip Distribution Calibration Results

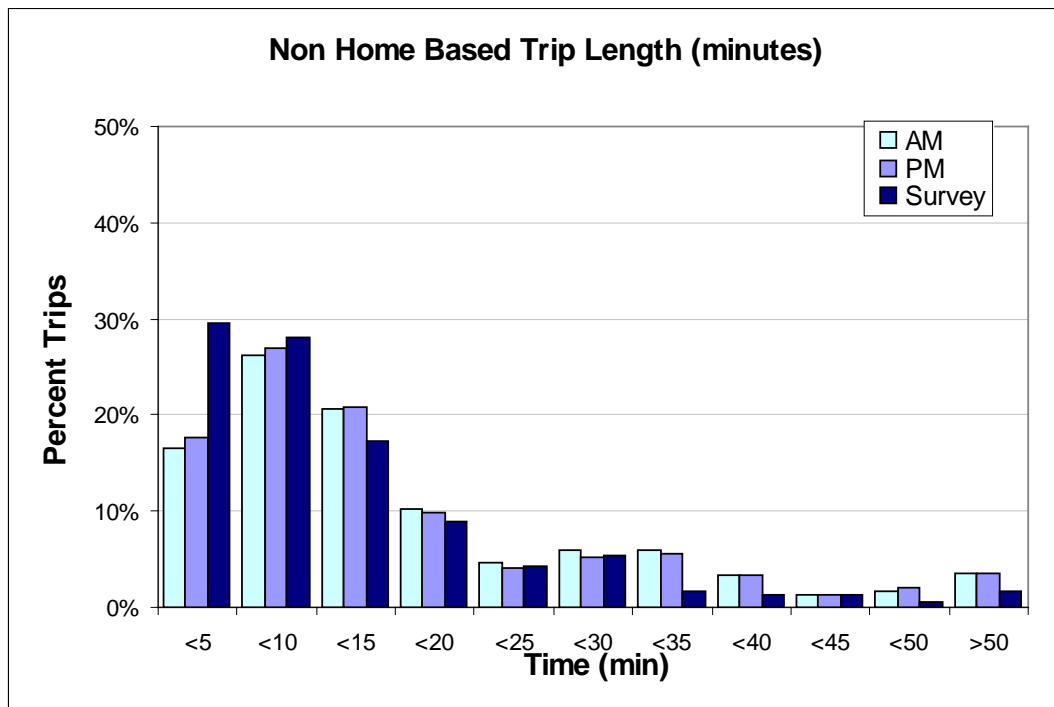


Figure 11: Non-Home Based Trip Distribution Calibration Results

7.0 AM/PM Peak Hour Traffic Assignments

The 2007 AM peak hour KMPO Model traffic assignments are displayed in Figure 12 and the 2007 PM peak hour KMPO Model traffic assignments are displayed in Figure 13.

The traffic assignment figures provide a snapshot of directional volume forecasts for the AM and PM peak hour in the urbanized KMPO area.

Since the directional traffic forecasts need to be evaluated for statistical accuracy and confidence, screenline validation analysis is performed for both AM and PM peak hour conditions. Appendix 1G and Appendix 1H show the 2007 KMPO Model AM/PM peak hour screenline spreadsheets, respectively.

8.0 AM/PM Peak Hour Traffic Screenline Validation

As shown in Figure 14 and Figure 15, twenty-eight screenlines are drawn to display ratios of the 2007 KMPO model AM and PM peak hour traffic volume forecasts over their corresponding traffic counts. Table 11 shows the summary screenline results.

Table 11: 2007 KMPO Model AM/PM Peak Hour Screenline Summary Results

Screenline Location and No.	AM Peak Hour Model/Count Ratio	PM Peak Hour Model/Count Ratio
Spokane River Crossing Screenline #1	1.04	1.04
Seltice Screenline #2	1.14	1.29
Harrison Avenue Screenline # 3	0.85	0.75
Appleway Ave/Best Screenline #4	0.99	1.03
Seltice/Mullan Rd/Kathleen Screenline #5	0.95	0.85
Poleline Rd Screenline #6	1.07	1.09
Prairie Rd. Screenline #7	1.08	1.05
Hayden Avenue Screenline #8	1.49	1.37
Lancaster Rd. Screenline #9	1.16	1.12
SH 53 – US 95 Screenline #10	0.93	0.89
Twin Lakes to National Forest Screenline #11	1.33	1.28
US 95 to SH 3 South Screenline #12	1.24	0.85
SH 93 to LaTour Creek Rd Screenline #13	1.43	1.60
Spirit Lake Pend'O Reille Screenline #14	1.04	0.96
Pleasant View Rd Screenline #15	0.89	0.95
McGuire Rd. Screenline #16	1.08	1.12
Chase Rd. Screenline #17	1.02	1.01
Spokane St. Screenline #18	0.88	0.83
Idaho St. Screenline #19	1.29	1.13
Greensferry Rd. Screenline #20	0.97	0.99
SH 41 Screenline #21	0.87	0.84
Huetter Rd. Screenline #22	1.18	1.37
Ramsey Rd. Screenline #23	0.96	0.92
US 95 Screenline #24	1.06	0.88
West Side KMPO Screenline #25	0.93	0.94
East Side KMPO Screenline #26	1.39	1.39
Government Way Screenline #27	1.05	0.89
I-90 Ramps Screenline #28	1.18	1.13
Overall Screenline	1.05	1.00

The closer the model/count ratios by screenlines approach 1.00, the better matches the screenline traffic volumes are compared with the traffic counts. The Federal Highway Administration (FHWA) developed a maximum allowable screenline validation error range and formula as shown below:

% Allowable Deviation per TMIP FHA

For volumes less than 100,000:

$$\text{Tol (\%)} = 1/100 * [(-0.00005*(V)^3 + 0.013*(V)^2 - 1.1822*(V) + 65.465)]$$

For over 100,000:

$$\text{Tol (\%)} = 2.1783*(V)^{-0.4784}$$

Where V is volume in thousands

By using the formula, the screenlines can be evaluated to see if they meet the percent allowable deviation ranges. Figure 16 and Figure 17 display the screenline validations against FHWA Maximum Allowable Error Range (Source: **Figure 7-2 Maximum Desirable Deviation in Total Screenline Volumes** in the *Model Validation and Reasonableness Checking Manual* published by FHWA Travel Model Improvement Program).

By the FHWA standards, the 2007 KMPO Model is validated for both AM peak hour and PM peak hour, and can be used to build future year travel demand models in KMPO areas.

