

KMPO 2020 Travel Demand Model Documentation

Final Documentation



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1.0 Introduction

This report was developed to document the inputs, calibration and validation of the Kootenai Metropolitan Planning Organization (KMPO) travel demand model (TDM). This report is focused on the 2020 update to the KMPO travel demand model, including methodology and enhancements; the 2020 model is an update to KMPO's 2018 model. The model was developed in PTV's VISUM software.

Travel demand forecasting models 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 volumes on streets and roadways change, due to the changes in the land use and the transportation system. The 2020 KMPO model update is expected to revalidate the 2018 base year model to reflect the conditions of the 2020 transportation network and land use. Many modeling components were left as they were in the 2016 model; however, this documentation outlines the changes that have been made. KMPO staff performed the 2020 model update calibration/validation with and assistance from PTV Group. Documentation of updates performed by PTV is included in Appendix A.

In this KMPO 2020 model update, KMPO staff and PTV made the following changes, which are addressed in the following sections of this report:

- Land use update
- Network updates/revisions
- ODME removed
- X-X and X-I updates
- Trip generation rate update
- Trip distribution parameter revisions
- Trip Assignment method update

Detailed technical specifications and model update descriptions are provided to assist the KMPO model users in their understanding of the model applications, data inputs and outputs, and validation results.

1.1 Background

KMPO was formed in 2003. The first KMPO four-step travel demand model for the AM and PM Peak Hours was developed by KMPO staff and PTV Group in 2003.

The KMPO model is based on a typical four-step gravity demand model which includes: Trip Generation, Trip Distribution, Mode Choice and Route Assignment. Mode choice is made up of private cars, public transit, and/or non-motorized travel. Currently, the KMPO model remains a three-step model, as private vehicles are the only mode included at this time. Mode choice is planned to be expanded upon in the future as the mode-splits diversify and more data is available.

The 2003 model was first updated in 2005 by PTV Group, upon the completion of KMPO's 2005 Household travel survey, in order to incorporate statistically valid data for Kootenai County travel behavior. Subsequent updates have been made to the model in 2007, 2012, 2016 and 2018. The 2020 model was completed in-house with calibration assistance from PTV Group.

The 2020 KMPO Model is a Peak Hour model and provides the existing 2020 AM and PM peak hour traffic volumes. It is used as a base model to project future traffic forecasts for the AM and PM peak hour traffic in Kootenai County.

1.2 Model Geography

- Kootenai County, Idaho
- 2020 County Population estimate: 171,362 (2020 Decennial Census)
- Model Vehicle Miles Traveled (VMT) estimate: 354,930 miles in the PM peak hour
- Model Vehicle Hours of Travel (VHT) estimate: 10,158 hours in the PM peak hour
- Total 2020 Occupied Dwelling Units Estimate: 67,278

1.3 Data Sources

Data from many agencies are compiled and analyzed for input into the travel demand model. The model is used for transportation travel demand forecasting. Ensuring that the most accurate, reliable and available data is used, as well as having a well-calibrated and validated model, is vitally important for accurate travel demand forecasting. KMPO uses the following data sources for input into the model:

- *2005 Household Travel Survey*: A regional household survey is used to estimate current travel behavior. KMPO's most recent survey was performed in 2005 and can be found on our website (www.kmpo.net).
- *US Census Bureau Decennial Census*: (every 10 years) Transportation Analysis Zones (TAZs) are based on Census blocks. Source of 2020 dwelling unit data.
- *Idaho Department of Labor*: Source of 2019 - Quarter 3 employment data for TAZ land uses.
- *Kootenai County*: Source of 2020 structure data, additional Geographical Information Systems (GIS) data, and planning documents.
- *Local Cities/Highway Districts*: Traffic count data is obtained from each of the local agencies. Building permit data and comprehensive planning documents are also obtained from local jurisdictions.
- *Idaho Transportation Department*: Source of traffic count data on state and local roadways.
- *Local Sources*: Land use information that is not readily available is obtained through additional local sources, such as: elementary, secondary, and college enrollment; number of rooms in hotels/motels; casino parking spaces, acreage of recreation areas, etc.
- *Professional Reports*: Real Estate Reports and other verified published professional reports for reasonableness checks.
- *INRIX Origin-Destination Dataset*: Connected vehicle data, via INRIX, was used to determine the trip origins and destinations in Kootenai County for the week of April 11-15, 2022. This data was used to update the internal and external OD matrices.

1.4 Model Limitations and Improvements

As with previous KMPO models, the 2020 KMPO model has some limitations that lead to potential improvements in the future.

- The KMPO model is a 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; the statistical results were extracted from the travel survey for the AM and PM conditions, by NuStats as requested by KMPO staff during this 2010 model update; therefore, the statistical analysis results are based on the “2005 Spokane and Kootenai County Regional Travel Survey”.
- Intersection level of service calculation can be implemented by using PTV’s VISTRO software, 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, or project specific sites and should be enhanced further to meet the local travel demand modeling needs in the future.

2.0 Model Network

In 2020, several roadway improvement projects were underway in the KMPO area. The 2020 Base model incorporates these improvements to reflect significant changes in route patterns that have occurred with project implementation.

2.1 Roadway Links

Roadways are represented in the model as links. Links are defined in the network by the following attributes:

- Link Type
- Capacity
- Design Speed
- One- or Two-way Direction
- Number of Lanes
- Length

These attributes are used in the model to distribute and assign trips throughout the network. Figure 1 shows how attributes are defined for a link in VISUM.

The model utilizes multiple link types for urban and rural roadways to allow for a number of analyses. The KMPO model network is primarily made up of functionally classified roadways. Some local roads have been added to

Figure 1: Link Attributes

The screenshot shows the 'Edit link' dialog box in VISUM. It contains the following fields and options:

- Number:** 8873
- From node:** 9043
- To node:** 685
- Type:** 24 Urban Collector Arterials I (dropdown menu)
- Use default values of this link type:** (checkbox, checked)
- Transport systems:** C Car (dropdown menu)
- Basics tab selected:**
 - Direct distance:** 1.122mi
 - Length:** 1.122mi
 - AddVal 1:** 0
 - AddVal 2:** 0
 - AddVal 3:** 0
 - Plan no.:** 0
 - v0 PrT:** 35mph
 - Lanes:** 1
 - Capacity PrT:** 1000
 - HGV share (%):** 0
 - VolCapRatio PrT:** 8 %
 - Volume PrT [Veh]:** 76
 - Bar labels:** (checkbox, checked)
 - Name:** (empty text field)
 - The link is closed for all public transport systems.** (checkbox, unchecked)

properly load traffic into the network or better define intersection operation. Each link type is defined by capacity (vehicles per hour per lane (vphpl)) and free-flow speed. These attributes differ by functional classification. Table 1 lists the link types available for the KMPO model's roadway network. At this time, some link types are not used in the current model analysis but are retained for future model needs.

Table 1: Link Types

No.	Description	Capacity	Speed
URBAN			
11	Urban Interstate	1900	60
31	Proposed Urban Interstate	2000	60
16	Urban Principal Arterial III	1000	30
25	Urban Principal Arterial	1600	45
34	Proposed Urban Principal Arterial	1400	45
70	Urban Principal Arterial II	1500	35
14	Urban Minor Arterial III	900	30
23	Urban Minor Arterial	1200	30
36	Proposed Urban Minor Arterial	1200	40
45	Urban Minor Arterial II	700	25
24	Urban Collector Arterial I	1000	30
37	Proposed Urban Collector	600	35
49	Urban Collector Arterial II	600	30
19	Local Street	500	25
50	Ramps	1500	45
57	Urban Arterial Ramp	1600	45
RURAL			
1	Rural Freeway	1800	70
3	Rural Principal Arterial Type II	1400	50
4	Rural Principal Arterial	1200	50
22	Proposed Rural Principal Arterial	1300	60
47	Rural Minor Arterial I	1000	35
69	Rural Minor Arterial II	750	35
10	Rural Major Collector	800	45
27	Proposed Rural Major Collector	1200	45
28	Proposed Rural Minor Collector	600	35
43	Rural Minor Collector	600	40
9	Rural Local Street	500	25
51	Rural Ramps	1000	45

Links are able to be coded as both one or two-way entry. A link can be coded as one-way by only permitting the 'Car' transport system (TSys-Car) for the desired direction. Some arterials, such as the freeway and its ramps, are modeled as a pair of one-way links rather than one two-way link so that capacity and directional splits are modeled appropriately.

'Number of Lanes' is used in computing the capacity of links, as well as for intersection geometry and model analysis. Typically, only through lanes are used for this attribute. However, KMPO has added the user-defined

attribute in Visum “TWLTL” (Two-Way Left Turn Lane), which adds additional capacity to links that have center lanes for left turns. This attribute adds an additional capacity of 300 vphpl for three-lane links and 150 vphpl for five-lane links. These are added during Steps 6 and 8 of the model’s procedure sequence.

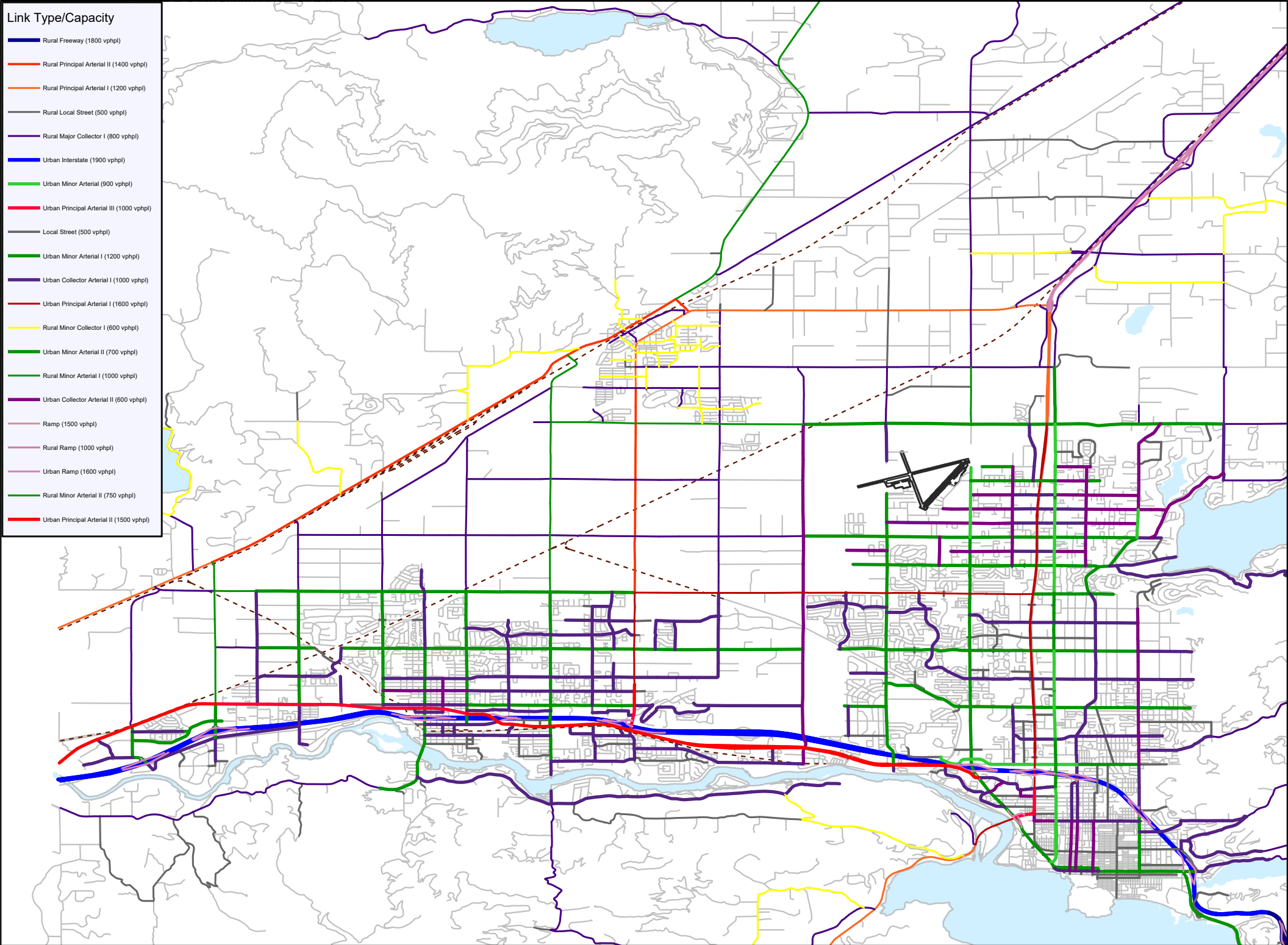
‘Link Length’ is the distance between the starting and ending nodes of the link. Link length is automatically calculated based on the network geometry.

Link attributes were checked during the 2020 update process and revisions made where appropriate. New facilities and other projects that altered roadway conditions were also added to ensure the model was consistent with 2020 conditions. Figures 2-4 illustrate the link attributes as assigned in the model for the urban area.

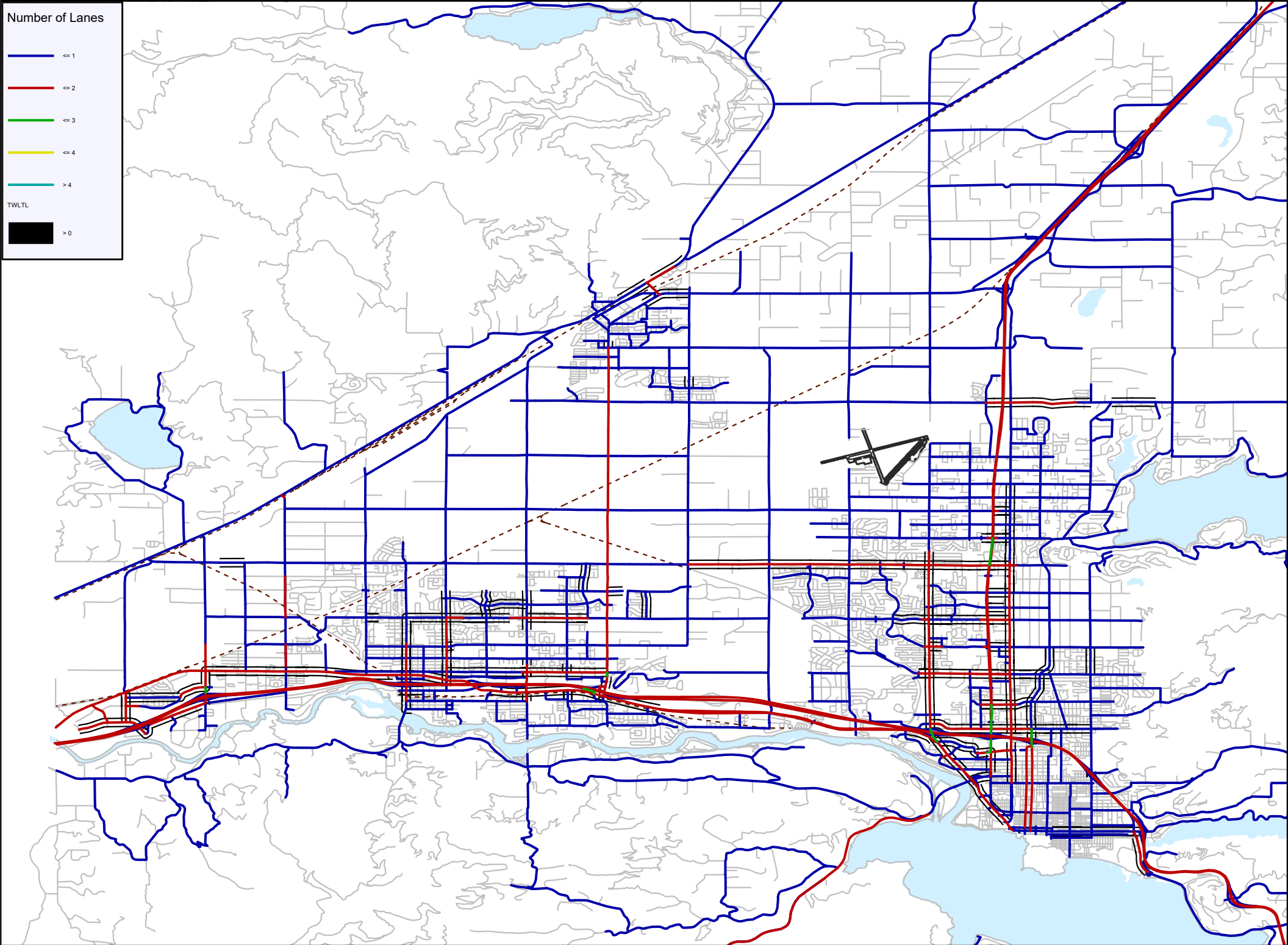
2.1.1 Link Traffic Count Update

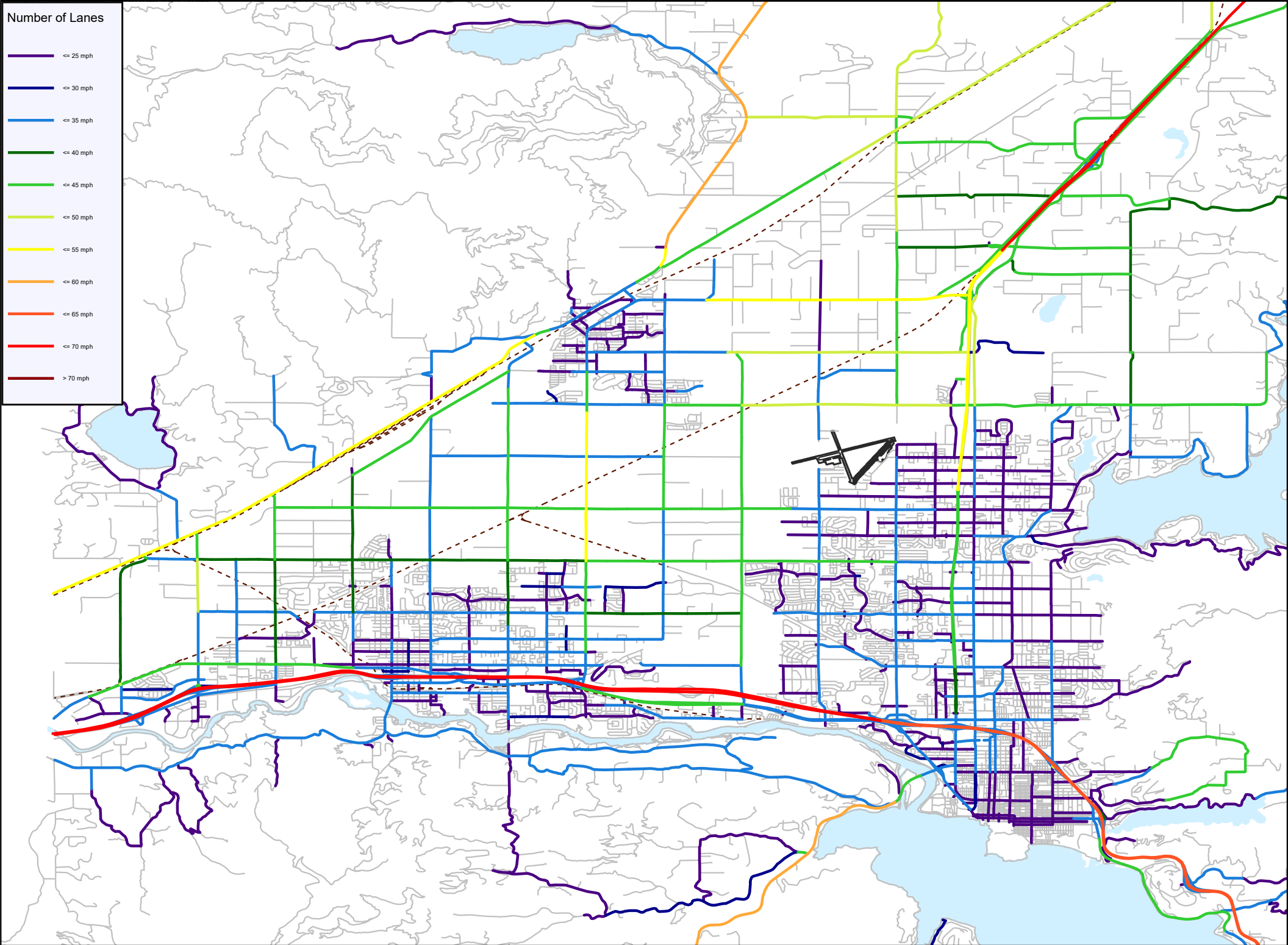
The 2020 AM and PM peak hour traffic counts were coded into the KMPO model for the purpose of model validation. The KMPO model has 313 desired count locations along its 28 screenlines. For 2020, data was available for 204 locations for the AM Peak Hour and 216 locations for the PM Peak Hour. Counts collected during the winter and summer months were adjusted to reflect typical peak volumes, using seasonal adjustment factors derived from ITD’s Automatic Traffic Recorder (ATR) data. Count data was used from collection years 2018-2023, except for 2020 due to large variations caused by COVID-19 disruptions. During the model validation, regression analyses are directly performed by using the model volumes to compare with the peak hour traffic counts.

Traffic counts used for the validation are included in Appendix B.



2020 Base Model





2020 Base Model

2.2 Intersection Nodes

Intersections are coded in the model as nodes. The KMPO model has multiple node types to represent different intersection controls and their distinct attributes. Attribute data used for nodes include node type, capacity and delay factors. A node must be coded in the model with both a node type and a VISUM control type, which assists in the calculation of performance indicators, such as level of service (LOS). Table 3 lists the model's node control types, and Table 4 lists the node (intersection) types.

Table 2: Node Control Type

Control Type	Description
0	Unknown
1	Uncontrolled
2	Two-Way Stop
3	Yield
4	Signalized
5	Roundabout

Table 3: Node (Intersection) Types

No.	Description
1	Shape Nodes
2	Centroid Connector Intersection
5	Ramp Diverge (K1=1500)
6	Ramp Merge (K1=1)
7	At-grade RR Crossing (UPRR 5-7 trains/day)
8	At-grade RR Crossing (BNSF up to 70 trains/day)
9	At-grade RR Crossing (Spur line several trains/week)
10	All-way Stop
11	Partial Stop
12	Yield
13	Uncontrolled
20	Signalized
21	Roundabout
22	Pedestrian Only signal or mid-block crosswalk with high volumes
99	Future Intersections

Node capacity factors are used to compute the overall capacity of the node, which is in turn used in computing the intersection delays. The equation used in the KMPO model for node capacity, in vehicles per hour, is:

$$C = K_1 + K_4 * (\text{Ent. Cap.})$$

where:

C = Capacity

K₁ = Capacity Constant added or subtracted in computation

K₄ = Capacity Factor multiplied by sum of entering link capacities

Ent. Cap. = Sum of entering capacities from all links entering the node

Node capacities for this model use the *K₁* and *K₄* constants. *K₄* is used to simulate the effect that a green time-to-cycle length (G/C) ratio has at an intersection. For modeling purposes, it was assumed that when like classes meet the G/C ratio is fairly even, and as the roadway meets lesser class roadways, the green time, or G/C ratio, increased on the major facility. This effect is reflected in the increasing values of the *K₄* constant as

the difference in entering link classes is more disparate. The capacities work with the node delay coefficients to compute the delay at each intersection depending upon the total amount of entering traffic.

During the update process, network nodes were checked and revisions were made where appropriate. New or changes to intersection controls were also added to ensure the model was consistent with existing conditions. Additionally, node geometry and turning movement types were analyzed at all controlled intersections to ensure appropriate capacity and lane types were coded. Node geometry is a primary input for determining capacity and delay for signalized, all-way stop, and two-way stop control types.

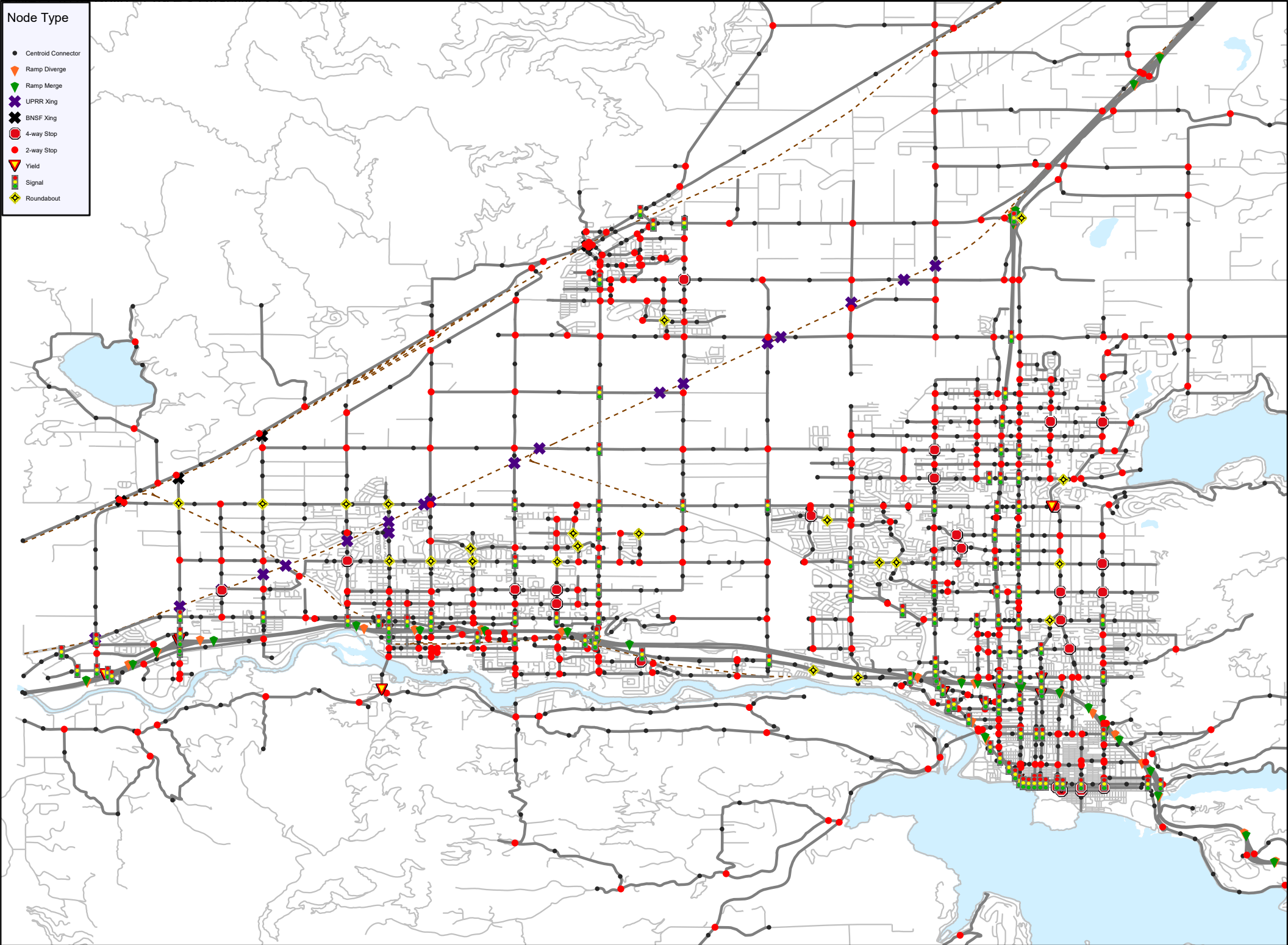
Figure 5 depicts the node types as assigned in the 2020 model for the urban area.

2.2.1. Railroad Crossing delay

In order to simulate the delay experienced at railroad crossings along the BNSF rail line, a post-assignment delay calculation was added in the procedure sequence, for both the AM and PM peak hours. Eight minutes of delay is added to type 8 nodes, which is factored into the overall vehicle miles and vehicle hours traveled. This delay was based on gate activation data provided by BNSF in 2018 and existing crossing location data from the Federal Railroad Administration (FRA), which estimates approximate two train crossings per hour with an average of 4 minutes per gate closure.

2.3 Centroid Connectors

Centroid connectors are the network objects that connect the zone centroids to the road network and vice versa, which is necessary for the assignment process. Connectors typically connect to the network at access points, such as driveways or local roads. The KMPO model distributes trips to and from the TAZs by shares. This allows the modeler to specify the weights of each connector, or what percent of the total trips in and out of the TAZ utilize that access point. This is helpful during the calibration process, as it allows for the weights to be adjusted, particularly if model volumes are not matching observed traffic counts. Connector weights were reviewed and revised based on count data and traffic loading points.



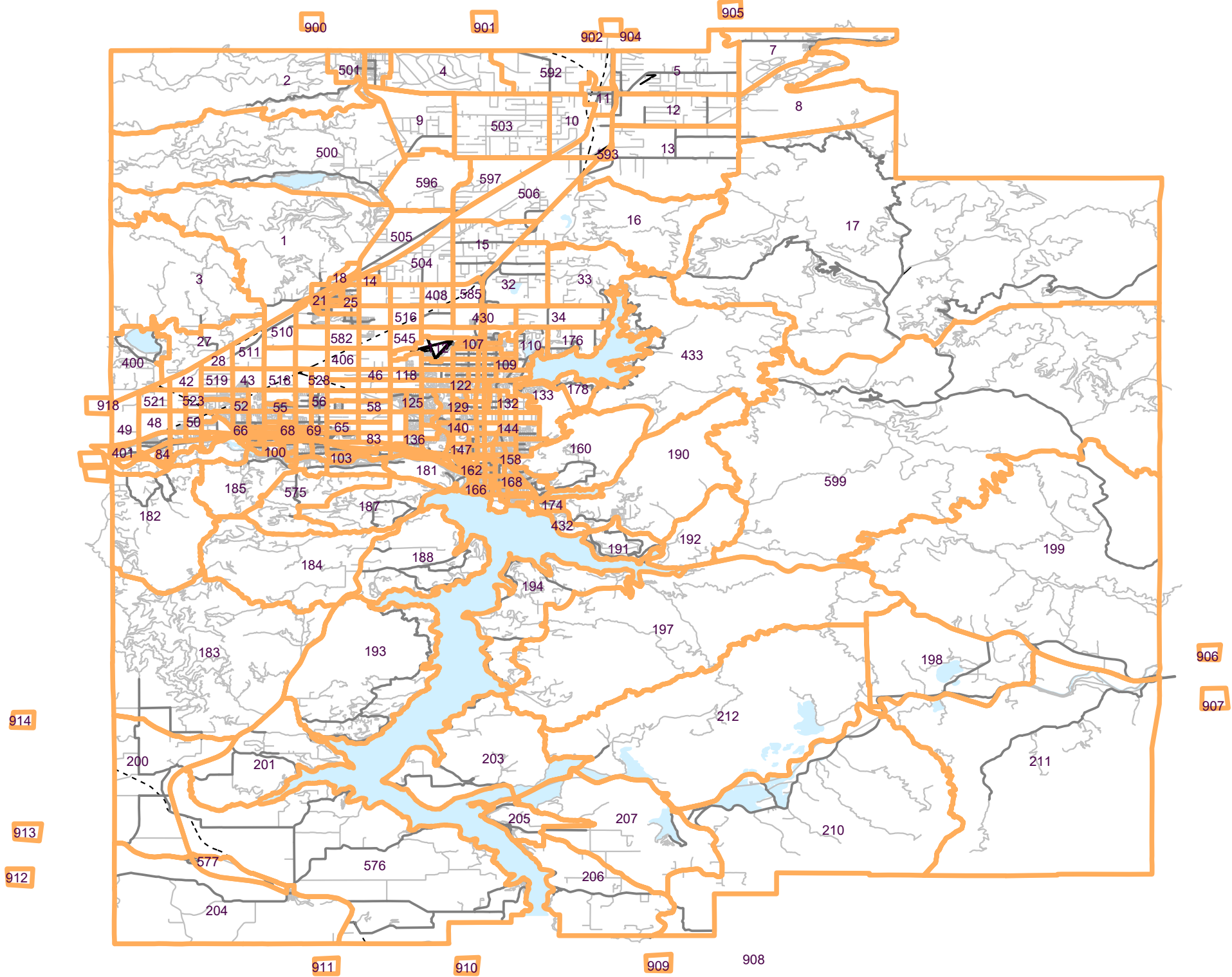
2020 Base Model

3.0 Traffic Analysis Zones

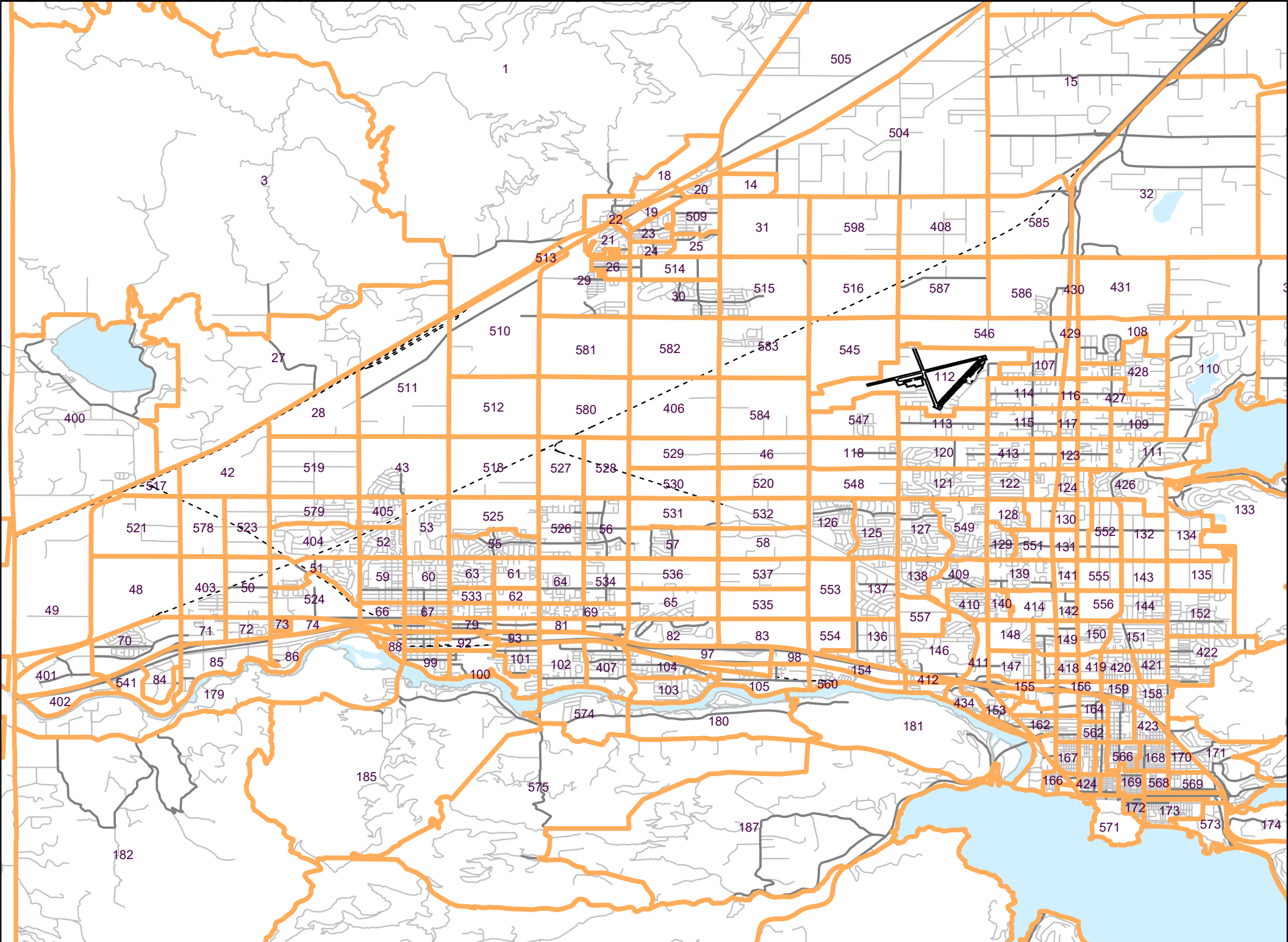
The model consists of 315 internal TAZs and 19 external TAZs. Internal zones are those within the boundaries of the model area, while external zones are located at roadways entering and leaving the model area. Internal TAZ boundaries are based off of the 2020 Census Blocks.

The points where all trips start and end in the model is the zone centroid, often located at the center of the TAZ or where the most highly concentrated development is located. Model trips generated in internal zones are based off of the land use data within each TAZ. However, external trips are based off of actual traffic counts collected at external stations.

Figures 6 and 7 shows the TAZ structure for the 2020 model.



2020 Base Model



2020 Base Model

3.1 Land Use

KMPO utilizes 23 land use categories to classify land use within the model based on NAICS codes. This allows KMPO to more easily match up to the Idaho DOL labor statistics for comparisons. The land use categories were adopted by the KMPO Board December 2018; no changes were made to the land use classifications during this update. Descriptions of the land use classifications are included in Table 4.

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 to reduce existing error in the land use data by TAZ.

Table 4: KMPO Land Use Classifications

LU1 – (SFDU) Single Family Residential	Lands occupied by a single-family home, duplex, or a manufactured home on a single lot. During calibration, this category was divided and single family uses in “outer zones” (outside of cities ACI’s) moved to Land Use category LU9 – Outer SFDU. LU1 is measured in single family dwelling units.
LU2 – (MFDU) Multi-Family Residential	Uses contain three or more residential units on a parcel of land. This category also includes mobile home parks, apartment buildings, and condominiums. LU2 is measured in multi-family dwelling units.
LU3 – (RET) Retail	Includes a broad range of establishments which sell goods directly to the general public, such as general commercial, home furnishings, food stores, direct selling establishments or other products. NAICS codes 441110 - 448320 & 451110 - 454390. LU3 is measured in employees.
LU4 – (FIRES) Finance, Insurance, Real Estate Rental & Leasing	Includes Commercial banking, financing, investment brokers, savings institutions, credit unions, investment advice, insurance carriers, real estate, rental and leasing, passenger car rental, recreational rentals, commercial air rail and water transportation, video tape and disc rental and other related companies. NAICS codes 521110 – 525990 & 531110 - 533110. LU4 is measured in employees.
LU5 – (INDUST) Industrial	Includes Mining, Manufacturing and Wholesale sectors which comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. This also includes the wholesale trade sector which comprises establishments engaged in wholesaling merchandise, generally without transformation, and rendering services incidental to the sale of merchandise. The categories are mining operations, processing plants, packaging, mills, foundries, machining, wholesale goods merchants and wholesale trade agents and brokers. NAICS codes include 211111 – 213115, 311111 – 316998, 321113 – 327999, 331110 – 339999 & 423110 - 425120. LU5 is measured in number of employees.
LU6 – (SCH) Schools	Elementary and secondary schools. LU6 is measured in number of students, (manually derived).
LU7 – (ACCOM) Accommodations	All hotel and motel establishments. NAICS codes 721110 - 721214. Hotels, Motels, bed/breakfast inns and room/board houses. Measured by number of rooms (manually derived).
LU8 – (AER) Arts, Entertainment and Recreation	Includes theater companies and dinner theatres, musical groups and artists, sports teams and clubs, racetracks, museums, zoos, amusement and theme parks, casinos, marinas, golf courses, recreation centers, bowling centers, RV Parks and campgrounds and other amusement and recreation industries. NAICS codes 711110 - 713990. Measured by number of spaces (manually derived).
LU9 – (OSFDU) Outer Single Family Residential	Lands occupied by a single-family home, duplex, or a manufactured home on a single lot outside the cities ACI areas. Units from classification LU1 were moved to this category for zones 1-17, 182-185, 187, 188, 192-213, and 215. LU9 is measured in outer single-family dwelling units (rural).
LU10 – (PSS) Post-Secondary School	Colleges, Universities, Computer, Trade, and Other Professional Schools. LU10 is measured by number of students (manually derived).
LU11 – (AGRI)	NAICS code 111110 – 115310 and is measured in number of acres.

Agriculture	
LU12 – (WFRT) Waterfront Units	Dwelling units on the water such as houseboats. LU12 is measured in dwelling units. Not included in Land Use at this time (future).
LU13 – (POL) Publicly-owned Land	Land that is owned by the public, such as forest and BLM land. LU13 is measured in acres. KMPO used Kootenai County GIS parcel data to establish acreages within each TAZ area.
LU14 – (TRNWH) Transportation & Warehousing	Includes the Postal Service, Couriers and express delivery services, local messengers and delivery, general, farm & refrigerated warehousing and storage. This category includes the Transportation and Warehousing sector which comprises industries providing transportation passengers and cargo, warehousing and storage for goods, scenic and sightseeing transportation, and support activities related to modes of transportation. NAICS codes 481111 – 488999 & 491110 - 493190. LU14 is measured in employees.
LU15 – (MED) Medical	Described as the Health Care and Social Assistance sector which comprises establishments providing health care and social assistance for individuals. NAICS codes 621111 - 624410 (Note: Kootenai Medical Center -KMC Employees are not reported under this section by DOL, but instead are under LU 16 Government). In the travel demand model, KMC employees will remain in LU 15 (MED) to maintain the same trip generation rates. LU15 is measured in number of employees.
LU16 – (GOVT) Government	Establishments of federal, state, and local government agencies that administer, oversee, and manage public programs and have executive, legislative, or judicial authority over other institutions within a given area (KMC medical employees are reported under this LU, by Idaho DOL), Measured in number of employees. NAICS codes 921110 – 928120.
LU17 – (ASWMR) Administrative and Support and Waste Management and Remediation Services	Includes office administrative services, temporary help services, telemarketing, collection agencies, visitors' bureaus, locksmiths, landscaping services, solid waste collection, landfills, incinerators, septic tank services and related industries. Measured in number of employees. NAICS codes 561110 – 562998.
LU18 – (PSTMC) Professional, Scientific & Technical Services & Management of Companies & Enterprises	Includes Offices of Notaries, Payroll services, testing laboratories, technical design services, outdoor advertising, etc. Measured in number of employees. NAICS codes 541110 – 541990 & 551111 – 551114.
LU19 – (EDUSRV) Education Services	Include support staff in elementary and secondary schools, junior colleges, business and secretarial schools, miscellaneous training schools and education support services. Measured in number of employees. NAICS codes 611110 – 611710.
LU20 - OTHER Services (Except Public Administration	Includes automotive repair, appliance repair and maintenance, diet centers, funeral homes, laundry services, photo finishing laboratories, religious organizations, civic and social organizations, business associations, political organizations, parking lots and garages and other miscellaneous services. NAICS codes 811111 – 814110. Measured in employees.
LU21 – (INFO) Information	Includes newspaper companies, software publishers, recording studios, radio stations, telecommunications and libraries. Measured in number of employees. NAICS codes 511110 – 519190.
LU22 – (UTLCONST) Utilities & Construction	Includes power generation, transmission and distribution by: hydroelectric, fossil, solar, wind, geothermal, biomass, electric, gas and other. Also, includes water supply, steam and air-conditioning supply and sewage treatment facilities, construction of new homes, highway, street and bridge construction, contractors for: structural steel framing, roofing, siding, painting, flooring, site preparation and all other specialty trade contractors. NAICS codes 221111 – 221330 & 236115 - 238992. Measured in number of employees.
LU23 – (FS) Food Services	Includes caterers, mobile food services, full-service restaurants, drive-through, bars, cafeterias and buffets. NAICS codes 722110 – 722410 & 722511 - 722515, measured by number of employees.

3.1.1 Dwelling Unit Estimation

Data from the 2020 Census was used to estimate the number of occupied housing units within Kootenai County. The structure shapefile from Kootenai County was used to estimate the proportion of single and multi-family units per TAZ, as well as the split of single-family units inside and outside the cities' ACIs.

3.1.2 2020 Land Use Summary

After KMPO staff updated the 2020 land use by TAZ, a control total check was made to ensure that the primary residential dwelling units matched the current and projected population totals. Table 5 is a summary of the 2020 land uses and totals obtained from the US Census, the Idaho Department of Labor and other sources manually obtained by KMPO staff through email correspondence, phone calls or the internet. Detailed land use data can be found in Appendix C.

Table 5: 2020 KMPO Land Use Data Summary

Land Use Type	Total 2020 Units	Units of Measurement
LU1: SFDU (Single Family Dwelling Units)	46,591	Dwelling Units
LU2: MFDU (Multi-Family Dwelling Units)	10,321	Dwelling Units
LU3: Retail	8,616	Employees
LU4: Commercial (FIRES)	3,095	Employees
LU5: Industrial	6,620	Employees
LU6: Schools	25,572	Students
LU7: Accommodations	2,993	Rooms
LU8: Arts, Entertainment & Recreation	7,695	Spaces
LU9: Reserved for Outer Zone SFDU	9,331	Dwelling Units
LU10: Post-Secondary Schools	3,316	Students
LU11: Agriculture	312,497	Acres
LU12: Waterfront Units	<i>Not Used</i>	Dwelling Units
LU13: Publicly-owned Lands	279,703	Acres
LU14: Transportation & Warehousing	1,096	Employees
LU15: Medical	10,752	Employees
LU16: Government	2,715	Employees
LU 17: Administration & Support	3,283	Employees
LU 18: Professional, Science & Technology	2,515	Employees
LU19: Educational Services	4,244	Employees
LU 20: Other Services	1,674	Employees
LU 21: Information	639	Employees
LU 22: Utilities & Construction	5,707	Employees
LU 23: Food Services	6,445	Employees

4.0 Trip Generation

Trip generation is the first step in the modeling process where a number of mathematical formulas determine how many trips are being produced or attracted by the model's TAZs. The number of trips is based off of the amount and type of land use in each TAZ. Each land use has unique trip generation rates that determine how many trips are produced and attracted in a TAZ based on the purpose of the trips.

The KMPO Model utilizes five different trip purposes, which allows for the gravity model to account for the different travel characteristics of each purpose. Those trip purposes are:

- Home-Based Work (HBW)
- Home-Based Retail (HBR)
- Home-Based Other (HBO)
- Home-Based School (HBS)
- Non-Home-Based (NHB)

4.1 INRIX Origin-Destination Update

Trip Analytics data was purchased from INRIX for the week of April 11-15, 2022. The data was provided in a csv. file format. PTV developed a Python script to assign model TAZs to the trip origin and destination locations. The script assigns values to the TAZ in order to identify trips as internal, external to internal (X-I), internal to external (I-X) or external to external (X-X). Two trip matrices were developed for the AM and PM peak hours. The data was used to update the X-X, I-X, and X-I data and cross-validate the productions and attractions between TAZs.

The ODME matrix from the previous model was removed in this update.

4.2 External TAZ Update

Nineteen external stations (TAZ 900 – TAZ 918) were used in the 2020 KMPO model to conceptually represent external TAZs. The external stations exist at the model borders and are used to simulate traffic entering and exiting the travel demand 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 directional traffic counts at the external stations. Actual traffic counts were used as a control total at each external TAZ station and then adjusted to correct the internal model matrices to match the counts. Most stations were updated with data from 2021-2022; however, at a few locations, data from 2017 was the most recent available. Counts were adjusted for seasonality based on ITD's ATR seasonal factors.

Table 6 shows the adjusted counts at the X-I and I-X count locations for both the AM peak hour and PM peak hour time frames.

Table 6: 2020 AM/PM Peak Hour Counts at External TAZs

TAZ #	Location	IX-D-AM	IX-D-PM	XI-O-AM	XI-O-PM
900	State Hwy. 41 - N. County Line	138	215	30	84
901	Clagstone Road - N. County Line	59	9	102	0
902	Old US 95 - S. County Line - FUTURE	0	0	0	0
903	US 95 - N. County Line	278	457	382	425
904	Williams Lane - S. County Line - FUTURE	0	0	0	0
905	Bayview Road - N. County Line	6	17	8	20
906	E. Canyon Road - E. County Line	8	9	16	6
907	I-90 - E. County Line	356	340	420	294
908	FUTURE	0	0	0	0
909	State Hwy. 3 - S. County Line	52	75	6	99
910	Heyburn Rd. - S. County Line	3	4	9	3
911	US 95 - S. County Line	118	135	84	147
912	Roecks Rd. - W. County Line	4	2	2	1
913	State Hwy. 58 (E. Hoxie Rd.) - W. County Line	20	60	12	31
914	Elder Rd. - E. County Line	7	41	31	45
915	W. Riverview Drive - W. County Line	121	123	77	145
916	I-90 - W. County Line	2162	2440	1905	2774
917	Seltice Way - W. County Line	211	455	191	317
918	State Hwy. 53 (Trent Ave.) - W. County Line	447	358	295	717
TOTAL		3990	4740	3570	5108

A travel demand model uses matrices to calculate the trip generation and distribution from a trip origin to a trip destination. Tables 7 and 8 show the internal AM and PM trip matrices that correspond to the external-to-external TAZs (travel beginning at one external TAZ and exiting at the other external TAZ location).

Table 7: 2020 AM Peak Hour External-External Through Traffic Volumes

TAZ No.	Name	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918
900	State Hwy 41 – North of County Line	0.00	0.00	0.00	26.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	133.31
901	Clagstone Rd. - FUTURE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
902	Old US 95 – North of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.49	0.00	0.22	0.77	1.83	0.00	0.00	0.00
903	US 95 – North of County Line	0.00	0.00	0.00	0.00	0.00	0.00	1.56	11.06	0.00	0.00	1.77	34.75	0.00	5.15	1.43	0.80	22.79	0.00	0.00
904	Williams Ln. – North of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.05	1.19	0.00	0.00	0.00
905	Bayview Rd. – North of County Line	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.08	0.00	0.00	0.00
906	Canyon Rd. – East of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.19	0.00
907	I-90 – East of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	160.14	3.35	0.00
908	FUTURE (Not Used)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
909	State Hwy 3 - South of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.01	3.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.43	0.01	0.00
910	Heyburn Rd. - South of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.31	0.00	0.15	0.00	0.00
911	US 95 – South of County Line	0.00	0.00	0.00	44.90	0.00	0.00	2.49	13.83	0.00	0.00	0.00	0.00	0.01	35.97	16.11	0.00	9.48	0.00	0.00
912	Roecks Rd. – West of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
913	State Hwy 58 (East Hoxie Rd.) West of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	41.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
914	Elder Rd. – East of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
915	Riverview Dr. – West of County Line	0.00	0.00	0.02	0.03	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
916	I-90 West of County Line	0.00	0.00	0.00	7.69	0.00	0.00	0.06	129.24	0.00	0.00	0.01	1.24	0.00	0.04	0.07	0.00	0.00	0.00	0.00
917	Seltice Way - West of County Line	0.01	0.00	0.00	2.73	0.28	0.03	9.06	9.06	0.00	0.02	0.00	0.07	0.00	0.00	0.01	0.00	0.00	0.00	0.00
918	State Hwy 53 (Trent Ave.) West of County Line	0.00	0.00	0.00	20.31	3.87	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 8: 2020 PM Peak Hour External-External Through Traffic Volumes

TAZ No.	Name	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918
900	State Hwy 41 – North of County Line	0.00	0.00	0.00	24.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.09	66.28
901	Clagstone Rd. - FUTURE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
902	Old US 95 – North of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.56	0.00	0.02	0.00	0.00	0.00	0.00	0.00
903	US 95 – North of County Line	16.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	79.42	0.00	4.47	0.00	0.00	0.00	0.00	0.00
904	Williams Ln. – North of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
905	Bayview Rd. – North of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
906	Canyon Rd. – East of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.85	0.00	0.00
907	I-90 – East of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	125.22	0.00	0.00
908	FUTURE (Not Used)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
909	State Hwy 3 - South of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
910	Heyburn Rd. - South of County Line	0.00	0.00	0.00	3.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00
911	US 95 – South of County Line	0.00	0.00	8.28	55.47	0.00	0.00	0.00	22.01	0.00	0.00	0.00	0.00	0.00	12.85	0.00	0.00	0.03	9.15	0.00
912	Roecks Rd. – West of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
913	State Hwy 58 (East Hoxie Rd.) West of County Line	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.95	39.18	0.00	0.00	0.00	0.00	0.00	0.92	0.00
914	Elder Rd. – East of County Line	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	2.27	0.00
915	Riverview Dr. – West of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
916	I-90 West of County Line	25.99	0.00	0.00	0.00	0.00	0.00	0.00	101.82	0.00	0.00	0.00	5.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
917	Seltice Way - West of County Line	30.65	0.00	0.00	0.00	0.00	0.00	0.19	0.73	0.00	0.00	0.00	10.22	0.00	0.59	0.00	0.00	0.00	0.00	0.00
918	State Hwy 53 (Trent Ave.) West of County Line	0.00	0.00	0.00	37.61	17.03	15.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4.3 AM & PM Peak Hour Trip Generation Rates

The KMPO model's trip generation rates are based off of rates developed by the Institute of Transportation Engineers (ITE). Variations of the trip rates were tested during the calibration process, and rates were adjusted in the model to produce balanced productions and attractions. Trip rates remain within ITE's trip generation rate ranges for each land use type. Control totals from the "2005 Spokane and Kootenai County Regional Travel Survey Final Report" were used to validate the model results.

Table 9 includes the AM peak hour trip generation rates, and Table 10 shows the PM peak hour trip generation rates

Table 9: 2020 AM Peak Hour Trip Generation Rates

Variable	Production Rate	Attraction Rate
SFDU_LU1	0.534	0.165
MFDU_LU2	0.347	0.081
RET_LU3	0.447	0.79
FIRES_LU4	0.12	0.418
INDUST_LU5	0.063	0.361
SCH_LU6	0.14	0.381
ACCOM_LU7	0.403	0.282
AER_LU8	0.055	0.162
OSFDU_LU9	0.338	0.073
PSS_LU10	0.031	0.207
AGRI_LU11	0.002	0.004
POL_LU13	0	0
TRNWH_LU14	0.24	0.554
MED_LU15	0.481	0.468
GOVT_LU16	0.077	0.558
ASWMR_LU17	0.116	0.433
PSTMC_LU18	0.116	0.433
EDUSRV_LU19	0.116	0.433
OTHER_LU20	0.116	0.433
INFO_LU21	0.116	0.433
UTLCONST_LU22	0.24	0.554
FS_LU23	0.54	0.79
XI-O-AM	1	0
IX-D-AM	0	1

Table 10: 2020 PM Peak Hour Trip Generation Rates

Variable	Production Rate	Attraction Rate
SFDU_LU1	0.341	0.613
MFDU_LU2	0.179	0.351
RET_LU3	1.196	1.134
FIRES_LU4	0.763	0.395
INDUST_LU5	0.218	0.171
SCH_LU6	0.099	0.063
ACCOM_LU7	0.237	0.275
AER_LU8	0.084	0.078
OSFDU_LU9	0.14	0.262
PSS_LU10	0.047	0.081
AGRI_LU11	0.004	0.002
POL_LU13	0	0
TRNWH_LU14	0.692	0.122
MED_LU15	0.788	0.555
GOVT_LU16	0.506	0.355
ASWMR_LU17	0.763	0.394
PSTMC_LU18	0.763	0.394
EDUSRV_LU19	0.763	0.394
OTHER_LU20	0.763	0.394
INFO_LU21	0.763	0.394
UTLCONST_LU22	0.692	0.125
FS_LU23	1.199	1.129
XI-O-PM	1	0
IX-D-PM	0	1

4.4 Trip Generation Validation

As stated previously, the KMPO VISUM model trip generation is categorized by five primary trip purposes. After the 2020 AM and PM peak hour trip generation model is run, the total number of KMPO region-wide trips are summarized to compare with the expanded travel survey samples reported in the “2005 Spokane and Kootenai County Regional Travel Survey Final Report.”

Tables 12 and 13 display the 2020 AM and PM Peak Hour trip generation model percentages results compared with the actual AM and PM Peak Hour trips as reported by NuStats in the 2005 Survey. Both the 2020 AM and PM Peak Hour model results show reasonable comparison with the 2005 Survey results as the percentage of modeled vehicle trips that exclude the external inbound, outbound, and through trips.

Table 11: 2020 AM Peak Hour Trip Generation Validation Results

TRIP PURPOSE	% AM PK HR of Modeled Trips	% AM PK HR of 2005 Trips Reported by NuStats	Difference	Total 2020 AM PK HR Trips
<i>Home Based Work</i>	25.1%	25.2%	-0.1%	14,268
<i>Home Based Retail</i>	6.4%	5.3%	1.1%	3,650
<i>Home Based Other</i>	29.1%	28.2%	0.9%	16,531
<i>Non-Home Based</i>	21.5%	20.7%	0.8%	12,211
<i>Home Based School</i>	17.9%	20.6%	-2.7%	10,196
Total	100%	100%		56,856

Table 12: 2020 PM Peak Hour Trip Generation Validation Results

TRIP PURPOSE	% PM PK HR of Modeled Trips	% PM PK HR of 2005 Trips Reported by NuStats	Difference	Total 2020 PM PK HR Trips
<i>Home Based Work</i>	13.6%	13.4%	0.2%	10,025
<i>Home Based Retail</i>	11.4%	10.6%	0.8%	8,470
<i>Home Based Other</i>	48.3%	48.1%	0.2%	35,610
<i>Non-Home Based</i>	25.1%	26.2%	-1.1%	18,520
<i>Home Based School</i>	1.6%	1.7%	0.1%	1,150
Total	100%	100%		73,775

5.0 Trip Distribution

Trip Distribution is the second step of the Gravity Model process. This step in the process allocates trips between various TAZs, creating a set of trip tables that detail the number of trips between each TAZ for each trip purpose.

The Gravity Model, in transportation modeling, was derived from earlier work with economic interaction through a study of social physics. The basic idea behind the Gravity Model is that more interactions (between different zones) take place when the cost of interacting is less. As with the physics of gravitation between masses, it has been found that many human interactions can be related to the distance or cost between interactors using a negative exponential function. In essence, this means the higher cost or distance for travelers will result in less “gravitational pull” between TAZs.

5.1 Trip Distribution Parameters

The KMPO model utilizes the five primary trip purposes, discussed previously, for trip distribution. These trip purposes are based on Gravity Model functions. The a, b, and c parameters in the Gravity Model functions are calibrated in the 2020 KMPO model to fit the trip length distribution patterns in terms of frequencies and average travel times reported in the “2005 Spokane and Kootenai County Regional Travel Survey Final Report.” During the calibration process, PTV adjusted the trip distribution

dispersion parameters controlling average trip length for each demand strata to yield overall balance between model traffic and count data. The intrazonal skim time was also adjusted to have a value equal to one half of the average of the three nearest zones.

Tables 14 and 15 display the trip distribution parameters used in the 2020 model.

Table 13: Trip Distribution Utility Parameters AM PK HR

Trip Type	Trip Distribution Parameter		
	a	b	c
AM_H-O	0	2.4	0
AM_H-R	0	2.4	0
AM_H-S	0	2.6	0
AM_H-W	-0.1	1.7	5
AM_NHB	0	3.1	0
AM_O-H	0	2.4	0
AM_R-H	0	2.4	0
AM_S-H	0	2.6	0
AM_W-H	-0.1	1.7	5

Table 14: Trip Distribution Utility Parameters PM PK HR

Trip Type	Trip Distribution Parameter		
	a	b	c
PM_H-O	0	1.7	0
PM_H-R	0	1.8	0
PM_H-S	0	2.1	0
PM_H-W	-0.1	1.4	5
PM_NHB	0	2.1	0
PM_O-H	0	1.7	0
PM_R-H	0	1.8	0
PM_S-H	0	2.1	0
PM_W-H	-0.1	1.4	5

Figure 8, below, displays an example of the trip distribution direction parameter options that are used in the KMPO model trip distribution process. The trip distribution parameters differ by trip type, as described above, but the distribution options for function type, direction, trip balancing and feedback iterations are the same for all trip purposes. In the KMPO model, the trip distribution in the model is implemented as a doubly-constrained gravity model and uses the TModel functional form for friction factors.

Options Function graph

Function type

☐ Logit: $f(U) = e^{(c U)}$
☐ Kirchhoff: $f(U) = U^c$
☐ BoxCox: $f(U) = e^{[c (U^b - 1) / b]}$
☐ Combined: $f(U) = U^b e^{(c U)}$
☒ TModel: $f(U) = 1 / (U^b + c U^a)$

Parameters

a:
b:
c:

Direction of the distribution

☒ Constrained production
☐ Constrained attraction

☒ Doubly-constrained: Balancing by Multi procedure

Matrix balancing according to ...

☐ Production total
☐ Attraction total
☒ Mean of both totals
☐ Minimum of both totals
☐ Maximum of both totals

Multi parameters

Maximum number of iterations:
Quality factor:

Figure 8: KMPO Model Trip Distribution Parameter Options

5.2 Gravity Model Validation Results

A sampling of travel times from one traffic analysis zone (TAZ) to another was extracted from the model using flow bundles (Figure 9). The same path was input into Google Maps to estimate actual travel times during the AM peak and PM peak hours. It is important to note that the travel times via Google Maps are subject to change at any point due to actual roadway and traffic conditions. This may cause variations in route choice and travel time that differ from the model outputs. For comparison purposes, the model was run without the railroad delay procedures, since the delay represents the assumption travelers **will** be delayed at crossing locations and Google travel times do not.

As shown in Tables 16 and 17, the average model travel time roughly matches the average observed Google travel time for overall KMPO region-wide, despite some average travel time variations.

Table 15: 2020 AM Peak Hour Average Travel Time (Minutes) – 2020 Base Model Vs. Google Estimated Travel Times

O Zone	D Zone	From	To	Length	t0	tCur	Google TT	Difference
401	22	Cabela's	Rathdrum	11.6 mi	15 min	18 min	17 min	1 min
401	11	Cabela's	Athol	24.4 mi	31 min	33 min	35 min	2 min
424	11	KMPO	Athol	20.7 mi	24 min	28 min	31 min	3 min
916	161	State Line	Kootenai Health	12.8 mi	12 min	14min	13 min	1 min
916	907	State Line	Shoshone County line	40.3 mi	36 min	37 min	38 min	1 min
916	204	State Line	Worley	39.3 mi	39 min	41 min	38 min	3 min
204	11	Worley	Athol	45.7 mi	49 min	52 min	52 min	0 min
400	424	Hauser Lake	Downtown CDA	16.3 mi	20 min	23 min	23 min	0 min

Legend: TT= Travel Time; O Zone = Origin Zone; D Zone = Destination Zone; t0 = Free flow TT; tCur = Congested TT.

Table 16: 2020 PM Peak Hour Average Travel Time (Minutes) – 2020 Base Model Vs. Google Estimated Travel Times

O Zone	D Zone	From	To	Length	t0	tCur	Google TT	Difference
401	22	Cabela's	Rathdrum	11.6 mi	15 min	18 min	17 min	1 min
916	11	Cabela's	Athol	25.1 mi	32 min	36 min	37 min	1 min
424	11	KMPO	Athol	21.5 mi	25 min	31 min	34 min	3 min
916	161	State Line	Kootenai Health	12.8 mi	12 min	15 min	14 min	1 min
916	907	State Line	Shoshone County line	40.8 mi	36 min	39 min	39 min	0 min
916	204	State Line	Worley	39.3 mi	39 min	43 min	39 min	4 min
204	11	Worley	Athol	45.7 mi	49 min	57 min	55 min	2 min
400	424	Hauser Lake	Downtown CDA	16.2 mi	20 min	25 min	23 min	2 min

Legend: TT= Travel Time; O Zone = Origin Zone; D Zone = Destination Zone; t0 = Free flow TT; tCur = Congested TT.

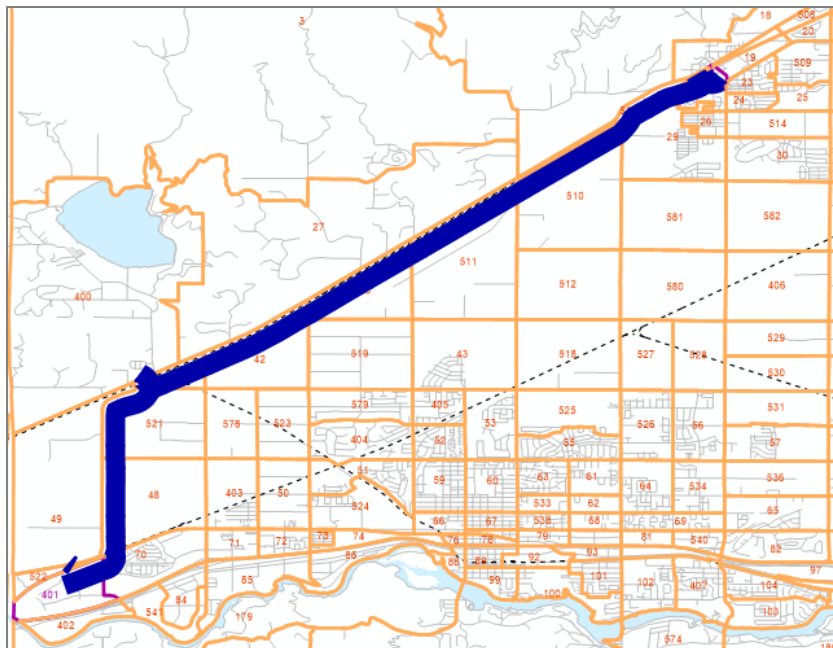


Figure 9: Example Model Flow Bundle to Calculate Travel

6.0 Trip Assignment

Trip Assignment is the final step of the KMPO modeling process. It is during this process that the distributed trips from the trip tables are assigned to possible paths between each zone. The assignment step uses equilibrium assignment methods (discussed below), which assigns traffic to each path between each zone such that the travel time for every path between OD pairs is statistically equal. This assumes that travelers will know the most efficient route between sets of origins and destinations, meaning they will select the shortest route. In reality, travelers choose routes based on their “perception” of travel time, which may be influenced by other factors. The model, however, uses travel time computed based on inputs described in the previous sections (i.e. speed, capacity, volumes, delay, etc.). The assignment process is iterative, in order to achieve convergence. Convergence is the point in which no vehicles can improve their route travel times.

The KMPO model uses two traffic assignment methods within the procedures. For the initial assignment run, the model utilizes the “Equilibrium Assignment” method. PTV recently updated the

Equilibrium method within VISUM to incorporate improvements, including faster run times with similar results to the Equilibrium Bi-conjugate Frank Wolfe method. “Equilibrium Assignment Bi-conjugate Frank Wolfe” is used in the second assignment run. This method produces more consistent route flows (i.e. proportionality for select link analysis) than the Equilibrium method alone.

Table 17: Assignment Parameters

Assignment Parameter	Value
Assignment Iterations	200
Assignment Convergence	0.0001
Trip Distribution Feedback Loops	Minimum of 2 Maximum of 5

6.1 Assignment Results

The 2020 AM peak hour KMPO Model traffic assignments are displayed in Figure 10 and the 2020 PM peak hour KMPO Model traffic assignments are displayed in Figure 11. The figures provide a snapshot of directional traffic volumes for the AM and PM peak hours in the urbanized KMPO area.

6.2 Assignment Validation

6.2.1 Screenline Analysis

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. As shown in Figures 8 and 9, twenty-eight screenlines are drawn to display ratios of the 2018 KMPO model AM and PM peak hour traffic modeled volumes over their corresponding traffic counts. Tables 19 and 20 summarize the screenline analysis results.

The closer the model/count ratios by screenlines approach 1.00, the better match 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 FHWA

For volumes less than 100,000:

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

For over 100,000:

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

Where, V is volume in thousands.