2007 KMPO VISUM TRAVEL DEMAND MODEL

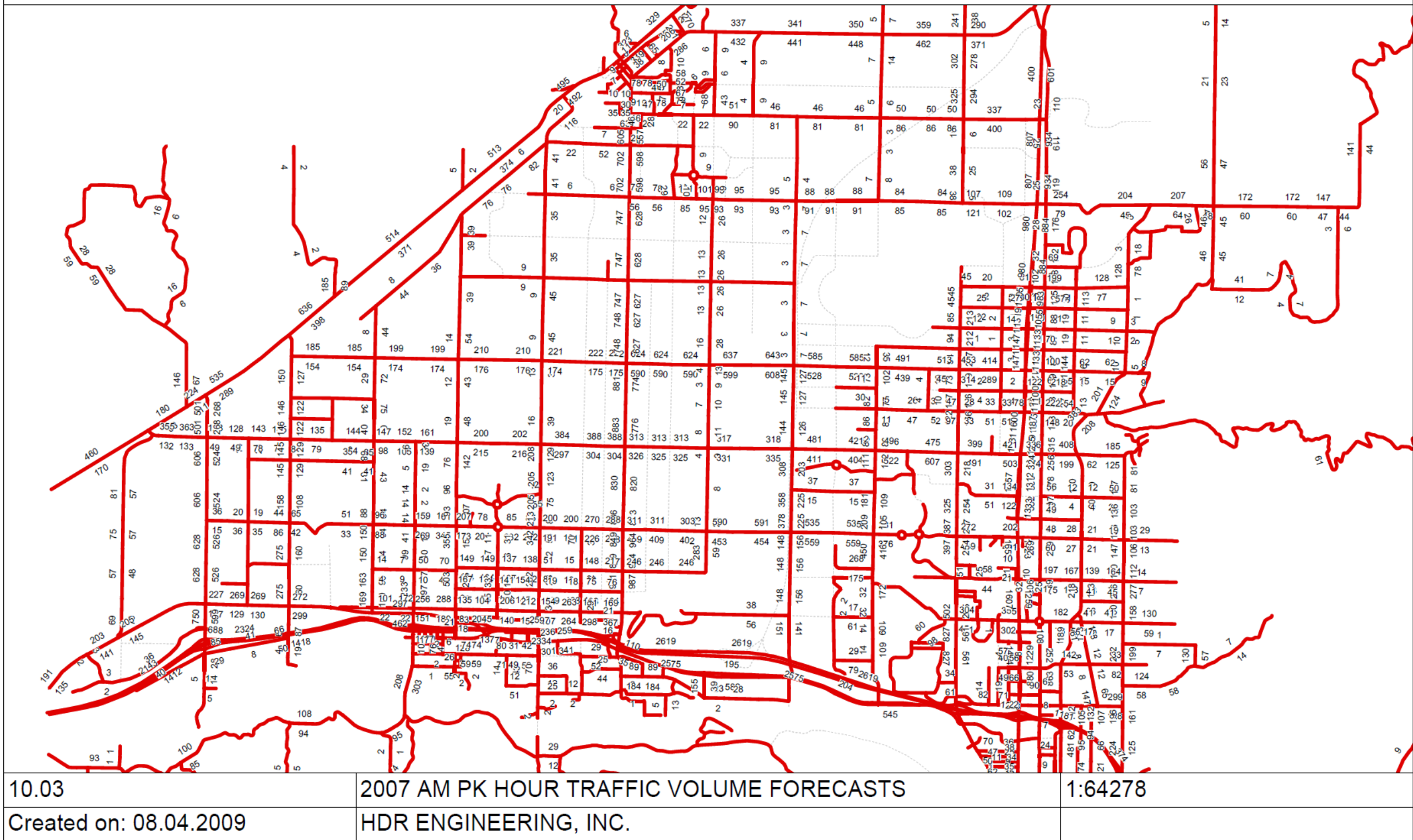


Figure 12: 2007 KMPO VISUM Model AM Peak Hour Traffic Assignment Results

2007 KMPO VISUM TRAVEL DEMAND MODEL

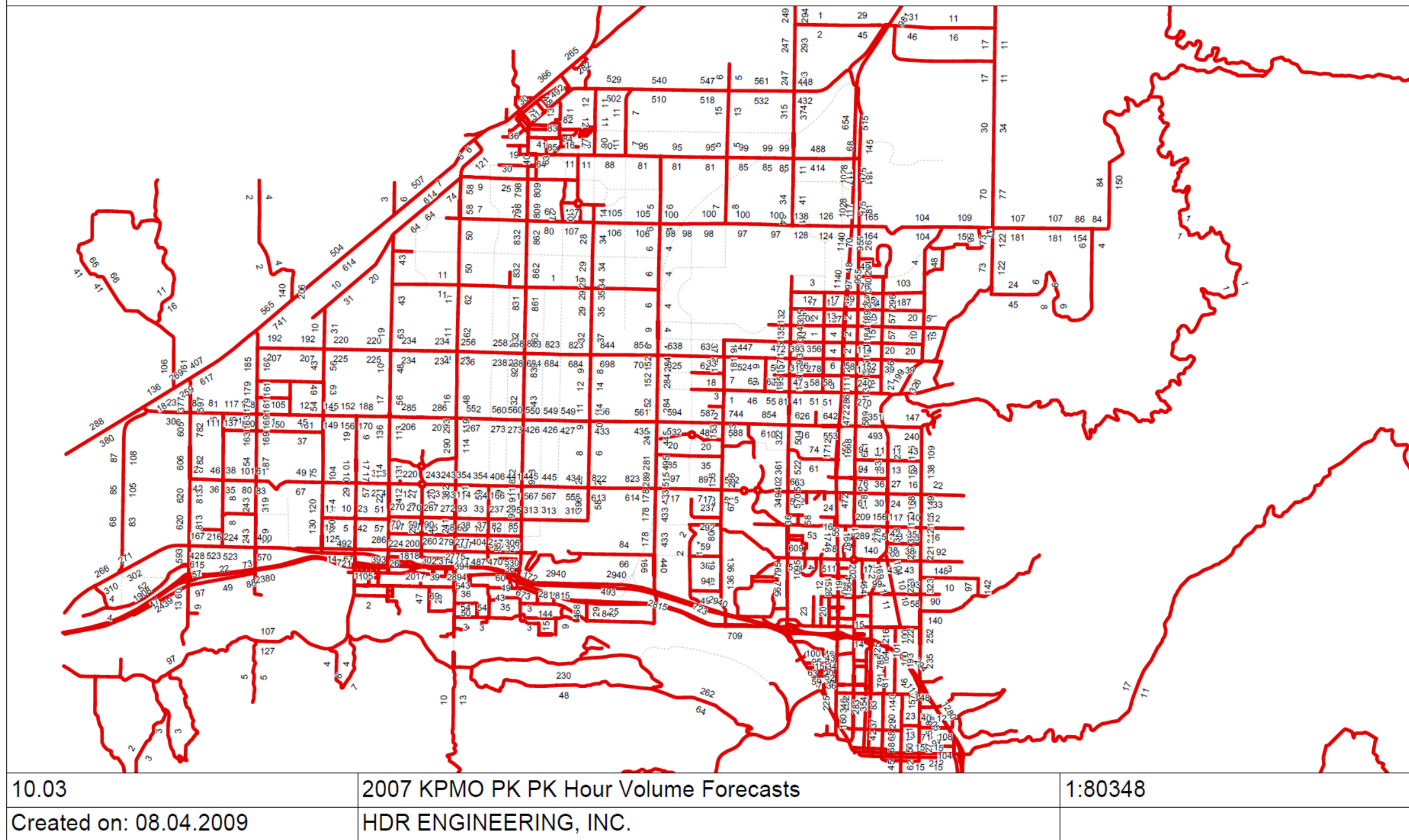
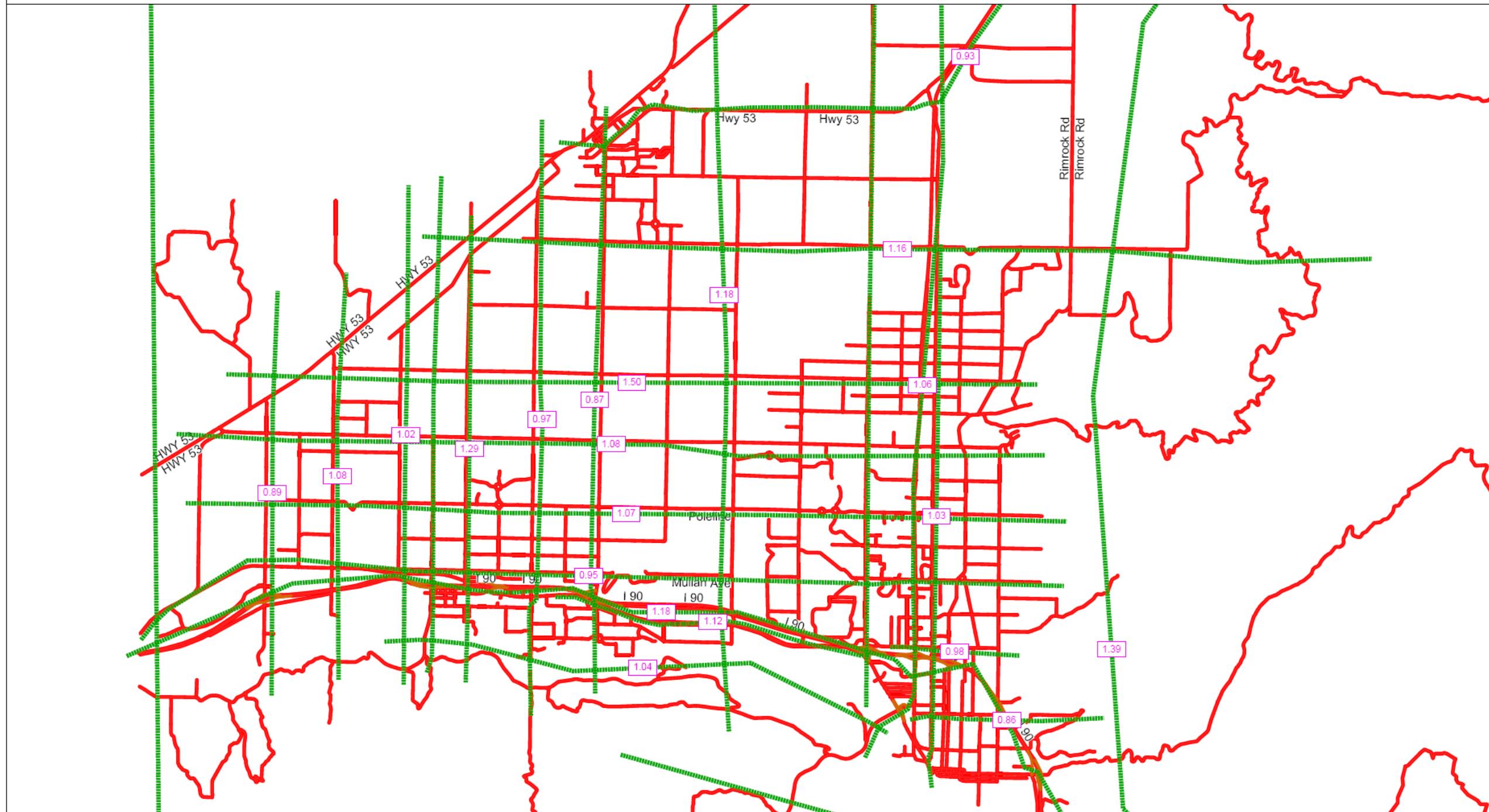


Figure 13: 2007 KMPO VISUM Model PM Peak Hour Traffic Assignment Results

2007 KMPO VISUM Travel Demand Model



10.03	2007 KMPO VISUM Model AM PK Hour Model/Count Ratio by Screenlines	1:84719
Created on: 20.03.2009	HDR Engineering, Inc.	

Figure 14: 2007 KMPO VISUM Model AM Peak Hour Traffic Forecast Screenline Results

2007 KMPO VISUM TRAVEL DEMAND MODEL

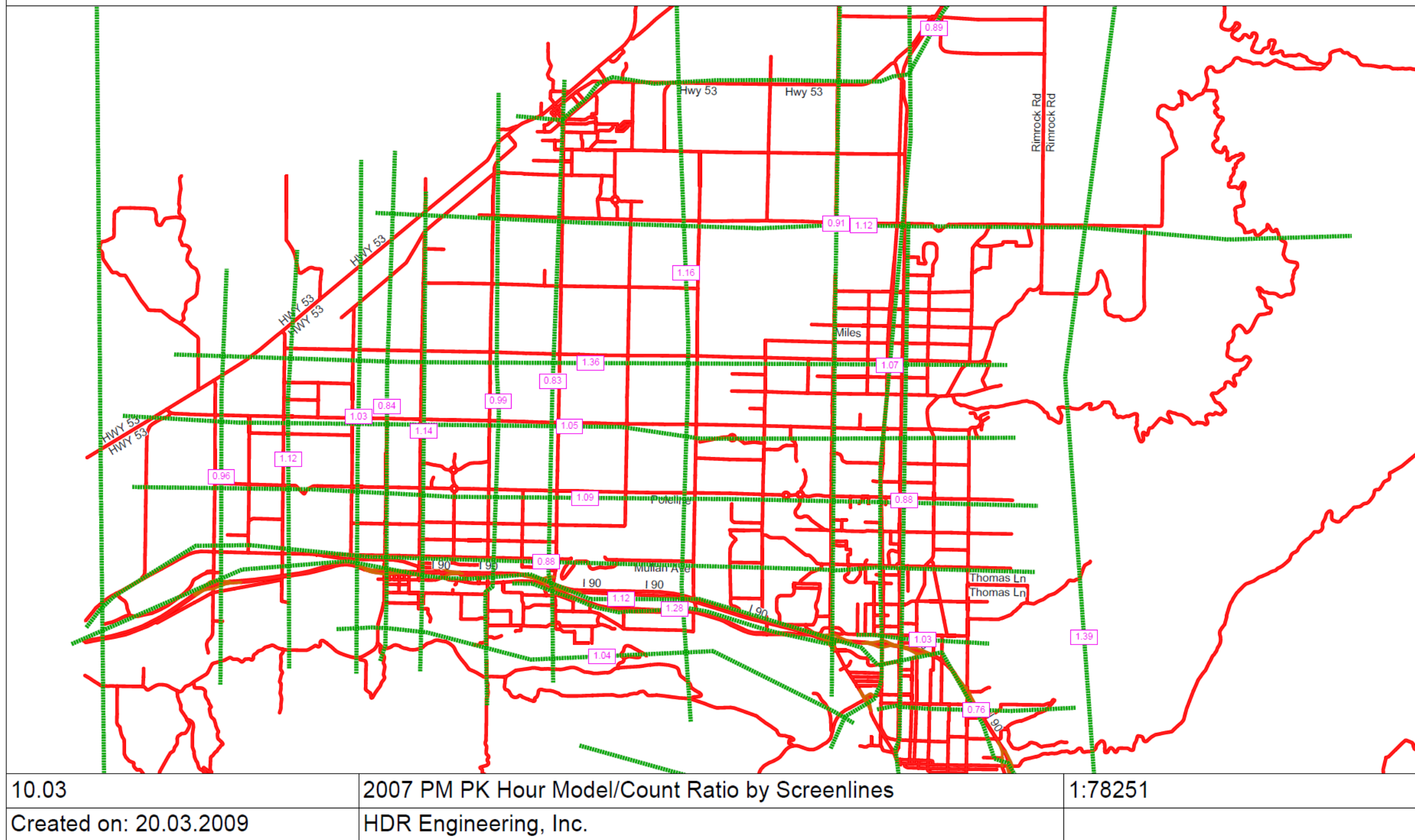


Figure 15: 2007 KMPO VISUM Model PM Peak Hour Traffic Forecast Screenline Results

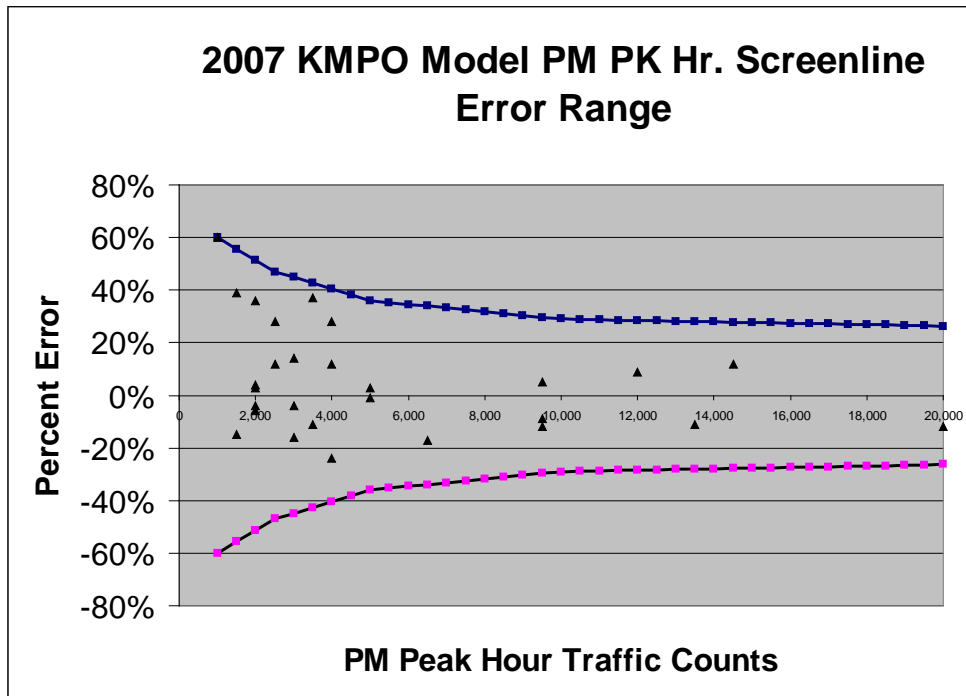


Figure 16: 2007 KMPO Model AM Peak Hour Screenline Error Range

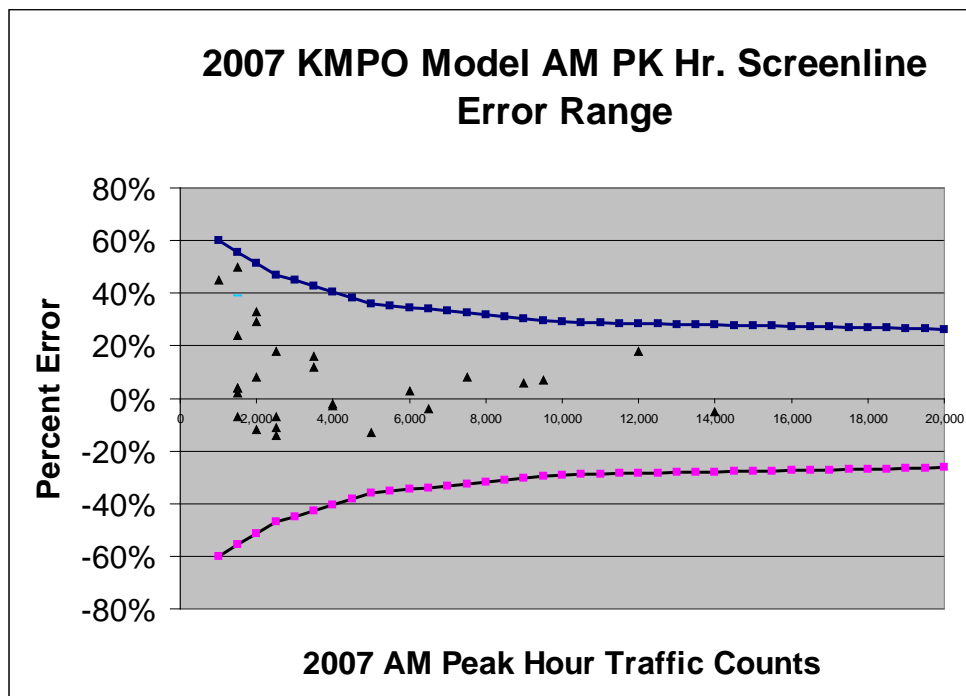


Figure 17: 2007 KMPO Model PM Peak Hour Screenline Error Range

9.0 Model Limitations and Improvements

The 2007 KMPO model has some limitations that lead to potential improvements in the future.

- The KMPO model is vehicle based travel demand forecasting model and does not have multimodal forecasting capability as the model only follows the three steps of the traditional four-step modeling procedures: trip generation, trip distribution, and trip assignment without the mode choice modeling step.
- The model trip generation rates are simply based on the ITE Trip Generation Manual but not based on the regional travel survey data, although the total trips generated by purpose are calibrated against the 2005 Kootenai/Spokane expanded travel survey results.
- The model produces better traffic forecasts in the urbanized area with higher traffic volume than in the rural area with lower traffic volumes possibly because of the larger zones and less street network in rural areas, or because the rural areas have lower trip generation rates than the ITE urban and suburban trip generation rates used in the KMPO model. Further statistical analysis of the rural and urban area travel behaviors will help evaluate this hypothesis.
- The trip distribution patterns roughly match with the 2005 regional travel survey; however, the statistics extracted from the travel survey do not separate the AM and PM conditions; therefore, further statistical analysis of the “2005 Spokane and Kootenai County Regional Travel Survey” may be needed to enhance the trip distribution pattern accuracy.
- The intersection delay calculations are removed from the demand model because of the overlapping with the link delay calculation; the link and node delay relationship should be further evaluated to determine their corresponding applicability in the model.
- Intersection level of service calculation can be implemented by VISUM module TRAFFIX based on the Highway Capacity Manual but was not done at this update and should be implemented for operational analysis in the future.
- Some local zonal details or network details may not be sufficient to reflect the traffic forecast conditions in the local sub-area transportation study and planning, and may be enhanced further to meet the local travel demand modeling needs in the future.