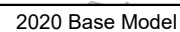


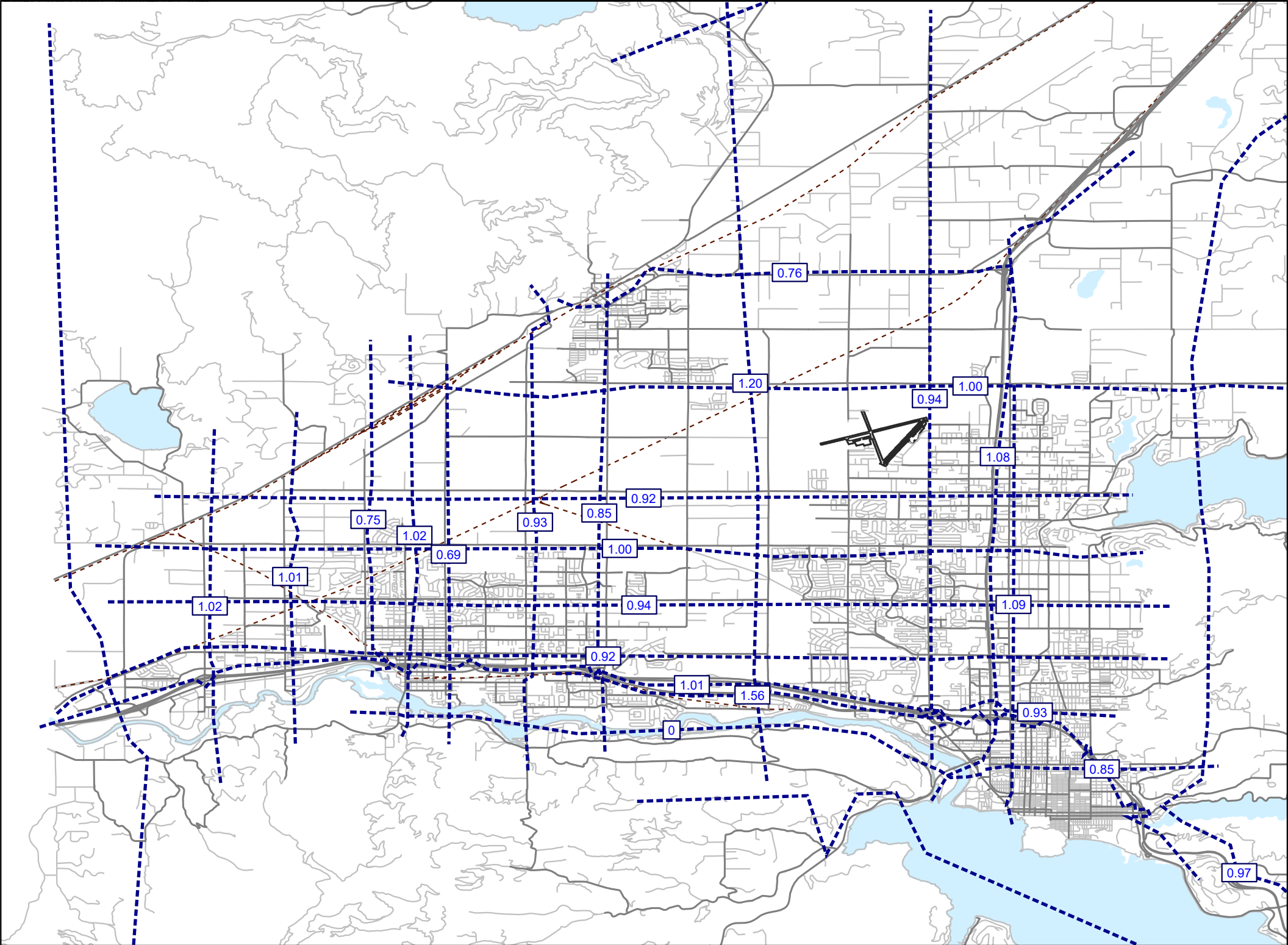
Table 18: AM Screenline Results

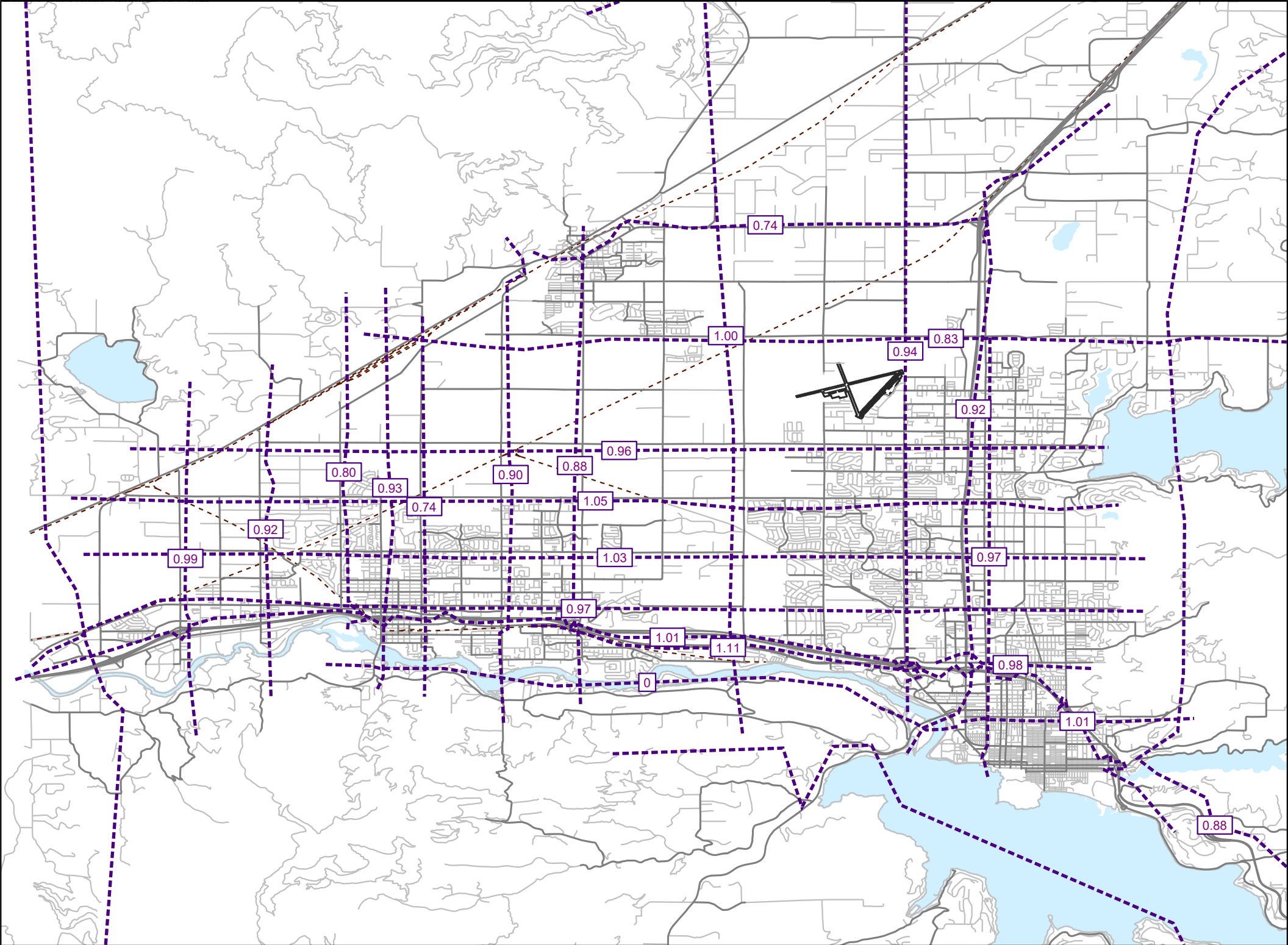
Screenline	Number of Counts	Total Sum of Counts	Total Volumes at Count Locations	Total Volume – Actual Count	Volume/ Count Ratio	((Modeled - Actual) / Actual AM Peak Count)*100	Within FHWA Allowable Deviation?
#1 Spokane River Crossing	0	0	0	0	-	-	-
#2 Seltice Way	8	3652	5681	2029	1.56	56	PASS
#3 Harrison Ave.	4	1687	1429	-258	0.85	-15	PASS
#4 Appleway/Best Ave.	4	5142	4791	-351	0.93	-7	PASS
#5 Seltice Way/Mullan/Kathleen Ave.	15	13437	12348	-1089	0.92	-8	PASS
#6 Poleline Ave.	11	10372	9730	-642	0.94	-6	PASS
#7 Prairie Ave.	14	9448	9426	-22	1.00	0	PASS
#8 Hayden Ave.	9	5657	5222	-435	0.92	-8	PASS
#9 Lancaster Rd.	7	3690	3679	-11	1.00	0	PASS
#10 SH 53 - US 95	4	3144	2397	-747	0.76	-24	PASS
#11 Twin Lakes to National Forest	5	2226	2146	-80	0.96	-4	PASS
#12 US 95 to SH 3	4	1211	881	-330	0.73	-27	PASS
#13 SH 3 to LaTour Creek	3	428	298	-130	0.70	-30	PASS
#14 Spirit Lake/Pend O'reille	3	1127	995	-132	0.88	-12	PASS
#15 Pleasant View Rd.	5	2311	2360	49	1.02	2	PASS
#16 McGuire Rd.	5	2526	2546	20	1.01	1	PASS
#17 Chase Rd.	2	1454	1084	-370	0.75	-25	PASS
#18 Spokane St.	3	1702	1734	32	1.02	2	PASS
#19 Idaho St.	6	4010	2783	-1227	0.69	-31	PASS
#20 Greensferry Rd.	5	4251	3950	-301	0.93	-7	PASS
#21 SH 41	9	5281	4499	-782	0.85	-15	PASS
#22 Huetter Rd.	7	3605	4311	706	1.20	19	PASS
#23 Ramsey Rd.	14	7666	7209	-457	0.94	-6	PASS
#24 US 95	13	6494	7019	525	1.08	8	PASS
#25 West Side KMPO	7	1922	1913	-9	1.00	-1	PASS
#26 East Side KMPO	5	1324	1280	-44	0.97	-3	PASS
#27 Government Way	13	5561	6078	517	1.09	9	PASS
#28 I-90 Ramps	19	12674	12779	105	1.01	1	PASS
TOTAL	204	122,002	118,568	-3,434	0.97	-3	PASS

Table 19: PM Screenline Results

Screenline	Number of Counts	Total Sum of Counts	Total Volumes at Count Locations	Total Volume - Actual Count	Volume/ Count Ratio	((Modeled - Actual) / Actual PM Peak Count)*100	Within FHWA Allowable Deviation?
#1 Spokane River Crossing	0	0	0	0	-	-	-
#2 Seltice Way	8	6604	7338	734	1.11	11	PASS
#3 Harrison Ave.	4	2227	2242	15	1.01	1	PASS
#4 Appleway/Best Ave.	4	7056	6921	-135	0.98	-2	PASS
#5 Seltice Way/Mullan/Kathleen Ave.	15	17835	17373	-462	0.97	-3	PASS
#6 Poleline Ave.	11	13465	13873	408	1.03	3	PASS
#7 Prairie Ave.	14	12346	12932	586	1.05	5	PASS
#8 Hayden Ave.	10	7487	7223	-264	0.96	-4	PASS
#9 Lancaster Rd.	10	5876	4898	-978	0.83	-17	PASS
#10 SH 53 - US 95	6	4614	3428	-1186	0.74	-26	PASS
#11 Twin Lakes to National Forest	5	2905	2481	-424	0.85	-15	PASS
#12 US 95 to SH 3	4	1461	1102	-359	0.75	-25	PASS
#13 SH 3 to LaTour Creek	4	679	690	11	1.02	2	PASS
#14 Spirit Lake/Pend O'reille	4	2178	1773	-405	0.81	-19	PASS
#15 Pleasant View Rd.	5	3346	3316	-30	0.99	-1	PASS
#16 McGuire Rd.	5	3599	3310	-289	0.92	-8	PASS
#17 Chase Rd.	2	2092	1669	-423	0.80	-20	PASS
#18 Spokane St.	3	2500	2316	-184	0.93	-7	PASS
#19 Idaho St.	6	5350	3952	-1398	0.74	-26	PASS
#20 Greensferry Rd.	7	6314	5714	-600	0.90	-10	PASS
#21 SH 41	11	7549	6680	-869	0.88	-12	PASS
#22 Huetter Rd.	7	6032	6048	16	1.00	0	PASS
#23 Ramsey Rd.	14	10566	9900	-666	0.94	-6	PASS
#24 US 95	13	10290	9500	-790	0.92	-8	PASS
#25 West Side KMPO	7	2903	2864	-39	0.99	-1	PASS
#26 East Side KMPO	5	1171	1035	-136	0.88	-12	PASS
#27 Government Way	13	8527	8301	-226	0.97	-3	PASS
#28 I 90 Ramps	19	16587	16682	95	1.01	1	PASS
TOTAL	216	171,559	163,561	-7,998	0.95	-5	PASS

By using the formula, the screenlines can be evaluated to see if they meet the percent allowable deviation ranges. By the FHWA standards, the 2020 KMPO Model screenlines are validated for both AM peak hour and PM peak hour. Figures 12 and 13 depict the screenline results for the AM and PM peak hour.





6.2.2 Statistical Analysis

The 2020 Base model volumes and 2020 observed traffic counts were compared in VISUM using a scatterplot and several statistical analyses to further validate the trip assignment, which are displayed in Figures 14 and 15. This analysis is incorporated in the Procedure Sequence for both the AM and PM models. This analysis looks at several statistics to evaluate the amount of error in the model and the model's ability to replicate observed conditions. The following statistical analyses are considered:

- %RMSE is a summary statistic representing the average assignment error in percent. This value shows better calibration when it is lower. For the size of the KMPO model area, a %RMSE of 35% or below is recommended. The % RMSE for the 2020 PM run is 34, which falls below the target of 35%. The AM result is 36, which does not meet but is reasonably close to the target.
- R^2 , is another statistic used to determine the accuracy of the model results. R^2 , or the “goodness of fit” statistic, shows how the regression line represents the assignment data. A value of 0.88 or higher is very desirable. The R^2 for the 2020 AM and PM runs is 0.85 and 0.86; this is reasonably close to the target, and after discussions with PTV, this is still an acceptable level of validity.
- % In shows the percent of volumes within the recommended allowable error. FHWA recommends that 80% or more of the assigned volumes on roadways classified as principal arterials or higher are within these standards. The 2020 AM run results in 87% of volumes are within the allowable error range. The PM run has 85% within the range. Both runs exceed the standard.
- Slope shows the slope of the regression line. Ideally this line would have a slope of 1.0; there is no standard for this value. The 2020 AM model run has a slope of 0.95, and the PM run results in a slope of 0.96. This represents that the model volumes are slightly lower than current conditions.

After the review of these analyses, it is determined that the 2020 KMPO Model is validated for both AM peak hour and PM peak hour and can be used to model current conditions and build future year travel demand models in the KMPO area.

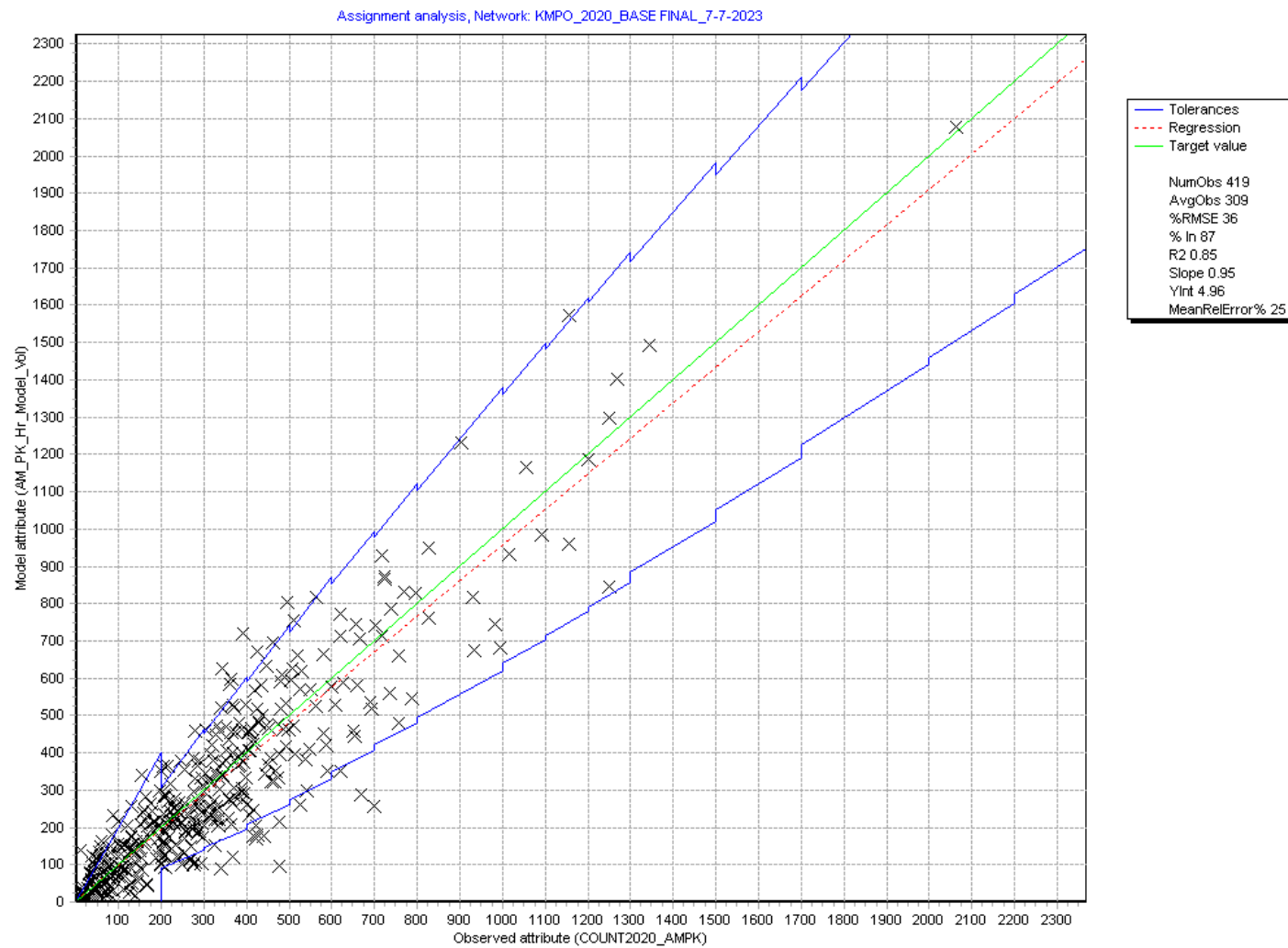


Figure 14: AM Peak Hour Assignment Analysis Results

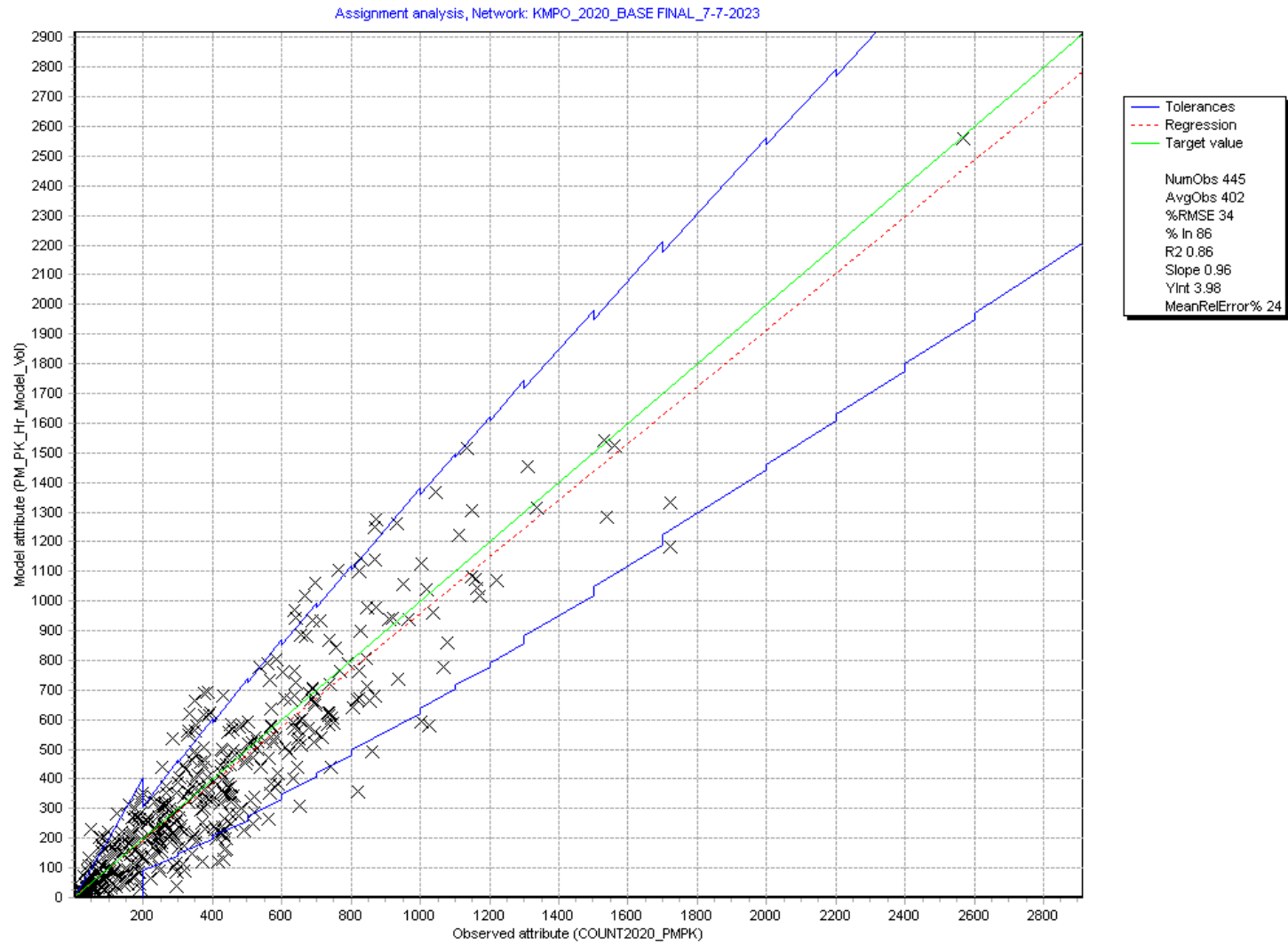


Figure 15: PM Peak Hour Assignment Analysis Results

7.0 Model Forecasts

KMPO develops forecast models for the purpose of analyzing anticipated future conditions. Forecast model populations and land use are based off of the population and employment projections adopted by the KMPO Board; the Board adopted the most recent projections, based on the 2020 Census and historical trends, on September 8, 2022.

The No-Build scenario for forecasted models is the base modeling scenario, which includes projected land use growth but only transportation projects that are currently programmed in KMPO's Transportation Improvement Program (TIP) and development-driven projects that are reasonably expected to be constructed by the forecast year.

7.1 Roadway Network

The roadway characteristics assumed for the forecast no-build scenarios are depicted in the figures 16 through 19, including roadway classification, capacity, speed and intersection control.

7.2 No-Build Forecast Projects

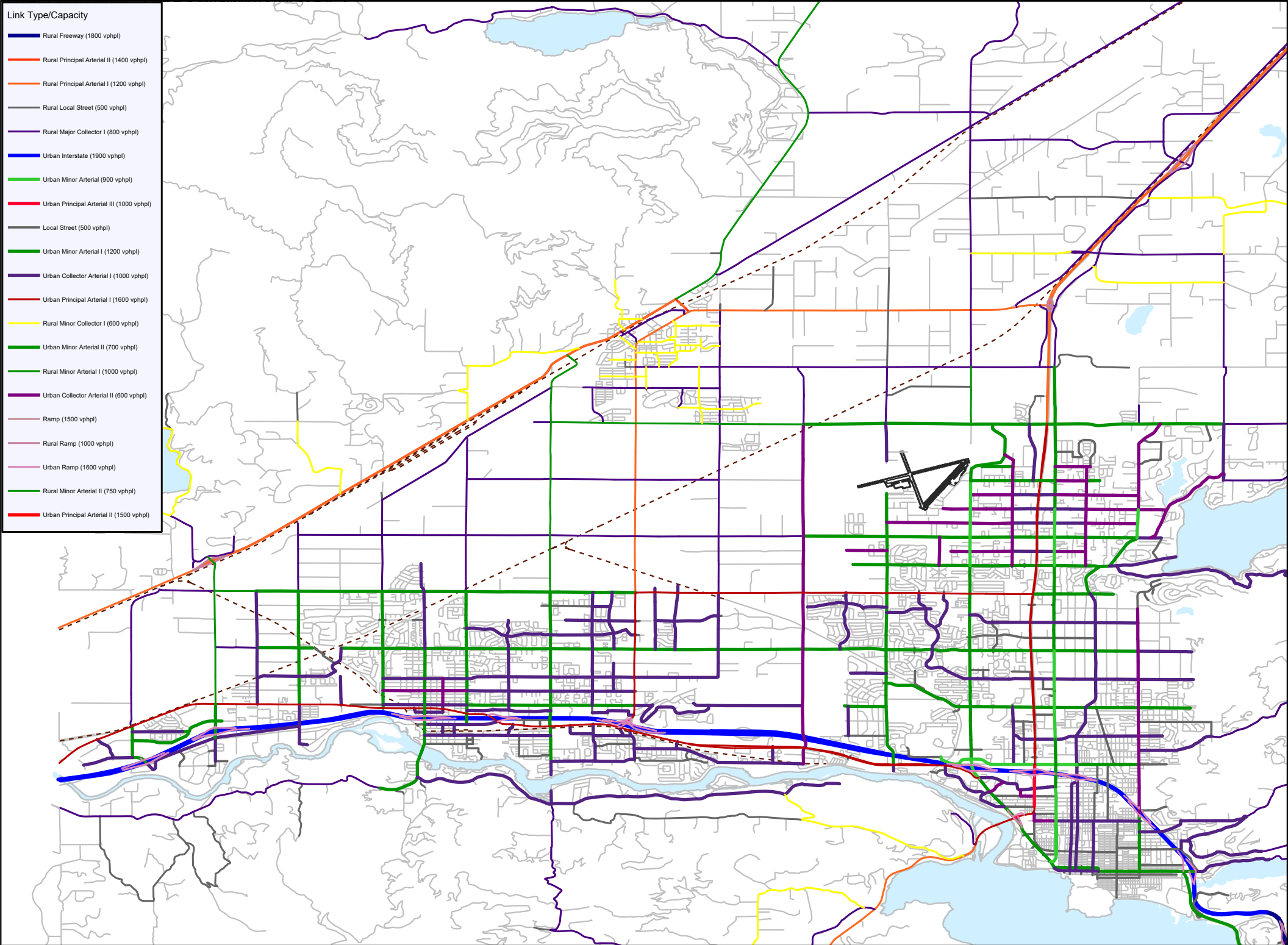
No Build scenario projects consist of major roadway projects included in KMPO's Transportation Improvement Program (TIP), as well as development-driven projects reasonably anticipated to be constructed by the forecast year. Programmed projects are listed in Table 21, and Table 22 lists the development-driven projects likely to be constructed.

Table 20: 2023-2029 Transportation Improvement Projects included in 2035 Model

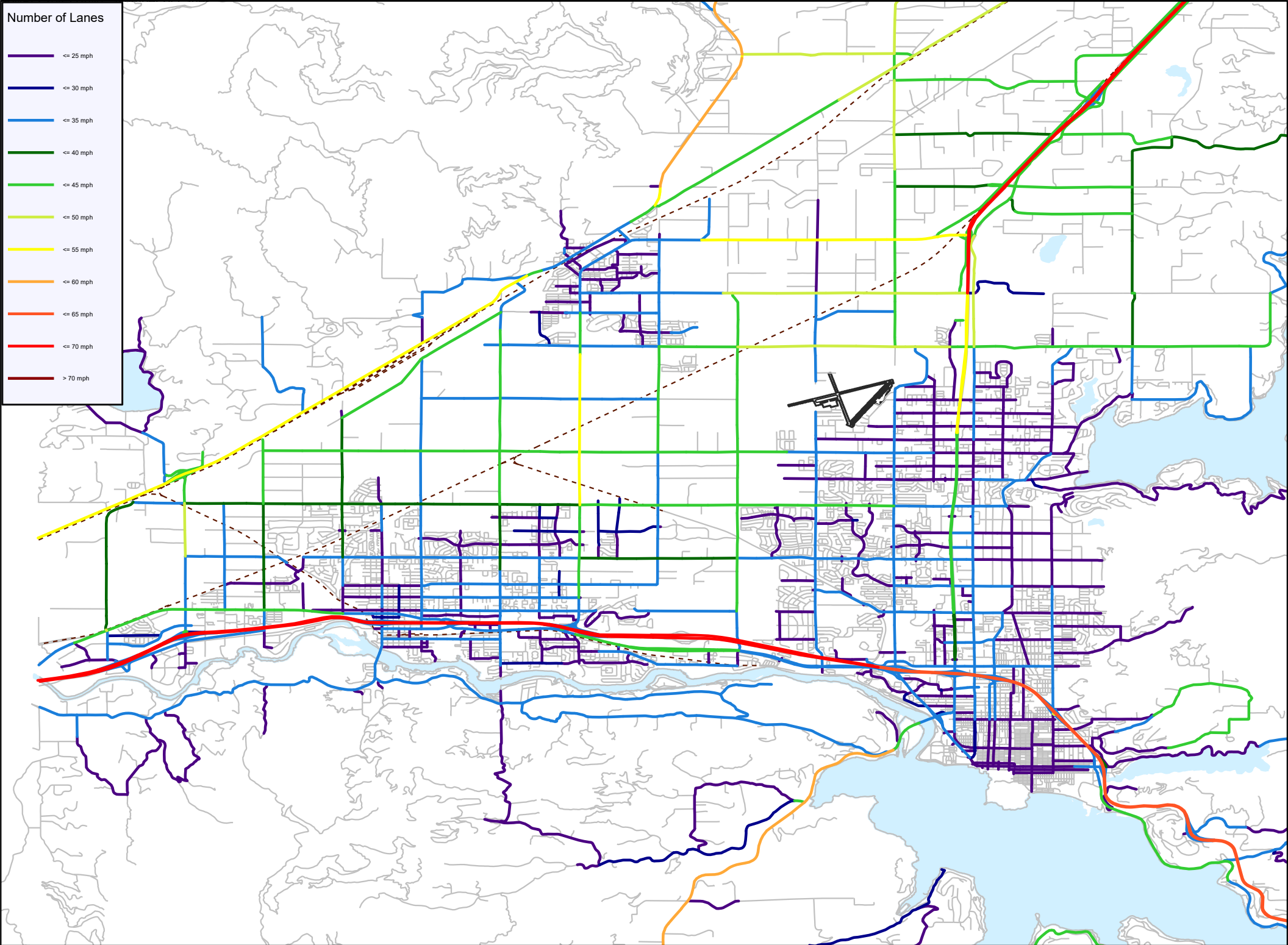
Construction Year	Project	Agency
2029	Pleasant View Rd Interchange; Close SH-53 & Prairie and SH-53 & McGuire Rd.	ITD
2024	Ramsey Road Extension	City of Hayden
2023	Boekel Rd – Meyer Rd Roundabout	City of Rathdrum
2023	US 95, IC #430 to Lacrosse Ave Widening	ITD
2026	I90, SH 41 Interchange Reconstruction	ITD
2023	SH 53, Hauser Lake Rd to Bruss Rd Widening	ITD
2023	SH 53 – Ramsey Rd Signal	ITD
2023	SH 53, Latah St to MP 9.3 Widening	ITD
2029	SH 41 – Diagonal Road Turn Bays	ITD
2027	SH 53, WA state line to Hauser Lake Rd Turn Bays	ITD
2026	I90, SH 41 to US 95 Widening	ITD
2029+	Hayden Ave – Meyer Rd Roundabout	Post Falls Highway District
2024	Huetter Rd – Lancaster Rd Roundabout	Lakes Highway District
2029+	Old US 95, UPRR Bridge Replacement	Lakes Highway District
2029+	Prairie Ave, SH 41 to Meyer Rd Widening	Post Falls Highway District

Table 21: Development-Driven Projects

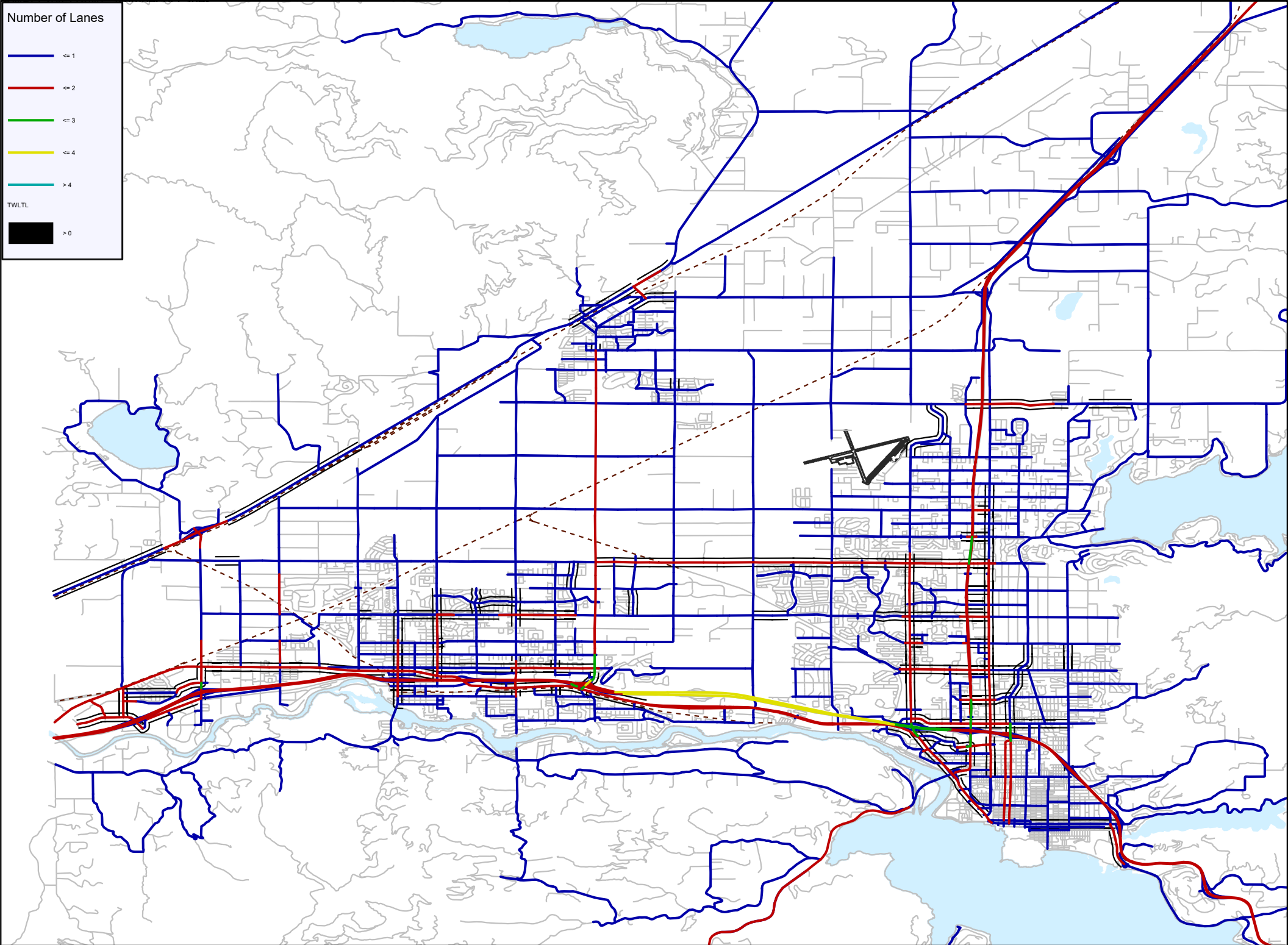
Construction Year	Project	Development Sponsor
2023	Hanley-Poleline Ave. Connection – Huetter Rd. to Carrington Ln. with signal at Huetter Rd.	Architerra – The Trails
2030	Zorros St. Extension – Hope Ave. to Prairie Ave. (Roundabout at Prairie Ave. – 2023)	Architerra – FoxTail
2030	Fennecus Ln. Extension – Hope Ave. to Prairie Ave. (Roundabout at Prairie Ave. – 2023)	Architerra – FoxTail
2030	Moselle Dr. – Courcelles Pkwy. to Prairie Ave.	Greenstone – CDA Place

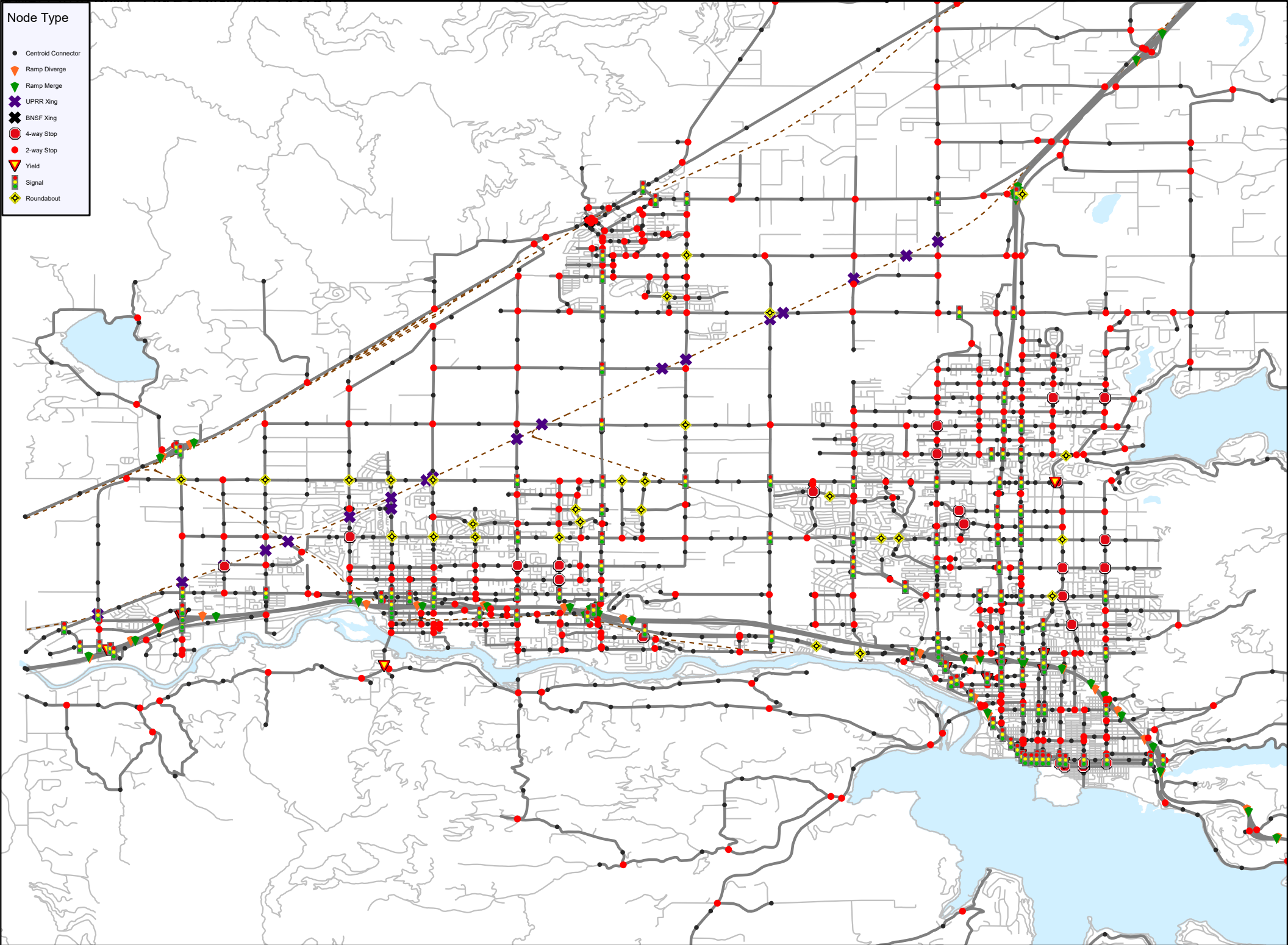


Forecast No Build Models



Forecast No Build Models





Node Type

- Centroid Connector
- Ramp Diverge
- Ramp Merge
- UPRR Xing
- BNSF Xing
- 4-way Stop
- 2-way Stop
- Yield
- Signal
- Roundabout

Forecast No Build Models

7.3 Interim Year Model

The interim model year for the KMPO model is 2035. Table 23 illustrates the anticipated land use totals for 2035.

Table 22: 2035 Projected Housing and Employment Totals

Occupied Dwelling Units	98,657
Total Employment	44,895

7.3.1 Land Use

Table 24 includes a comparison between 2020 and 2035 land uses. The 2035 land use totals were controlled to the forecasts adopted by the KMPO Board. Detailed land use data can be found in Appendix C.

Table 23: 2035 Land Use

Land Use	Unit	2035	2020	Change
LU1: SFDU (Single Family Dwelling Units)	Dwelling Units	64,574	46,591	17,983
LU2: MFDU (Multi-Family Dwelling Units)	Dwelling Units	17,968	10,321	7,647
LU3: Retail	Employees	10,621	8,616	2,005
LU4: Commercial (FIRES)	Employees	3,813	3,095	718
LU5: Industrial	Employees	8,155	6,620	1,535
LU6: Schools	Students	30,270	25,572	4,698
LU7: Accommodations	Spaces	3,687	2,993	694
LU8: Arts, Entertainment & Recreation	Spaces	9,479	7,695	1,784
LU9: Reserved for Outer Zone SFDU	Dwelling Units	16,115	9,331	6,784
LU10: Post-Secondary Schools	Students	4,084	3,316	768
LU11: Agriculture	Acres	248,653	312,497	-63,844
LU12: Waterfront Units	Dwelling Units	<i>Not Used</i>	<i>Not Used</i>	<i>N/A</i>
LU13: Publicly-owned Lands	Acres	279,703	279,703	0
LU14: Transportation & Warehousing	Employees	1,350	1,096	254
LU15: Medical	Employees	13,231	10,752	2,479
LU16: Government	Employees	3,342	2,715	627
LU 17: Administration & Support	Employees	4,044	3,283	761
LU 18: Professional, Science & Technology	Employees	3,098	2,515	583
LU19: Educational Services	Employees	5,229	4,244	985
LU 20: Other Services	Employees	2,062	1,674	388
LU 21: Information	Employees	783	639	144
LU 22: Utilities & Construction	Employees	7,030	5,707	1,323
LU 23: Food Services	Employees	7,950	6,445	1,505

7.3.2 External TAZs

External station counts were adjusted for growth based on the 10-year average growth rate of the nearest ATR.

Table 25 shows the adjusted 2035 counts at the external to internal (X-I) and internal and external (I-X) count locations for both the AM peak hour and PM peak time frames.

Table 24: 2035 AM/PM Peak Hour Counts at External TAZs

TAZ #	Location	IX-D-AM	IX-D-PM	XI-O-AM	XI-O-PM
900	State Hwy. 41 - N. County Line	198	309	43	121
901	Clagstone Rd. - N. County Line	112	17	194	0
902	Old US 95 - S. County Line - FUTURE	0	0	0	0
903	US 95 - N. County Line	416	684	571	636
904	Williams Ln - S. County Line - FUTURE	0	0	0	0
905	Bayview Road - N. County Line	11	32	15	38
906	E. Canyon Road - E. County Line	12	14	25	9
907	I-90 - E. County Line	546	521	644	451
908	FUTURE	0	0	0	0
909	State Hwy. 3 - S. County Line	53	76	6	101
910	Heyburn Rd. - S. County Line	4	5	12	4
911	US 95 - S. County Line	161	185	115	201
912	Roecks Rd. - W. County Line	5	3	3	1
913	State Hwy. 58 (E. Hoxie Rd.) - W. County Line	27	82	16	42
914	Elder Rd. - E. County Line	10	56	42	62
915	W. Riverview Drive - W. County Line	182	185	116	218
916	I-90 - W. County Line	3248	3665	2862	4167
917	Seltice Way - W. County Line	317	684	287	476
918	State Hwy. 53 (Trent Ave.) - W. County Line	929	744	613	1491

Tables 26 and 27 show the internal AM and PM 2035 trip matrices that correspond to the external-to-external TAZs.

Table 25: 2035 AM Peak Hour External-External Through Traffic Volumes

TAZ No.	Name	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918
900	State Hwy 41 – North of County Line	0.00	0.00	0.00	50.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	332.22
901	Clagstone Rd. - FUTURE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
902	Old US 95 – North of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.88	0.00	0.37	1.31	3.60	0.00	0.00	0.00
903	US 95 – North of County Line	0.00	0.00	0.00	0.00	0.00	0.00	3.12	22.09	0.00	0.00	3.21	63.10	0.00	9.36	2.60	1.57	44.74	0.00	0.00
904	Williams Ln. – North of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.00	0.00	0.09	2.34	0.00	0.00	0.00
905	Bayview Rd. – North of County Line	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
906	Canyon Rd. – East of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.04	0.39	0.00
907	I-90 – East of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	320.95	6.71	0.00
908	FUTURE (Not Used)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
909	State Hwy 3 - South of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.01	5.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.72	0.01	0.00
910	Heyburn Rd. - South of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.53	0.00	0.27	0.00	0.00
911	US 95 – South of County Line	0.00	0.00	0.00	81.53	0.00	0.00	4.62	25.64	0.00	0.00	0.00	0.00	0.02	60.62	27.16	0.00	17.27	0.00	0.00
912	Roecks Rd. – West of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
913	State Hwy 58 (East Hoxie Rd.) West of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00
914	Elder Rd. – East of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
915	Riverview Dr. – West of County Line	0.00	0.00	0.03	0.06	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
916	I-90 West of County Line	0.00	0.00	0.00	15.10	0.00	0.00	0.12	259.01	0.00	0.00	0.01	2.26	0.00	0.07	0.13	0.00	0.00	0.00	0.00
917	Seltice Way - West of County Line	0.01	0.00	0.00	5.35	0.54	0.06	18.16	18.16	0.00	0.02	0.00	0.13	0.00	0.00	0.02	0.00	0.00	0.00	0.00
918	State Hwy 53 (Trent Ave.) West of County Line	0.00	0.00	0.00	52.34	9.97	3.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 26: 2035 PM Peak Hour External-External Through Traffic Volumes

TAZ No.	Name	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918
900	State Hwy 41 – North of County Line	0.00	0.00	0.00	45.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38.12	165.17
901	Clagstone Rd. - FUTURE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
902	Old US 95 – North of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.12	0.00	0.03	0.00	0.00	0.00	0.00	0.00
903	US 95 – North of County Line	31.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	144.22	0.00	8.11	0.00	0.00	0.00	0.00	0.00
904	Williams Ln. – North of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
905	Bayview Rd. – North of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
906	Canyon Rd. – East of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.73	0.00	0.00
907	I-90 – East of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	250.96	0.00	0.00
908	FUTURE (Not Used)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
909	State Hwy 3 - South of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
910	Heyburn Rd. - South of County Line	0.00	0.00	0.00	5.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00
911	US 95 – South of County Line	0.00	0.00	15.04	100.73	0.00	0.00	0.00	40.80	0.00	0.00	0.00	0.00	0.00	21.66	0.00	0.00	0.05	16.67	0.00
912	Roecks Rd. – West of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
913	State Hwy 58 (East Hoxie Rd.) West of County Line	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	1.60	66.04	0.00	0.00	0.00	0.00	0.00	1.68	0.00
914	Elder Rd. – East of County Line	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	4.13	0.00
915	Riverview Dr. – West of County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
916	I-90 West of County Line	49.30	0.00	0.00	0.00	0.00	0.00	0.00	204.07	0.00	0.00	0.00	9.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
917	Seltice Way - West of County Line	58.16	0.00	0.00	0.00	0.00	0.00	0.39	1.47	0.00	0.00	0.00	18.63	0.00	1.08	0.00	0.00	0.00	0.00	0.00
918	State Hwy 53 (Trent Ave.) West of County Line	0.00	0.00	0.00	96.95	43.90	47.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

7.3.3 Trip Generation

Trip productions and attractions are balanced in the model to ensure there is an attraction for each production generated by the model. Tables 28 and 29 summarize the AM and PM peak hour vehicle trips by purpose.

Table 27: 2035 AM Trips

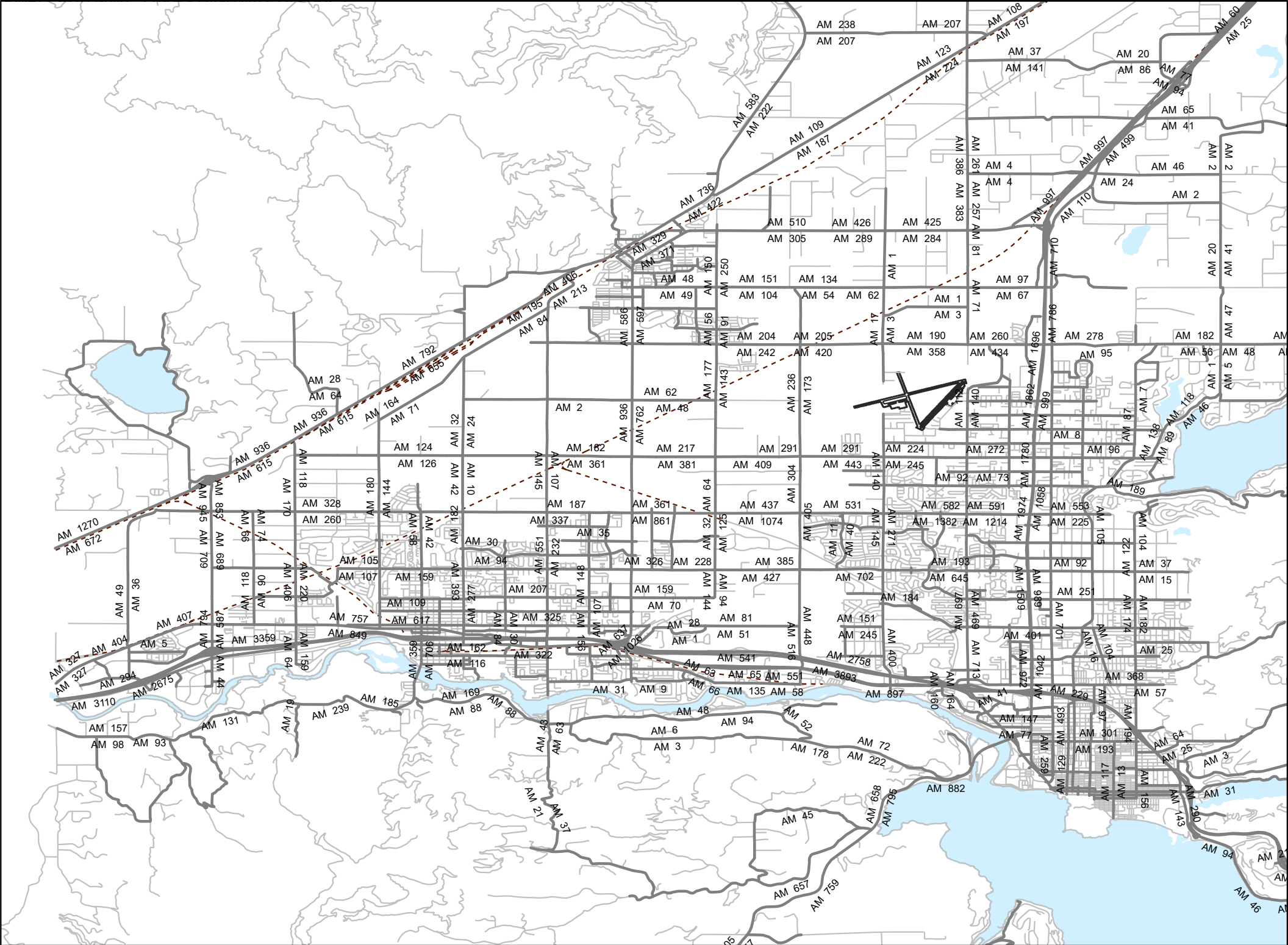
Trip Purpose	2035 AM Peak Hour Trips	2020 AM Peak Hour trips	Growth in trips
Home Based Work	19,582	14,268	5,314
Home Based Retail	5,047	3,650	1,397
Home Based Other	22,867	16,531	6,336
Non-Home Based	15,479	12,211	3,268
Home Based School	13,481	10,196	3,285
TOTAL	76,456	56,856	19,600

Table 28: 2035 PM Trips

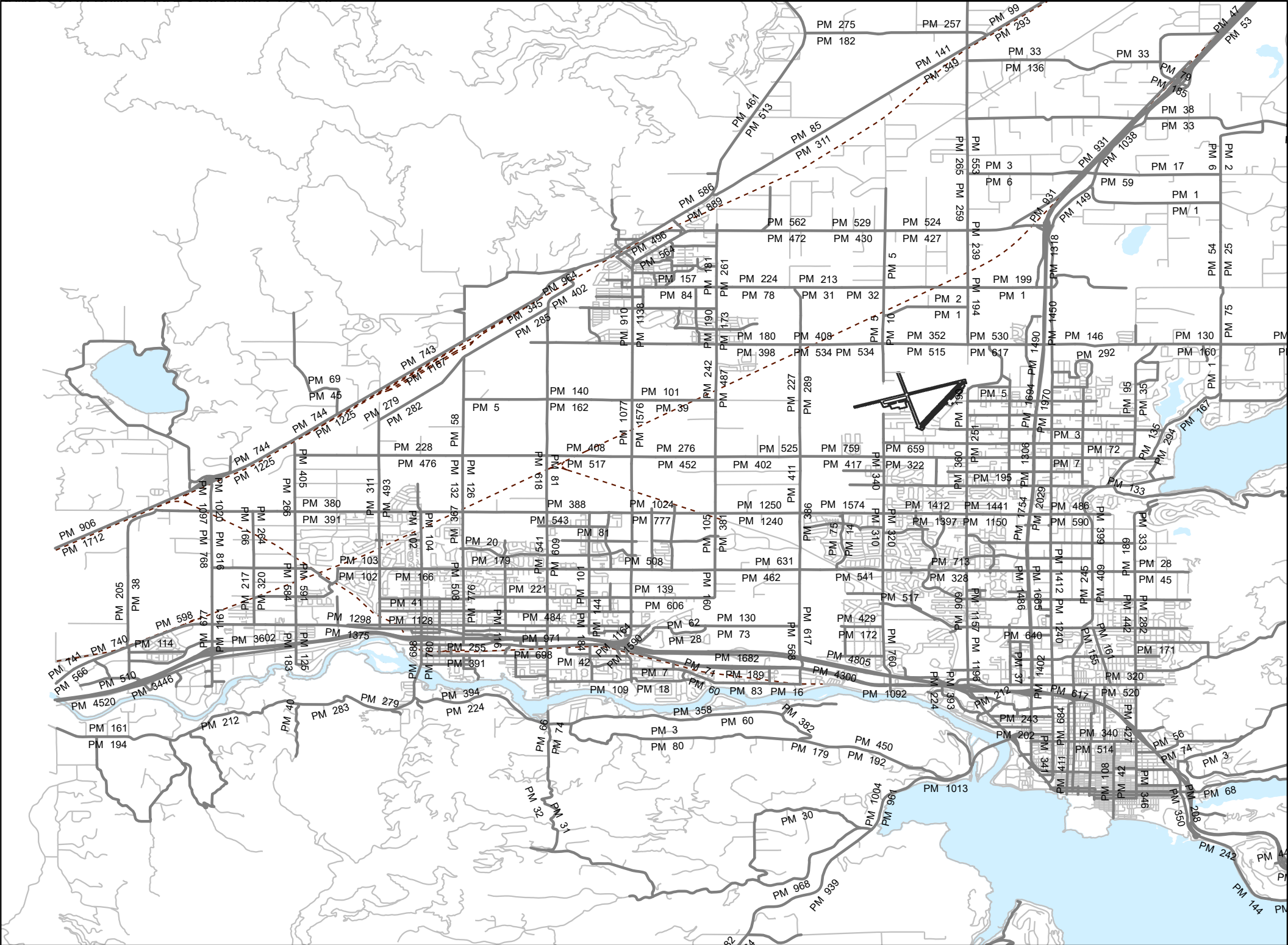
Trip Purpose	2035 PM Peak Hour Trips	2020 PM Peak Hour trips	Growth in trips
Home Based Work	13,714	10,025	3,689
Home Based Retail	11,467	8,470	2,997
Home Based Other	49,044	35,610	13,434
Non-Home Based	23,406	18,520	4,886
Home Based School	1,523	1,150	373
TOTAL	99,154	73,775	25,379

7.3.4 Trip Assignment

The 2035 assignment results are depicted in Figures 20 and 21 for the AM and PM model runs.



2035 Interim Model



2035 Interim Model

7.4 Forecast Year Model

The forecast model year for the KMPO model is 2045. Table 30 illustrates the anticipated land use totals for 2045.

Table 29: 2045 Projected Housing and Employment Totals

Occupied Dwelling Units	124,677
Total Employment	71,850

7.4.1 Land Use

Table 31 compares land use categories between the 2020, 2035 and 2045 model years. The 2045 land uses were controlled to the forecasts adopted by the KMPO Board. Detailed land use data can be found in Appendix C.

Table 30: 2045 Land Use

Land Use Type	Unit	2045	2035	10-year Growth	2020	25-year Growth
LU1: SFDU (Single Family Dwelling Units)	Dwelling Units	76,510	64,574	11,936	46,591	29,919
LU2: MFDU (Multi-Family Dwelling Units)	Dwelling Units	29,233	17,968	11,265	10,321	18,912
LU3: Retail	Employees	12,199	10,621	1,578	8,616	3,583
LU4: Commercial (FIRES)	Employees	4,374	3,813	561	3,095	1,279
LU5: Industrial	Employees	9,365	8,155	1,210	6,620	2,745
LU6: Schools	Students	34,786	30,270	4,516	25,572	9,214
LU7: Accommodations	Spaces	4,239	3,687	552	2,993	1,246
LU8: Arts, Entertainment & Recreation	Spaces	10,887	9,479	1,408	7,695	3,192
LU9: Reserved for Outer Zone SFDU	Dwelling Units	18,934	16,115	2,819	9,331	9,603
LU10: Post-Secondary Schools	Students	4,694	4,084	610	3,316	1,378
LU11: Agriculture	Acres	213,775	248,653	-34,878	312,497	-98,722
LU12: Waterfront Units	Dwelling Units	<i>Not Used</i>	<i>Not Used</i>	<i>N/A</i>	<i>Not Used</i>	<i>N/A</i>
LU13: Publicly-owned Lands	Acres	279,703	279,703	0	279,703	0
LU14: Transportation & Warehousing	Employees	1,549	1,350	199	1,096	453
LU15: Medical	Employees	15,228	13,231	1,997	10,752	4,476
LU16: Government	Employees	3,843	3,342	501	2,715	1,128
LU 17: Administration & Support	Employees	4,641	4,044	597	3,283	1,358
LU 18: Professional, Science & Technology	Employees	3,553	3,098	455	2,515	1,038
LU19: Educational Services	Employees	6,010	5,229	781	4,244	1,766
LU 20: Other Services	Employees	2,360	2,062	298	1,674	686
LU 21: Information	Employees	902	783	119	639	263
LU 22: Utilities & Construction	Employees	8,070	7,030	1,040	5,707	2,363
LU 23: Food Services	Employees	9,121	7,950	1,171	6,445	2,676

7.4.2 External TAZs

External station counts were adjusted for growth based on the 10-year average growth rate of the nearest ATR.

Table 32 shows the adjusted 2045 counts at the external to internal (X-I) and internal and external (I-X) count locations for both the AM and PM peak hour frames.

Table 31: 2045 AM/PM Peak Hour Counts at External TAZs

TAZ #	Location	IX-D-AM	IX-D-PM	XI-O-AM	XI-O-PM
900	State Hwy. 41 - N. County Line	252	393	55	153
901	Clagstone Rd. - N. County Line	172	26	298	0
902	Old US 95 - S. County Line - FUTURE	0	0	0	0
903	US 95 - N. County Line	544	894	747	831
904	Williams Ln - S. County Line - FUTURE	0	0	0	0
905	Bayview Road - N. County Line	18	50	23	58
906	E. Canyon Road - E. County Line	16	18	33	12
907	I-90 - E. County Line	726	693	856	599
908	FUTURE	0	0	0	0
909	State Hwy. 3 - S. County Line	53	77	6	102
910	Heyburn Rd. - S. County Line	5	7	15	5
911	US 95 - S. County Line	199	228	142	248
912	Roecks Rd. - W. County Line	7	3	3	2
913	State Hwy. 58 (E. Hoxie Rd.) - W. County Line	34	101	20	52
914	Elder Rd. - E. County Line	12	69	52	76
915	W. Riverview Drive - W. County Line	238	242	152	286
916	I-90 - W. County Line	4260	4808	3754	5466
917	Seltice Way - W. County Line	416	897	376	625
918	State Hwy. 53 (Trent Ave.) - W. County Line	1514	1212	999	2428
TOTAL		8466	9718	7531	10943

Tables 32 and 33 show the internal AM and PM 2045 trip matrices that correspond to the external-to-external TAZs.

Table 32: 2045 AM Peak Hour External-External Through Traffic Volumes

TAZ No.	Name	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918
900	State Hwy. 41 - N. County Line	0.00	0.00	0.00	50.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	332.22
901	Clagstone - N. County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
902	Old US 95 - S. County Line - FUTURE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.88	0.00	0.37	1.31	3.60	0.00	0.00	0.00
903	US 95 - N. County Line	0.00	0.00	0.00	0.00	0.00	0.00	3.12	22.09	0.00	0.00	3.21	63.10	0.00	9.36	2.60	1.57	44.74	0.00	0.00
904	Williams Ln - S. County Line - FUTURE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.00	0.00	0.09	2.34	0.00	0.00	0.00
905	Bayview Road - N. County Line	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
906	E. Canyon Road - E. County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.04	0.39	0.00
907	I-90 - E. County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	320.95	6.71	0.00
908	FUTURE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
909	State Hwy. 3 - S. County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.01	5.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.72	0.01	0.00
910	Heyburn Rd. - S. County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.53	0.00	0.27	0.00	0.00
911	US 95 - S. County Line	0.00	0.00	0.00	81.53	0.00	0.00	4.62	25.64	0.00	0.00	0.00	0.00	0.02	60.62	27.16	0.00	17.27	0.00	0.00
912	Roecks Rd. - W. County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
913	State Hwy. 58 (E. Hoxie Rd.) - W. County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00
914	Elder Rd. - E. County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
915	W. Riverview Drive - W. County Line	0.00	0.00	0.03	0.06	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
916	I-90 - W. County Line	0.00	0.00	0.00	15.10	0.00	0.00	0.12	259.01	0.00	0.00	0.01	2.26	0.00	0.07	0.13	0.00	0.00	0.00	0.00
917	Seltice Way - W. County Line	0.01	0.00	0.00	5.35	0.54	0.06	18.16	18.16	0.00	0.02	0.00	0.13	0.00	0.00	0.02	0.00	0.00	0.00	0.00
918	State Hwy. 53 (Trent Ave.) - W. County Line	0.00	0.00	0.00	52.34	9.97	3.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 33: 2045 PM Peak Hour External-External Through Traffic Volumes

TAZ No.	Name	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918
900	State Hwy. 41 - N. County Line	0.00	0.00	0.00	45.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38.12	165.17
901	Clagstone - N. County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
902	Old US 95 - S. County Line - FUTURE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.12	0.00	0.03	0.00	0.00	0.00	0.00	0.00
903	US 95 - N. County Line	31.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	144.22	0.00	8.11	0.00	0.00	0.00	0.00	0.00
904	Williams Ln - S. County Line - FUTURE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
905	Bayview Road - N. County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
906	E. Canyon Road - E. County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.73	0.00	0.00
907	I-90 - E. County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	250.96	0.00	0.00
908	FUTURE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
909	State Hwy. 3 - S. County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
910	Heyburn Rd. - S. County Line	0.00	0.00	0.00	5.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00
911	US 95 - S. County Line	0.00	0.00	15.04	100.73	0.00	0.00	0.00	40.80	0.00	0.00	0.00	0.00	0.00	21.66	0.00	0.00	0.05	16.67	0.00
912	Roecks Rd. - W. County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
913	State Hwy. 58 (E. Hoxie Rd.) - W. County Line	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	1.60	66.04	0.00	0.00	0.00	0.00	0.00	1.68	0.00
914	Elder Rd. - E. County Line	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	4.13	0.00
915	W. Riverview Drive - W. County Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
916	I-90 - W. County Line	49.30	0.00	0.00	0.00	0.00	0.00	0.00	204.07	0.00	0.00	0.00	9.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
917	Seltice Way - W. County Line	58.16	0.00	0.00	0.00	0.00	0.00	0.39	1.47	0.00	0.00	0.00	18.63	0.00	1.08	0.00	0.00	0.00	0.00	0.00
918	State Hwy. 53 (Trent Ave.) - W. County Line	0.00	0.00	0.00	96.95	43.90	47.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

7.4.3 Trip Generation

Trip productions and attractions are balanced in the model to ensure there is an attraction for each production generated by the model. Tables 34 and 35 summaries the AM and PM peak hour vehicle trips by purpose.

Table 34: 2045 AM Trips

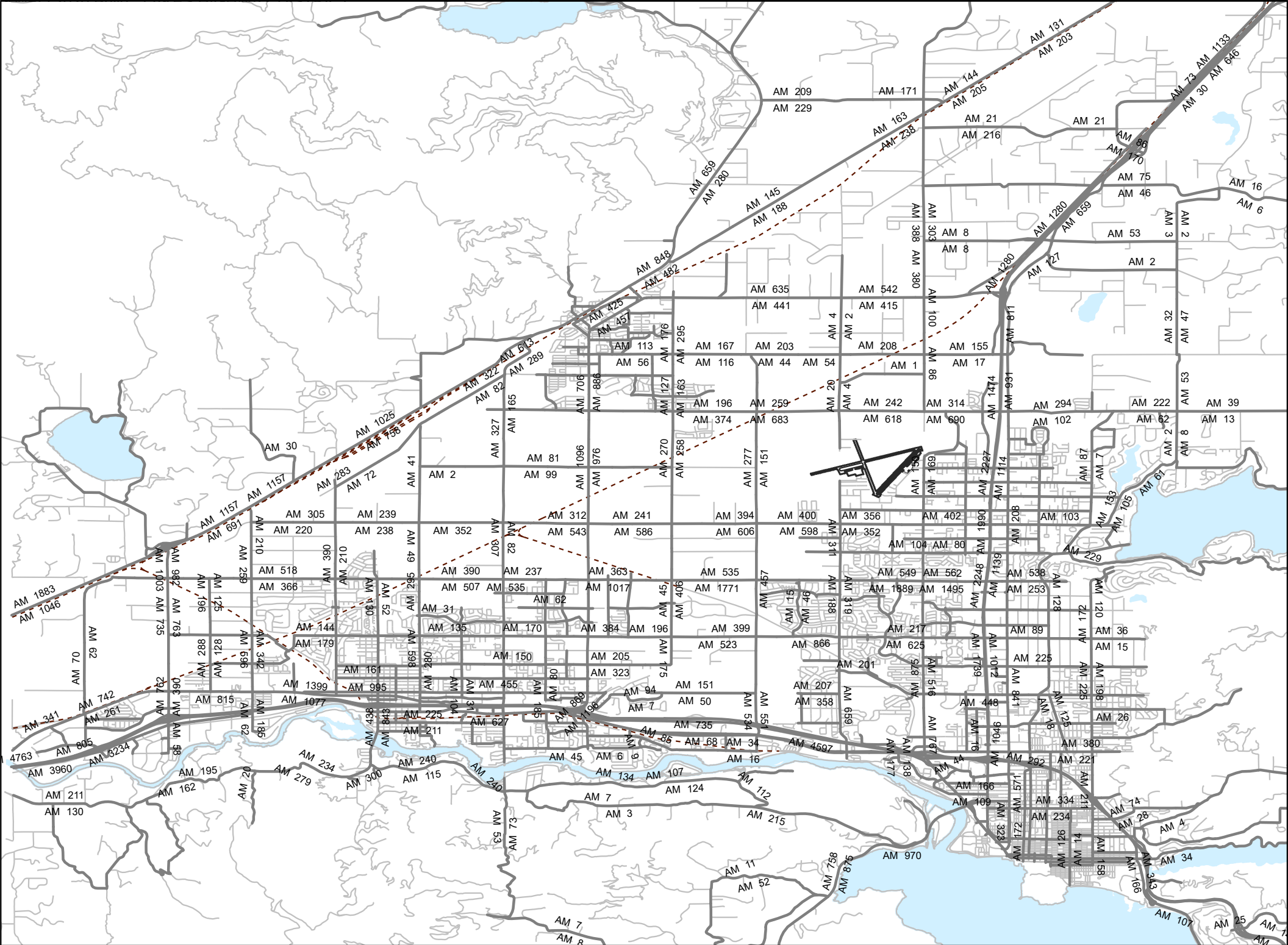
Trip Purpose	2045 AM Peak Hour Trips	2035 AM Peak Hour Trips	2020 AM Peak Hour trips	Growth in trips 2035 to 2045	Growth in trips 2020 to 2045
Home Based Work	23,672	19,582	14,268	4,090	9,404
Home Based Retail	6,225	5,047	3,650	1,178	2,575
Home Based Other	27,640	22,867	16,531	4,773	11,109
Non-Home Based	17,873	15,479	12,211	2,394	5,662
Home Based School	16,197	13,481	10,196	2,716	6,001
TOTAL	91,607	76,456	56,856	15,151	34,751

Table 35: 2045 PM Trips

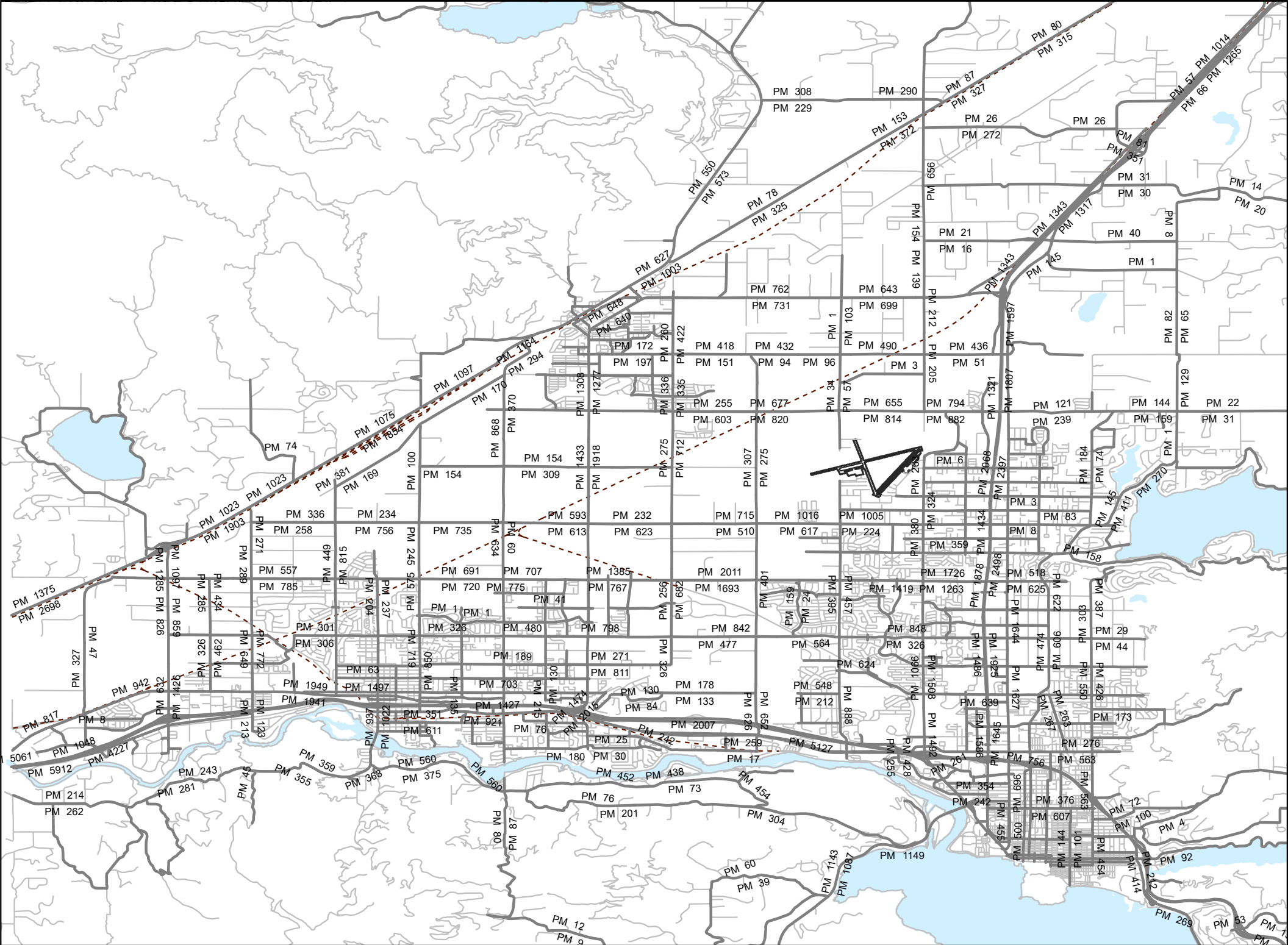
Trip Purpose	2045 PM Peak Hour Trips	2035 PM Peak Hour Trips	2020 PM Peak Hour trips	Growth in trips 2035 to 2045	Growth in trips 2020 to 2045
Home Based Work	16,658	13,714	10,025	2,944	6,633
Home Based Retail	14,004	11,467	8,470	2,537	5,534
Home Based Other	59,482	49,044	35,610	10,438	23,872
Non-Home Based	27,205	23,406	18,520	3,799	8,685
Home Based School	1,843	1,523	1,150	320	693
TOTAL	119,192	99,154	73,775	20,038	45,417

7.4.4 Trip Assignment

The 2045 assignment results are depicted in Figures 22 and 23 for the AM and PM model runs.