Appendices

Appendix 1A: KMPOGUI.PY
– KMPO Graphic User Interface Python script file

```
#!/usr/bin/env python
#Boa:App:BoaApp

import wx, os
global numarray
from numarray import *
import KMPOFrame

modules={'MainFrame':[1,'Main frame', u'KMPOFrame.py']}

class BoaApp(wx.App):
    def OnInit(self):
        wx.InitAllImageHandlers()
        self.main=KMPOFrame.create(None)
        self.main.Show()
        self.SetTopWindow(self.main)
        return True

def main():
    application = BoaApp(0)
    os.chdir("../")
    application.MainLoop()

if __name__ == '__main__':
    main()
```

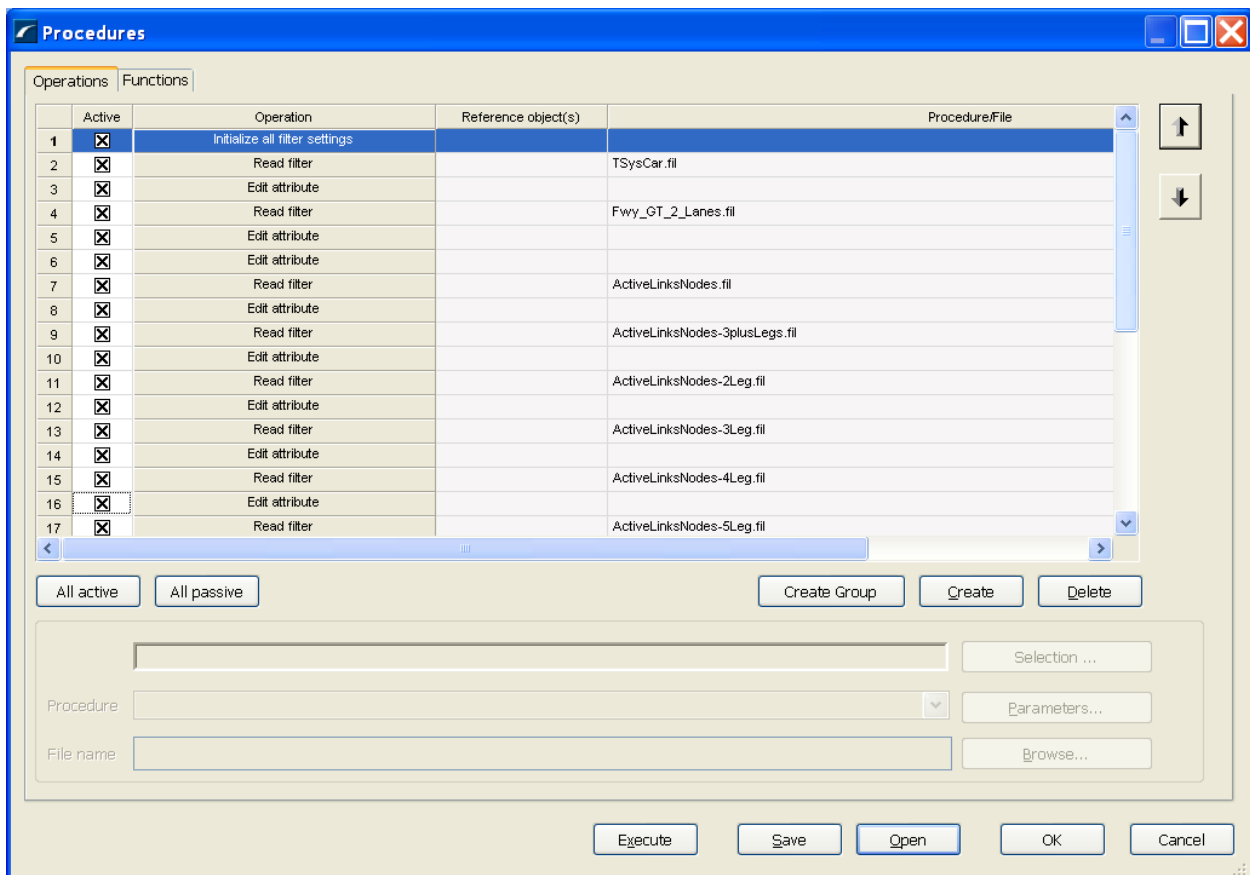
Appendix 1B: KMPO Project dir file.pdf
- KMPO Project directory file that stores the model

* Networks		
Netze		"W:\087219\KMPO Model\KMPO
Model Run\"	net	
* Versions		
Versionen		"W:\087219\KMPO Model\KMPO
Model Run\"	ver	
* OD matrices		
Quelle-Ziel-Matrizen		"W:\087219\KMPO Model\KMPO
Model Run\"	mtx	
* Skim matrices		
Kenngroessenmatrizen		"W:\087219\KMPO Model\KMPO
Model Run\"	*	
* OD demand data		
Nachfragedaten		"W:\087219\KMPO Model\KMPO
Model Run\"	dmd	
* MultiUser networks		
MultiUserNetze		"W:\087219\KMPO Model\KMPO
Model Run\"	NotEdita	
* Project directories		
Projektverzeichnisse		"C:\Documents and
Settings\bgow\Desktop\FULL Model RUNS\MODEL RUNS\"	pdf	
* Graphic parameters		
Grafikparameter		"W:\087219\KMPO Model\KMPO
Model Run\"	gpa	
* Background Files		
Hintergrunddateien		"W:\087219\KMPO Model\KMPO
Model Run\"	hgr	
* Texts		
Texte		"W:\087219\KMPO Model\KMPO
Model Run\"	txt	
* Procedure parameters(bin)		
Verfahrensparameter(bin)		"W:\087219\KMPO Model\KMPO
Model Run\"	par;xml	
* RASW-Scen		
RASW-Fall		"W:\087219\KMPO Model\KMPO
Model Run\"	rwf	
* Attributes		
Attribute		"W:\087219\KMPO Model\KMPO
Model Run\"	att	
* Environmental param.		
Umweltparameter		"W:\087219\KMPO Model\KMPO
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* List-Layout		
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* Filter		
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Model Run\"	fil	
* Active Network Objects		
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Model Run\"	ane	
* VISSIM network		
VISSIM-Netz		"W:\087219\KMPO Model\KMPO
Model Run\"	inp	
* Shapefile		
Shapefile		"W:\087219\KMPO Model\KMPO
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Erhebungsparameter		"W:\087219\KMPO Model\KMPO
Model Run\"	sup	
* Survey data		

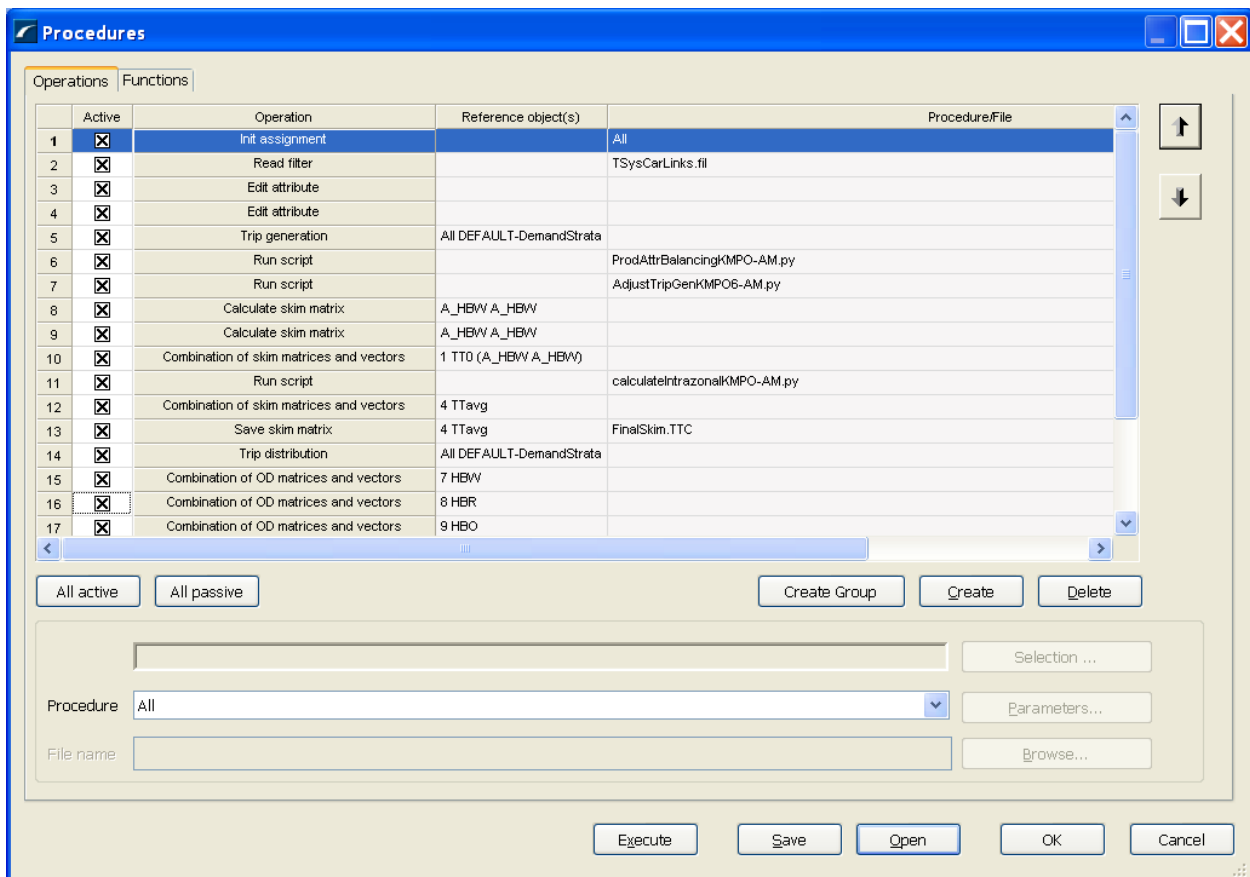
Erhebungsdaten		"W:\087219\KMPO Model\KMPO
Model Run\"	sur	
* Access database		
Access-Datenbank		"W:\087219\KMPO Model\KMPO
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* EMME/2		
Emme		"W:\087219\KMPO Model\KMPO
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* Script files		
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* TLY files		
TLY-Dateien		"W:\087219\KMPO Model\KMPO
Model Run\"	tly	
* HAFAS project files		
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* Timetable Editor Graphic parameters		
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Model Run\"	gpt	
* Timetable Editor Network Graph		
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* Route import		
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Appendix 1C: UpdateNodeLinkCapTWTL.par - A parameter file to update node/link capacity



Appendix 1D: KMPO-Model-AMPKHR.par - A parameter file for AM peak hour KMPO Model



Appendix 1E: KMPO-Model_PMPKHR.par
- A parameter file for PM peak hour KMPO Model

Procedures

Operations | Functions

	Active	Operation	Reference object(s)	Procedure/File
1	<input checked="" type="checkbox"/>	Init assignment		All
2	<input checked="" type="checkbox"/>	Read filter		TSysCarLinks.fil
3	<input checked="" type="checkbox"/>	Edit attribute		
4	<input checked="" type="checkbox"/>	Edit attribute		
5	<input checked="" type="checkbox"/>	Trip generation	All DEFAULT-DemandStrata	
6	<input checked="" type="checkbox"/>	Run script		ProdAttrBalancingKMPO-PM.py
7	<input checked="" type="checkbox"/>	Run script		AdjustTripGenKMPO6-PM.py
8	<input checked="" type="checkbox"/>	Calculate skim matrix	A_HBW A_HBW	
9	<input checked="" type="checkbox"/>	Calculate skim matrix	A_HBW A_HBW	
10	<input checked="" type="checkbox"/>	Combination of skim matrices and vectors	1 TT0 (A_HBW A_HBW)	
11	<input checked="" type="checkbox"/>	Run script		calculateIntrazonalKMPO-PM.py
12	<input checked="" type="checkbox"/>	Combination of skim matrices and vectors	4 TTavg	
13	<input checked="" type="checkbox"/>	Save skim matrix	4 TTavg	FinalSkin.TTC
14	<input checked="" type="checkbox"/>	Trip distribution	All DEFAULT-DemandStrata	
15	<input checked="" type="checkbox"/>	Combination of OD matrices and vectors	7 HBW	
16	<input checked="" type="checkbox"/>	Combination of OD matrices and vectors	8 HBR	
17	<input checked="" type="checkbox"/>	Combination of OD matrices and vectors	9 HBO	

Procedure:

File name:

Appendix 1F: KMPO Model Run Script.py
- A Python Script file to track AM/PM model runs

```

global numarray
global zeros, Float32
import win32com.client
import threading
from numarray import *
from time import *

class testit(threading.Thread):

    def __init__(self, visum, pfdName, finalVersion, Link_and_Node_Capacity,
AM_Assignment_Par, PM_Assignment_Par):

        threading.Thread.__init__(self)
        self.visum = visum
        self.pfdName = pfdName
        self.finalVersion = finalVersion
        self.Link_and_Node_Capacity = Link_and_Node_Capacity ##par1
        self.AM_Assignment_Par = AM_Assignment_Par ##par2
        self.PM_Assignment_Par = PM_Assignment_Par ##par3

    def run(self):
        global Flag1, Flag2
        global modeChoiceAMmat, modeChoiceMDmat
        global distribMDmat, distribAMmat
        global FlagTDMCMD, FlagTDMCAM, FlagDataAM1,
FlagDataAM2, FlagDataMD1, FlagDataMD2
        global AMConverge
        global MDConverge
        global AssignAM
        global AssignMD
        global FlagAM, FlagMD
        global prevLOVmd, prevHOVmd, prevTruckmd
        global mat3AM, mat4AM, mat5AM, mat3MD, mat4MD, mat5MD
        global diffMatAM, diffMatMD, perMatAM, perMatMD, AMavgFlag, MDavgFlag
        global numarray
        import win32api
        import win32com.client
        import pythoncom
        import sys
        import time
        import numarray

        sys.coinit_flags = 0
        pythoncom.CoInitialize()

        self.v = win32com.client.Dispatch("Visum.Visum.10")
        self.v.LoadPathFile(self.pfdName)
        print "Model Run Started!"

        try:
            print "Loading Version File..."
            self.v.LoadVersion(self.visum)
        except:
            print "Error Loading Version File for:"
            x = self.v.Messages
            for i in range(0,len(x)):
                print x[i].Text

##         #####Calculate Link Node Capacity#####
        try:

```

```

        print "Calculating Link Node Capacity..."
        self.v.Procedures.Open(self.Link_and_Node_Capacity)
        self.v.Procedures.Execute()
    except:
        print "Error Calculating Link Node Capacity..."
        x = self.v.Messages
        for i in range(0,len(x)):
            print x[i].Text

    try:
        print "Running AM PEAK Assignment....."
        self.v.Procedures.Open(self.AM_Assignment_Par)
        self.v.Procedures.Execute()
        print "AM PEAK Assignment Completed"
    except:
        print "Error AM PEAK Assignment..."
        x = self.v.Messages
        for i in range(0,len(x)):
            print x[i].Text

    try:
        print "Running PM PEAK Assignment....."
        self.v.Procedures.Open(self.PM_Assignment_Par)
        self.v.Procedures.Execute()
        print "PM PEAK Assignment Completed"
    except:
        print "Error PM PEAK Assignment..."
        x = self.v.Messages
        for i in range(0,len(x)):
            print x[i].Text

#####Save Version File#####
    x = self.v.Messages
    if len(x)>0:
        print "Warnings Encountered"
        for i in range(0,len(x)):
            print x[i].Text
        print "Saving Final Version..."
    self.v.SaveVersion(self.finalVersion)
    print "Model Run Completed!"

def readCSV(fileName):
    import csv
    '''Reads csv file into a dictionary with the following keys
    folderLocation, versionName, numIterations, finalVersion, emails,
runScript'''
    f = open(fileName, "r")
    reader = csv.reader(f)
    y = []
    for x in reader:
        y.append(x)
    return dict(y)

runParams = readCSV("runall.csv")
finalversion = runParams['finalVersion']
netName1 = runParams['versionName']
pathfile = runParams['folderLocation']

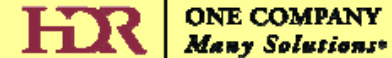
Link_and_Node_Capacity = runParams['NodeLinkCapUpdate'] ##par1
AM_Assignment_Par = runParams['AMassignment'] ##par2

```

```
PM_Assignment_Par = runParams['PMassignment'] ##par3  
t = testit(netName1, pathfile, finalversion, Link_and_Node_Capacity,  
AM_Assignment_Par, PM_Assignment_Par)  
t.run()
```

**Appendix 1G: 2007 KMPO Model AM Peak Hour
Screenline Validation Spreadsheets**

PROJECT TITLE: KMPO TRAVEL DEMAND MODEL SCREENLINE VALIDATION
 SCENARIO TITLE: 2007 Model Volume vs Roadway 07_Counts (AM PEAK HOUR)
 RUN # 9b 2007 NEW LU, Roundabouts, UPDATED EXTERNAL COUNTS, I-X, X-I AND X-X, Trip Rates, Trip Distribution and No Node Delay
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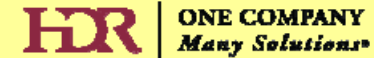
SCREENLINE NUMBER: #1												
SCREENLINE LOCATION: Spokane River Crossing Screenline #1												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			SOUTHBOUND			NORTHBOUND		
	From	To	ARTERIAL NAME	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts
	818	842	Spokane St.	271	413	0.66	135	217	0.62	136	196	0.69
	889	9963	US 95 @ Spokane River Bridge	1251	1051	1.19	602	456	1.32	649	595	1.09
			TOTAL	1522	1464	1.04	737	673	1.10	785	791	0.99
SCREENLINE NUMBER: #2												
SCREENLINE LOCATION: Sellice Screenline #2												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			SOUTHBOUND			NORTHBOUND		
	From	To	ARTERIAL NAME	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts
	774	9814	Huetter Rd	293	258	1.14	152	180	0.84	141	78	1.81
	9388	9815	Altas Rd	229	556	0.41	92	342	0.27	137	214	0.64
	843	9789	Ramsey Rd	2728	1982	1.38	1555	1290	1.21	1173	692	1.70
	734	9272	Ross Point Rd	283	463	0.61	105	130	0.81	178	333	0.53
	755	790	Cedar St	374	253	1.48	25	74	0.34	349	179	1.95
	9960	9884	Seeley Rd	194	79	2.46	155	35	4.43	39	44	0.89
			TOTAL	4101	3591	1.14	2084	2051	1.02	2017	1540	1.31
SCREENLINE NUMBER: #3												
SCREENLINE LOCATION: Harrison Ave. Screenline #3												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			SOUTHBOUND			NORTHBOUND		
	From	To	ARTERIAL NAME	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts
	899	9144	Government Way	480	363	1.32	333	194	1.72	147	169	0.87
	901	917	3rd St	698	792	0.88	263	447	0.59	435	345	1.26
	904	919	7th St	86	227	0.38	49	103	0.48	37	124	0.30
	907	920	11th St	217	147	1.48	129	60	2.15	88	87	1.01
	910	921	15th St	552	871	0.63	264	385	0.69	288	486	0.59
			TOTAL	2033	2400	0.85	1038	1189	0.87	995	1211	0.82
SCREENLINE NUMBER: #4												
SCREENLINE LOCATION: Appleway Ave/Best Screenline #4												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			SOUTHBOUND			NORTHBOUND		
	From	To	ARTERIAL NAME	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts
	831	9424	SR 95	2368	2389	0.99	1332	1623	0.82	1036	766	1.35
	833	851	Government Way	1118	874	1.28	707	540	1.31	411	334	1.23
	841	866	15th St	357	616	0.58	196	379	0.52	161	237	0.68
			TOTAL	3843	3879	0.99	2235	2542	0.88	1608	1337	1.20

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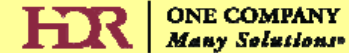
SCREENLINE NUMBER: #5												
SCREENLINE LOCATION: Seltice/Mullan Rd/Kathleen Screenline #5												
SL Section	Corresponding Links: SB/EB to NB/WB		Total Model and Counts			SOUTHBOUND			NORTHBOUND			
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	681	682	Idaho St.	1036	1024	1.01	681	658	1.03	355	366	0.97
	658	9004	Spokane St.	647	688	0.94	349	358	0.97	298	330	0.90
	660	681	Idaho St.	837	872	0.96	592	511	1.16	245	361	0.68
	9422	734	SR 41	1308	1507	0.87	715	792	0.90	593	715	0.83
	9015	9900	Baugh Rd	5	101	0.05	2	71	0.03	3	30	0.10
	9017	647	Pleasant View Rd	1170	621	1.88	631	377	1.67	539	244	2.21
	10160	9397	Government Way	561	844	0.66	273	473	0.58	288	371	0.78
	664	683	Greensferry Rd	6	91	0.07	4	54	0.07	2	37	0.05
	669	715	SR 41	2195	1839	1.19	1256	1165	1.08	939	674	1.39
	685	738	Huetter Rd	292	287	1.02	151	217	0.70	141	70	2.01
	687	739	Atlas Rd	123	531	0.23	14	257	0.05	109	274	0.40
	689	743	Ramsey Rd	1388	2088	0.66	827	1320	0.63	561	768	0.73
	691	9421	US 95	2687	2154	1.25	1488	1309	1.12	1219	845	1.44
	695	746	4th St	362	496	0.73	189	282	0.67	173	214	0.81
	698	716	15th St	470	692	0.68	269	333	0.81	201	359	0.56
			TOTAL	13087	13835	0.95	7421	8177	0.91	5666	5658	1.00
SCREENLINE NUMBER: #6												
SCREENLINE LOCATION: Poleline Rd Screenline #6												
SL Section	Corresponding Links: SB/EB to NB/WB		Total Model and Counts			SOUTHBOUND			NORTHBOUND			
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	544	595	Pleasant View Rd	1154	428	2.70	628	284	2.21	526	144	3.65
	550	579	Chase Rd.	244	273	0.89	150	111	1.35	94	162	0.58
	552	580	Spokane St	55	428	0.13	41	274	0.15	14	154	0.09
	554	581	Idaho St	505	495	1.02	355	320	1.11	150	175	0.86
	558	583	Greensferry Rd.	395	259	1.53	342	109	3.14	53	150	0.35
	562	585	SR41	1813	1619	1.12	849	982	0.86	964	637	1.51
	1100	587	Huetter Rd	304	229	1.33	148	148	1.00	156	81	1.93
	9458	9063	Atlas Rd	866	802	1.08	450	502	0.90	416	300	1.39
	569	590	Ramsey Rd	651	1121	0.58	397	662	0.60	254	459	0.55
	571	615	US 95	3076	2074	1.48	1653	1347	1.23	1423	727	1.96
	573	592	Government Way	568	845	0.67	269	513	0.52	299	332	0.90
	575	9052	4th St	305	482	0.63	150	320	0.47	155	162	0.96
	577	594	15th St	253	473	0.53	147	269	0.55	106	204	0.52
			TOTAL	10189	9528	1.07	5579	5841	0.96	4610	3687	1.25

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SCREENLINE NUMBER: #7												
SCREENLINE LOCATION: Prairie Rd. Screenline #7												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			SOUTHBOUND			NORTHBOUND		
	From	To	ARTERIAL NAME	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts
	476	9386	McGuire Rd	274	70	3.91	145	44	3.30	129	26	4.96
	478	9912	Chase Rd.	183	194	0.94	71	97	0.73	112	97	1.15
	480	9911	Spokane St.	43	121	0.36	9	53	0.17	34	68	0.50
	482	509	Idaho Rd.	218	173	1.26	76	89	0.85	142	84	1.69
	486	9917	Greensferry Rd.	337	193	1.75	208	118	1.76	129	75	1.72
	488	9918	SR 41	1671	1143	1.46	840	696	1.21	831	447	1.86
	491	522	Huetter Rd	511	229	2.23	308	104	2.96	203	125	1.62
	496	9061	Atlas Rd	263	629	0.42	111	363	0.31	152	266	0.57
	498	524	Ramsey Rd	521	1007	0.52	303	640	0.47	218	367	0.59
	500	510	US 95	2880	2034	1.42	1568	1402	1.12	1312	632	2.08
	502	511	Government Way	580	737	0.79	324	455	0.71	256	282	0.91
	504	512	4th St	297	643	0.46	172	413	0.42	125	230	0.54
	9878	513	15th St	198	205	0.97	117	166	0.70	81	39	2.08
			TOTAL	7976	7378	1.08	4252	4640	0.92	3724	2738	1.36
SCREENLINE NUMBER: #8												
SCREENLINE LOCATION: Hayden Ave. Screenline # 8												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			SOUTHBOUND			NORTHBOUND		
	From	To	ARTERIAL NAME	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts
	386	445	Hauser Lake Rd north of SH 53	213	151	1.41	146	124	1.18	67	27	2.48
	411	1162	Chase Rd	101	100	1.01	29	50	0.58	72	50	1.44
	412	1163	Idaho St	55	86	0.64	12	49	0.24	43	37	1.16
	415	447	SR 41	1655	1032	1.60	881	665	1.32	774	367	2.11
	413	446	Greensferry Rd	49	105	0.47	13	65	0.20	36	40	0.90
	418	435	Huetter Rd	272	100	2.72	145	54	2.69	127	46	2.76
			TOTAL	2345	1574	1.49	1226	1007	1.22	1119	567	1.97
SCREENLINE NUMBER: #9												
SCREENLINE LOCATION: Lancaster Rd. Screenline # 9												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			SOUTHBOUND			NORTHBOUND		
	From	To	ARTERIAL NAME	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts
	330	1144	Greensferry Rd	35	94	0.37	0	57	0.00	35	37	0.95
	332	352	SH 41	1375	831	1.65	747	567	1.32	628	264	2.38
	1093	1156	Meyer Rd.	38	245	0.16	12	175	0.07	26	70	0.37
	334	9412	Huetter Rd	10	54	0.19	3	30	0.10	7	24	0.29
	338	9418	US 95	1864	1523	1.22	980	1049	0.93	884	474	1.86
	339	354	Government Way	204	220	0.93	28	147	0.19	176	73	2.41
	344	351	Rimrock Rd/Meadowwood Ln	91	74	1.23	46	18	2.56	45	56	0.80
	341	348	Strahorn Rd	21	59	0.36	3	14	0.21	18	45	0.40
	9000	357	English Point Rd				3	7	0.43	6	6	1.00
	9781	9827	Hayden Lake Rd @ East end	1	38	0.03	0	10	0.00	1	28	0.04
			TOTAL	3639	3138	1.16	1822	2074	0.88	1826	1077	1.70