2045 Forecast



2045 Forecast

8.0 User's Guide

The model was developed using PTV's VISUM software. A basic understanding of VISUM is required to manage and run the model.

All files needed to run the model are zipped into a deliverable package, including model filters, graphic parameters, layouts, and the VISUM version file. The following version files are the final versions represented in this document:

- KMPO_2020_BASE_FINAL_7-7-2023
- KMPO_2035_NoBuild 10-5-2023
- KMPO_2045_NoBuild 7-24-2023

These zip files can be made available upon request, at the discretion of KMPO. The newest version should be requested from the KMPO prior to beginning any project.

Figure 24 illustrates the "Procedure Sequence" for running the model.

Figure 24: VISUM Procedure Sequence for KMPO Model

120	Procedure	Reference object(s)	Variant/file	Messages	Comment
1	Group Capacity calculation -	48 / 48		✓	Capacity calculation - Calculate Procedu
2	Reset all filters			✓	
3	Read filter		TSysCar.fil	✓	
4	Edit attribute	Links - CapPrT		✓	Set Link Capacity, Lanes * Cap/Lane
5	Edit attribute	Connectors - T0_TSys(C)		✓	Test to set Connector Time
6	Read filter		TWLTL-3Lane.fil	⚠ 1 warnin	3 Lane Road
7	Edit attribute	Links - CapPrT		✓	Add 300 directional capacity
8	Read filter		TWLTL-5Lane.fil	⚠ 1 warnin	5 Lane Road
9	Edit attribute	Links - CapPrT		✓	Add 150 directional capacity
10	Read filter		Fwy_GT_2_Lanes.fil	✓	3+ Lane Fwy
11	Edit attribute	Links - CapPrT		✓	Add Cap for 3 Lane + Fwy
12	Edit attribute	Nodes - K4		✓	Set All K4 = 1.0
13	Read filter		ActiveLinksNodes.fil	✓	Start Node Computations
14	Edit attribute	Nodes - CapPrT		✓	Add all outbound link capacities
15	Read filter		ActiveLinksNodes-3plusLegs.fil	✓	3 Plus Leg Nodes
16	Edit attribute	Nodes - K4		✓	
17	Read filter		ActiveLinksNodes-2Leg.fil	✓	
18	Edit attribute	Nodes - K4		✓	
19	Read filter		ActiveLinksNodes-3Leg.fil	✓	
20	Edit attribute	Nodes - K4		✓	
21	Read filter		ActiveLinksNodes-4Leg.fil	✓	
22	Edit attribute	Nodes - K4		✓	
23	Read filter		ActiveLinksNodes-5Leg.fil	✓	
24	Edit attribute	Nodes - K4		✓	
25	Read filter		NodeCapacityFinalComputations.fil	✓	
26	Edit attribute	Nodes - CapPrT		✓	
27	Read filter		Turns-LT-TH-RT-Only.fil	✓	Turns-LT-TH-RT-Only.fil
28	Edit attribute	Turns - CapPrT		✓	Reset Turn Capacities
29	Edit attribute	Turns - t0PrT		✓	Reset Turn T0=0
30	Read filter		SingleLeftTurnsSignalsTwoWayStops.f	✓	Single Left Turns
31	Edit attribute	Turns - t0PrT		✓	T0=6Secs
32	Edit attribute	Turns - CapPrT		✓	TurnCap=300
33	Read filter		DualLeftTurnsSignalsTwoWayStops.fil	✓	Dual Left Turns
34	Edit attribute	Turns - CapPrT		✓	TurnCap=275*NumLanes
35	Read filter		Uncontrolled_Intersections.fil	✓	Set Uncontrolled Controls
36	Edit attribute	Nodes - ControlType		✓	1-Uncontrolled
37	Read filter		Stop_2_Way_Intersections.fil	✓	Set 2 Way Stop
38	Edit attribute	Nodes - ControlType		✓	2-Partial Stop
39	Read filter		Yield_2_Way_Intersections.fil	✓	Set Yield
40	Edit attribute	Nodes - ControlType		✓	6-Yield
41	Read filter		Stop_All_Way_Intersections.fil	✓	Set All Way Stop
42	Edit attribute	Nodes - ControlType		✓	4-All Way Stop
43	Read filter		Signal_Intersections.fil	✓	Set Signals
44	Edit attribute	Nodes - ControlType		✓	3-Signals
45	Read filter		Roundabout_Intersections.fil	✓	Set Roundabouts
46	Edit attribute	Nodes - ControlType		✓	7-Roundabout
47	Edit attribute	Turns - t0PrT		✓	
48	Edit attribute	Turns - CapPrT		✓	
49	Read filter		TSysCar.fil	✓	

50	☒	▼ Group Set Land Use to 2020	4 / 4		✓	Set Land Use to 2020 for Base Year
51	☒	Edit attribute	Network - Model_Year		✓	
52	☒	Run script		update_landuse_year.py	✓	
53	☒	Combination of matrices and	Matrix([NO] = 21):=Matrix([NO ...		✓ 2 messa	update XX-AM
54	☒	Combination of matrices and	Matrix([NO] = 23):=Matrix([NO ...		✓ 2 messa	update XX-PM
55	☐	► Group Set Land Use to 2035	0 / 4			Set Land Use to 2035 for Interim Year
60	☐	► Group Set Land Use to 2045	0 / 4			Set Land Use to 2045 for Forecast Year
65	☒	▼ Group AM Model Run	27 / 27		✓	AM Model Run
66	☒	Reset all filters			✓	Clear filters
67	☒	Edit attribute	Nodes - t0PrT		✓	Init RR Delay
68	☒	Edit attribute	Links - AddVal2		✓	ADDVALUE2=0 (sets value to zero)
69	☒	Trip generation	AM_H-O AM_H-O, AM_H-R AM_...		✓	Updated Gen - working 04/02/2023
70	☒	Edit attribute	Links - AWDT - Model		✓	SETS AWDT To Zero
71	☒	Delete assignment results		All	✓	
72	☒	Calculate PrT skim matrix	AM_HBW AM_HBW		✓	TT0 - Free flow skim
73	☒	Trip distribution	AM_H-O AM_H-O, AM_H-R AM_...		✓	
74	☒	Combination of matrices and	Matrix(13) := Matrix(215) + Ma...		✓ 17 mess	
75	☒	Combination of matrices and	Matrix(15) := Matrix(214) + Ma...		✓ 17 mess	
76	☒	Combination of matrices and	Matrix(17) := Matrix(213) + Ma...		✓ 17 mess	
77	☒	Combination of matrices and	Matrix(19) := Matrix(222) + Ma...		✓ 17 mess	
78	☒	Combination of matrices and	Matrix(1) := Matrix(13) + Matr...		✓ 17 mess	
79	☒	PrT assignment	AM-Tot AM Total	Equilibrium assignment	✓	Assign model flows
80	☒	Calculate PrT skim matrix	AM_HBW AM_HBW		✓	TTC - update congested skims
81	☒	Combination of matrices and	Matrix(2) := 0.5*Matrix(2) + 0...		✓ 17 mess	TT0=0.5*TTC+0.5*TT0 Average skims
82	☒	Go to the procedure	Procedure 73		✓ 12 mess	
83	☒	Delete assignment results		All	✓	
84	☒	PrT assignment	AM_E_XX AM_E_XX, AM_HO Al...	Equilibrium assignment Bi-conjugate Fr	✓	Assign adjusted flow matrix
85	☒	Edit attribute	Links - AM_PK_Hr_Model_Vol		✓	AM_PK_HR_Model_Vol=VolVehPrT
86	☒	Edit attribute	Turns - AM_PK_HR_VOLS		✓	AM_PK_Vols=VolVehPrT
87	☒	Edit attribute	Nodes - t0PrT		✓	
88	☒	Territory indicators			✓	
89	☒	Edit attribute	Territories - VMT_AM		✓	
90	☒	Edit attribute	Territories - VHT_AM		✓	
91	☒	Edit attribute	Links - AddVal2		✓	AM Model Deviation
92	☒	Assignment analysis			✓	AM Analysis
93	☒	▼ Group PM Model Run	27 / 27		✓	PM Model Run
94	☒	Reset all filters			✓	Clear filters
95	☒	Edit attribute	Nodes - t0PrT		✓	Init RR Delay
96	☒	Edit attribute	Links - AddVal3		✓	ADDVALUE3=0 (Sets value to zero)
97	☒	Edit attribute	Links - AWDT - Model		✓	SETS AWDT TO Zero
98	☒	Trip generation	PM_H-O PM_H-O, PM_H-R PM_I...		✓	Updated Gen - working 04/02/2023
99	☒	Delete assignment results		All	✓	
100	☒	Calculate PrT skim matrix	PM_HBW PM_HBW		✓	TT0
101	☒	Trip distribution	PM_H-O PM_H-O, PM_H-R PM_I...		✓	
102	☒	Combination of matrices and	Matrix(14) := Matrix(208) + Ma...		✓ 2 messa	
103	☒	Combination of matrices and	Matrix(16) := Matrix(207) + Ma...		✓ 17 mess	
104	☒	Combination of matrices and	Matrix(18) := Matrix(206) + Ma...		✓ 17 mess	
105	☒	Combination of matrices and	Matrix(20) := Matrix(224) + Ma...		✓ 17 mess	
106	☒	Combination of matrices and	Matrix(3) := Matrix(14) + Matr...		✓ 17 mess	
107	☒	PrT assignment	PM-Tot PM_Total	Equilibrium assignment	✓	
108	☒	Calculate PrT skim matrix	PM_HBW PM_HBW		✓	TTC
109	☒	Combination of matrices and	Matrix(220) := 0.5*Matrix(220)...		✓ 17 mess	TT0=TTC+TT0
110	☒	Go to the procedure	Procedure 103		✓ 12 mess	
111	☒	Delete assignment results		All	✓	
112	☒	PrT assignment	PM_E_XX PM_E_XX, PM_HO PM...	Equilibrium assignment Bi-conjugate Fr	✓	Assign adjusted flow matrix
113	☒	Edit attribute	Links - PM_PK_Hr_Model_Vol		✓	PM_PK_HR_Model_Vol=VolVehPrT
114	☒	Edit attribute	Turns - PM_PK_HR_VOLS		✓	PM_PK_Vols=VolVehPrT
115	☒	Edit attribute	Nodes - t0PrT		✓	
116	☒	Territory indicators			✓	
117	☒	Edit attribute	Territories - VMT_PM		✓	
118	☒	Edit attribute	Territories - VHT_PM		✓	
119	☒	Edit attribute	Links - AddVal3		✓	PM Model Deviation
120	☒	Assignment analysis			✓	PM Analysis

Note: Warnings in steps six and eight are related to an attribute that no longer exists. This does not affect the model's overall results.

Appendices

Appendix A: PTV Model Update & Calibration Documentation

To:

KMPO, ID☐ For attention☐ Consultation

From:

PTV America Inc.☐ Confidential☐ To do by:

Date:

5/10/2023

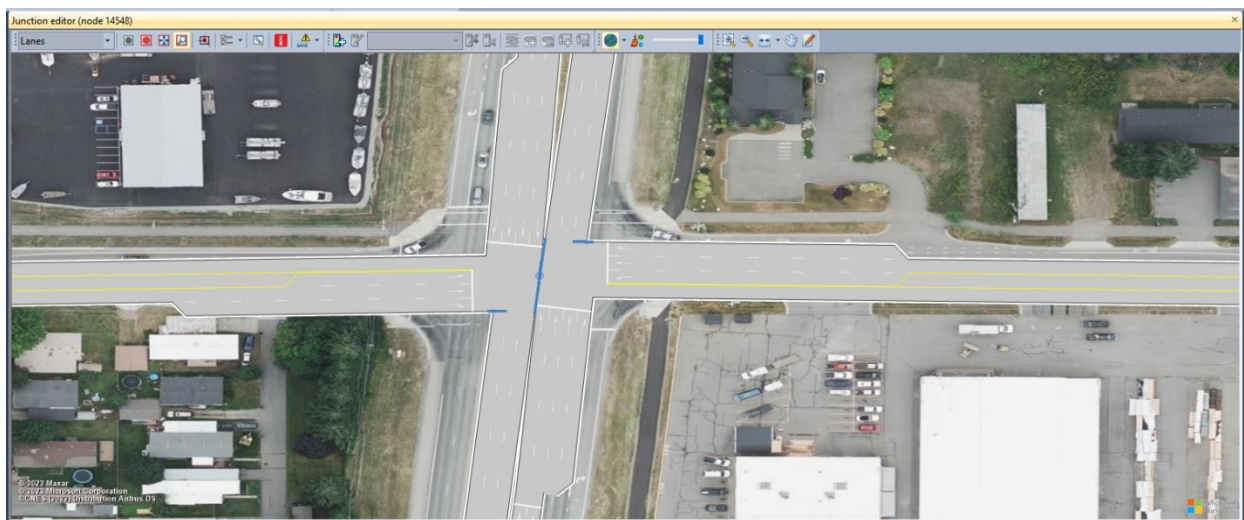
Kootenai MPO Planning Model Update

The KMPO Visum Planning Model was updated to reflect base year 2020 land use conditions under usual traffic patterns in the AM and PM peak hours. This model updated model can now be used to evaluate and compare scenarios. A summary of the task items performed in the update process is provided in this technical memo.

Network Model Revisions

A review of the network model was performed in collaboration with KMPO agency staff and intersection turning movement types and geometry (turning lanes) were updated to reflect accurate field conditions. These intersections were primarily located along US 95 and Ramsey corridors.

Figure 1: Illustration of Detailed Intersection View - US 95 @ W Wyoming Ave



The KMPO model can use connector weights to load the traffic from model traffic analysis zones (TAZs). These weights can be used for more fine-tuned loading of traffic from the TAZ to the expected loading points in the network. The model does not use connector weights by default. Connector weights in the model are only applied as an option in case of some special short term traffic studies. As a result, the connector weights are not used in long term forecasts. Regardless, the connector weight in the existing model examined and then updated based on count data and aerial imagery to better reflect actual traffic loading points in case these need to be used for some special studies.

Figure 2: Connector Weights for Traffic Loading**Model Parameter Updates**

The agency provided a model with updated land use data for the year 2020. The model was initially run and tested with existing parameters and updated land use data. Based on observing the results from the model, the following parameters were then adjusted to improve model performance and results.

1. Production and attraction trip rates for model demand strata (trip types) were adjusted to yield balanced production and attraction totals. The adjusted trip rates were set to remain within the ITE trip generation rate ranges.
2. The trip distribution dispersion parameters controlling average trip length were adjusted for each demand strata to yield overall balance between model traffic and count data.
3. The intrazonal skim time was adjusted to have a value equal to one half of the average of the three nearest zones.

A summary of the model parameters is presented in the tables below.

Table 1: AM Peak Trip Generation Rates

Variable	Production Rate	Attraction Rate
SFDU_LU1	0.534	0.165
MFDU_LU2	0.347	0.081
RET_LU3	0.447	0.79
FIRES_LU4	0.12	0.418
INDUST_LU5	0.063	0.361
SCH_LU6	0.14	0.381
ACCOM_LU7	0.403	0.282
AER_LU8	0.055	0.162
OSFDU_LU9	0.338	0.073
PSS_LU10	0.031	0.207
AGRI_LU11	0.002	0.004
POL_LU13	0	0
TRNWH_LU14	0.24	0.554
MED_LU15	0.481	0.468
GOVT_LU16	0.077	0.558
ASWMR_LU17	0.116	0.433
PSTMC_LU18	0.116	0.433
EDUSRV_LU19	0.116	0.433
OTHER_LU20	0.116	0.433
INFO_LU21	0.116	0.433
UTLCONST_LU22	0.24	0.554
FS_LU23	0.54	0.79
XI-O-AM	1	0
IX-D-AM	0	1

Table 2: PM Peak Trip Generation Rates

Variable	Production Rate	Attraction Rate
SFDU_LU1	0.341	0.613
MFDU_LU2	0.179	0.351
RET_LU3	1.196	1.134
FIRES_LU4	0.763	0.395
INDUST_LU5	0.218	0.171
SCH_LU6	0.099	0.063
ACCOM_LU7	0.237	0.275
AER_LU8	0.084	0.078
OSFDU_LU9	0.14	0.262
PSS_LU10	0.047	0.081

Variable	Production Rate	Attraction Rate
AGRI_LU11	0.004	0.002
POL_LU13	0	0
TRNWH_LU14	0.692	0.122
MED_LU15	0.788	0.555
GOVT_LU16	0.506	0.355
ASWMR_LU17	0.763	0.394
PSTMC_LU18	0.763	0.394
EDUSRV_LU19	0.763	0.394
OTHER_LU20	0.763	0.394
INFO_LU21	0.763	0.394
UTLCONST_LU22	0.692	0.125
FS_LU23	1.199	1.129
XI-O-PM	1	0
IX-D-PM	0	1

The trip distribution in the model is implemented as a doubly constrained gravity model and uses the TModel functional form for friction factors.

Figure 3: TModel Functional Form

Options Function graph

Function type

- ☐ Logit: $f(U) = e^{(c U)}$
- ☐ Kirchhoff: $f(U) = U^c$
- ☐ BoxCox: $f(U) = e^{[c (U^b - 1) / b]}$
- ☐ Combined: $f(U) = U^b e^{(c U)}$
- ☒ TModel: $f(U) = 1 / (U^b + c U^a)$

Parameters

a:

b:

c:

Direction of the distribution

- ☒ Constrained production
- ☐ Constrained attraction

☒ Doubly-constrained: Balancing by Multi procedure

Matrix balancing according to ...

- ☐ Production total
- ☐ Attraction total
- ☒ Mean of both totals
- ☐ Minimum of both totals
- ☐ Maximum of both totals

Multi parameters

Maximum number of iterations:

Quality factor:

The parameters specific to each trip type and time of day are shown in the table below.

Table 3: AM Trip Distribution Model Parameters

Trip Type	a	b	c
AM_H-O	0	2.4	0
AM_H-R	0	2.4	0
AM_H-S	0	2.6	0
AM_H-W	-0.1	1.7	5
AM_NHB	0	3.1	0
AM_O-H	0	2.4	0
AM_R-H	0	2.4	0
AM_S-H	0	2.6	0
AM_W-H	-0.1	1.7	5

Table 4: PM Trip Distribution Model Parameters

Trip Type	a	b	c
PM_H-O	0	1.7	0
PM_H-R	0	1.8	0
PM_H-S	0	2.1	0
PM_H-W	-0.1	1.4	5
PM_NHB	0	2.1	0
PM_O-H	0	1.7	0
PM_R-H	0	1.8	0
PM_S-H	0	2.1	0
PM_W-H	-0.1	1.4	5

External Travel Update

External travel in the KMPO model reflects travel between external stations in the model perimeter and between internal traffic analysis zones and external stations. The external-to-external flows are modeled as fixed trip tables for the AM and PM peak hour. The external to internal and internal to external travel is modeled as part of various trip types with rates used to apportion a control total based on station counts. The apportioned trip rates and control totals were analyzed and updated to reflect traffic conditions in 2020. The external counts were used as the primary control totals. The updated control totals and apportioned trip rates related to external travel are presented in the table below.

Table 5: Updated External-Internal Station Control Totals

External Station TAZ	XI-O-PM	IX-D-PM	XI-O-AM	IX-D-AM
900	90	195	30	85
901	0	7	159	71
902	0	0	0	0
903	375	410	335	225
904	0	0	0	0

External Station TAZ	XI-O-PM	IX-D-PM	XI-O-AM	IX-D-AM
905	14	14	4	7
906	6	9	16	8
907	277	334	424	370
908	0	0	0	0
909	73	44	7	45
910	3	4	8	3
911	139	96	56	118
912	1	2	2	5
913	32	53	13	22
914	48	40	30	10
915	135	123	63	108
916	2769	2421	1879	2202
917	285	219	110	171
918	840	234	230	647

Model Validation

The updated base model was validated against count data at the link level. The count data was assembled using counts from the years 2019 and 2020. Since the traffic patterns in the past three years have been influenced by COVID-19 and some of the counts used in the validation were outdated, the model was not overfit to the observed counts. It is anticipated that more recent count data will be more accurate and will reflect a more normal travel pattern will become available in the coming months. Validation against this new data will allow further refinement of the model in the future if needed.

Both the AM and PM peak hours have RMSE values of 40% and slope 0.95 with 80% or greater within the NCHRP tolerance guidelines. The scatter plots below show model performance against link counts.

Figure 4: AM Model Validation

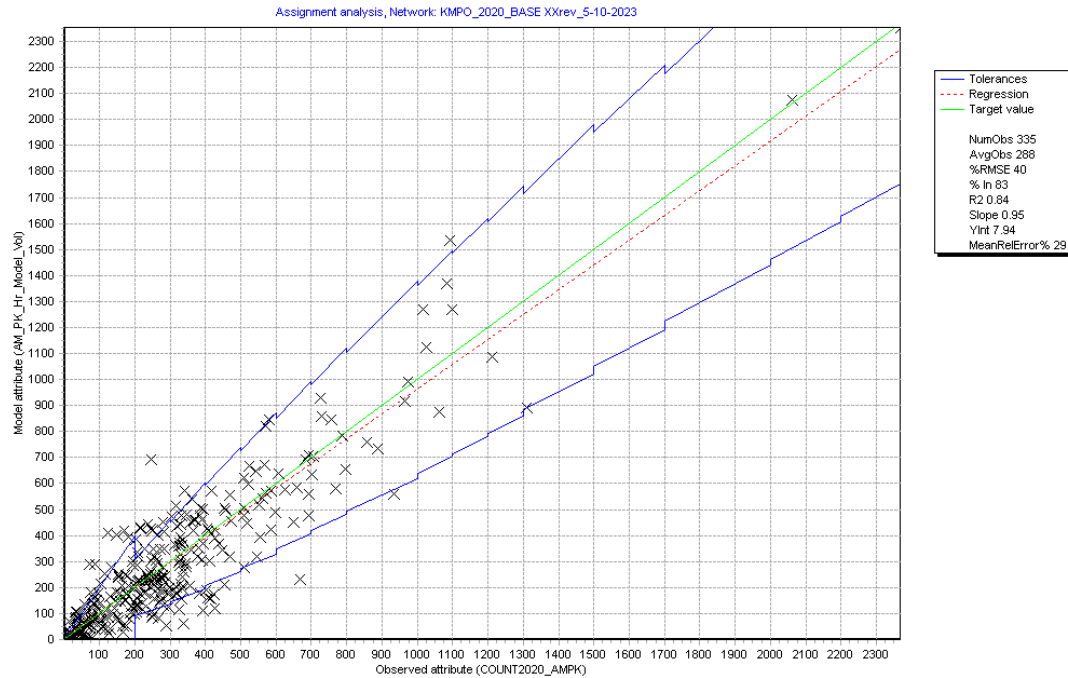
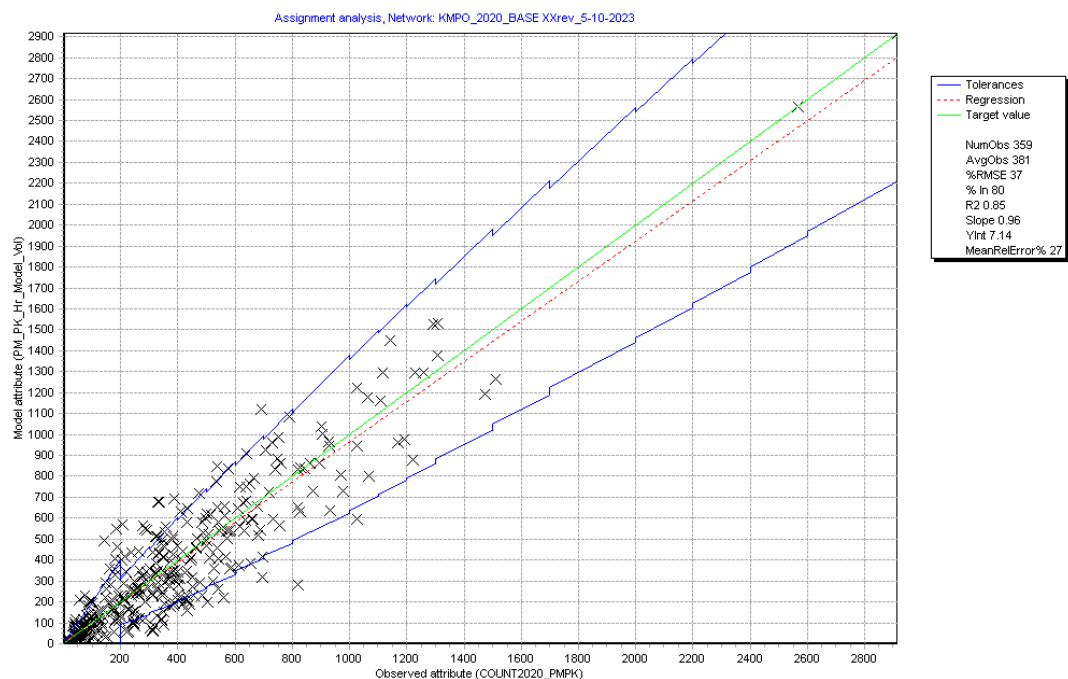


Figure 5: PM Model Validation



INRIX Data Import

Trip analytics data from INRIX was provided in a csv file with sample trip origin and destination location coordinates. The zones referenced in the INRIX trip list did not correspond to the Visum model TAZ numbers. As a result, a Python script was developed to assign Visum model TAZ numbers to the trips origin and destination locations. The script uses a point-in-polygon method to identify internal zones used in the trip. Trip origins or destinations not found to be within an internal zone polygon were given a value of -1 to TAZ number. This allows identification of trips as either internal, internal to external, external to internal and external to external. The processing script also reads in the INRIX trip list and aggregates it into a trip matrix. Two additional matrices were created in the model to store AM and PM INRIX trip tables.

Remarks

The KMPO model was updated to reflect the 2020 base year. This updated model can be used for comparison of development and network scenarios. As stated earlier, the model parameters were not overfit to the counts since some count data may be outdated or inaccurate. Keeping in mind that more updated count data will become available downstream and will likely reflect more current traffic patterns. This data will likely be a more reliable measure of model validation.

From: Chetan JOSHI (PTV Group) <chetan.joshi@ptvgroup.com>
Sent: Wednesday, July 05, 2023 3:13 PM
To: amarienau@kmpo.net
Subject: RE: Additional calibration for the KMPO model

Hi Ali,

A recap of our final model calibration:

1. Updated the XX matrices for AM/PM
2. Updated XI, IX for AM/PM
3. Intrazonal calculation was updated to bring the intrazonal trip distribution between 5-10% of total trips.
4. The model in general seems to overpredict link flows in the N-S corridor/s and underpredict some E-W movements. Changing this might need use of significant K factors, which is not as desirable. A simpler solution would be to use ODME as needed for specific projects and apply NCHRP 765 based adjustments to the forecast model trip tables to obtain corrected link flow trend.
5. Trips on US95 along Chilco are underpredicted against counts. However, the downstream trip pattern seems reasonable. It is not clear where the potential 300 trips exit US95 southbound. Perhaps some more detailed information from other sources like INRIX might help clarify the trip pattern here.

The updated model version is at the link below (version name: KMPO_2020_BASE FINAL_7-5-2023.ver)

<https://ptv2box.ptvgroup.com/index.php/s/dF8CbpTpcrC8zmK>

Thx,

Chetan Joshi, P.E.

PTV GROUP | Principal Engineer
8835 SW Canyon Lane., Suite 129
Portland, OR 97225 USA
www.ptvgroup.com

Appendix B: Screenline Traffic Count Data

Location	Reference Road	Date Collected	Year	PM Period (3-6 PM)	PM Peak Count	AM Period (6-9 AM)	AM Peak Count	Midday Count (9 AM-3 PM)
Seltice Way Screenline #2								
Southbound								
Ross Point Rd	s/o Seltice Way	6/5-6/6	2019	0	194	0	205	0
Northwest Blvd	s/o Seltice Way	4/18	2023	2527	874	3070	1345	5436
Huetter Rd	n/o Seltice Way	4/19	2023	262	138	122	66	0
Altas Rd	n/o Seltice Way	4/19	2023	839	462	1121	589	0
Cedar St	s/o Seltice Way	4/25	2023	351	176	183	99	0
Greensferry Rd	n/o Seltice Way	8/8-8/9	2019	0	487	0	0	0
Idaho St	s/o Seltice Way	4/27	2023	645	240	385	160	915
Spokane St	s/o Seltice Way	4/27	2023	1323	690	811	406	0
Northbound								
Ross Point Rd	s/o Seltice Way	6/5-6/6	2019	0	227	0	247	0
Northwest Blvd	s/o Seltice Way	4/18	2023	2975	1046	1066	462	4455
Huetter Rd	n/o Seltice Way	4/19	2023	190	100	215	114	0
Atlas Rd	n/o Seltice Way	4/19	2023	1244	649	565	299	0
Cedar St	s/o Seltice Way	4/25	2023	268	138	365	225	0
Greensferry Rd	n/o Seltice Way	8/8-8/9	2019	0	437	0	0	0
Idaho St	s/o Seltice Way	4/27	2023	548	197	360	162	752
Spokane St	s/o Seltice Way	4/27	2023	1033	549	918	480	0
Harrison Ave. Screenline #3								
Southbound								
3rd St	s/o Harrison Ave	3/24-3/26	2021	1038	379	611	284	2181
7th St	s/o Harrison Ave	3/24-3/26	2021	450	162	193	98	730
15th St	s/o Harrison Ave	4/23-4/25	2018	1726	655	908	407	1115
Government Way	s/o Harrison Ave	4/25-4/27	2018	756	264	484	208	782
Northbound								
7th St	s/o Harrison Ave	3/24-3/26	2021	347	126	214	106	600
15th St	s/o Harrison Ave	4/23-4/25	2018	1077	375	1119	411	947
Government Way	s/o Harrison Ave	4/25-4/27	2018	727	266	372	173	674
Appleway Ave/Best Screenline #4								
Southbound								
Government Way	s/o Appleway/Best Ave	4/18	2023	1897	690	1390	562	3907
15th St	s/o Appleway/Best Ave	5/2-5/4	2018	1258	437	1019	415	941
US 95	s/o Appleway/Best Ave	4/18	2023	2616	1335	2258	1157	0
4th St	s/o Appleway/Best Ave	10/25-10/27	2022	2507	843	1575	626	0
Northbound								
Government Way	s/o Appleway/Best Ave	4/18	2023	2479	933	901	426	3922
15th St	s/o Appleway/Best Ave	5/2-5/4	2018	1244	439	586	249	1480
US 95	s/o Appleway/Best Ave	4/18	2023	2583	1311	1953	1056	0
4th St	s/o Appleway/Best Ave	10/25-10/27	2022	3124	1068	1469	651	0
Seltice/Mullan Rd/Kathleen Screenline #5								
Southbound								
Spokane St.	n/o Seltice Way	4/27	2023	1621	563	1810	756	2430
Idaho St.	n/o Seltice Way	4/27	2023	1170	589	1105	586	0
Chase Rd	n/o Seltice Way	5/3	2023	410	220	539	276	0
Greensferry Rd	n/o Mullan Ave	4/25	2023	1386	498	990	407	2477
SR 41	n/o Mullan Ave	4/20	2023	1921	1004	2129	1092	4773
Huetter Rd	s/o Mullan Ave	4/19	2023	708	254	906	367	1202
Altas Rd	s/o Kathleen Ave	4/19	2023	788	423	855	478	0
Ramsey	s/o Kathleen Ave	6/20	2019	2670	967	2488	930	5141
4th St	s/o Kathleen Ave	5/16-5/18	2018	989	347	740	294	863
15th St	s/o Margaret Ave	4/30-5/2	2018	934	350	736	328	671
Pleasant View Rd	n/o Seltice Way	5/3	2023	931	349	1984	363	1586
US 95	s/o Kathleen Ave	4/18	2023	2157	1148	2432	1250	0
Baugh Rd	s/o Kathleen Ave	5/10	2023	428	233	191	121	0
Government Way	s/o Seltice Way	5/15-5/17	2019	1907	667	1173	510	2160