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SCREENLINE NUMBER: #10												
SCREENLINE LOCATION: SH 53 - US 95 Screenline # 10												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			SOUTHBOUND			NORTHBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	263	265	BNSF RR Bridge in Rathdrum	561	904	0.62	291	338	0.86	270	566	0.48
	9400	9331	Atlas Rd	12	41	0.29	5	31	0.16	7	10	0.70
	1137	269	Ramsey Rd	479	283	1.69	241	178	1.35	238	105	2.27
	252	271	US 95 n/o SH53	1139	1226	0.93	423	818	0.52	716	408	1.75
	271	300	Gov't Way e/o US95	180	88	2.05	40	42	0.95	140	46	3.04
			TOTAL	2371	2542	0.93	1000	1407	0.71	1371	1135	1.21
SCREENLINE NUMBER: #11												
SCREENLINE LOCATION: Twin Lakes to Nat. Forest. Screenline # 11												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			SOUTHBOUND			NORTHBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	9776	239	East Twin Lake Rd near SH 41	179	144	1.24	86	47	1.83	93	97	0.96
	9750	239	SH 41 south of Seasons Rd	625	542	1.15	327	369	0.89	298	173	1.72
	226	237	Ramsey Rd south of Brunner	30	95	0.32	14	68	0.21	16	27	0.59
	230	1099	Diagonal Rd south of Brunner	32	54	0.59	8	17	0.47	24	37	0.65
	231	9902	US 95 south of Brunner Rd	1554	982	1.58	586	622	0.94	968	360	2.69
			TOTAL	2420	1817	1.33	1021	1123	0.91	1399	694	2.02
SCREENLINE NUMBER: #12												
SCREENLINE LOCATION: US 95 to SH 3 South Screenline # 12.												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			SOUTHBOUND			NORTHBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	1079	1085	US 95 S/O Worley	377	377	1.00	202	202	1.00	175	175	1.00
	1058	10098	US 95 N/O Worley	653	360	1.81	347	188	1.85	306	172	1.78
	1073	10015	Cave Bay Rd @ Rock Creek	29	45	0.64	14	24	0.58	15	21	0.71
	1061	1191	SH 97 north of Harrison	138	51	2.71	98	16	6.13	40	35	1.14
	9726	9364	Ogara Rd west of SH 97	8	83	0.10	7	42	0.17	1	41	0.02
	1077	1078	SH 97 north of SH 3	33	44	0.75	12	27	0.44	21	17	1.24
	1081	1083	SH 3 @ Benawah Co. Line	204	206	0.99	130	131	0.99	74	75	0.99
			TOTAL	1442	1166	1.24	810	630	1.29	632	536	1.18
SCREENLINE NUMBER: #13												
SCREENLINE LOCATION: SH 93 to LaTour Creek Rd Screenline # 13												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			SOUTHBOUND			NORTHBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	914	940	UpRiver Dr west of US 95	141	133	1.06	103	27	3.81	38	106	0.36
	969	9457	Cougar Gulch Rd west of US 95	30	141	0.21	13	110	0.12	17	31	0.55
	1017	9437	Burma Rd S/O Gozzer Rd	243	36	6.75	150	10	15.00	93	26	3.58
	9436	1017	SH 97 N/O Burma	342	239	1.43	194	166	1.17	148	73	2.03
	1045	1057	LaTour Creek Rd south of I 90	0	21	0.00	0	5	0.00	0	16	0.00
	1030	1034	SH 3 S/O I 90	258	141	1.83	157	50	3.14	101	91	1.11
			TOTAL	1014	711	1.43	617	368	1.68	397	343	1.16
SCREENLINE NUMBER: #14												
SCREENLINE LOCATION: Spirit Lake Pend'O Reille Screenline #14												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			SOUTHBOUND			NORTHBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	201	9857	US 95 north of Athol	572	573	1.00	297	298	1.00	275	275	1.00
	10003	198	SH 41 north of Spirit Lake	368	369	1.00	236	236	1.00	132	133	0.99
	204	213	SH 41 south of Spirit Lake	568	514	1.11	300	337	0.89	268	177	1.51
	202	212	Perimeter Rd north of SH 54	28	23	1.22	20	17	1.18	8	6	1.33
			TOTAL	1536	1479	1.04	853	888	0.96	683	591	1.16

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SCREENLINE NUMBER: #15												
SCREENLINE LOCATION: Pleasant View Rd. Screenline # 15												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			EASTBOUND			WESTBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	9945	471	SH 53 (W/O Prairie Ave)	630	785	0.80	170	262	0.65	460	523	0.88
	647	648	Seltice Way	334	446	0.75	107	218	0.49	227	228	1.00
	544	10146	Poleline Ave.	51	42	1.21	15	10	1.50	36	32	1.13
	473	9019	Prairie Rd.	177	217	0.82	49	92	0.53	128	125	1.02
	440	401	SH 53	824	804	1.02	289	345	0.84	535	459	1.17
	9222	9226	Riverbend Ave	114	110	1.04	29	39	0.74	85	71	1.20
			TOTAL	2130	2404	0.89	659	966	0.68	1471	1438	1.02
SCREENLINE NUMBER: #16												
SCREENLINE LOCATION: McGuire Rd. Screenline # 16												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			EASTBOUND			WESTBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	651	652	Seltice Way	571	684	0.83	299	382	0.78	272	302	0.90
	547	9672	Poleline Ave.	107	78	1.37	42	41	1.02	65	37	1.76
	476	9907	Prairie Rd.	225	224	1.00	84	113	0.74	141	111	1.27
	401	366	SH 53	1034	811	1.27	398	290	1.37	636	521	1.22
			TOTAL	1937	1797	1.08	823	826	1.00	1114	971	1.15
SCREENLINE NUMBER: #17												
SCREENLINE LOCATION: Chase Rd. Screenline # 17												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			EASTBOUND			WESTBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	9439	9004	Seltice Way	759	896	0.85	462	516	0.90	297	380	0.78
	550	551	Poleline Ave.	184	174	1.06	88	92	0.96	96	82	1.17
	478	479	Prairie Rd.	245	266	0.92	98	154	0.64	147	112	1.31
	411	1148	Hayden Rd.	373	189	1.97	174	95	1.83	199	94	2.12
			TOTAL	1561	1525	1.02	822	857	0.96	739	668	1.11
SCREENLINE NUMBER: #18												
SCREENLINE LOCATION: Spokane St. Screenline # 18												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			EASTBOUND			WESTBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	753	721	4th St.	227	182	1.25	128	113	1.13	99	69	1.43
	765	9930	3rd St	46	289	0.16	16	117	0.14	30	172	0.17
	9004	680	Seltice Way	878	879	1.00	466	454	1.03	412	425	0.97
	552	553	Poleline Ave.	428	439	0.97	269	235	1.14	159	204	0.78
	480	481	Prairie Rd.	300	345	0.87	139	201	0.69	161	144	1.12
			TOTAL	1879	2134	0.88	1018	1120	0.91	861	1014	0.85

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 SCENARIO TITLE: 2007 Model Volume vs Roadway 07_Counts (AM PEAK HOUR)
 RUN # 9b 2007 NEW LU, Roundabouts, UPDATED EXTERNAL COUNTS, I-X, X-I AND X-X, Trip Rates, Trip Distribution and No Node Delay
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SCREENLINE NUMBER:		#19										
SCREENLINE LOCATION:		Idaho St. Screenline # 19										
SL Section	Corresponding Links: SB/EB to NB/WB		Total Model and Counts			EASTBOUND			WESTBOUND			
	From	To	ARTERIAL NAME	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts
	724	725	4th St.	146	69	2.12	128	55	2.33	18	14	1.29
	682	709	Seltice Way	1651	1046	1.58	940	623	1.51	711	423	1.68
	554	555	Poleline	380	501	0.76	173	286	0.60	207	215	0.96
	482	483	Prairie Rd.	415	392	1.06	215	226	0.95	200	166	1.20
			TOTAL	2592	2008	1.29	1456	1190	1.22	1136	818	1.39

SCREENLINE NUMBER:		#20										
SCREENLINE LOCATION:		Greensferry Rd. Screenline # 20										
SL Section	Corresponding Links: SB/EB to NB/WB		Total Model and Counts			EASTBOUND			WESTBOUND			
	From	To	ARTERIAL NAME	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts
	9929	771	3rd St.	136	172	0.79	75	89	0.84	61	83	0.73
	728	730	Seltice Way	537	807	0.67	301	405	0.74	236	402	0.59
	664	665	Mullan Ave	351	526	0.67	197	260	0.76	154	266	0.58
	635	636	12th	188	105	1.79	169	55	3.07	19	50	0.38
	606	607	16th	131	144	0.91	80	70	1.14	51	74	0.69
	558	559	Poleline Ave.	391	644	0.61	191	454	0.42	200	190	1.05
	486	487	Prairie Rd.	681	404	1.69	297	237	1.25	384	167	2.30
	413	414	Hayden Rd.	395	235	1.68	174	124	1.40	221	111	1.99
	1101	1154	Wyoming Ave	0	44	0.00	0	17	0.00	0	27	0.00
	309	9029	SH 53	987	819	1.21	492	277	1.78	495	542	0.91
			TOTAL	3797	3900	0.97	1976	1988	0.99	1821	1912	0.95

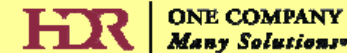
SCREENLINE NUMBER:		#21										
SCREENLINE LOCATION:		SH 41 Screenline # 21										
SL Section	Corresponding Links: SB/EB to NB/WB		Total Model and Counts			EASTBOUND			WESTBOUND			
	From	To	ARTERIAL NAME	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts
	9382	734	Seltice Way	820	1191	0.69	763	774	0.99	57	417	0.14
	9791	9382	Seltice Way (Duplicate - new count)	1004	1164	0.86	748	836	0.89	256	328	0.78
	668	669	Mullan Ave	536	654	0.82	367	331	1.11	169	323	0.52
	561	562	Poleline Rd.	546	485	1.13	258	239	1.08	288	246	1.17
	10057	488	Prairie Rd.	692	384	1.80	304	219	1.39	388	165	2.35
	10138	415	Hayden Rd.	397	236	1.68	175	123	1.42	222	113	1.96
	9037	1094	Wyoming	0	115	0.00	0	62	0.00	0	53	0.00
	1151	332	Lancaster	6	14	0.43	0	6	0.00	6	8	0.75
	324	323	Nagel Ln	59	202	0.29	7	98	0.07	52	104	0.50
	287	293	McCamey St N/O SR41	11	88	0.13	5	50	0.10	6	38	0.16
	9305	281	Stevens St	87	130	0.67	22	83	0.27	65	47	1.38
	9306	9309	Washington St	0	157	0.00	0	35	0.00	0	122	0.00
	9295	310	Boekel Rd	93	45	2.07	63	31	2.03	30	14	2.14
			TOTAL	4251	4865	0.87	2712	2887	0.94	1539	1978	0.78

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 SCENARIO TITLE: 2007 Model Volume vs Roadway 07_Counts (AM PEAK HOUR)
 RUN # 9b 2007 NEW LU, Roundabouts, UPDATED EXTERNAL COUNTS, I-X, X-I AND X-X, Trip Rates, Trip Distribution and No Node Delay
 Date: 3/20/2009
 File Location W:\087219\KMPO Model\KMPO Model Run\Screenlines
 Originated by: Tony wang
 Checked by: Revised Template by Jin Ren



SCREENLINE NUMBER: #22												
SCREENLINE LOCATION: Huettler Rd Screenline # 22												
SL Section	Corresponding Links: SB/EB to NB/WB		Total Model and Counts			EASTBOUND			WESTBOUND			
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	9766	9946	Maplewood	28	79	0.35	0	45	0.00	28	34	0.82
	793	794	Seltice Way	617	885	0.70	579	503	1.15	38	382	0.10
	9043	685	Mullan Ave	94	75	1.25	56	53	1.06	38	22	1.73
	494	491	Prairie Rd.	653	746	0.88	335	438	0.76	318	308	1.03
	1160	367	Wyoming Ave	0	3	0.00	0	2	0.00	0	1	0.00
	1158	334	Lancaster Ave	188	30	6.27	93	15	6.20	95	15	6.33
	417	418	Hayden Rd.	1251	536	2.33	608	306	1.99	643	230	2.80
	10036	1096	Boekel Ave	127	158	0.80	81	88	0.92	46	70	0.66
			TOTAL	2958	2512	1.18	1752	1450	1.21	1206	1062	1.14
SCREENLINE NUMBER: #23												
SCREENLINE LOCATION: Ramsey Rd Screenline # 23												
SL Section	Corresponding Links: SB/EB to NB/WB		Total Model and Counts			EASTBOUND			WESTBOUND			
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	857	9734	Ironwood Dr	829	803	1.03	500	577	0.87	329	226	1.46
	813	9097	Appleway	196	669	0.29	114	336	0.34	82	333	0.25
	689	9087	Kathleen Ave	755	1141	0.66	451	665	0.68	304	476	0.64
	613	9083	Dalton Ave	180	344	0.52	70	182	0.38	110	162	0.68
	569	9100	Hanley Ave	711	517	1.38	439	263	1.67	272	254	1.07
	524	10117	Wilbur Ave Pinegrove	82	144	0.57	51	73	0.70	31	71	0.44
	498	9050	Prairie Ave	890	934	0.95	491	552	0.89	399	382	1.04
	450	451	Honeysuckle Ave	61	176	0.35	33	99	0.33	28	77	0.36
	422	423	Hayden Ave	767	569	1.35	314	278	1.13	453	291	1.56
	387	388	Miles Ave	13	67	0.19	1	21	0.05	12	46	0.26
	368	369	Wyoming Ave	168	178	0.94	123	82	1.50	45	96	0.47
	336	337	Lancaster Ave	228	84	2.71	121	49	2.47	107	35	3.06
	9032	10072	Boekel Rd	737	158	4.66	400	105	3.81	337	53	6.36
	269	270	Hwy 53	661	565	1.17	371	334	1.11	290	231	1.26
	251	1140	Garwood Rd	3	155	0.02	1	97	0.01	2	58	0.03
	245	1139	Ohio Match Rd	26	33	0.79	20	12	1.67	6	21	0.29
			TOTAL	6307	6537	0.96	3500	3725	0.94	2807	2812	1.00

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 Original user: Tony Wang
 Checked by: Revised Template by Jin Ren

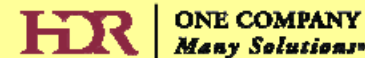


SCREENLINE NUMBER: #24												
SCREENLINE LOCATION: US 95 Screenline # 24												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			EASTBOUND			WESTBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	892	9129	Walnut St	265	185	1.43	77	111	0.69	188	74	2.54
	9895	891	US 95	895	711	1.26	492	372	1.32	403	339	1.19
	9903	9821	Old US 95 n/o SH53	618	260	2.38	264	175	1.51	354	85	4.16
	896	1173	Northwest Blvd	1489	1620	0.92	1026	1271	0.81	463	349	1.33
	868	1172	Ironwood Blvd	672	530	1.27	266	271	0.98	406	259	1.57
	831	832	Appleway Ave	428	817	0.52	235	440	0.53	193	377	0.51
	761	762	Neider Ave	750	446	1.68	350	259	1.35	400	187	2.14
	691	692	Kathleen Ave	254	695	0.37	150	340	0.44	104	355	0.29
	615	616	Dalton Ave	585	489	1.20	231	295	0.78	354	194	1.82
	571	9054	Hanley Ave	636	531	1.20	368	281	1.31	268	250	1.07
	500	501	Prairie Ave	698	622	1.12	349	345	1.01	349	277	1.26
	454	455	Honeysuckle Ave	622	461	1.35	360	221	1.63	262	240	1.09
	426	427	Hayden Ave	217	595	0.36	108	250	0.43	109	345	0.32
	9982	392	Miles Ave	249	236	1.06	89	139	0.64	160	97	1.65
	9983	373	Wyoming Ave	351	156	2.25	62	68	0.91	289	88	3.28
	338	339	Lancaster Ave	341	108	3.16	56	66	0.85	285	42	6.79
	252	253	Garwood Rd	114	199	0.57	34	52	0.65	80	147	0.54
	246	247	Ohio Match Rd	27	58	0.47	14	15	0.93	13	43	0.30
			TOTAL	9211	8719	1.06	4531	4971	0.91	4680	3748	1.25

SCREENLINE NUMBER: #25												
SCREENLINE LOCATION: West Side KMPO Screenline # 25												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			EASTBOUND			WESTBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	9015	717	Seltice Way W/O Beck Rd	344	327	1.05	141	136	1.04	203	191	1.06
	1049	9355	Elder Rd @ Washington Line	0	51	0.00	0	24	0.00	0	27	0.00
	1068	9362	SH 58 @ Washington Line	135	136	0.99	78	79	0.99	57	57	1.00
	1062	9354	Bitter Rd east of US 95	0	7	0.00	0	3	0.00	0	4	0.00
	514	9945	SH 53 @ Washington State Line	630	630	1.00	170	171	0.99	460	459	1.00
	1046	9177	Rockford Bay Rd east of US 95	79	127	0.62	40	88	0.45	39	39	1.00
	1079	9783	Conkling Rd east of US 95	18	23	0.78	6	8	0.75	12	15	0.80
			TOTAL	1206	1301	0.93	435	509	0.85	771	792	0.97

SCREENLINE NUMBER: #26												
SCREENLINE LOCATION: East Side KMPO Screenline # 26												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			EASTBOUND			WESTBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	1040	1042	I 90 @ Shoshone Co. Line	680	679	1.00	401	400	1.00	279	279	1.00
	949	9965	Fernan Lake Rd @ CdA City Limit	74	21	3.52	32	11	2.91	42	10	4.20
	980	976	Mullan Trail Rd north of I 90	229	115	1.99	88	23	3.83	141	92	1.53
	990	987	Sunnyside Rd south of Mullan Trail	20	35	0.57	6	10	0.60	14	25	0.56
	344	345	Lancaster Rd east of Rimrock	232	102	2.27	60	49	1.22	172	53	3.25
	249	250	Ohio Match Rd East of Rimrock Rd	0	23	0.00	0	14	0.00	0	9	0.00
	232	233	Bunco Rd @ Nunn Rd	215	24	8.96	164	4	41.00	51	20	2.55
	9999	200	SH 54 West of Farragut Park Entrance	181	176	1.03	109	78	1.40	72	98	0.73
			TOTAL	1631	1175	1.39	860	589	1.46	771	586	1.32

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SCREENLINE NUMBER: #27												
SCREENLINE LOCATION: Government Way Screenline # 27												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			EASTBOUND			WESTBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	9733	944	Government Way	334	196	1.70	199	110	1.81	135	86	1.57
	944	951	N/O Sherman Ave	842	762	1.10	478	426	1.12	364	336	1.08
	9825	931	Foster Ave	389	118	3.30	226	46	4.91	163	72	2.26
	9812	900	Harrison Ave	182	426	0.43	61	188	0.32	121	238	0.51
	833	834	Appleway/Best Ave	829	808	1.03	250	385	0.65	579	423	1.37
	777	779	Neider Ave	635	372	1.71	251	151	1.66	384	221	1.74
	10159	694	Margaret Ave	439	595	0.74	153	222	0.69	286	373	0.77
	617	618	Dalton Ave	372	553	0.67	175	305	0.57	197	248	0.79
	573	574	Hanley Ave	108	300	0.36	60	112	0.54	48	188	0.26
	527	528	Wilbur Ave	129	71	1.82	73	30	2.43	56	41	1.37
	502	503	Prairie Ave	607	603	1.01	199	163	1.22	408	440	0.93
	456	457	Honeysuckle Ave	370	287	1.29	148	104	1.42	222	183	1.21
	428	429	Hayden Ave	165	360	0.46	65	127	0.51	100	233	0.43
	393	394	Miles Ave	225	168	1.34	70	58	1.21	155	110	1.41
	374	9044	Wyoming Ave	200	58	3.45	1	14	0.07	199	44	4.52
	339	340	Lancaster Ave	333	211	1.58	79	77	1.03	254	134	1.90
			TOTAL	6159	5888	1.05	2488	2518	0.99	3671	3370	1.09
SCREENLINE NUMBER: #28												
SCREENLINE LOCATION: I 90 Ramps Screenline # 28												
SL Section	Corresponding Links: SB/EB to NB/WB			Total Model and Counts			EASTBOUND			WESTBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	752	719	SR 90 @ Pleasant View Rd On	887	622	1.43	380	300	1.27	507	322	1.57
	751	752	SR 90 @ Pleasant View Rd Off	1062	577	1.84	374	274	1.36	688	303	2.27
	703	704	I 90 Ramp @ Spokane St On	590	1062	0.56	177	448	0.40	413	614	0.67
	701	703	I 90 Ramp @ Spokane St Off	351	491	0.71	218	268	0.81	133	223	0.60
	726	712	I 90 Ramp @ Seltice Way EB On/WB-Off	1508	572	2.64	956	347	2.76	552	225	2.45
	9709	736	I 90 Ramp @ SH 41 On	1226	1162	1.06	659	563	1.17	567	599	0.95
	732	731	I 90 Ramp @ SH 41 Off	1007	704	1.43	418	391	1.07	589	313	1.88
	843	844	I 90 Ramp @ NW Blvd/Ramsey On	1220	841	1.45	189	293	0.65	1031	548	1.88
	826	843	I 90 Ramp @ NW Blvd/Ramsey Off	1282	1377	0.93	1119	957	1.17	163	420	0.39
	859	849	I 90 Ramp @ US 95 On	886	600	1.48	357	186	1.92	529	414	1.28
	847	859	I 90 Ramp @ US 95 Off	912	927	0.98	464	623	0.74	448	304	1.47
	861	862	I 90 Ramp @ 3rd/4th St On	586	563	1.04	97	129	0.75	489	434	1.13
	860	9788	I 90 Ramp @ 3rd/4th St Off	702	693	1.01	524	500	1.05	178	193	0.92
	9795	912	I 90 Ramp @ 15th St On	510	601	0.85	136	65	2.09	374	536	0.70
	885	9796	I 90 Ramp @ 15th St Off	353	285	1.24	285	232	1.23	68	53	1.28
	9011	968	I 90 Ramp @ 23rd St On	524	334	1.57	78	70	1.11	446	264	1.69
	947	9948	I 90 Ramp @ 23rd St Off	236	310	0.76	167	230	0.73	69	80	0.86
			TOTAL	13842	11721	1.18	6598	5876	1.12	7244	5845	1.24
Overall				116979	110988	1.05	60325	62082	0.97	56663	48919	1.16

**Appendix 1H: 2007 KMPO Model PM Peak Hour
Screenline Validation Spreadsheets**

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 SCENARIO TITLE: 2007 Model Volume vs Roadway 07_Counts (PM PEAK HOUR)
 RUN # 9b 2007 NEW LU, Roundabouts, UPDATED External X-I, I-X and X-X, Trip Rates, Trip Distribution, No Node Delay
 Date: 3/20/2009
 File Location C:\Documents and Settings\jren\My Documents\
 Originated by: Tony wang
 Checked by: Revised Template by Jin Ren



SCREENLINE NUMBER: #1												
SCREENLINE LOCATION: Spokane River Crossing Screenline #1												
SL Section	Corresponding Links: NB and SB			Total Model and Counts			SOUTHBOUND			NORTHBOUND		
	From	To	ARTERIAL NAME	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts
	818	842	Spokane St.	460	628	0.73	148	377	0.39	312	251	1.24
	889	9963	US 95 @ Spokane River Bridge	1463	1218	1.20	857	612	1.40	606	606	1.00
			TOTAL	1923	1846	1.04	1005	989	1.02	918	857	1.07
SCREENLINE NUMBER: #2												
SCREENLINE LOCATION: Seltice Screenline #2												
SL Section	Corresponding Links: NB and SB			Total Model and Counts			SOUTHBOUND			NORTHBOUND		
	From	To	ARTERIAL NAME	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts
	774	9814	Huetter Rd	607	311	1.95	166	115	1.44	441	196	2.25
	9388	9815	Altas Rd	298	697	0.43	68	312	0.22	230	385	0.60
	843	9789	Ramsey Rd	2922	1752	1.67	1263	705	1.79	1659	1047	1.58
	734	9272	Ross Point Rd	314	728	0.43	172	387	0.44	142	341	0.42
	755	790	Cedar St	420	330	1.27	67	211	0.32	353	119	2.97
	9960	9884	Seeley Rd	497	90	5.52	468	46	10.17	29	44	0.66
			TOTAL	5058	3908	1.29	2204	1776	1.24	2854	2132	1.34
SCREENLINE NUMBER: #3												
SCREENLINE LOCATION: Harrison Ave. Screenline #3												
SL Section	Corresponding Links: NB and SB			Total Model and Counts			SOUTHBOUND			NORTHBOUND		
	From	To	ARTERIAL NAME	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts
	899	9144	Government Way	693	730	0.95	339	349	0.97	354	381	0.93
	901	917	3rd St	998	1385	0.72	283	563	0.50	715	822	0.87
	904	919	7th St	131	333	0.39	83	155	0.54	48	178	0.27
	907	920	11th St	297	176	1.69	140	85	1.65	157	91	1.73
	910	921	15th St	763	1211	0.63	453	744	0.61	310	467	0.66
			TOTAL	2882	3835	0.75	1298	1896	0.68	1584	1939	0.82
SCREENLINE NUMBER: #4												
SCREENLINE LOCATION: Appleway Ave/Best Screenline #4												
SL Section	Corresponding Links: NB and SB			Total Model and Counts			SOUTHBOUND			NORTHBOUND		
	From	To	ARTERIAL NAME	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts
	831	9424	Southbound	2917	2579	1.13	1516	1379	1.10	1401	1200	1.17
	833	851	SR 95	1794	1561	1.15	773	664	1.16	1021	897	1.14
	841	866	Government Way	474	887	0.53	222	439	0.51	252	448	0.56
			TOTAL	5185	5027	1.03	2511	2482	1.01	2674	2545	1.05

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SCREENLINE NUMBER: #5												
SCREENLINE LOCATION: Sellice/Mullan Rd/Kathleen Screenline #5												
SL Section	Corresponding Links: NB and SB			Total Model and Counts			SOUTHBOUND			NORTHBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	681	682	Idaho St.	1408	1568	0.90	610	778	0.78	798	790	1.01
	658	9004	Spokane St.	883	1196	0.74	298	496	0.60	585	700	0.84
	660	681	Idaho St.	1117	1465	0.76	447	559	0.80	670	906	0.74
	9422	734	SR 41	1601	2185	0.73	783	1133	0.69	818	1052	0.78
	9015	9900	Baugh Rd	8	250	0.03	4	109	0.04	4	141	0.03
	9964	10127	Pleasant View Rd	1606	784	2.05	593	318	1.86	1013	466	2.17
	10160	9397	Government Way	1019	1603	0.64	461	744	0.62	558	859	0.65
	664	683	Greensferry Rd	10	168	0.06	5	50	0.10	5	118	0.04
	689	715	SR 41	2687	2503	1.07	1411	1225	1.15	1276	1278	1.00
	685	738	Huetter Rd	606	299	2.03	166	98	1.69	440	201	2.19
	687	739	Atlas Rd	155	695	0.22	19	367	0.05	136	328	0.41
	689	743	Ramsey Rd	1890	2631	0.72	795	1424	0.56	1095	1207	0.91
	691	9421	US 95	3215	2830	1.14	1559	1434	1.09	1656	1396	1.19
	695	746	4th St	549	802	0.68	216	332	0.65	333	470	0.71
	698	716	15th St	611	796	0.77	284	370	0.77	327	426	0.77
			TOTAL	17365	19775	0.88	7651	9437	0.81	9714	10338	0.94
SCREENLINE NUMBER: #6												
SCREENLINE LOCATION: Poleline Rd Screenline #6												
SL Section	Corresponding Links: NB and SB			Total Model and Counts			SOUTHBOUND			NORTHBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	544	595	Pleasant View Rd	1433	494	2.90	620	178	3.48	813	316	2.57
	550	579	Chase Rd.	294	309	0.95	120	173	0.69	174	136	1.28
	552	580	Spokane St	86	598	0.14	29	238	0.12	57	360	0.16
	554	581	Idaho St	633	744	0.85	221	334	0.66	412	410	1.00
	558	583	Greensferry Rd.	483	242	2.00	382	113	3.38	101	129	0.78
	562	585	SR41	2268	1656	1.37	911	704	1.29	1357	952	1.43
	1100	587	Huetter Rd	611	287	2.13	178	108	1.65	433	179	2.42
	9458	9063	Atlas Rd	1099	829	1.33	428	341	1.26	671	488	1.38
	569	590	Ramsey Rd	919	1497	0.61	349	627	0.56	570	870	0.66
	571	615	US 95	3539	2823	1.25	1800	1338	1.35	1739	1485	1.17
	573	592	Government Way	1050	1484	0.71	472	738	0.64	578	746	0.77
	575	9052	4th St	444	690	0.64	171	305	0.56	273	385	0.71
	577	594	15th St	317	450	0.70	168	191	0.88	149	259	0.58
			TOTAL	13176	12103	1.09	5849	5388	1.09	7327	6715	1.09