Beck Rd	n/o Seltice Way	5/10	2023	492	193	387	141	715
Northbound								
Spokane St.	n/o Seltice Way	4/27	2023	2457	868	1084	465	2728
Idaho St	n/o Seltice Way	4/27	2023	1637	846	688	361	0
Chase Rd	n/o Seltice Way	5/3	2023	542	273	334	194	0
Greensferry Rd	n/o Mullan Ave	4/25	2023	1716	606	768	330	2453
SR 41	n/o Mullan Ave	4/20	2023	1852	952	1068	580	3744
Huetter Rd	s/o Mullan Ave	4/19	2023	1207	442	501	193	1114
Atlas Rd	s/o Kathleen Ave	4/19	2023	974	511	596	321	0
Ramsey	s/o Kathleen Ave	6/20	2019	3453	1221	1548	655	5597
4th St	s/o Kathleen Ave	5/16-5/18	2018	1251	448	637	281	902
15th St	s/o Margaret Ave	4/30-5/2	2018	1306	454	849	390	780
Pleasant View Rd	n/o Seltice Way	5/3	2023	1110	373	1176	343	1490
US 95	s/o Kathleen Ave	4/18	2023	3137	1723	1625	826	0
Baugh Rd	s/o Kathleen Ave	5/10	2023	530	266	114	58	0
Government Way	s/o Seltice Way	5/15-5/17	2019	2461	872	960	426	2385
Beck Rd	n/o Seltice Way	5/10	2023	450	175	312	115	780
Poleline Rd Screenline #6								
Southbound								
Pleasant View Rd	s/o Poleline Ave	5/3	2023	574	331	613	337	0
Chase Rd.	s/o Poleline Ave	7/21	2021	0	118	0	130	0
McGuire	s/o Poleline Ave	5/3	2023	346	175	359	182	0
Idaho St	s/o Poleline Ave	4/26	2023	790	449	903	527	0
Greensferry Rd.	s/o Poleline Ave	4/26	2023	974	369	820	326	1431
SR41	s/o Poleline Ave	4/20	2023	2416	823	2723	1017	4140
Ramsey Rd	s/o Hanley Ave	4/19	2023	1576	825	1881	981	0
Government Way	s/o Hanley Ave	4/18	2023	1666	921	1373	717	0
Huetter Rd	s/o Poleline Ave	4/19	2023	688	244	931	363	1124
US 95	s/o Hanley Ave	4/18	2023	2157	1148	2432	1250	0
Atlas Rd	s/o Hanley Ave	5/7-5/9	2018	1375	488	1657	693	1159
Northbound								
Pleasant View Rd	s/o Poleline Ave	5/3	2023	774	391	375	216	0
Chase Rd	s/o Poleline Ave	7/21	2021	0	170	0	84	0
McGuire	s/o Poleline Ave	5/3	2023	484	264	212	113	0
Idaho St	s/o Poleline Ave	4/26	2023	1131	589	517	285	0
Greensferry Rd	s/o Poleline Ave	4/26	2023	1080	380	594	268	1286
SR41	s/o Poleline Ave	4/20	2023	2558	870	1543	620	3313
Ramsey Rd	s/o Hanley Ave	4/19	2023	2011	1079	1017	513	0
Government Way	s/o Hanley Ave	4/18	2023	1840	1018	839	447	0
Huetter Rd	s/o Poleline Ave	4/19	2023	1220	453	505	193	1032
US 95	s/o Hanley Ave	4/18	2023	3137	1723	1625	826	0
Atlas Rd	s/o Hanley Ave	5/7-5/9	2018	1825	638	707	284	1107
Prairie Rd. Screenline #7								
Southbound								
Idaho Rd.	s/o Prairie Ave	4/23-4/25	2019	737	273	480	204	445
Huetter Rd	s/o Prairie Ave	4/19	2023	820	299	845	330	1105
Meyer Rd	s/o Prairie Ave	4/19	2023	184	106	139	72	0
Ramsey Rd	s/o Prairie Ave	4/19	2023	1404	737	1437	737	0
US 95	s/o Prairie Ave	4/18	2023	3282	1136	3059	1157	0
Government Way	s/o Prairie Ave	10/24	2019	1781	660	1286	599	3688
4th St	s/o Prairie Ave	5/14	2019	969	341	872	426	0
Atlas Rd	s/o Prairie Ave	5/7-5/9	2018	1248	426	964	401	883
McGuire Rd	s/o Prairie Ave	5/10	2023	459	167	373	131	584
Spokane St.	s/o Prairie Ave	7/20	2020	343	148	138	88	0
Pleasant View	s/o Prairie Ave	5/3	2023	791	284	983	352	1440
Beck Rd	s/o Prairie Ave	4/30-5/3	2019	443	168	143	57	256
Greensferry Rd.	s/o Prairie Ave	4/19	2023	518	262	515	283	0
SR 41	s/o Prairie Ave	4/19	2023	1953	671	2089	740	3414
Northbound								

Idaho Rd.	s/o Prairie Ave	4/25-4/25	2019	670	251	420	157	416
Huetter Rd	s/o Prairie Ave	4/19	2023	1263	447	629	238	1212
Meyer Rd	s/o Prairie Ave	4/19	2023	128	65	154	78	0
Ramsey Rd	s/o Prairie Ave	4/19	2023	1599	822	1055	542	0
Government Way	s/o Prairie Ave	10/24	2019	2356	828	756	331	3686
4th St	s/o Prairie Ave	5/14	2019	1201	432	570	268	
Atlas Rd	s/o Prairie Ave	5/7-5/9	2018	1298	450	804	328	875
McGuire Rd	s/o Prairie Ave	5/10	2023	513	192	315	130	571
Spokane St.	s/o Prairie Ave	7/20	2020	363	142	179	78	0
Pleasant View Rd	s/o Prairie Ave	5/3	2023	1143	393	553	200	1389
Beck Rd	s/o Prairie Ave	4/30-5/3	2019	199	74	274	103	194
Greensferry Rd.	s/o Prairie Ave	4/19	2023	530	277	384	199	0
SR 41	s/o Prairie Ave	4/19	2023	2204	765	1307	496	3061
US 95	s/o Prairie Ave	4/18	2023	4380	1530	1970	723	0
Hayden Ave. Screenline # 8								
Southbound								
Chase Rd	s/o Hayden Ave	5/3	2023	248	127	142	78	0
Idaho St	s/o Hayden Ave	4/26	2023	223	141	172	88	0
SR 41	s/o Hayden Ave	5/1	2019	1574	537	1709	518	3031
Huetter Rd	s/o Hayden Ave	4/26	2023	435	162	468	201	0
Atlas Rd	s/o Hayden Ave	4/20-4/21	2021	0	0	0	166	0
Ramsey Rd	s/o Hayden Ave	5/14	2019	640	297	742	270	0
Hauser Lake Rd	n/o SH-53	7/31	2018	182	65	211	77	370
Greensferry Rd	s/o Hayden Ave	2/2	2021	307	166	0	0	0
McGuire	s/o Hayden Ave	5/10	2023	309	181	302	154	0
US 95	s/o Hayden Ave	4/18	2023	3123	1113	3351	1269	0
Government Way	s/o Hayden Ave	4/18	2023	967	515	873	440	0
Northbound								
Chase Rd	s/o Hayden Ave	5/3	2023	177	100	172	99	0
Idaho St	s/o Hayden Ave	4/26	2023	228	120	181	112	0
SR 41	s/o Hayden Ave	5/1	2019	1885	657	1023	392	2728
Huetter Rd	s/o Hayden Ave	4/27	2023	601	210	408	152	663
Atlas Rd	s/o Hayden Ave	4/20-4/21	2021	0	0	0	208	0
Ramsey Rd	s/o Hayden Ave	5/14	2019	806	352	706	244	0
Hauser Lake Rd	n/o SH-53	7/31	2018	252	91	92	41	337
Greensferry Rd	s/o Hayden Ave	2/2	2021	380	158	0	0	0
McGuire	s/o Hayden Ave	5/10	2023	426	252	241	132	182
US 95	s/o Hayden Ave	4/18	2023	4412	1562	1934	728	0
Government Way	s/o Hayden Ave	4/18	2023	1247	650	553	279	0
Lancaster Rd. Screenline # 9								
Southbound								
Greensferry Rd	s/o Lancaster Rd.	2/2	2021	196	114	0	0	0
Meyer Rd.	s/o Lancaster Rd.	2/2	2021	355	187	0	0	0
Huetter Rd	n/o Lancaster Rd.	12/4-12/6	2019	122	48	201	86	238
US 95	s/o Lancaster Rd.	4/18	2023	3205	1171	3097	1201	0
Government Way	s/o Lancaster Rd.	5/14	2019	466	177	326	130	0
Rimrock Rd	s/o Lancaster Rd.	6/19	2019	0	51	0	0	0
Strahorn Rd	s/o Lancaster Rd.	5/1-5/2	2018	124	47	109	51	109
English Point Rd	s/o Lancaster Rd.	8/24-8/26	2020	31	12	16	9	33
Hayden Lake Rd	n/o Lancaster Rd.	5/18-5/20	2021	8	4	5	3	18
SH 41	s/o Lancaster Rd.	4/11	2023	1830	696	2088	786	3174
Northbound								
Greensferry Rd	s/o Lancaster Rd.	2/2	2021	314	152	0	0	0
Meyer Rd.	s/o Lancaster Rd.	2/2	2021	517	285	0	0	0
Huetter Rd	n/o Lancaster Rd.	12/4-12/6	2019	375	137	108	54	320
US 95	s/o Lancaster Rd.	4/18	2023	4284	1537	1933	702	0
Government Way	s/o Lancaster Rd.	5/14	2019	900	313	299	124	0
Rimrock Rd	s/o Lancaster Rd.	6/19	2019	0	34	0	0	0
Strahorn Rd	s/o Lancaster Rd.	5/1-5/2	2018	93	39	61	27	72

English Point Rd	s/o Lancaster Rd.	8/24-8/26	2020	27	11	16	9	29
Hayden Lake Rd	n/o Lancaster Rd.	5/18-5/20	2021	13	6	4	2	14
SH 41	s/o Lancaster Rd.	4/11	2023	2266	854	1234	505	2497
SH 53 - US 95 Screenline # 10								
Eastbound								
BNSF RR Bridge	n/o SH-53	4/11	2023	1568	560	1622	669	0
Mill St	s/o SH-53	2/2	2021	327	182	0	0	0
Meyer Rd	s/o SH-53	2/2	2021	326	178	0	0	0
Ramsey Rd	n/o SH-53	4/11	2023	352	193	645	342	0
US 95	n/o SH-53	4/11	2023	1847	695	2610	995	0
Government Way	e/o US 95	5/25-5/27	2021	156	60	162	69	285
Westbound								
BNSF RR Bridge	n/o SH-53	4/11	2023	2230	821	1068	388	0
Mill St	s/o SH-53	2/2	2021	212	125	0	0	0
Meyer Rd	s/o SH-53	2/2	2021	526	288	0	0	0
Ramsey Rd	n/o SH-53	4/11	2023	726	368	289	163	0
US 95	n/o SH-53	4/11	2023	2854	1005	1314	476	0
Government Way	e/o US 95	5/25-5/27	2021	374	140	112	42	429
Twin Lakes to Nat. Forest. Screenline # 11								
Southbound								
Ramsey Rd	s/o Brunner Rd	6/3-6/5	2019	92	41	157	61	153
Diagonal Rd	s/o Brunner Rd	10/16-10/17	2018	170	62	208	79	113
SH-41	s/o Seasons Rd	7/21	2019	654	247	1058	405	1545
East Twin Lakes Rd	w/o SH-41	8/18-8/19	2020	213	79	215	83	220
US 95	s/o Brunner Rd	3/23-3/25	2021	1825	684	2306	874	3936
Northbound								
Ramsey Rd	s/o Brunner Rd	6/3-6/5	2019	206	86	54	26	154
Diagonal Rd	s/o Brunner Rd	10/16-10/17	2018	259	115	120	49	111
SH-41	s/o Seasons Rd	7/21	2019	1238	463	377	154	1262
East Twin Lakes Rd	w/o SH-41	8/18-8/19	2020	334	122	97	40	215
US 95	s/o Brunner Rd	3/23-3/25	2021	2837	1006	1263	455	3370
US 95 to SH 3 South Screenline # 12								
Southbound								
Cave Bay Rd	s/o Cottonwood Bay Rd	8/5-8/7	2019	48	22	37	19	43
US 95	s/o Sunny Slopes Rd	6/14	2021	770	285	504	191	0
SH-3	@ Benewah County line	10/8-10/10	2019	193	76	191	73	187
US 95	s/o SH-58	8/7	2019	0	331	0	274	0
Northbound								
Cave Bay Rd	s/o Cottonwood Bay Rd	8/5-8/7	2019	50	20	32	16	59
US 95	s/o Sunny Slopes Rd	6/14	2021	701	255	560	229	0
SH-3	@ Benewah County line	10/8-10/10	2019	242	99	141	52	166
US 95	s/o SH-58	8/7	2019	0	374	0	357	0
SH 93 to LaTour Creek Rd Screenline # 13								
Southbound								
SH-3	s/o I90	10/1	2019	0	103	0	0	0
SH-97	n/o N Burma Rd	5/26	2021	0	116	0	197	0
Cougar Gulch Rd	w/o US 95	4/14-4/16	2019	139	54	35	15	83
LaTour Creek Rd	s/o I90	5/16-5/18	2018	25	12	25	9	26
Northbound								
SH-3	s/o I90	10/1	2019	0	99	0	0	0
SH-97	n/o N Burma Rd	5/26	2021	0	245	0	115	0
Cougar Gulch Rd	w/o US 95	4/14-4/16	2019	84	33	157	74	77
LaTour Creek Rd	s/o I90	5/16-5/18	2018	37	17	36	18	45
Spirit Lake Pend'O Reille Screenline #14								
Southbound								
Perimeter Rd	n/o SH-54	11/29-12/1	2021	80	31	95	36	142
SH-41	s/o SH-54	7/16	2019	0	243	0	0	0
US 95	n/o Bonner County line	9/11-9/12	2017	1272	463	1078	409	2396

SH-41	n/o Bonner County line	7/28-7/29	2017	543	196	591	205	1273
Northbound								
Perimeter Rd	n/o SH-54	11/29-12/1	2021	79	31	34	16	106
SH-41	s/o SH-54	7/16	2019	0	427	0	0	0
US 95	n/o Bonner County line	9/11-9/12	2017	1404	501	839	326	2076
SH-41	n/o Bonner County line	7/28-7/29	2017	823	287	345	135	1088
Pleasant View Rd. Screenline # 15								
Eastbound								
SH-53	e/o Pleasant View Rd.	5/10	2023	1410	739	693	353	0
Seltice Way	e/o Pleasant View Rd.	5/3	2023	1620	584	585	317	2066
Prairie Rd.	e/o Pleasant View Rd.	5/3	2023	1197	445	547	207	1270
Riverbend Ave	e/o Pleasant View Rd.	6/18	2018	392	158	110	40	493
Poleline Ave.	e/o Pleasant View Rd.	5/3	2023	34	19	19	12	0
Westbound								
SH-53	e/o Pleasant View Rd.	5/10	2023	969	501	942	530	0
Seltice Way	e/o Pleasant View Rd.	5/3	2023	1376	514	1177	474	2125
Prairie Rd.	e/o Pleasant View Rd.	5/3	2023	756	297	1468	259	1176
Riverbend Ave	e/o Pleasant View Rd.	6/18	2018	196	72	224	100	431
Poleline Ave.	e/o Pleasant View Rd.	5/3	2023	23	16	31	18	0
McGuire Rd. Screenline # 16								
Eastbound								
SH 53	e/o McGuire Rd.	5/4	2023	1330	690	620	319	0
Hayden Ave	e/o McGuire Rd.	5/10	2023	525	290	363	199	0
Seltice Way	e/o McGuire Rd.	5/3	2023	1877	677	1269	498	2777
Poleline Ave.	e/o McGuire Rd.	5/3	2023	30	16	20	14	0
Prairie Rd.	e/o McGuire Rd.	5/10	2023	1018	350	437	179	1076
Westbound								
SH 53	e/o McGuire Rd.	5/4	2023	875	458	900	506	0
Hayden Ave	e/o McGuire Rd.	5/10	2023	438	232	370	200	0
Seltice Way	e/o McGuire Rd.	5/3	2023	1827	649	1051	367	2777
Poleline Ave.	e/o McGuire Rd.	5/3	2023	15	9	30	21	0
Prairie Rd.	e/o McGuire Rd.	5/10	2023	658	228	571	223	925
Chase Rd. Screenline # 17								
Eastbound								
Hayden Rd.	e/o Chase Rd.	5/3	2023	569	318	464	255	0
Seltice Way	e/o Chase Rd.	5/3	2023	1337	732	1134	579	0
Westbound								
Hayden Rd.	e/o Chase Rd.	5/3	2023	616	345	455	238	0
Seltice Way	e/o Chase Rd.	5/3	2023	1364	697	713	382	0
Spokane St. Screenline # 18								
Eastbound								
Prairie Ave	e/o Spokane St.	7/20	2020	860	354	691	302	0
4th Ave.	e/o Spokane St.	4/27	2023	429	233	380	205	0
Seltice Way	e/o Spokane St.	4/27	2023	1822	645	1087	475	3029
Westbound								
Prairie Ave	e/o Spokane St.		2020	888	376	434	185	0
4th Ave.	e/o Spokane St.	4/27	2023	301	156	253	132	0
Seltice Way	e/o Spokane St.	4/27	2023	2098	736	973	403	3257
Idaho St. Screenline # 19								
Eastbound								
Prairie Rd.	e/o Idaho St	4/19	2023	768	387	732	417	0
Hayden Ave	e/o Idaho St	4/26	2023	725	411	550	325	0
Poleline Ave	e/o Idaho St	4/26	2023	839	434	721	477	0
Mullan Ave	e/o Idaho St	4/27	2023	973	519	833	422	0
Seltice Way	e/o Idaho St	4/27	2023	1961	685	1591	607	3250
4th Ave.	e/o Idaho St	8/31	2021	333	176	147	81	0
Westbound								
Prairie Rd.	e/o Idaho St	4/19	2023	867	434	454	228	0

Hayden Ave	e/o Idaho St	4/26	2023	748	420	545	276	0
Poleline Ave	e/o Idaho St	4/26	2023	779	417	699	422	0
Mullan Ave	e/o Idaho St	4/27	2023	1005	519	530	274	0
Seltice Way	e/o Idaho St	4/27	2023	2641	910	1013	438	3888
4th Ave.	e/o Idaho St	8/31	2021	77	38	83	43	0
Greensferry Rd. Screenline # 20								
Eastbound								
Prairie Rd.	e/o Greensferry	4/19	2023	833	423	780	428	0
Poleline Ave.	e/o Greensferry	4/26	2023	998	372	1252	700	1475
Mullan Ave	e/o Greensferry	4/25	2023	2381	861	1236	538	4200
Seltice Way	e/o Greensferry	4/19	2022	1785	637	1015	427	3219
Lancaster	e/o Greensferry	2/2	2021	106	56	0	0	0
Nagel	e/o Greensferry	2/2	2021	11	7	0	0	0
Hayden Rd.	e/o Greensferry	2/2	2021	502	239	0	0	0
SH 53	e/o Greensferry	4/12	2023	1144	641	613	341	0
Westbound								
Prairie Rd.	e/o Greensferry	4/19	2023	1009	509	523	275	0
Poleline Ave.	e/o Greensferry	4/26	2023	1208	429	624	295	1331
Mullan Ave	e/o Greensferry	4/25	2023	1988	716	1058	443	3409
Seltice Way	e/o Greensferry	4/19	2022	2016	739	895	359	3051
Lancaster	e/o Greensferry	2/2	2021	83	54	0	0	0
Nagel	e/o Greensferry	2/2	2021	6	2	0	0	0
Hayden Rd.	e/o Greensferry	2/2	2021	545	302	0	0	0
SH 53	e/o Greensferry	4/12	2023	666	335	753	445	0
SH 41 Screenline # 21								
Eastbound								
McCarney St	n/o SH-41	2/2	2021	139	78	0	0	0
Main St	n/o SH-41	2/2	2021	54	28	0	0	0
Poleline Ave	w/o SH-41	4/20	2023	838	319	772	297	1191
16th Ave	w/o SH-41	10/23	2018	164	82	196	76	315
Mullan Ave	w/o SH-41	4/20	2023	1531	805	958	491	3122
Seltice Way	w/o SH-41	4/25	2023	2237	1164	1557	797	0
Lancaster Rd	w/o SH-41	4/17	2023	668	295	335	139	453
Prairie Ave	w/o SH-41	4/19	2023	1273	462	1201	482	1822
Hayden Ave	w/o SH-41	5/1	2019	566	220	755	255	754
Boekel Rd	w/o SH-41	4/11	2023	90	48	121	68	0
Westbound								
McCarney St	n/o SH-41	2/2	2021	99	51	0	0	0
Main St	n/o SH-41	2/2	2021	87	47	0	0	0
Poleline Ave	w/o SH-41	4/20	2023	846	305	492	239	940
16th Ave	w/o SH-41	10/23	2018	279	109	136	64	373
Mullan Ave	w/o SH-41	4/20	2023	973	491	699	359	2371
Seltice Way	w/o SH-41	4/25	2023	1059	583	564	293	0
Lancaster Rd	w/o SH-41	4/17	2023	457	192	323	126	467
Prairie Ave	w/o SH-41	4/19	2023	1598	571	745	296	1752
Hayden Ave	w/o SH-41	5/1	2019	674	278	528	210	821
Boekel Rd	w/o SH-41	4/11	2023	80	41	61	32	0
Huetter Rd Screenline # 22								
Eastbound								
Lancaster Rd	w/o Huetter Rd	12/4-12/6	2019	557	212	519	218	798
Hayden Ave	w/o Huetter Rd	4/26	2023	1171	439	1146	394	1511
Prairie Ave	w/o Huetter Rd	4/19	2023	1994	711	1904	770	3041
Poleline Ave	w/o Huetter Rd	4/19	2023	349	137	365	145	530
Seltice Way	w/o Huetter Rd	4/19	2023	1821	653	1281	486	2651
Boekel Rd	w/o Huetter Rd	11/8-11/10	2021	453	189	523	218	681
SH-53	w/o Huetter Rd	5/21	2019	0	428	0	317	0
Westbound								
Lancaster Rd	w/o Huetter Rd	12/4-12/6	2019	730	270	471	208	848
Hayden Ave	w/o Huetter Rd	4/26	2023	1415	518	885	371	1512

Prairie Ave	w/o Huetter Rd	4/19	2023	2410	846	1333	549	2818
Poleline Ave	w/o Huetter Rd	4/19	2023	469	171	186	84	373
Seltice Way	w/o Huetter Rd	4/19	2023	1937	698	935	380	2305
Boekel Rd	w/o Huetter Rd	11/8-11/10	2021	722	276	377	169	700
SH-53	w/o Huetter Rd	5/21	2019	0	484	0	256	0
Ramsey Rd Screenline # 23								
Eastbound								
SH-53	e/o Ramsey Rd	4/11	2023	999	374	1124	416	0
Lancaster Rd	e/o Ramsey Rd	5/14	2019	882	311	782	333	0
Wyoming Ave	e/o Ramsey Rd	5/14	2019	650	245	374	141	0
Miles Ave	e/o Ramsey Rd	5/14	2019	187	70	45	41	0
Hayden Ave	e/o Ramsey Rd	5/14	2019	805	387	900	333	0
Honeysuckle Ave	e/o Ramsey Rd	5/14	2019	714	248	427	339	0
Prairie Ave	e/o Ramsey Rd	4/19	2023	1500	757	1391	716	0
Appleway Ave	e/o Ramsey Rd	11/17-11/18	2021	1377	540	681	337	3107
Kathleen Ave	e/o Ramsey Rd	6/20	2019	1717	632	1239	492	3431
Dalton Ave	e/o Ramsey Rd	5/9-5/11	2018	596	231	573	273	430
Hanley Ave	e/o Ramsey Rd	4/19	2023	782	400	623	316	0
Ironwood Dr	e/o Northwest Blvd	4/18	2023	1016	428	1772	653	2521
Boekel Rd	e/o Ramsey Rd	11/8-11/10	2021	264	101	264	115	424
Wilbur Ave	e/o Ramsey Rd	3/13-3/16	2018	220	79	149	59	175
Westbound								
SH-53	e/o Ramsey Rd	4/11	2023	1238	431	740	302	898
Lancaster Rd	e/o Ramsey Rd	5/14	2019	1058	403	510	205	0
Wyoming Ave	e/o Ramsey Rd	5/14	2019	441	179	372	151	0
Miles Ave	e/o Ramsey Rd	5/14	2019	99	37	157	56	0
Hayden Ave	e/o Ramsey Rd	5/14	2019	739	331	815	295	0
Honeysuckle Ave	e/o Ramsey Rd	5/14	2019	926	320	338	166	0
Prairie Ave	e/o Ramsey Rd	4/19	2023	1732	869	938	481	0
Appleway Ave	e/o Ramsey Rd	11/17-11/18	2021	1676	568	557	269	3011
Kathleen Ave	e/o Ramsey Rd	6/20	2019	2045	744	680	289	3065
Dalton Ave	e/o Ramsey Rd	5/9-5/11	2018	578	212	353	156	469
Hanley Ave	e/o Ramsey Rd	4/19	2023	920	495	554	311	0
Ironwood Dr	e/o Northwest Blvd	4/18	2023	2318	829	619	278	2622
Boekel Rd	e/o Ramsey Rd	11/8-11/10	2021	453	168	257	99	505
Wilbur Ave	e/o Ramsey Rd	3/13-3/16	2018	404	176	112	44	238
US 95 Screenline # 24								
Eastbound								
Garwood Rd	w/o US 95	8/7-8/9	2018	118	45	191	72	0
Boekel Rd	w/o US 95	4/10-4/11	2018	161	88	281	105	168
Lancaster Rd	e/o US 95	7/26	2021	603	259	461	188	1262
Hayden Ave	e/o US 95	7/27	2021	1339	468	650	254	2304
Honeysuckle Ave	e/o US 95	4/20	2021	1109	407	506	265	2125
Prairie Ave	e/o US 95	7/27	2021	1726	612	980	418	3953
Dalton Ave	e/o US 95	7/29	2021	896	318	688	295	1950
Kathleen Ave	e/o US 95	7/30	2021	1369	453	868	370	3561
Neider Ave	e/o US 95	4/18	2023	1088	569	507	289	0
Appleway Ave	e/o US 95	4/18	2023	1045	524	646	372	0
Ironwood Dr	e/o US 95	7/28	2021	1905	740	836	399	3651
Hanley Ave	e/o US 95	7/27	2021	1268	453	744	314	3409
Miles Ave	e/o US 95	7/26	2021	281	105	193	93	482
Westbound								
Garwood Rd	w/o US 95	8/7-8/9	2018	224	79	73	36	0
Boekel Rd	w/o US 95	4/10-4/11	2018	388	135	165	82	197
Lancaster Rd	e/o US 95	7/26	2021	672	250	606	231	721
Hayden Ave	e/o US 95	7/27	2021	1262	390	544	220	2019
Honeysuckle Ave	e/o US 95	4/20	2021	1227	452	488	229	2207
Prairie Ave	e/o US 95	7/27	2021	1879	642	912	397	4046
Dalton Ave	e/o US 95	7/29	2021	799	296	384	179	1641

Kathleen Ave	e/o US 95	7/30	2021	1558	578	858	388	3906
Neider Ave	e/o US 95	4/18	2023	1162	647	396	222	0
Appleway Ave	e/o US 95	4/18	2023	1207	620	735	373	0
Ironwood Blvd	e/o US 95	7/28	2021	1512	604	870	366	3188
Hanley Ave	e/o US 95	7/27	2021	1265	437	578	233	3053
Miles Ave	e/o US 95	7/26	2021	340	119	250	101	582
West Side KMPO Screenline # 25								
Eastbound								
Seltice Way	w/o Baugh Rd	5/10	2023	716	360	398	227	0
Rockford Bay Rd	e/o US 95	7/19-7/21	2021	214	75	221	86	454
Elder Rd	@ Washington state line	7/26-7/28	2021	140	56	109	45	227
SH-58	@ Washington state line	7/31-8/2	2017	246	92	175	73	512
Conkling Rd	e/o US 95	8/19-8/21	2019	85	33	76	29	76
SH-53	@ Washington state line	5/4	2023	2041	790	923	316	0
Riverview Dr	@ Washington state line	5/10	2023	402	143	183	90	502
Westbound								
Seltice Way	w/o Baugh Rd	5/10	2023	895	484	443	228	0
Rockford Bay Rd	e/o US 95	7/19-7/21	2021	262	117	123	53	457
Elder Rd	@ Washington state line	7/26-7/28	2021	140	52	84	30	249
SH-58	@ Washington state line	7/31-8/2	2017	295	106	164	66	495
Conkling Rd	e/o US 95	8/19-8/21	2019	123	47	36	17	98
SH-53	@ Washington state line	5/4	2023	1182	423	1325	525	0
Riverview Dr	@ Washington state line	5/10	2023	319	125	327	135	491
East Side KMPO Screenline # 26								
Eastbound								
Bunco Rd	@ Nunn Rd	9/24-9/26	2019	126	46	37	18	120
Mullan Trail Rd	n/o I90	9/1	2021	150	77	42	27	0
I 90	@ Shoshone County line	10/20	2021	1177	445	1455	510	3218
Fernan Lake Rd	@ CDA city limit	5/25-5/26	2021	0	38	0	43	0
Careywood Rd	w/o Perimeter Rd	8/29-8/30	2018	50	22	32	12	37
Westbound								
Bunco Rd	@ Nunn Rd	9/24-9/26	2019	82	31	113	43	141
Mullan Trail Rd	n/o I90	9/1	2021	103	60	126	63	0
I 90	@ Shoshone County line	10/20	2021	905	391	1599	562	3038
Fernan Lake Rd	@ CDA city limit	5/25-5/26	2021	0	42	0	37	0
Careywood Rd	w/o Perimeter Rd	8/29-8/30	2018	52	20	23	9	51
Government Way Screenline # 27								
Eastbound								
Lancaster Rd	e/o Government Way	5/14	2019	747	256	545	153	0
Miles Ave	e/o Government Way	5/14	2019	441	152	165	74	0
Hayden Ave	e/o Government Way	4/18	2023	477	241	242	147	0
Honeysuckle Ave	e/o Government Way	5/14	2019	788	273	291	144	0
Prairie Ave	e/o Government Way	10/24	2019	1106	386	328	174	1326
Wilbur Ave	e/o Government Way	5/3	2022	254	103	77	40	385
Hanley Ave	e/o Government Way	4/18	2023	377	209	219	116	0
Dalton Ave	e/o Government Way	4/23-4/25	2018	982	355	559	312	558
Neider Ave	e/o Government Way	4/25	2019	2115	633	406	206	2913
Appleway/Best Ave	e/o Government Way	4/18	2023	1885	635	750	353	3311
Northwest Blvd	s/o Government Way	3/19-3/22	2019	1422	500	740	329	1467
Harrison Ave	e/o Government Way	4/25	2019	1135	384	445	215	1644
Kathleen Ave	e/o Government Way	4/18	2023	904	476	523	271	0
Westbound								
Lancaster Ave	e/o Government Way	5/14	2019	484	197	403	156	0
Miles Ave	e/o Government Way	5/14	2019	265	92	234	40	0
Hayden Ave	e/o Government Way	4/18	2023	359	187	295	149	0
Honeysuckle Ave	e/o Government Way	5/14	2019	855	308	558	238	0
Prairie Ave	e/o Government Way	10/24	2019	1038	353	850	342	1788
Wilbur Ave	e/o Government Way	5/3	2022	237	98	170	82	384
Hanley Ave	e/o Government Way	4/18	2023	282	170	351	193	0

Dalton Ave	e/o Government Way	4/25-4/25	2018	611	212	488	233	536
Neider Ave	e/o Government Way	4/25	2019	1660	582	676	280	3134
Appleway/Best Ave	e/o Government Way		2023	1736	638	1104	434	3494
Northwest Blvd	s/o Government Way	3/19-3/22	2019	1267	446	464	207	1158
Harrison Ave	e/o Government Way	4/25	2019	719	263	601	256	1320
Kathleen Ave	e/o Government Way	4/18	2023	670	378	717	417	0
I 90 Ramps Screenline # 28								
Eastbound								
Spokane St EB Off	I 90 Ramps	11/3-11/4	2021	0	818	0	468	0
Spokane St EB On	I 90 Ramps	11/3-11/4	2021	0	404	0	546	0
Seltice Way EB On	I 90 Ramps	4/25	2023	933	565	1211	620	0
Pleasant View Rd EB Off	I 90 Ramps	6/18	2018	982	342	557	196	1487
Pleasant View Rd EB On	I 90 Ramps	6/18	2018	942	347	663	243	1372
NW Blvd/Ramsey Rd EB Off	I 90 Ramps	4/18	2023	2194	1160	1761	902	0
NW Blvd/Ramsey Rd EB On	I 90 Ramps	4/18	2023	676	359	605	324	0
US 95 EB Off	I 90 Ramps	4/18	2023	1208	627	1285	691	0
US 95 EB On	I 90 Ramps	4/18	2023	605	313	470	237	0
SH-41 EB Off	I 90 Ramps	4/25	2023	1450	748	846	456	0
SH-41 EB On	I 90 Ramps	4/25	2023	933	565	1211	620	0
3rd/4th St EB On	I 90 Ramps	6/18	2018	772	260	280	101	1068
3rd/4th St EB Off	I 90 Ramps	6/18	2018	1557	559	992	399	2328
15th St EB On	I 90 Ramps	9/2	2021	159	83	79	33	0
15th St EB Off	I 90 Ramps	9/2	2021	789	431	392	230	0
Sherman/23rd St (One Way) EB Off	I 90 Ramps	9/2	2021	627	342	333	249	0
Sherman Ave EB On	I 90 Ramps	9/2	2021	161	93	79	44	0
Beck Rd/Pointe Pkwy EB Off	I 90 Ramps	8/31	2021	580	302	369	211	0
Beck Rd/Pointe Pkwy EB On	I 90 Ramps	8/31	2021	375	194	203	110	0
Westbound								
Spokane St WB On	I 90 Ramps	11/3	2021	0	570	0	659	0
Spokane St WB Off	I 90 Ramps	11/3	2021	0	528	0	287	0
Seltice Way WB Off	I 90 Ramps	8/31	2021	642	474	431	208	0
SH-41 WB On	I 90 Ramps	4/20	2023	1319	677	1400	757	0
SH-41 WB Off	I 90 Ramps	4/20	2023	1531	769	757	388	0
Pleasant View Rd WB On	I 90 Ramps	6/18	2018	973	353	878	331	1587
Pleasant View Rd WB Off	I 90 Ramps	6/18	2018	920	324	704	276	1455
NW Blvd/Ramsey Rd WB On	I 90 Ramps	4/19	2023	1977	1037	1181	665	0
NW Blvd/Ramsey Rd WB Off	I 90 Ramps	4/19	2023	823	433	717	391	0
US 95 WB On	I 90 Ramps	4/18	2023	1826	936	910	459	0
US 95 WB Off Ramp	I 90 Ramps	4/18	2023	485	256	677	381	0
3rd/4th St WB On	I 90 Ramps	6/18	2018	1500	557	1036	374	4167
3rd/4th St WB Off	I 90 Ramps	6/18	2018	1016	205	383	161	1084
15th St/Hazel Ave WB Off	I 90 Ramps	9/1	2021	148	83	63	36	0
15th St WB On	I 90 Ramps	9/1	2021	656	329	748	362	0
Beck Rd/Pointe Pkwy WB Off	I 90 Ramps	8/31	2021	449	242	243	129	0
Beck Rd/Pointe Pkwy WB On	I 90 Ramps	8/31	2021	576	305	186	131	0