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SCREENLINE NUMBER:		#7										
SCREENLINE LOCATION:		Prairie Rd. Screenline #7										
SL Section	Corresponding Links: NB and SB		Total Model and Counts			SOUTHBOUND			NORTHBOUND			
	From	To	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	
	476	9386	332	79	4.20	163	53	3.08	169	26	6.50	
	478	9912	203	230	0.88	111	115	0.97	92	115	0.80	
	480	9911	49	203	0.24	35	113	0.31	14	90	0.16	
	482	509	249	320	0.78	136	160	0.85	113	160	0.71	
	486	9917	412	208	1.98	293	109	2.69	119	99	1.20	
	488	9918	1869	1444	1.29	898	605	1.48	971	839	1.16	
	491	522	694	324	2.14	249	186	1.34	445	138	3.22	
	496	9061	336	657	0.51	153	300	0.51	183	357	0.51	
	498	524	826	1231	0.67	322	525	0.61	504	706	0.71	
	500	510	3362	2653	1.27	1694	1207	1.40	1688	1446	1.15	
	502	511	1050	1282	0.82	422	581	0.73	628	701	0.90	
	504	512	429	788	0.54	140	305	0.46	289	483	0.60	
	9878	513	245	196	1.25	136	79	1.72	109	117	0.93	
		TOTAL	10056	9615	1.05	4752	4338	1.10	5304	5277	1.01	
SCREENLINE NUMBER:		#8										
SCREENLINE LOCATION:		Hayden Ave. Screenline # 8										
SL Section	Corresponding Links: NB and SB		Total Model and Counts			SOUTHBOUND			NORTHBOUND			
	From	To	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	
	386	445	267	94	2.84	106	67	1.58	161	27	5.96	
	411	1162	99	126	0.79	43	52	0.83	56	74	0.76	
	412	1163	58	140	0.41	10	64	0.16	48	76	0.63	
	415	447	1767	1320	1.34	928	601	1.54	839	719	1.17	
	413	446	55	138	0.40	12	60	0.20	43	78	0.55	
	418	435	436	144	3.03	152	55	2.76	284	89	3.19	
		TOTAL	2682	1962	1.37	1251	899	1.39	1431	1063	1.35	
SCREENLINE NUMBER:		#9										
SCREENLINE LOCATION:		Lancaster Rd. Screenline # 9										
SL Section	Corresponding Links: NB and SB		Total Model and Counts			SOUTHBOUND			NORTHBOUND			
	From	To	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	07 Model	07 Counts	Model/Counts	
	330	1144	50	110	0.45	0	49	0.00	50	61	0.82	
	332	352	1694	1056	1.60	832	424	1.96	862	632	1.36	
	1093	1156	62	289	0.21	28	104	0.27	34	185	0.18	
	334	9412	10	98	0.10	6	35	0.17	4	63	0.06	
	338	9418	2095	1930	1.09	1140	754	1.51	955	1176	0.81	
	339	354	337	323	1.04	70	136	0.51	267	187	1.43	
	344	351	195	71	2.75	73	40	1.83	122	31	3.94	
	341	348	52	73	0.71	4	41	0.10	48	32	1.50	
	9000	357	10	18	0.56	6	8	1	4	10	0.40	
	9781	9827	2	56	0.04	1	18	0	1	38	0.03	
		TOTAL	4507	4024	1.12	2160	1609	1.34	2347	2415	0.97	

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SCREENLINE NUMBER:		#10											
SCREENLINE LOCATION:		SH 53 - US 95 Screenline # 10											
SL Section	Corresponding Links: EB and WB			Total Model and Counts			SOUTHBOUND			NORTHBOUND			
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	
	263	265	BNSF RR Bridge in Rathdrum	719	1139	0.63	409	645	0.63	310	494	0.63	
	9400	9331	Atlas Rd	11	57	0.19	6	22	0.27	5	35	0.14	
	1137	269	Ramsey Rd	540	344	1.57	247	142	1.74	293	202	1.45	
	252	271	US 95 n/o SH53	1388	1567	0.89	726	651	1.12	662	916	0.72	
	271	300	Govt Way e/o US95	272	173	1.57	99	44	2.25	173	129	1.34	
			TOTAL	2930	3280	0.89	1487	1504	0.99	1443	1776	0.81	
SCREENLINE NUMBER:		#11											
SCREENLINE LOCATION:		Twin Lakes to Nat. Forest. Screenline # 11											
SL Section	Corresponding Links: EB and WB			Total Model and Counts			SOUTHBOUND			NORTHBOUND			
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	
	9776	239	East Twin Lake Rd near SH 41	206	151	1.36	104	101	1.03	102	50	2.04	
	9750	239	SH 41 south of Seasons Rd	725	687	1.06	320	201	1.59	405	486	0.83	
	226	237	Ramsey Rd south of Brunner	38	127	0.30	20	32	0.63	18	95	0.19	
	230	1099	Diagonal Rd south of Brunner	45	47	0.96	25	25	1.00	20	22	0.91	
	231	9902	US 95 south of Brunner Rd	1996	1340	1.49	1037	761	1.36	959	579	1.66	
			TOTAL	3010	2352	1.28	1506	1120	1.34	1504	1232	1.22	
SCREENLINE NUMBER:		#12											
SCREENLINE LOCATION:		US 95 to SH 3 South Screenline # 12											
SL Section	Corresponding Links: EB and WB			Total Model and Counts			SOUTHBOUND			NORTHBOUND			
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	
	1079	1085	US 95 S/O Worley	498	499	1.00	250	251	1.00	248	248	1.00	
	1058	10098	US 95 N/O Worley	297	468	0.63	77	201	0.38	220	267	0.82	
	1073	10015	Cave Bay Rd @ Rock Creek	32	51	0.63	16	24	0.67	16	27	0.59	
	1061	1191	SH 97 north of Harrison	158	57	2.77	56	40	1.40	102	17	6.00	
	9726	9364	Ogara Rd west of SH 97	9	85	0.11	4	27	0.15	5	58	0.09	
	1077	1078	SH 97 north of SH 3	35	90	0.39	18	38	0.47	17	52	0.33	
	1081	1083	SH 3 @ Benawah Co. Line	231	233	0.99	107	108	0.99	124	125	0.99	
			TOTAL	1260	1483	0.85	528	689	0.77	732	794	0.92	
SCREENLINE NUMBER:		#13											
SCREENLINE LOCATION:		SH 93 to LaTour Creek Rd Screenline # 13											
SL Section	Corresponding Links: EB and WB			Total Model and Counts			SOUTHBOUND			NORTHBOUND			
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	
	914	940	UpRiver Dr west of US 95	326	153	2.13	64	98	0.65	262	55	4.76	
	969	9457	Cougar Gulch Rd west of US 95	37	149	0.25	18	52	0.35	19	97	0.20	
	1017	9437	Burma Rd S/O Gozzer Rd	282	39	7.23	121	23	5.26	161	16	10.06	
	9436	1017	SH 97 N/O Burma	404	278	1.45	187	67	2.79	217	211	1.03	
	1045	1057	LaTour Creek Rd south of I 90	0	23	0.00	0	15	0.00	0	8	0.00	
	1030	1034	SH 3 S/O I 90	287	192	1.49	138	110	1.25	149	82	1.82	
			TOTAL	1336	834	1.60	528	365	1.45	808	469	1.72	
SCREENLINE NUMBER:		#14											
SCREENLINE LOCATION:		Spirit Lake Pend'O Reille Screenline #14											
SL Section	Corresponding Links: EB and WB			Total Model and Counts			SOUTHBOUND			NORTHBOUND			
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	
	201	9857	US 95 north of Athol	750	751	1.00	342	342	1.00	408	409	1.00	
	10003	198	SH 41 north of Spirit Lake	421	422	1.00	154	154	1.00	267	268	1.00	
	204	213	SH 41 south of Spirit Lake	664	742	0.89	286	265	1.08	378	477	0.79	
	202	212	Perimeter Rd north of SH 545	41	36	1.14	20	17	1.18	21	19	1.11	
			TOTAL	1876	1951	0.96	802	778	1.03	1074	1173	0.92	

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SCREENLINE NUMBER: #15												
SCREENLINE LOCATION: Pleasant View Rd. Screenline # 15												
SL Section	Corresponding Links: EB and WB			Total Model and Counts			EASTBOUND			WESTBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	9945	471	SH 53 (W/O Prairie Ave)	668	683	0.98	380	317	1.20	288	366	0.79
	647	648	Seltice Way	595	709	0.84	428	346	1.24	167	363	0.46
	544	10146	Poleline Ave.	68	57	1.19	42	36	1.17	26	21	1.24
	473	9019	Prairie Rd.	192	285	0.67	111	153	0.73	81	132	0.61
	440	401	SH 53	1024	891	1.15	617	613	1.01	407	278	1.46
	9222	9226	Riverbend Ave	154	222	0.69	97	138	0.70	57	84	0.68
			TOTAL	2701	2847	0.95	1675	1603	1.04	1026	1244	0.82
SCREENLINE NUMBER: #16												
SCREENLINE LOCATION: McGuire Rd. Screenline # 16												
SL Section	Corresponding Links: EB and WB			Total Model and Counts			EASTBOUND			WESTBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	651	652	Seltice Way	970	1051	0.92	570	502	1.14	400	549	0.73
	547	9672	Poleline Ave.	144	151	0.95	83	56	1.48	61	95	0.64
	476	9907	Prairie Rd.	268	288	0.93	157	159	0.99	111	129	0.86
	401	366	SH 53	1306	917	1.42	741	551	1.34	565	366	1.54
			TOTAL	2688	2407	1.12	1551	1268	1.22	1137	1139	1.00
SCREENLINE NUMBER: #17												
SCREENLINE LOCATION: Chase Rd. Screenline # 17												
SL Section	Corresponding Links: EB and WB			Total Model and Counts			EASTBOUND			WESTBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	9439	9004	Seltice Way	1213	1292	0.94	721	623	1.16	492	669	0.74
	550	551	Poleline Ave.	222	270	0.82	106	104	1.02	116	166	0.70
	478	479	Prairie Rd.	294	371	0.79	149	182	0.82	145	189	0.77
	411	1148	Hayden Rd.	445	212	2.10	225	91	2.47	220	121	1.82
			TOTAL	2174	2145	1.01	1201	1000	1.20	973	1145	0.85
SCREENLINE NUMBER: #18												
SCREENLINE LOCATION: Spokane St. Screenline # 18												
SL Section	Corresponding Links: EB and WB			Total Model and Counts			EASTBOUND			WESTBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	753	721	4th St.	409	228	1.79	274	121	2.26	135	107	1.26
	765	9930	3rd St	56	412	0.14	32	193	0.17	24	219	0.11
	9004	680	Seltice Way	1233	1464	0.84	644	704	0.91	589	760	0.78
	552	553	Poleline Ave.	539	517	1.04	225	244	0.92	314	273	1.15
	480	481	Prairie Rd.	358	489	0.73	170	222	0.77	188	267	0.70
			TOTAL	2595	3110	0.83	1345	1484	0.91	1250	1626	0.77

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SCREENLINE NUMBER:		#19											
SCREENLINE LOCATION:		Idaho St. Screenline # 19											
SL Section	Corresponding Links: EB and WB			Total Model and Counts			EASTBOUND			WESTBOUND			
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	
	724	725	4th St.	245	127	1.93	219	92	2.38	26	35	0.74	
	682	709	Seltice Way	2181	1810	1.20	1015	818	1.24	1166	992	1.18	
	554	555	Poleline	452	514	0.88	237	265	0.89	215	249	0.86	
	482	483	Prairie Rd.	491	518	0.95	206	231	0.89	285	287	0.99	
	TOTAL			3369	2969	1.13	1677	1406	1.19	1692	1563	1.08	

SCREENLINE NUMBER:		#20											
SCREENLINE LOCATION:		Greensferry Rd. Screenline # 20											
SL Section	Corresponding Links: EB and WB			Total Model and Counts			EASTBOUND			WESTBOUND			
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	
	9929	771	3rd St.	210	273	0.77	125	153	0.82	85	120	0.71	
	728	730	Seltice Way	937	1395	0.67	543	606	0.90	394	789	0.50	
	664	665	Mullan Ave	554	1028	0.54	277	555	0.50	277	473	0.59	
	635	636	12th	375	154	2.44	337	75	4.49	38	79	0.48	
	606	607	16th	161	143	1.13	68	64	1.06	93	79	1.18	
	558	559	Poleline Ave.	468	539	0.87	114	247	0.46	354	292	1.21	
	486	487	Prairie Rd.	819	542	1.51	267	236	1.13	552	306	1.80	
	413	414	Hayden Rd.	492	295	1.67	236	124	1.90	256	171	1.50	
	1101	1154	Wyoming Ave	0	69	0.00	0	32	0.00	0	37	0.00	
	309	9029	SH 53	1208	865	1.40	701	536	1.31	507	329	1.54	
	TOTAL			5224	5303	0.99	2668	2628	1.02	2556	2675	0.96	