Appendix C: KMPO Model Land Use

2020 Model Land Use

TAZ	LU1 SFDU	LU2 MFDU	LU3 RET	LU4 FIRES	LU5 INDUST	LU6 SCH	LU7 ACCOM	LU8 AER	LU9 OSFDU	LU10 PSS	LU11 AGRI	LU12 WFRT	LU13 POL	LU14 TRNWH	LU15 MED	LU16 GOVT	LU17 ASWMR	LU18 PSTMC	LU19 EDUSRV	LU20 OTHER	LU21 INFO	LU22 UTLCONST	LU23 FS
1	47	110	2	0	2	363	0	144	278	0	11262	0	5700	1	1	0	0	0	51	0	1	12	0
2	61	0	0	0	0	0	7	21	0	0	11238	0	2731	0	0	0	0	0	0	1	0	0	0
3	98	1	0	0	0	0	0	0	143	0	9319	0	977	0	2	0	1	0	0	2	0	10	0
4	92	0	6	1	3	0	0	0	218	0	2740	0	170	0	0	0	3	1	0	2	0	18	0
5	103	0	122	0	3	0	0	0	235	0	2644	0	88	0	2	0	6	2	0	1	0	38	0
7	0	19	9	0	0	0	9	248	352	0	929	0	2499	2	0	59	13	43	0	2	0	0	23
8	0	3	0	0	0	0	0	496	62	0	2387	0	3810	0	0	39	0	0	0	0	0	1	0
9	2	0	2	1	7	0	0	0	249	0	1140	0	279	0	1	0	0	2	0	1	3	32	0
10	50	0	0	0	1	0	0	0	160	0	547	0	45	0	1	0	0	1	0	2	1	1	0
11	281	0	23	0	78	368	0	0	0	0	185	0	90	9	4	33	10	13	50	3	6	4	25
12	21	0	6	0	3	0	0	0	215	0	2054	0	27	0	0	0	0	1	0	0	0	10	0
13	26	0	0	0	1	0	0	79	170	0	5461	0	1666	2	2	0	0	4	0	1	0	13	0
14	34	0	0	0	0	0	0	5	0	0	15	0	0	0	0	0	0	0	0	0	0	3	0
15	0	0	13	1	61	433	0	0	379	0	721	0	47	69	3	0	26	2	52	18	0	165	0
16	0	0	0	0	0	0	0	0	192	0	4492	0	2399	0	2	0	3	0	0	0	4	24	0
17	0	0	0	1	0	0	0	0	0	0	2480	0	61388	0	0	0	0	0	0	0	0	0	0
18	136	7	14	0	6	0	0	1	0	0	284	0	6	16	13	0	1	0	0	0	0	9	21
19	41	0	8	7	8	883	0	3	0	0	0	0	11	1	0	5	55	1	236	11	0	3	108
20	87	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
21	276	57	2	0	0	0	0	5	0	0	4	0	10	0	17	0	4	4	9	21	0	12	0
22	37	1	0	2	0	0	0	0	0	0	0	0	0	0	13	61	0	7	0	0	0	0	46
23	297	22	0	2	0	0	0	0	0	0	0	0	0	1	22	0	0	1	0	5	0	5	29
24	213	0	2	0	16	0	0	0	0	0	0	0	1	0	17	0	13	0	0	2	0	1	22
25	86	36	0	1	7	0	0	0	0	0	31	0	2	0	0	0	0	0	0	2	0	0	0
26	194	0	0	0	0	486	0	0	0	0	0	0	2	0	0	0	1	0	51	0	0	7	0
27	98	0	0	1	21	0	0	0	260	0	1379	0	26	5	2	0	9	0	2	1	0	95	0
28	25	0	0	0	0	0	0	144	0	0	3	0	35	0	0	0	0	0	0	0	0	9	0
29	408	6	0	3	0	0	0	0	0	0	270	0	6	0	0	0	0	0	0	1	0	10	0
30	608	0	2	3	0	0	0	0	0	0	10	0	46	3	4	0	6	1	0	0	0	30	0
31	25	0	1	0	0	0	0	0	0	0	170	0	25	0	0	0	0	0	0	0	0	1	0
32	0	0	30	0	10	0	0	18	258	0	1874	0	94	0	22	0	2	25	0	3	0	76	8
33	0	0	0	0	2	0	0	6	216	0	2898	0	39	0	1	0	0	2	0	0	0	4	0
34	0	0	0	0	0	0	0	0	123	0	1126	0	38	2	0	0	6	0	0	0	0	10	0
42	3	0	0	0	0	0	0	0	0	0	0	0	74	0	0	0	0	0	0	0	0	0	0
43	332	109	0	0	0	0	0	0	0	0	71	0	16	0	0	0	0	0	1	0	0	6	0
46	28	0	0	2	0	174	0	0	0	0	180	0	17	0	0	0	0	0	27	0	0	9	0
48	1	0	16	2	19	0	0	0	0	0	413	0	42	0	0	0	1	0	0	0	0	13	0
49	14	0	19	0	54	0	0	12	0	0	577	0	24	0	3	0	0	0	0	0	0	4	0
50	102	0	5	0	3	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	22	0
51	497	0	0	0	1	0	0	0	0	0	13	0	20	0	3	0	0	6	0	0	0	5	0
52	546	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	5	0	0	0	3	0
53	516	0	0	0	0	0	0	144	0	0	0	0	21	0	1	2	7	1	0	2	0	8	0
55	711	217	0	0	0	0	0	4	0	0	0	0	34	0	6	0	4	2	0	1	0	1	0
56	410	460	5	12	0	0	0	4	0	0	0	0	28	0	0	0	0	1	12	1	0	14	5
57	156	0	3	1	1	0	0	0	0	0	58	0	9	0	2	0	0	0	0	0	0	0	0
58	48	0	0	0	0	0	0	0	0	0	59	0	1	0	1	0	0	0	0	0	0	34	0
59	581	47	0	0	1	637	0	5	0	0	0	0	35	0	14	0	25	0	67	0	0	27	0
60	519	123	0	0	4	820	0	8	0	0	0	0	39	0	4	0	5	0	78	0	0	4	1
61	251	4	1	0	0	0	0	0	0	0	8	0	3	0	1	0	0	6	0	5	0	0	0
62	51	0	0	0	0	0	0	0	0	0	7	0	5	1	0	0	0	0	0	0	0	3	0
63	513	0	2	1	1	0	0	4	0	0	0	0	17	0	0	0	0	0	0	0	0	13	0
64	370	0	0	1	0	2094	0	0	0	0	0	0	83	0	1	0	4	1	169	0	0	1	0
65	234	185	0	2	0	0	0	39	0	0	80	0	1	0	31	0	0	1	0	12	0	0	49
66	64	62	32	0	0	1494	0	0	0	0	0	0	37	46	92	0	21	5	284	0	34	43	19
67	219	22	0	6	0	0	0	0	0	0	0	0	0	0	50	0	5	4	0	2	0	1	0

2020 Model Land Use

TAZ	LU1 SFDU	LU2 MFDU	LU3 RET	LU4 FIRES	LU5 INDUST	LU6 SCH	LU7 ACCOM	LU8 AER	LU9 OSFDU	LU10 PSS	LU11 AGRI	LU12 WFRT	LU13 POL	LU14 TRNWH	LU15 MED	LU16 GOVT	LU17 ASWMR	LU18 PSTMC	LU19 EDUSRV	LU20 OTHER	LU21 INFO	LU22 UTLCONST	LU23 FS
68	150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	4	0
69	286	236	16	29	3	0	0	0	0	0	0	0	13	0	12	0	0	2	0	0	0	8	21
70	296	0	15	16	42	0	0	4	0	0	0	0	9	0	23	10	8	2	0	1	0	124	0
71	238	239	60	2	46	0	99	57	0	0	6	0	2	2	34	0	1	0	0	11	24	0	60
72	258	0	5	3	0	0	0	0	0	0	0	0	0	0	17	0	1	3	0	3	0	64	0
73	139	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	63	0	141	1	0	0	0	172	0	0	0	0	34	0	0	55	0	0	0	3	0	9	0
76	2	49	16	0	0	0	0	2	0	0	0	0	5	0	0	0	0	1	0	0	0	0	42
77	21	14	42	43	3	0	0	0	0	0	0	0	0	0	31	0	25	6	0	2	0	0	46
78	31	0	46	38	7	0	0	1	0	0	0	0	0	0	2	0	0	8	0	9	0	0	151
79	2	2	132	38	0	0	0	143	0	0	0	0	1	0	442	83	0	20	0	0	0	0	54
81	266	0	342	0	0	0	0	133	0	0	0	0	0	0	262	0	0	0	0	11	0	0	34
82	253	0	15	11	1	0	0	144	0	0	0	0	3	0	0	0	2	0	12	37	0	4	65
83	2	0	0	0	0	0	0	0	0	0	188	0	18	0	0	0	0	0	0	0	0	0	0
84	0	0	39	9	684	0	71	27	0	64	25	0	21	0	24	8	22	92	121	0	23	134	10
85	196	0	5	2	18	0	84	15	0	0	29	0	52	0	0	0	24	0	0	0	0	7	14
86	150	70	0	2	0	0	0	7	0	0	6	0	16	0	0	0	0	0	0	0	0	0	5
88	0	33	0	1	7	0	0	42	0	0	0	0	20	0	57	0	0	0	0	0	0	0	34
89	59	14	31	8	40	167	0	2	0	0	0	0	11	0	47	83	5	15	0	26	0	5	36
92	13	191	0	1	0	0	0	1	0	0	0	0	9	0	8	10	1	0	0	0	0	10	28
93	0	0	178	18	2	0	0	0	0	0	0	0	0	0	37	0	5	23	2	10	0	6	262
95	6	0	12	32	62	0	47	0	0	0	0	0	0	0	3	0	14	8	0	42	0	0	51
97	8	0	6	2	139	0	0	0	0	0	16	0	36	9	0	26	22	0	0	0	0	22	8
98	10	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99	200	70	3	0	16	0	168	61	0	0	0	0	13	2	0	0	2	1	0	6	0	14	0
100	303	38	0	2	20	0	0	57	0	0	0	0	64	22	6	21	0	0	0	0	0	39	0
101	446	163	0	4	0	0	0	0	0	0	0	0	4	55	3	0	1	0	0	0	0	14	0
102	447	36	5	2	68	0	0	1	0	0	62	0	5	0	1	0	0	6	48	2	0	4	0
103	458	0	1	4	2	0	0	15	0	0	0	0	36	1	0	0	3	0	0	0	2	8	0
104	462	18	0	1	5	0	0	0	0	0	0	0	2	0	54	0	1	5	0	0	0	11	0
105	123	1	1	1	5	0	0	0	0	0	37	0	9	0	0	0	4	25	0	2	0	29	0
107	191	0	11	0	370	0	0	0	0	0	11	0	0	3	0	0	96	15	0	25	34	153	0
108	383	0	1	2	0	0	0	0	0	0	82	0	0	15	0	0	0	3	0	1	0	14	0
109	366	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	3	0	0	2	14	0
110	709	28	12	2	5	0	0	316	111	4	25	0	73	1	42	0	3	4	0	3	0	23	23
111	373	0	0	1	0	486	0	12	0	0	12	0	15	0	16	4	3	1	59	3	0	20	0
112	7	0	2	0	331	0	0	24	0	0	0	0	729	167	11	28	1	1	0	20	0	62	1
113	76	0	10	15	214	0	0	72	0	31	16	0	38	34	6	0	17	6	0	3	0	409	0
114	421	3	11	1	35	0	0	0	0	0	7	0	2	0	21	0	4	0	0	7	0	12	0
115	317	24	12	0	2	0	0	0	0	3	25	0	7	0	136	0	5	26	0	9	0	18	20
116	4	3	20	2	59	145	0	0	0	0	0	0	0	0	19	0	2	0	0	4	0	94	6
117	23	0	17	16	78	0	0	87	0	0	0	0	0	0	0	23	57	13	0	10	0	219	12
118	120	0	0	0	35	0	0	0	0	0	83	0	3	0	23	0	0	2	0	0	0	23	0
120	488	0	24	1	22	0	0	5	0	0	1	0	11	0	20	0	21	4	2	8	2	2	0
121	736	0	0	1	3	602	0	4	0	0	0	0	20	2	8	91	3	2	68	0	0	7	18
122	494	24	0	6	5	0	0	0	0	0	0	0	23	0	27	0	1	0	0	3	0	8	0
123	4	67	184	29	17	0	95	266	0	0	0	0	4	42	14	0	31	32	2	16	1	17	102
124	99	23	148	35	2	0	0	143	0	0	0	0	0	0	39	0	2	0	2	61	42	107	137
125	925	0	4	7	0	0	0	45	0	0	0	0	22	0	10	0	1	5	1	2	0	20	10
126	603	134	0	2	0	0	0	0	0	0	0	0	11	0	1	0	2	1	0	0	2	6	0
127	879	25	1	1	0	646	0	6	0	0	0	0	31	3	6	17	0	3	76	7	0	11	0
128	263	30	0	0	0	0	0	1	0	0	29	0	11	0	74	0	0	3	0	2	1	6	21
129	332	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	3	0	0	0	4	0
130	0	5	6	25	36	0	0	43	0	0	0	0	0	0	179	54	375	75	0	4	0	25	1
131	0	0	360	17	3	0	0	0	0	0	0	0	0	0	20	0	218	6	0	11	0	0	71

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TAZ	LU1 SFDU	LU2 MFDU	LU3 RET	LU4 FIRES	LU5 INDUST	LU6 SCH	LU7 ACCOM	LU8 AER	LU9 OSFDU	LU10 PSS	LU11 AGRI	LU12 WFRT	LU13 POL	LU14 TRNWH	LU15 MED	LU16 GOVT	LU17 ASWMR	LU18 PSTMC	LU19 EDUSRV	LU20 OTHER	LU21 INFO	LU22 UTLCONST	LU23 FS
132	202	0	0	2	0	0	0	1	0	0	2	0	0	0	1	0	0	1	0	0	0	11	0
133	390	1	3	2	2	0	0	0	22	0	614	0	22	0	1	0	4	4	1	1	0	12	0
134	148	0	0	1	5	0	0	3	0	0	28	0	4	0	0	0	0	2	0	3	0	5	0
135	124	0	0	1	0	0	0	0	0	0	17	0	0	0	0	0	3	0	0	0	0	7	0
136	424	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	10	2	0	0	0	1	0
137	327	63	36	0	356	0	0	3	0	0	12	0	0	20	90	80	38	0	0	2	0	108	4
138	410	60	2	4	5	221	0	0	0	0	0	0	30	0	48	55	3	3	0	0	0	4	0
139	471	9	7	4	105	0	0	180	0	0	0	0	21	8	37	0	6	0	0	0	0	21	0
140	243	53	0	0	0	737	0	0	0	0	0	0	16	0	0	0	0	0	81	0	0	2	0
141	21	0	80	17	23	0	50	0	0	0	0	0	0	0	30	0	113	11	44	61	0	21	144
142	36	29	392	0	12	0	0	23	0	0	0	0	0	0	12	0	15	14	11	50	0	22	34
143	95	0	0	0	0	437	0	1	0	0	0	0	13	0	0	2	0	0	52	0	0	15	0
144	396	2	0	0	0	86	0	0	0	0	0	0	7	0	10	0	0	2	18	0	0	10	0
146	673	124	21	4	1	0	0	144	0	2	0	0	13	0	1	32	6	1	0	2	9	9	0
147	213	377	330	11	0	0	0	0	0	0	0	0	39	0	7	0	108	1	1	11	0	28	95
148	74	0	54	78	55	0	0	2	0	0	0	0	60	115	34	252	0	101	0	10	17	169	4
149	120	0	320	12	8	0	0	160	0	4	0	0	0	0	16	0	33	4	4	49	0	44	49
150	259	221	502	0	0	0	0	120	0	0	0	0	3	0	88	0	0	92	5	43	22	9	56
151	470	61	0	3	0	0	0	2	0	0	0	0	10	3	2	0	14	2	0	0	0	5	0
152	620	0	0	11	5	860	0	23	0	0	0	0	21	0	1	0	0	6	71	4	2	6	0
153	10	371	79	195	23	0	444	63	0	0	0	0	5	0	286	0	2	38	0	65	33	93	230
154	11	313	0	0	13	0	0	78	0	0	6	0	0	2	13	0	2	6	8	0	0	2	0
155	2	0	39	18	23	0	369	0	0	0	0	0	0	0	10	0	0	0	0	5	0	0	215
156	17	40	47	98	0	0	178	0	0	0	0	0	0	0	0	0	0	0	0	16	0	6	200
158	401	87	0	0	1	0	0	0	0	0	0	0	7	0	0	0	1	1	0	1	0	128	0
159	168	6	24	2	4	347	0	0	0	0	0	0	11	0	136	0	12	0	66	12	0	0	57
160	273	0	3	0	0	0	0	6	12	0	2979	0	639	0	1	0	1	5	0	1	0	13	0
161	0	0	0	14	11	0	8	0	0	0	0	0	1	0	2721	0	7	2	4	7	0	0	0
162	160	4	10	38	26	507	0	3	0	0	0	0	8	0	82	0	4	12	68	0	0	0	16
163	212	12	8	24	0	0	0	0	0	0	0	0	2	0	244	0	15	30	0	0	0	0	0
164	58	24	192	34	39	150	0	0	0	0	0	0	10	82	17	10	22	60	0	9	0	14	48
165	467	93	0	1	0	180	0	0	0	0	0	0	8	0	4	0	0	4	60	0	0	5	13
166	95	30	6	0	0	286	0	7	0	4	0	0	7	0	0	0	4	0	12	5	0	1	0
167	206	34	0	1	0	0	0	0	0	0	0	0	0	0	27	0	2	11	0	0	0	3	0
168	353	2	7	0	0	711	0	0	0	0	0	0	8	0	28	0	0	4	67	3	0	8	2
169	269	51	0	22	0	313	0	1	0	0	0	0	6	0	0	0	0	9	213	6	0	1	1
170	254	41	0	0	0	0	0	0	0	0	0	0	3	0	11	0	0	0	0	0	0	2	0
171	494	273	0	6	0	0	0	104	0	0	14	0	62	0	6	18	5	12	3	1	0	26	0
172	134	109	0	2	0	0	0	0	0	0	0	0	0	0	1	0	2	7	0	0	0	2	0
173	393	79	0	0	0	0	0	4	0	0	0	0	3	0	20	0	0	4	0	2	2	3	0
174	88	0	0	0	0	0	0	26	0	0	23	0	36	0	0	0	0	2	0	3	0	6	0
176	241	0	0	1	3	0	0	0	0	0	455	0	385	0	1	0	0	3	0	1	0	8	0
178	53	13	0	0	1	0	0	46	172	0	275	0	11	0	0	0	0	0	0	0	0	6	29
179	2	0	3	0	1	0	0	72	179	0	304	0	55	0	1	0	17	0	1	0	0	6	0
180	1	0	0	0	0	0	0	0	0	0	322	0	6	0	0	0	0	0	0	0	0	5	3
181	100	0	0	6	0	0	0	219	21	0	1003	0	55	0	8	0	0	1	0	133	0	2	0
182	0	0	0	0	4	0	0	0	272	0	7278	0	169	13	3	0	0	1	10	0	0	6	0
183	0	0	24	0	0	0	0	0	50	0	21910	0	1004	0	0	14	1	0	0	1	0	5	0
184	0	0	0	0	0	0	0	0	0	0	9349	0	691	0	0	0	0	4	0	1	0	1	0
185	0	0	0	1	0	0	0	1	261	0	1825	0	663	0	0	0	1	2	0	1	0	4	0
187	29	0	0	5	10	0	0	32	291	0	2490	0	75	0	4	0	5	2	0	1	0	11	0
188	0	0	1	10	2	0	0	29	374	0	5341	0	202	0	0	3	2	6	0	9	0	11	0
190	71	2	0	0	2	0	0	0	159	0	4251	0	2536	0	0	0	2	2	0	0	0	9	0
191	100	0	0	2	5	0	17	40	130	0	512	0	359	0	3	0	0	7	0	0	0	8	0
192	0	0	0	0	0	0	0	0	0	0	2885	0	433	0	0	0	0	1	0	0	0	0	0

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TAZ	LU1 SFDU	LU2 MFDU	LU3 RET	LU4 FIRES	LU5 INDUST	LU6 SCH	LU7 ACCOM	LU8 AER	LU9 OSFDU	LU10 PSS	LU11 AGRI	LU12 WFRT	LU13 POL	LU14 TRNWH	LU15 MED	LU16 GOVT	LU17 ASWMR	LU18 PSTMC	LU19 EDUSRV	LU20 OTHER	LU21 INFO	LU22 UTLCONST	LU23 FS
193	0	5	0	2	3	0	0	351	298	0	9829	0	1362	0	1	0	0	0	0	5	2	5	0
194	0	43	3	4	0	0	100	211	214	0	3912	0	229	0	0	19	18	4	2	23	0	16	0
197	0	0	0	0	2	0	0	16	106	0	7949	0	11186	0	1	0	0	0	0	3	0	7	0
198	0	0	6	0	0	0	0	2	168	0	5306	0	3959	0	3	0	10	0	3	0	0	4	3
199	0	0	0	1	16	67	0	0	138	0	6275	0	31528	0	0	0	0	0	10	0	0	4	11
200	0	0	0	0	0	0	0	0	47	0	5642	0	1439	0	0	9	0	0	0	0	0	0	0
201	0	0	0	1	0	0	0	11	120	0	2936	0	1189	0	0	0	0	0	0	0	0	30	0
203	5	0	0	0	0	0	0	32	88	0	6925	0	1284	0	0	0	0	2	0	2	0	5	0
204	94	3	6	0	0	0	0	1	128	0	7754	0	5648	8	0	4	5	0	0	0	0	0	0
205	111	1	6	3	0	0	15	27	5	0	1129	0	115	2	2	5	0	0	0	0	2	1	23
206	0	0	0	0	0	143	0	0	142	0	6256	0	325	0	0	0	0	0	52	0	0	8	0
207	0	0	0	0	0	0	0	7	116	0	7886	0	804	0	0	0	0	0	0	0	0	26	0
210	0	0	3	0	5	0	0	0	191	0	17217	0	9772	0	0	0	0	0	0	1	0	1	0
211	0	0	0	0	0	0	0	35	91	0	21679	0	16003	0	2	0	1	1	0	0	0	0	0
212	0	0	0	0	0	0	16	0	19	0	7012	0	17170	0	1	0	0	0	0	0	0	0	0
400	688	0	18	7	8	0	0	35	0	0	827	0	177	3	5	4	1	8	0	0	0	71	22
401	6	78	429	0	134	0	0	0	0	0	0	0	2	35	0	0	1	0	0	2	0	11	10
402	0	0	0	0	81	0	0	0	0	0	0	0	11	0	0	0	0	0	19	0	9	0	0
403	207	62	29	0	16	0	0	0	0	0	45	0	1	0	7	0	27	0	0	0	0	256	0
404	384	0	0	1	2	0	0	7	0	0	5	0	36	16	0	0	3	1	0	1	1	42	0
405	275	0	0	2	1	0	0	0	0	0	18	0	3	0	4	0	4	2	0	0	0	6	0
406	0	0	0	0	0	0	0	0	0	0	506	0	38	0	0	0	19	0	0	0	0	0	0
407	257	351	0	6	6	499	0	6	0	0	0	0	26	0	17	0	0	39	0	0	0	4	79
408	0	0	2	0	0	0	0	0	0	0	208	0	6	0	0	0	0	0	0	0	0	40	0
409	370	0	0	0	0	2568	0	6	0	0	0	0	106	0	0	0	0	8	203	0	0	14	0
410	536	70	12	15	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	57	25	17
411	1	363	6	8	0	0	0	51	0	0	0	0	41	80	30	10	0	12	0	3	0	0	51
412	28	0	54	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
413	329	4	7	0	0	0	0	0	0	0	4	0	0	0	19	0	9	9	0	2	0	16	6
414	64	0	139	4	274	671	0	13	0	0	0	0	5	18	0	0	71	6	60	0	0	8	0
415	1	0	10	76	0	0	64	0	0	0	0	0	3	0	431	96	6	46	0	1	0	7	0
416	10	253	8	65	0	0	0	143	0	0	0	0	14	0	1251	0	115	24	4	18	1	0	0
417	16	0	134	210	9	0	118	0	0	0	0	0	5	0	55	0	1	20	11	12	28	15	141
418	123	12	145	40	8	0	0	81	0	0	0	0	0	0	30	0	0	0	0	40	0	88	196
419	54	294	136	14	58	0	0	26	0	0	0	0	1	7	42	41	8	9	0	5	0	89	102
420	381	33	9	11	0	0	0	0	0	0	0	0	9	0	46	0	13	17	6	0	0	32	29
421	472	45	11	1	9	0	0	3	0	0	0	0	10	0	0	0	2	7	0	10	0	26	1
422	816	74	0	2	1	0	0	0	0	0	12	0	7	0	1	0	12	9	1	1	0	12	0
423	273	6	0	0	0	0	0	0	0	0	14	0	0	0	0	0	1	0	0	0	0	2	0
424	53	152	39	86	15	0	14	69	0	0	0	0	6	0	134	42	22	141	2	69	138	8	210
425	19	11	71	32	92	0	0	0	0	0	5	0	9	2	0	0	40	8	9	19	0	211	0
426	422	159	0	1	7	0	0	10	0	0	56	0	34	0	2	0	5	2	0	6	0	3	0
427	353	73	2	9	3	0	0	0	0	0	10	0	1	0	2	0	0	6	0	16	0	39	4
428	356	15	12	0	32	0	0	0	0	0	13	0	7	0	4	0	8	1	0	4	0	18	0
429	3	12	27	0	13	0	0	0	0	0	0	0	1	0	2	0	9	0	0	0	0	41	0
430	0	0	24	1	0	0	0	0	0	0	5	0	0	0	0	0	6	0	0	0	0	10	0
431	75	0	0	2	1	0	0	12	0	0	445	0	21	0	1	0	0	0	1	0	0	0	0
432	128	1	0	1	0	0	0	94	1	0	21	0	17	0	1	0	0	2	0	0	0	0	30
433	0	0	0	0	4	0	0	0	167	0	2879	0	9764	0	0	0	0	1	1	0	0	2	0
434	96	213	0	9	0	0	0	3	0	0	0	0	9	0	160	8	0	5	0	0	0	11	169
435	5	259	3	47	18	0	0	0	0	0	0	0	21	0	120	9	7	119	0	2	0	0	3
500	32	0	0	2	3	0	0	4	412	0	15544	0	1651	0	0	0	0	4	0	0	0	39	6
501	280	15	3	1	0	347	8	15	0	0	563	0	19	0	11	0	0	0	41	0	6	4	65
502	632	22	64	25	0	869	14	5	0	0	18	0	45	3	19	28	0	7	88	0	0	6	0
503	0	0	0	1	0	0	0	0	447	0	1794	0	68	1	5	0	7	4	0	2	0	14	0

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TAZ	LU1 SFDU	LU2 MFDU	LU3 RET	LU4 FIRES	LU5 INDUST	LU6 SCH	LU7 ACCOM	LU8 AER	LU9 OSFDU	LU10 PSS	LU11 AGRI	LU12 WFRT	LU13 POL	LU14 TRNWH	LU15 MED	LU16 GOVT	LU17 ASWMR	LU18 PSTMC	LU19 EDUSRV	LU20 OTHER	LU21 INFO	LU22 UTLCONST	LU23 FS
504	70	0	0	0	20	0	0	0	415	0	703	0	12	1	4	0	7	3	0	0	0	29	0
505	37	0	0	0	11	0	0	0	120	0	1138	0	691	0	2	0	6	0	0	2	0	7	0
506	0	0	0	1	224	0	0	0	109	0	2234	0	11	0	1	0	0	1	0	2	1	1	0
507	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	12
508	123	0	31	8	0	0	0	0	0	0	0	0	6	0	18	0	0	0	0	1	6	2	0
509	276	72	145	8	16	1387	0	0	0	0	0	0	30	0	7	0	0	21	112	59	0	3	39
510	12	0	0	0	4	0	0	0	0	0	631	0	86	0	0	0	0	0	0	0	0	19	0
511	67	0	0	0	0	0	0	0	0	0	406	0	124	0	15	0	0	0	0	0	0	14	0
512	12	0	0	0	0	0	0	0	0	0	284	0	319	0	0	0	0	0	0	0	0	0	0
513	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
514	0	0	31	0	298	0	0	61	0	0	88	0	0	0	0	0	10	0	21	0	0	169	0
515	337	30	0	0	2	0	0	6	0	0	467	0	5	0	44	0	0	0	0	0	0	4	0
516	1	0	0	0	0	0	0	0	0	0	141	0	18	0	0	0	0	0	0	0	0	0	0
517	0	0	0	0	39	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
518	34	0	0	0	2	0	0	0	0	0	210	0	6	0	0	0	0	0	0	0	0	8	0
519	92	0	0	0	72	0	0	0	0	0	168	0	3	17	0	0	0	0	0	0	0	7	0
520	11	0	0	0	0	0	0	0	0	0	175	0	5	1	0	0	0	0	0	0	0	2	0
521	0	0	31	4	89	0	0	0	0	0	81	0	20	0	0	0	0	4	0	4	0	80	0
522	14	0	21	0	0	0	0	102	0	0	0	0	6	0	0	9	0	0	0	0	0	0	37
523	65	0	0	0	0	0	0	0	0	0	62	0	0	0	14	0	4	0	0	0	0	2	0
524	141	122	1	1	177	418	0	1	0	0	122	0	24	0	1	0	1	0	55	0	0	30	8
525	166	0	0	0	2	413	0	0	0	0	243	0	17	0	0	0	0	15	48	0	0	0	0
526	192	0	0	0	0	0	0	0	0	0	21	0	0	0	3	0	0	0	0	0	0	1	0
527	8	0	0	0	1	0	0	0	0	0	91	0	2	0	0	0	0	0	0	0	0	0	0
528	5	0	12	0	0	0	0	0	0	0	283	0	0	0	0	0	0	0	0	0	0	0	0
529	0	0	0	0	0	0	0	0	0	0	232	0	7	0	0	0	0	0	0	0	0	0	0
530	11	0	0	0	0	0	0	0	0	0	246	0	4	0	0	0	0	0	0	0	0	0	0
531	3	0	0	0	0	0	0	0	0	0	199	0	7	0	0	0	5	0	0	3	0	40	0
532	48	0	0	1	0	0	0	72	0	0	36	0	1	0	0	0	0	0	0	0	0	3	0
533	78	1	25	4	1	0	0	0	0	0	0	0	6	5	7	0	9	0	3	0	0	0	0
534	265	1	25	8	25	401	0	0	0	0	0	0	30	30	0	10	13	4	42	2	0	3	0
535	0	0	0	0	0	0	0	0	0	0	298	0	4	0	0	0	0	0	0	0	0	0	0
536	91	0	19	0	0	0	0	0	0	0	99	0	14	0	0	0	55	0	0	0	0	6	0
537	62	0	0	0	0	0	0	0	0	0	57	0	1	0	0	0	0	1	0	1	0	3	0
538	323	1	1	4	5	0	0	0	0	0	0	0	1	0	3		0	0	0	0	0	4	0
539	0	0	249	0	0	0	0	0	0	0	0	0	5	0	426	0	0	14	0	0	0	0	0
540	8	0	46	34	22	0	0	0	0	0	0	0	0	0	302	0	24	25	6	10	0	57	120
541	3	0	4	1	295	0	0	19	0	0	20	0	0	0	0	0	9	54	0	0	29	3	0
542	0	0	53	0	153	0	0	13	0	0	0	0	0	9	0	0	4	15	0	16	0	31	19
543	170	37	1	0	0	293	18	0	0	0	0	0	8	0	38	0	0	0	48	5	0	8	11
544	218	64	0	13	1	0	0	3	0	0	0	0	18	0	5	52	0	10	2	1	0	18	83
545	0	0	0	0	0	0	0	0	0	0	465	0	139	0	0	0	0	0	0	0	0	0	0
546	0	0	42	0	182	0	0	13	0	0	382	0	5	0	0	0	0	0	0	8	0	5	0
547	0	0	0	0	0	0	0	0	0	0	198	0	4	0	0	0	0	0	0	0	0	11	0
548	22	0	10	1	0	195	0	0	0	0	106	0	23	0	0	0	0	0	0	0	0	0	0
549	214	472	2	10	4	0	0	0	0	0	50	0	13	0	147	0	0	1	0	0	0	12	6
550	47	60	137	20	22	0	0	0	0	0	0	0	0	0	161	222	54	122	0	1	46	0	43
551	44	339	130	62	467	0	0	0	0	0	0	0	9	0	79	12	547	198	16	0	0	0	189
552	197	0	0	0	1	0	0	0	0	0	0	0	3	0	3	0	8	0	0	2	0	4	0
553	3	0	0	0	0	0	0	0	0	0	271	0	2	0	0	0	0	0	0	0	0	0	0
554	0	0	0	0	0	0	0	0	0	0	158	0	1	0	0	0	0	0	0	0	0	20	0
555	99	0	14	14	60	0	0	20	0	0	0	0	2	2	12	0	29	1	0	18	0	6	0
556	0	0	0	0	0	1465	0	0	0	0	0	0	86	0	0	358	0	0	112	0	0	0	0
557	0	0	0	0	0	0	0	0	0	0	0	0	198	0	0	0	0	0	0	0	0	0	0
558	115	172	93	35	6	0	98	0	0	0	0	0	3	1	94	0	5	0	13	3	0	0	223