SCREENLINE NUMBER:		#21											
SCREENLINE LOCATION:		SH 41 Screenline # 21											
SL Section	Corresponding Links: EB and WB			Total Model and Counts			EASTBOUND			WESTBOUND			
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	
	9382	734	Seltice Way	1298	1314	0.99	1185	1114	1.06	113	200	0.57	
	9791	9382	Seltice Way (Duplicate - new cou	1576	1799	0.88	1152	1103	1.04	424	696	0.61	
	668	669	Mullan Ave	836	1204	0.69	530	690	0.77	306	514	0.60	
	561	562	Poleline Rd.	632	506	1.25	191	262	0.73	441	244	1.81	
	10057	488	Prairie Rd.	110	521	0.21	89	221	0.40	21	300	0.07	
	10138	415	Hayden Rd.	496	292	1.70	238	120	1.98	258	172	1.50	
	9037	1094	Wyoming	0	124	0.00	0	68	0.00	0	56	0.00	
	1151	332	Lancaster	7	18	0.39	0	8	0.00	7	10	0.70	
	324	323	Nagel Ln	55	168	0.33	30	69	0.43	25	99	0.25	
	287	293	McCamey St N/O SR41	17	116	0.15	10	57	0.18	7	59	0.12	
	9305	281	Stevens St	127	85	1.49	79	64	1.23	48	21	2.29	
	9306	9309	Washington St	0	44	0.00	0	0	N/A	0	44	0.00	
	9295	310	Boekel Rd	114	72	1.58	43	31	1.39	71	41	1.73	
	TOTAL			5268	6263	0.84	3547	3807	0.93	1721	2456	0.70	

PROJECT TITLE: KMPO TRAVEL DEMAND MODEL SCREENLINE VALIDATION
 SCENARIO TITLE: 2007 Model Volume vs Roadway 07_Counts (PM PEAK HOUR)
 RUN # 9b 2007 NEW LU, Roundabouts, UPDATED External X-I, I-X and X-X, Trip Rates, Trip Distribution, No Node Delay
 Date: 3/20/2009
 File Location C:\Documents and Settings\jrent\My Documents\
 Originated by: Tony wang
 Checked by: Revised Template by Jin Ren



SCREENLINE NUMBER:		#22										
SCREENLINE LOCATION:		Huetter Rd Screenline # 22										
SL Section	Corresponding Links: EB and WB		Total Model and Counts			EASTBOUND			WESTBOUND			
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	9766	9946	Maplewood	25	109	0.23	0	50	0.00	25	59	0.42
	793	794	Seltice Way	1368	1129	1.21	875	553	1.58	493	576	0.86
	9043	685	Mullan Ave	150	101	1.49	66	34	1.94	84	67	1.25
	494	491	Prairie Rd.	996	918	1.08	435	432	1.01	561	486	1.15
	1160	367	Wyoming Ave	0	8	0.00	0	4	0.00	0	4	0.00
	1158	334	Lancaster Ave	211	41	5.15	106	12	8.83	105	29	3.62
	417	418	Hayden Rd.	1562	729	2.14	708	283	2.50	854	446	1.91
	10036	1096	Boekel Ave	176	236	0.75	81	106	0.76	95	130	0.73
			TOTAL	4488	3271	1.37	2271	1474	1.54	2217	1797	1.23
SCREENLINE NUMBER:		#23										
SCREENLINE LOCATION:		Ramsey Rd Screenline # 23										
SL Section	Corresponding Links: EB and WB		Total Model and Counts			EASTBOUND			WESTBOUND			
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	857	9734	Ironwood Dr	1067	1171	0.91	382	459	0.83	685	712	0.96
	813	9097	Appleway	364	1092	0.33	146	512	0.29	218	580	0.38
	689	9087	Kathleen Ave	1123	1543	0.73	514	750	0.69	609	793	0.77
	613	9083	Dalton Ave	297	253	1.17	111	121	0.92	186	132	1.41
	569	9100	Hanley Ave	1205	786	1.53	542	371	1.46	663	415	1.60
	524	10117	Wilbur Ave Pinegrove	135	250	0.54	61	101	0.60	74	149	0.50
	498	9050	Prairie Ave	1142	1440	0.79	516	686	0.75	626	754	0.83
	450	451	Honeysuckle Ave	88	285	0.31	41	149	0.28	47	136	0.35
	422	423	Hayden Ave	712	720	0.99	319	400	0.80	393	320	1.23
	387	388	Miles Ave	7	95	0.07	2	57	0.04	5	38	0.13
	368	369	Wyoming Ave	192	221	0.87	82	110	0.75	110	111	0.99
	336	337	Lancaster Ave	266	189	1.41	128	123	1.04	138	66	2.09
	9032	10072	Boekel Rd	902	246	3.67	414	85	4.87	488	161	3.03
	269	270	Hwy 53	880	666	1.32	432	289	1.49	448	377	1.19
	251	1140	Garwood Rd	3	175	0.02	2	77	0.03	1	98	0.01
	245	1139	Ohio Match Rd	28	41	0.68	10	24	0.42	18	17	1.06
			TOTAL	8411	9173	0.92	3702	4314	0.86	4709	4859	0.97

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 SCENARIO TITLE: 2007 Model Volume vs Roadway 07_Counts (PM PEAK HOUR)
 RUN # 9b 2007 NEW LU, Roundabouts, UPDATED External X-I, I-X and X-X, Trip Rates, Trip Distribution, No Node Delay
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 Originated by: jony wang
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SCREENLINE NUMBER: #24												
SCREENLINE LOCATION: US 95 Screenline # 24												
SL Section	Corresponding Links: EB and WB			Total Model and Counts			EASTBOUND			WESTBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	892	9129	Walnut St	323	269	1.20	107	157	0.68	218	112	1.93
	9903	9821	Old US 95 n/o SH53	825	328	2.52	421	147	2.86	404	181	2.23
	9895	891	US 95	1081	979	1.10	586	492	1.19	495	487	1.02
	896	1173	Northwest Blvd	1864	1922	0.97	890	945	0.94	974	977	1.00
	868	1172	Ironwood Blvd	1015	1270	0.80	475	735	0.65	540	535	1.01
	831	832	Appleway Ave	764	1415	0.54	393	688	0.57	371	727	0.51
	761	762	Neider Ave	960	1080	0.89	416	535	0.78	544	545	1.00
	691	692	Kathleen Ave	421	1083	0.39	305	587	0.52	116	496	0.23
	615	616	Dalton Ave	660	589	1.12	279	298	0.94	381	291	1.31
	571	9054	Hanley Ave	1019	925	1.10	437	457	0.96	582	468	1.24
	500	501	Prairie Ave	932	1135	0.82	463	705	0.66	469	430	1.09
	454	455	Honeysuckle Ave	791	758	1.04	371	337	1.10	420	421	1.00
	426	427	Hayden Ave	276	903	0.31	96	440	0.22	180	463	0.39
	9982	392	Miles Ave	314	250	1.26	178	119	1.50	136	131	1.04
	9983	373	Wyoming Ave	288	246	1.17	78	160	0.49	210	86	2.44
	338	339	Lancaster Ave	275	141	1.95	71	97	0.73	204	44	4.64
	252	253	Garwood Rd	151	193	0.78	91	112	0.81	60	81	0.74
	246	247	Ohio Match Rd	31	71	0.44	12	51	0.24	19	20	0.95
			TOTAL	11990	13557	0.88	5669	7062	0.80	6321	6495	0.97
SCREENLINE NUMBER: #25												
SCREENLINE LOCATION: West Side KMPO Screenline # 25												
SL Section	Corresponding Links: EB and WB			Total Model and Counts			EASTBOUND			WESTBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	9015	717	Seltice Way W/O Beck Rd	576	557	1.03	310	300	1.03	266	257	1.04
	1049	9355	Elder Rd @ Washington Line	0	59	0.00	0	25	0.00	0	34	0.00
	1068	9362	SH 58 @ Washington Line	223	224	1.00	89	89	1.00	134	135	0.99
	1062	9354	Bitter Rd east of US 95	0	6	0.00	0	4	0.00	0	2	0.00
	514	9945	SH 53 @ Washington State Line	668	669	1.00	380	380	1.00	288	289	1.00
	1046	9177	Rockford Bay Rd east of US 95	99	138	0.72	49	42	1.17	50	96	0.52
	1079	9783	Conkling Rd east of US 95	30	37	0.81	19	22	0.86	11	15	0.73
			TOTAL	1596	1690	0.94	847	862	0.98	749	828	0.90
SCREENLINE NUMBER: #26												
SCREENLINE LOCATION: East Side KMPO Screenline # 26												
SL Section	Corresponding Links: EB and WB			Total Model and Counts			EASTBOUND			WESTBOUND		
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	1040	1042	190 @ Shoshone Co. Line	1007	1007	1.00	521	521	1.00	486	486	1.00
	949	9965	Fernan Lake Rd @ CdA City Lim	96	51	1.88	50	24	2.08	46	27	1.70
	980	976	Mullan Trail Rd north of 190	318	76	4.18	178	50	3.56	140	26	5.38
	990	987	Sunnyside Rd south of Mullan Tr	26	56	0.46	16	32	0.50	10	24	0.42
	344	345	Lancaster Rd east of Rimrock	288	107	2.69	181	54	3.35	107	53	2.02
	249	250	Ohio Match Rd East of Rimrock	0	34	0.00	0	23	0.00	0	11	0.00
	232	233	Bunco Rd @ Nunn Rd	279	54	5.17	122	24	5.08	157	30	5.23
	9999	200	SH 54 West of Farragut Park En	228	223	1.02	107	95	1.13	121	128	0.95
			TOTAL	2242	1608	1.39	1175	823	1.43	1067	785	1.36

PROJECT TITLE: **KMPO TRAVEL DEMAND MODEL SCREENLINE VALIDATION**
 SCENARIO TITLE: **2007 Model Volume vs Roadway 07_Counts (PM PEAK HOUR)**
 RUN # 9b **2007 NEW LU, Roundabouts, UPDATED External X-I, I-X and X-X, Trip Rates, Trip Distribution, No Node Delay**
 Date: **3/20/2009**
 File Location **C:\Documents and Settings\ren.My Documents**
 Originated by: **tony wang**
 Checked by: **Revised Template by Jin Ren**



SCREENLINE NUMBER: #27												
SCREENLINE LOCATION: Government Way Screenline # 27												
SL Section	Corresponding Links: EB and WB		Total Model and Counts			EASTBOUND			WESTBOUND			
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	9733	944	Government Way	465	349	1.33	219	166	1.32	246	183	1.34
	944	951	N/O Sherman Ave	1147	1307	0.88	629	657	0.96	518	650	0.80
	9825	931	Foster Ave	514	155	3.32	301	89	3.38	213	66	3.23
	9812	900	Harrison Ave	256	743	0.34	145	413	0.35	111	330	0.34
	833	834	Appleway/Best Ave	1215	1446	0.84	543	795	0.68	672	651	1.03
	777	779	Neider Ave	1006	1004	1.00	561	504	1.11	445	500	0.89
	10159	694	Margaret Ave	607	826	0.73	320	461	0.69	287	365	0.79
	617	618	Dalton Ave	498	622	0.80	289	347	0.83	209	275	0.76
	573	574	Hanley Ave	137	450	0.30	61	202	0.30	76	248	0.31
	527	528	Wilbur Ave	162	107	1.51	68	65	1.05	94	42	2.24
	502	503	Prairie Ave	844	840	1.00	493	482	1.02	351	358	0.98
	456	457	Honeysuckle Ave	510	497	1.03	270	269	1.00	240	228	1.05
	428	429	Hayden Ave	307	540	0.57	193	305	0.63	114	235	0.49
	393	394	Miles Ave	285	230	1.24	168	117	1.44	117	113	1.04
	374	9044	Wyoming Ave	151	89	1.70	4	56	0.07	147	33	4.45
	339	340	Lancaster Ave	329	244	1.35	164	143	1.15	165	101	1.63
			TOTAL	8433	9449	0.89	4428	5071	0.87	4005	4378	0.91
SCREENLINE NUMBER: #28												
SCREENLINE LOCATION: I 90 Ramps Screenline # 28												
SL Section	Corresponding Links: EB and WB		Total Model and Counts			EASTBOUND			WESTBOUND			
	From	To	ARTERIAL NAME	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts	07_Model	07_Counts	Model/Counts
	752	719	SR 90 @ Pleasant View Rd On	1095	756	1.45	586	440	1.33	509	316	1.61
	751	752	SR 90 @ Pleasant View Rd Off	1260	768	1.64	645	409	1.58	615	359	1.71
	703	704	I 90 Ramp @ Spokane St On	505	692	0.73	105	315	0.33	400	377	1.06
	701	703	I 90 Ramp @ Spokane St Off	671	1123	0.60	468	705	0.66	203	418	0.49
	726	712	I 90 Ramp @ Seltice Way EB On	1834	719	2.55	877	265	3.31	957	454	2.11
	9709	736	I 90 Ramp @ SH 41 On	1081	1152	0.94	506	547	0.93	575	605	0.95
	732	731	I 90 Ramp @ SH 41 Off	1325	1366	0.97	585	623	0.94	740	743	1.00
	843	844	I 90 Ramp @ NW Blvd/Ramsey	1309	1197	1.09	253	329	0.77	1056	868	1.22
	826	843	I 90 Ramp @ NW Blvd/Ramsey	1203	1129	1.07	974	783	1.24	229	346	0.66
	859	849	I 90 Ramp @ US 95 On	1438	1151	1.25	587	325	1.81	851	826	1.03
	847	859	I 90 Ramp @ US 95 Off	914	902	1.01	504	642	0.79	410	260	1.58
	861	862	I 90 Ramp @ 3rd/4th St On	647	890	0.74	182	317	0.57	465	563	0.83
	860	9788	I 90 Ramp @ 3rd/4th St Off	962	820	1.17	710	582	1.22	252	238	1.06
	9795	912	I 90 Ramp @ 15th St On	460	389	1.18	166	71	2.34	294	318	0.92
	885	9796	I 90 Ramp @ 15th St Off	627	534	1.17	511	440	1.16	116	94	1.23
	9011	968	I 90 Ramp @ 23rd St On	459	407	1.13	104	88	1.18	355	319	1.11
	947	9948	I 90 Ramp @ 23rd St Off	465	434	1.07	374	347	1.08	91	87	1.05
			TOTAL	16255	14419	1.13	8137	7228	1.13	8118	7191	1.13
Overall				150680	150206	1.00	73425	73300	1.00	77255	76906	1.00