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TAZ	LU1 SFDU	LU2 MFDU	LU3 RET	LU4 FIRES	LU5 INDUST	LU6 SCH	LU7 ACCOM	LU8 AER	LU9 OSFDU	LU10 PSS	LU11 AGRI	LU12 WFRT	LU13 POL	LU14 TRNWH	LU15 MED	LU16 GOVT	LU17 ASWMR	LU18 PSTMC	LU19 EDUSRV	LU20 OTHER	LU21 INFO	LU22 UTLCONST	LU23 FS
559	107	50	473	26	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	31	0	4	107
560	152	177	0	646	0	0	0	4	0	0	0	0	27	0	21	0	0	1	0	0	0	14	0
561	0	0	0	36	0	0	0	0	0	0	0	0	0	0	185	8	221	5	124	0	0	1	0
562	71	5	215	24	28	0	0	0	0	0	0	0	8	15	74	0	45	24	3	19	2	0	41
563	41	0	0	0	0	0	0	19	0	2995	0	0	6	0	0	30	0	0	643	0	0	0	17
564	199	85	0	0	5	0	0	0	0	0	0	0	1	0	9	0	0	9	0	2	0	67	0
565	78	22	78	7	6	0	0	23	0	0	0	0	1	0	31	26	0	29	0	54	0	0	85
566	359	14	0	3	0	407	0	1	0	0	0	0	7	0	0	0	0	3	59	1	0	3	0
567	93	84	47	10	6	0	17	39	0	0	0	0	3	10	20	0	55	34	1	11	21	17	234
568	202	14	0	1	0	0	0	4	0	0	0	0	6	0	0	0	0	0	22	14	0	1	0
569	333	22	0	0	0	426	0	0	0	0	0	0	12	0	31	0	5	1	69	1	0	0	0
570	96	35	74	29	21	0	175	22	0	0	0	0	4	2	26	0	0	17	0	9	0	7	101
571	3	100	137	218	56	0	24	223	0	0	0	0	196	0	4	121	44	102	5	42	5	2	138
572	0	0	1	0	0	0	338	136	0	0	0	0	0	43	0	0	0	80	0	69	0	0	507
573	2	30	0	0	0	0	28	144	0	0	0	0	4	0	0	0	0	0	0	6	0	0	27
574	0	0	0	0	0	0	0	2	0	0	141	0	1	0	1	0	0	1	0	0	0	1	0
575	0	0	3	0	4	0	0	0	183	0	3175	0	19	0	0	0	7	3	0	28	0	12	3
576	0	0	0	0	0	0	0	110	0	0	14599	0	5807	0	0	0	0	0	0	6	0	0	20
577	0	0	0	0	0	0	300	640	0	0	175	0	226	0	0	0	0	0	0	0	0	0	100
578	4	0	0	0	0	0	0	0	0	0	83	0	64	0	0	21	1	0	0	1	0	0	0
579	199	0	0	3	1	0	0	0	0	0	10	0	5	0	1	0	0	1	0	0	0	21	0
580	0	0	0	0	0	0	0	0	0	0	226	0	5	0	0	0	0	0	0	0	0	0	0
581	4	0	0	0	0	0	0	0	0	0	370	0	11	0	0	0	0	0	0	0	0	0	0
582	2	0	0	0	0	370	0	0	0	209	500	0	97	0	0	0	0	0	45	0	0	0	0
583	1	0	0	0	0	0	0	0	0	0	414	0	9	1	0	0	0	0	0	0	0	0	0
584	36	0	0	0	0	0	0	0	0	0	450	0	10	0	3	0	0	0	0	0	0	5	0
585	0	0	0	0	0	0	0	0	0	0	251	0	20	16	0	0	0	0	0	0	0	18	0
586	168	17	45	1	0	0	0	0	0	0	344	0	13	0	0	0	0	0	0	0	0	45	0
587	44	0	0	1	0	0	0	0	0	0	390	0	8	1	0	0	0	0	0	0	0	0	0
588	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
589	57	0	50	7	6	0	0	0	0	0	9	0	1	1	157	0	2	8	0	0	0	30	50
590	2	6	12	20	2	0	0	0	0	0	0	0	0	0	5	373	0	25	0	0	1	0	10
591	34	0	12	9	0	0	0	0	0	0	0	0	0	0	176	0	0	13	0	7	0	0	53
592	52	0	0	0	0	0	0	0	0	0	2865	0	21	0	0	0	0	2	0	0	0	0	0
593	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
594	0	22	478	21	8	0	0	0	0	0	0	0	11	0	123	0	0	88	0	3	14	42	48
595	21	0	0	0	5	0	0	0	42	0	450	0	44	0	3	0	1	0	0	0	3	7	0
596	0	0	0	0	0	0	0	0	0	0	2793	0	43	0	0	0	0	6	0	0	0	6	0
597	0	0	0	0	2	0	0	0	0	0	778	0	498	0	0	0	0	0	0	0	0	3	0
598	0	0	1	0	0	0	0	0	0	0	158	0	8	0	0	0	0	0	0	0	0	1	0
599	0	0	0	0	0	0	0	51	0	0	3563	0	64446	0	0	0	0	0	0	0	0	3	37

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TAZ	LU1 SFDU	LU2 MFDU	LU3 RET	LU4 FIRES	LU5 INDUST	LU6 SCH	LU7 ACCOM	LU8 AER	LU9 OSFDU	LU10 PSS	LU11 AGRI	LU12 WFRT	LU13 POL	LU14 TRNWH	LU15 MED	LU16 GOVT	LU17 ASWMR	LU18 PSTMC	LU19 EDUSRV	LU20 OTHER	LU21 INFO	LU22 UTLCONST	LU23 FS
1	122	144	2	0	2	430	0	177	403	0	9036	0	5700	1	1	0	0	0	63	0	1	15	0
2	90	0	0	0	0	0	9	26	0	0	9017	0	2731	0	0	0	0	0	0	1	0	0	0
3	220	2	0	0	0	0	0	0	315	0	7477	0	977	0	2	0	1	0	0	2	0	12	0
4	145	3	7	1	4	0	0	0	308	0	2198	0	170	0	0	0	4	1	0	2	0	22	0
5	187	3	142	0	4	0	0	0	362	0	2122	0	88	0	2	0	7	2	0	1	0	47	0
7	0	28	10	0	0	0	11	306	508	0	745	0	2499	2	0	73	16	53	0	2	0	0	27
8	0	4	0	0	0	0	0	611	93	0	1915	0	3810	0	0	48	0	0	0	0	0	1	0
9	21	0	2	1	9	0	0	0	339	0	914	0	279	0	1	0	0	2	0	1	4	39	0
10	79	0	0	0	1	0	0	0	221	0	439	0	45	0	1	0	0	1	0	2	1	1	0
11	362	0	27	0	96	400	0	0	0	0	149	0	90	11	5	41	12	16	56	4	7	5	29
12	66	3	7	0	4	0	0	0	320	0	1649	0	27	0	0	0	0	1	0	0	0	12	0
13	59	3	0	0	1	0	0	97	246	0	4381	0	1666	2	2	0	0	5	0	1	0	16	0
14	182	26	3	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	4	3
15	0	0	15	1	75	400	0	0	579	0	579	0	47	85	4	0	32	2	50	22	0	203	0
16	0	0	0	0	0	0	0	0	275	0	3604	0	2399	0	2	0	4	0	0	0	5	30	0
17	0	0	0	1	0	0	0	0	43	0	1990	0	61388	0	0	0	0	0	0	0	0	0	0
18	284	13	16	0	7	0	0	1	0	0	0	0	6	20	15	0	1	0	0	0	0	11	25
19	63	1	9	9	10	1045	0	4	0	0	0	0	11	1	0	6	68	1	291	14	0	4	126
20	86	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
21	276	58	2	0	0	0	0	6	0	0	0	0	10	0	20	0	5	5	11	26	0	15	0
22	37	1	0	2	0	0	0	0	0	0	0	0	0	0	15	75	0	9	0	0	0	0	54
23	296	22	0	2	0	0	0	0	0	0	0	0	0	1	26	0	0	1	0	6	0	6	34
24	213	0	2	0	20	0	0	0	0	0	0	0	1	0	20	0	16	0	0	2	0	1	26
25	131	65	0	1	9	0	0	0	0	0	25	0	2	0	0	0	0	0	0	2	0	0	0
26	295	0	0	0	0	400	0	0	0	0	0	0	2	0	0	0	1	0	41	0	0	9	0
27	224	0	0	1	26	0	0	0	521	0	1106	0	26	6	2	0	11	0	0	1	0	117	0
28	54	0	0	0	0	0	0	177	0	0	0	0	35	0	0	0	0	0	0	0	0	11	0
29	872	10	3	4	0	0	0	0	0	0	0	0	6	0	6	0	0	0	0	1	0	12	3
30	949	0	10	4	0	0	0	0	0	0	0	0	46	4	13	0	7	1	0	0	0	37	6
31	38	0	4	0	0	0	0	0	0	0	136	0	25	0	7	0	0	0	0	0	0	1	0
32	0	0	35	0	12	0	0	22	384	0	1504	0	94	0	26	0	2	31	0	4	0	94	9
33	0	0	0	0	2	0	0	7	327	0	2325	0	39	0	1	0	0	2	0	0	0	5	0
34	0	0	0	0	0	0	0	0	193	0	903	0	38	2	0	0	7	0	0	0	0	12	0
42	199	259	0	0	0	551	0	0	0	0	0	0	74	0	0	0	0	0	69	0	0	0	0
43	591	426	0	0	0	529	0	0	0	0	56	0	16	0	0	0	0	0	66	0	0	7	0
46	51	0	0	2	0	206	0	0	0	0	145	0	17	0	0	0	0	0	33	0	0	11	0
48	6	0	19	2	23	0	0	0	0	0	332	0	42	0	0	0	1	0	0	0	0	16	0
49	30	0	22	0	67	0	0	15	0	0	463	0	24	0	4	0	0	0	0	0	0	5	0
50	167	0	6	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	0
51	707	126	0	0	1	0	0	0	0	0	0	0	20	0	4	0	0	7	0	0	0	6	0
52	548	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	6	0	0	0	4	0
53	516	0	0	0	0	0	0	177	0	0	0	0	21	0	1	2	9	1	0	2	0	10	0
55	707	217	0	0	0	0	0	5	0	0	0	0	34	0	7	0	5	2	0	1	0	1	0
56	432	762	6	15	0	0	0	5	0	0	0	0	28	0	0	0	0	1	15	1	0	17	6
57	689	193	4	1	1	265	0	0	0	0	0	0	9	0	2	0	0	0	33	0	0	0	0
58	86	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	42	0
59	599	49	0	0	1	754	0	6	0	0	0	0	35	0	16	0	31	0	95	0	0	33	0
60	520	139	0	0	5	800	0	10	0	0	0	0	39	0	5	0	6	0	75	0	0	5	1
61	430	5	1	0	0	0	0	0	0	0	0	0	3	0	1	0	0	7	0	6	0	0	0
62	122	0	0	0	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	0	0	4	0
63	513	0	2	1	1	0	0	5	0	0	0	0	17	0	0	0	0	0	0	0	0	16	0
64	415	0	28	1	0	1950	0	0	0	0	0	0	83	0	9	0	5	1	142	0	0	1	0
65	248	217	0	2	0	0	0	48	0	0	64	0	1	0	46	0	0	1	0	15	0	0	85
66	96	62	37	0	0	1500	0	0	0	0	0	0	37	57	107	0	26	6	317	0	42	53	22
67	235	22	0	7	0	0	0	0	0	0	0	0	0	0	58	0	6	5	0	2	0	1	0

2035 Model Land Use

TAZ	LU1 SFDU	LU2 MFDU	LU3 RET	LU4 FIRES	LU5 INDUST	LU6 SCH	LU7 ACCOM	LU8 AER	LU9 OSFDU	LU10 PSS	LU11 AGRI	LU12 WFRT	LU13 POL	LU14 TRNWH	LU15 MED	LU16 GOVT	LU17 ASWMR	LU18 PSTMC	LU19 EDUSRV	LU20 OTHER	LU21 INFO	LU22 UTLCONST	LU23 FS
68	217	0	112	0	0	0	0	0	0	0	0	0	0	0	13	0	2	0	0	0	0	5	56
69	290	236	19	36	4	0	0	0	0	0	0	0	13	0	14	0	0	2	0	0	0	10	25
70	345	652	17	20	52	0	0	5	0	0	0	0	9	0	27	12	10	2	0	1	0	153	0
71	230	388	70	2	57	0	122	70	0	0	0	0	2	2	40	0	1	0	0	14	30	0	70
72	372	9	6	4	0	0	0	0	0	0	0	0	0	0	20	0	1	4	0	4	0	79	0
73	139	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	63	0	164	1	0	0	0	212	0	0	0	0	34	0	0	68	0	0	0	4	0	11	0
76	2	65	19	0	0	0	0	2	0	0	0	0	5	0	0	0	0	1	0	0	0	0	49
77	20	14	49	53	4	0	0	0	0	0	0	0	0	0	36	0	31	7	0	2	0	0	54
78	36	13	54	47	9	0	0	1	0	0	0	0	0	0	7	0	0	10	0	11	0	0	176
79	1	2	157	47	0	0	0	176	0	0	0	0	1	0	527	102	0	25	0	0	0	0	69
81	266	0	397	0	0	0	0	164	0	0	0	0	0	0	305	0	0	0	0	14	0	0	40
82	253	0	25	14	1	0	0	177	0	0	0	0	3	0	0	0	2	0	15	46	0	5	76
83	164	73	0	0	0	273	0	0	0	0	151	0	18	0	0	0	0	0	34	0	0	0	0
84	0	0	45	11	844	0	87	33	0	79	0	0	21	0	28	10	27	114	149	0	28	165	11
85	282	0	6	2	22	0	103	18	0	0	0	0	52	0	0	0	30	0	0	0	0	9	16
86	215	101	0	2	0	0	0	9	0	0	0	0	16	0	43	0	0	0	0	0	0	0	6
88	0	250	0	1	9	0	0	52	0	0	0	0	20	0	92	0	0	0	0	0	0	0	40
89	55	159	36	10	49	198	0	2	0	0	0	0	11	0	60	102	6	18	0	32	0	6	42
92	54	297	17	1	0	0	0	1	0	0	0	0	9	0	9	12	1	0	0	0	0	12	32
93	0	0	207	22	2	0	0	0	0	0	0	0	0	0	43	0	6	28	2	12	0	7	305
95	9	0	14	39	76	0	58	0	0	0	0	0	0	0	4	0	17	10	0	52	0	0	59
97	12	0	7	2	171	0	0	0	0	0	0	0	36	11	0	32	27	0	0	0	0	27	9
98	15	49	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99	192	402	4	0	20	0	207	75	0	0	0	0	13	2	0	0	2	1	0	7	0	17	0
100	301	38	0	2	25	0	0	70	0	0	0	0	64	27	7	26	0	0	0	0	0	48	0
101	446	186	0	5	0	0	0	0	0	0	0	0	4	68	4	0	1	0	0	0	0	17	0
102	565	407	6	2	84	0	0	1	0	0	0	0	5	0	52	0	0	7	59	2	0	5	0
103	458	0	1	5	2	0	0	18	0	0	0	0	36	1	48	0	4	0	0	0	2	10	0
104	461	104	0	1	6	0	0	0	0	0	0	0	2	0	63	0	1	6	0	0	0	14	0
105	250	23	1	1	6	0	0	0	0	0	0	0	9	0	0	0	5	31	0	2	0	36	0
107	236	0	13	0	457	0	0	0	0	0	0	0	0	4	0	0	118	18	0	31	42	188	0
108	502	0	1	2	0	0	0	0	0	0	65	0	0	18	0	0	0	4	0	1	0	17	0
109	366	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	4	0	0	2	17	0
110	721	29	14	2	6	0	0	389	126	5	20	0	73	1	49	0	4	5	0	4	0	28	27
111	461	0	0	1	0	400	0	15	0	0	0	0	15	0	19	5	4	1	51	4	0	25	0
112	9	0	2	0	409	0	0	30	0	0	0	0	729	207	13	34	1	1	0	25	0	76	1
113	94	0	11	18	264	0	0	89	0	38	0	0	38	42	7	0	21	7	0	4	0	505	0
114	520	3	13	1	43	0	0	0	0	0	0	0	2	0	25	0	5	0	0	9	0	15	0
115	390	30	20	0	2	0	0	0	0	4	0	0	7	0	158	0	6	32	0	11	0	22	30
116	4	3	24	2	73	172	0	0	0	0	0	0	0	0	22	0	2	0	0	5	0	116	7
117	29	0	20	20	96	0	0	107	0	0	0	0	0	0	0	28	70	16	0	12	0	270	14
118	228	0	8	0	43	0	0	0	0	0	66	0	3	0	27	0	0	2	0	0	0	28	0
120	602	0	28	1	27	0	0	6	0	0	0	0	11	0	24	0	26	5	2	10	2	2	0
121	736	0	8	1	4	600	0	5	0	0	0	0	20	2	13	112	4	2	70	0	0	9	21
122	493	24	0	7	6	0	0	0	0	0	0	0	23	0	34	0	1	0	0	4	0	10	0
123	4	83	214	36	21	0	117	328	0	0	0	0	4	52	16	0	38	39	2	20	1	21	119
124	121	29	172	43	2	0	0	176	0	0	0	0	0	0	45	0	2	0	2	75	52	132	159
125	950	0	5	9	0	0	0	55	0	0	0	0	22	0	11	0	1	6	1	2	0	25	11
126	866	165	0	2	0	0	0	0	0	0	0	0	11	0	1	0	2	1	0	0	2	7	0
127	946	25	1	1	0	600	0	7	0	0	0	0	31	4	13	21	0	4	73	9	0	14	0
128	403	98	3	0	0	0	0	1	0	0	0	0	11	0	86	0	0	4	0	2	1	7	25
129	345	13	0	0	0	0	0	0	0	0	0	0	2	0	25	0	0	4	0	0	0	5	0
130	0	69	7	31	44	0	0	53	0	0	0	0	0	0	209	67	463	92	0	5	0	31	1

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TAZ	LU1 SFDU	LU2 MFDU	LU3 RET	LU4 FIRES	LU5 INDUST	LU6 SCH	LU7 ACCOM	LU8 AER	LU9 OSFDU	LU10 PSS	LU11 AGRI	LU12 WFRT	LU13 POL	LU14 TRNWH	LU15 MED	LU16 GOVT	LU17 ASWMR	LU18 PSTMC	LU19 EDUSRV	LU20 OTHER	LU21 INFO	LU22 UTLCONST	LU23 FS
131	0	55	418	21	4	0	0	0	0	0	0	0	0	0	24	0	270	7	0	14	0	0	82
132	202	0	0	2	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	14	0
133	511	1	4	2	2	0	0	0	39	0	492	0	22	0	1	0	5	5	1	1	0	15	0
134	148	0	0	1	6	0	0	4	0	0	22	0	4	0	0	0	0	2	0	4	0	6	0
135	124	0	0	1	0	0	0	0	0	0	13	0	0	0	0	0	4	0	0	0	0	9	0
136	457	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	12	2	0	0	0	1	0
137	358	63	42	0	440	0	0	4	0	0	0	0	0	25	105	99	47	0	0	2	0	133	5
138	443	112	2	5	6	261	0	0	0	0	0	0	30	0	56	68	4	4	0	0	0	5	0
139	534	27	8	5	129	0	0	222	0	0	0	0	21	10	43	0	7	0	0	0	0	26	0
140	246	53	0	0	0	700	0	0	0	0	0	0	16	0	0	0	0	0	78	0	0	2	0
141	26	44	93	21	28	0	62	0	0	0	0	0	0	0	35	0	139	14	54	75	0	26	167
142	43	37	456	0	15	0	0	28	0	0	0	0	0	0	14	0	18	17	14	62	0	27	40
143	95	0	0	0	0	400	0	1	0	0	0	0	13	0	0	2	0	0	64	0	0	18	0
144	430	2	0	0	0	102	0	0	0	0	0	0	7	0	11	0	0	2	22	0	0	12	0
146	750	124	25	5	1	0	0	177	0	2	0	0	13	0	1	39	7	1	0	2	11	11	0
147	255	483	384	14	0	0	0	0	0	0	0	0	39	0	8	0	133	1	1	14	0	34	110
148	74	0	63	96	68	0	0	2	0	0	0	0	60	142	63	310	0	125	0	12	21	208	5
149	148	30	372	15	10	0	0	197	0	5	0	0	0	0	19	0	41	5	5	60	0	54	57
150	249	226	583	0	0	0	0	148	0	0	0	0	3	0	102	0	0	114	6	53	27	11	65
151	505	70	0	4	0	0	0	2	0	0	0	0	10	4	2	0	17	2	0	0	0	6	0
152	651	0	0	14	6	800	0	28	0	0	0	0	21	0	1	0	0	7	60	5	2	7	0
153	69	406	92	241	28	0	547	78	0	0	0	0	5	0	424	0	2	47	0	81	41	115	267
154	6	409	6	0	16	0	0	96	0	0	0	0	0	2	15	0	2	7	10	0	0	2	0
155	3	0	45	22	28	0	455	0	0	0	0	0	0	0	11	0	0	0	0	6	0	0	250
156	20	51	55	122	0	0	219	0	0	0	0	0	0	0	0	0	0	0	0	20	0	7	232
158	426	87	0	0	1	0	0	0	0	0	0	0	7	0	0	0	1	1	0	1	0	158	0
159	179	14	28	2	5	410	0	0	0	0	0	0	11	0	158	0	15	0	93	15	0	0	66
160	421	3	4	0	0	0	0	7	36	0	2390	0	639	0	1	0	1	6	0	1	0	16	0
161	0	52	0	17	14	0	10	0	0	0	0	0	1	0	3335	0	9	2	5	9	0	0	0
162	190	8	11	47	32	500	0	4	0	0	0	0	8	0	95	0	5	15	71	0	0	0	19
163	232	29	9	30	0	0	0	0	0	0	0	0	2	0	284	0	18	37	0	0	0	0	0
164	74	30	224	42	48	178	0	0	0	0	0	0	10	101	20	12	27	74	0	11	0	17	56
165	502	102	0	1	0	213	0	0	0	0	0	0	8	0	5	0	0	5	74	0	0	6	15
166	112	30	7	0	0	338	0	9	0	5	0	0	7	0	0	0	5	0	15	6	0	1	0
167	251	41	0	1	0	0	0	0	0	0	0	0	0	0	31	0	2	14	0	0	0	4	0
168	398	2	8	0	0	800	0	0	0	0	0	0	8	0	32	0	0	5	78	4	0	10	2
169	326	51	0	27	0	371	0	1	0	0	0	0	6	0	0	0	0	11	262	7	0	1	1
170	279	41	0	0	0	0	0	0	0	0	0	0	3	0	13	0	0	0	0	0	0	2	0
171	535	286	0	7	0	0	0	128	0	0	11	0	62	0	7	22	6	15	4	1	0	32	0
172	179	115	0	2	0	0	0	0	0	0	0	0	0	0	1	0	2	9	0	0	0	2	0
173	493	88	0	0	0	0	0	5	0	0	0	0	3	0	24	0	0	5	0	2	2	4	0
174	142	0	0	0	0	0	0	32	0	0	19	0	36	0	0	0	0	2	0	4	0	7	0
176	456	4	0	1	4	0	0	0	0	0	365	0	385	0	1	0	0	4	0	1	0	10	0
178	68	19	0	0	1	0	0	57	262	0	220	0	11	0	0	0	0	0	0	0	0	7	34
179	3	0	4	0	1	0	0	89	345	0	245	0	55	0	1	0	21	0	1	0	0	7	0
180	2	0	0	0	0	0	0	0	309	0	258	0	6	0	0	0	0	0	0	0	0	6	4
181	296	16	0	7	0	0	0	270	53	0	804	0	55	0	9	0	0	1	0	165	0	2	0
182	0	0	0	0	5	0	0	0	587	0	5839	0	169	16	4	0	0	1	12	0	0	7	0
183	0	0	28	0	0	0	0	0	60	0	17579	0	1004	0	0	17	1	0	0	1	0	6	0
184	0	0	0	0	0	0	0	0	148	0	7501	0	691	0	0	0	0	5	0	1	0	1	0
185	0	0	0	1	0	0	0	1	568	0	1464	0	663	0	0	0	1	2	0	1	0	5	0
187	49	0	0	6	12	0	0	39	649	0	1998	0	75	0	5	0	6	2	0	1	0	14	0
188	0	0	1	12	2	0	0	36	444	0	4284	0	202	0	0	4	2	7	0	11	0	14	0
190	103	2	0	0	2	0	0	0	206	0	3411	0	2536	0	0	0	2	2	0	0	0	11	0

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TAZ	LU1 SFDU	LU2 MFDU	LU3 RET	LU4 FIRES	LU5 INDUST	LU6 SCH	LU7 ACCOM	LU8 AER	LU9 OSFDU	LU10 PSS	LU11 AGRI	LU12 WFRT	LU13 POL	LU14 TRNWH	LU15 MED	LU16 GOVT	LU17 ASWMR	LU18 PSTMC	LU19 EDUSRV	LU20 OTHER	LU21 INFO	LU22 UTLCONST	LU23 FS
191	121	0	0	2	6	0	21	49	165	0	411	0	359	0	4	0	0	9	0	0	0	10	0
192	0	0	0	0	0	0	0	0	103	0	2315	0	433	0	0	0	0	1	0	0	0	0	0
193	0	5	0	2	4	0	0	432	363	0	7885	0	1362	0	1	0	0	0	0	6	2	6	0
194	0	53	4	5	0	0	123	260	320	0	3139	0	229	0	0	23	22	5	2	28	0	20	0
197	0	0	0	0	2	0	0	20	135	0	6378	0	11186	0	1	0	0	0	0	4	0	9	0
198	0	0	7	0	0	0	0	2	207	0	4256	0	3959	0	4	0	12	0	4	0	0	5	4
199	0	0	0	1	20	80	0	0	170	0	5034	0	31528	0	0	0	0	0	12	0	0	5	13
200	0	0	0	0	0	0	0	0	55	0	4526	0	1439	0	0	11	0	0	0	0	0	0	0
201	0	0	0	1	0	0	0	14	147	0	2355	0	1189	0	0	0	0	0	0	0	0	37	0
203	8	0	0	0	0	0	0	39	114	0	5556	0	1284	0	0	0	0	2	0	2	0	6	0
204	108	3	7	0	0	0	0	1	148	0	6221	0	5648	10	0	5	6	0	0	0	0	0	0
205	132	1	7	4	0	0	18	33	7	0	906	0	115	2	2	6	0	0	0	0	2	1	27
206	0	0	0	0	0	169	0	0	178	0	5019	0	325	0	0	0	0	0	64	0	0	10	0
207	0	0	0	0	0	0	0	9	147	0	6327	0	804	0	0	0	0	0	0	0	0	32	0
210	0	0	4	0	6	0	0	0	235	0	13813	0	9772	0	0	0	0	0	0	1	0	1	0
211	0	0	0	0	0	0	0	43	112	0	17392	0	16003	0	2	0	1	1	0	0	0	0	0
212	0	0	0	0	0	0	20	0	24	0	5626	0	17170	0	1	0	0	0	0	0	0	0	0
400	1262	0	21	9	10	0	0	43	0	0	664	0	177	4	6	5	1	10	0	0	0	87	26
401	5	410	498	0	165	0	0	0	0	0	0	0	2	43	0	0	1	0	0	2	0	14	11
402	0	0	28	0	100	0	0	0	0	0	0	0	11	0	5	0	0	0	23	0	11	0	11
403	297	89	34	0	20	0	0	0	0	0	0	0	1	0	8	0	33	0	0	0	0	315	6
404	473	0	0	1	2	0	0	9	0	0	0	0	36	20	0	0	4	1	0	1	1	52	0
405	324	0	0	2	1	0	0	0	0	0	0	0	3	0	5	0	5	2	0	0	0	7	0
406	4	0	0	0	0	0	0	0	0	0	406	0	38	0	0	0	23	0	0	0	0	0	0
407	243	464	0	7	7	591	0	7	0	0	0	0	26	0	20	0	0	48	0	0	0	5	92
408	0	0	2	0	0	0	0	0	76	0	167	0	6	0	0	0	0	0	0	0	0	49	0
409	380	0	0	0	0	2600	0	7	0	0	0	0	106	0	0	0	0	10	146	0	0	17	0
410	556	86	14	18	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	71	31	20
411	1	462	7	10	0	0	0	63	0	0	0	0	41	99	35	12	0	15	0	4	0	0	59
412	44	13	63	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
413	407	4	8	0	0	0	0	0	0	0	0	0	0	0	22	0	11	11	0	2	0	20	7
414	80	0	161	5	338	795	0	16	0	0	0	0	5	22	0	0	87	7	85	0	0	10	0
415	1	0	11	94	0	0	79	0	0	0	0	0	3	0	514	118	7	57	0	1	0	9	0
416	30	253	9	80	0	0	0	176	0	0	0	0	14	0	1507	0	142	30	5	22	1	0	0
417	23	60	156	260	11	0	145	0	0	0	0	0	5	0	64	0	1	25	14	15	34	18	164
418	151	37	169	49	10	0	0	100	0	0	0	0	0	0	35	0	0	0	0	49	0	108	228
419	41	332	158	17	71	0	0	32	0	0	0	0	1	9	49	51	10	11	0	6	0	110	119
420	416	35	10	14	0	0	0	0	0	0	0	0	9	0	54	0	16	21	7	0	0	39	34
421	490	45	13	1	11	0	0	4	0	0	0	0	10	0	0	0	2	9	0	12	0	32	1
422	884	74	0	2	1	0	0	0	0	0	0	0	7	0	1	0	15	11	1	1	0	15	0
423	456	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0
424	64	173	45	106	18	0	17	85	0	0	0	0	6	0	156	52	27	175	2	86	171	10	244
425	19	11	82	39	113	0	0	0	0	0	0	0	5	11	2	0	49	10	11	23	0	260	0
426	512	197	0	1	9	0	0	12	0	0	45	0	34	0	2	0	6	2	0	7	0	4	0
427	434	91	2	11	4	0	0	0	0	0	0	0	1	0	2	0	0	7	0	20	0	48	5
428	438	19	14	0	39	0	0	0	0	0	0	0	7	0	5	0	10	1	0	5	0	22	0
429	3	15	31	0	16	0	0	0	0	0	0	0	1	0	2	0	11	0	0	0	0	51	3
430	0	0	28	1	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	12	3
431	755	73	56	2	1	176	0	15	0	0	357	0	21	0	1	0	0	0	22	0	0	0	28
432	179	26	0	1	0	0	0	116	1	0	0	0	17	0	1	0	0	2	0	0	0	0	35
433	0	1	0	0	5	0	0	0	259	0	2310	0	9764	0	0	0	0	1	1	0	0	2	0
434	149	214	0	11	0	0	0	4	0	0	0	0	9	0	186	10	0	6	0	0	0	14	196
435	5	286	4	58	22	0	0	0	0	0	0	0	21	0	140	11	9	148	0	2	0	0	4
500	79	2	0	2	4	0	0	5	571	0	12471	0	1651	0	0	0	0	5	0	0	0	48	7

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TAZ	LU1 SFDU	LU2 MFDU	LU3 RET	LU4 FIRES	LU5 INDUST	LU6 SCH	LU7 ACCOM	LU8 AER	LU9 OSFDU	LU10 PSS	LU11 AGRI	LU12 WFRT	LU13 POL	LU14 TRNWH	LU15 MED	LU16 GOVT	LU17 ASWMR	LU18 PSTMC	LU19 EDUSRV	LU20 OTHER	LU21 INFO	LU22 UTLCONST	LU23 FS
501	368	23	4	1	0	410	10	18	0	0	452	0	19	0	13	0	0	0	58	0	7	5	76
502	812	32	75	31	0	1029	17	6	0	0	14	0	45	4	22	34	0	9	125	0	0	7	0
503	0	0	0	1	0	0	0	0	717	0	1439	0	68	1	6	0	9	5	0	2	0	17	0
504	129	2	0	0	25	0	0	0	576	0	565	0	12	1	5	0	9	4	0	0	0	36	0
505	152	0	0	0	14	0	0	0	162	0	913	0	691	0	2	0	7	0	0	2	0	9	0
506	0	0	0	1	276	0	0	0	188	0	1792	0	11	0	1	0	0	1	0	2	1	1	0
507	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	14
508	123	0	36	10	0	0	0	0	0	0	0	0	6	0	21	0	0	0	0	1	7	2	0
509	320	72	169	10	20	1500	0	0	0	0	0	0	30	0	8	0	0	26	120	73	0	4	45
510	18	0	0	0	5	0	0	0	0	0	506	0	86	0	0	0	0	0	0	0	0	23	0
511	125	0	0	0	0	0	0	0	0	0	326	0	124	0	17	0	0	0	0	0	0	17	0
512	18	0	0	0	0	0	0	0	0	0	227	0	319	0	0	0	0	0	0	0	0	0	0
513	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
514	0	0	36	0	367	0	0	75	0	0	0	0	0	0	0	0	12	0	26	0	0	208	6
515	512	84	0	0	2	0	0	7	0	0	374	0	5	0	51	0	0	0	0	0	0	5	0
516	2	0	0	0	0	0	0	0	0	0	114	0	18	0	0	0	0	0	0	0	0	0	0
517	0	0	0	0	48	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
518	49	0	6	0	2	0	0	0	0	0	168	0	6	0	5	0	0	0	0	0	0	10	14
519	133	0	6	0	89	0	0	0	0	0	135	0	3	21	0	0	0	0	0	0	0	9	14
520	23	0	0	0	0	0	0	0	0	0	141	0	5	1	0	0	0	0	0	0	0	2	0
521	4	0	36	5	110	0	0	0	0	0	64	0	20	0	0	0	0	5	0	5	0	99	0
522	24	0	25	0	0	0	0	126	0	0	0	0	6	0	0	11	0	0	0	0	0	0	43
523	143	0	17	0	0	0	0	0	0	0	50	0	0	0	21	0	5	0	0	0	0	2	14
524	409	195	1	1	218	400	0	1	0	0	98	0	24	0	1	0	1	0	56	0	0	37	9
525	758	130	0	0	2	400	0	0	0	0	0	0	17	0	0	0	0	18	48	0	0	0	8
526	756	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	1	0
527	130	405	0	0	1	0	0	0	0	0	73	0	2	0	0	0	0	0	0	0	0	0	0
528	2	243	17	0	0	0	0	0	0	0	101	0	0	0	3	0	0	0	0	0	0	0	0
529	0	0	0	0	0	0	0	0	0	0	186	0	7	0	0	0	0	0	0	0	0	0	11
530	97	65	0	0	0	0	0	0	0	0	101	0	4	0	0	0	0	0	0	0	0	0	0
531	187	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	6	0	0	4	0	49	0
532	96	0	0	1	0	0	0	89	0	0	0	0	1	0	0	0	0	0	0	0	0	4	0
533	159	1	29	5	1	0	0	0	0	0	0	0	6	6	8	0	11	0	4	0	0	0	0
534	296	1	29	10	31	475	0	0	0	0	0	0	30	37	0	12	16	5	52	2	0	4	0
535	162	0	0	0	0	0	0	0	0	0	239	0	4	0	0	0	0	0	0	0	0	0	0
536	342	146	22	0	0	0	0	0	0	0	80	0	14	0	0	0	68	0	0	0	0	7	0
537	89	0	14	0	0	0	0	0	0	0	45	0	1	0	0	0	0	1	0	1	0	4	11
538	323	1	1	5	6	0	0	0	0	0	0	0	1	0	4	0	0	0	0	0	0	5	0
539	0	0	290	0	0	0	0	0	0	0	0	0	5	0	496	0	0	17	0	0	0	0	0
540	12	0	54	42	27	0	0	0	0	0	0	0	0	0	351	0	30	31	7	12	0	70	140
541	4	0	5	1	363	0	0	23	0	0	0	0	0	0	0	0	11	67	0	0	36	4	0
542	0	0	61	0	188	0	0	16	0	0	0	0	0	11	0	0	5	18	0	20	0	38	22
543	210	47	1	0	0	0	22	0	0	0	0	0	8	0	44	0	0	0	0	6	0	10	13
544	213	64	0	16	1	0	0	4	0	0	0	0	18	0	6	64	0	12	0	1	0	22	96
545	0	0	0	0	0	0	0	0	0	0	373	0	139	0	0	0	0	0	0	0	0	0	0
546	0	0	49	0	224	0	0	16	0	0	306	0	5	0	0	0	0	0	0	10	0	6	28
547	251	0	0	0	0	0	0	0	0	0	159	0	4	0	0	0	0	0	0	0	0	14	0
548	73	0	14	1	0	765	0	0	0	0	86	0	23	0	0	0	0	0	67	0	0	0	0
549	709	654	24	12	5	464	0	0	0	0	0	0	13	0	171	0	0	1	58	0	0	15	18
550	47	82	159	25	27	0	0	0	0	0	0	0	0	0	187	273	67	151	0	1	57	0	50
551	44	339	151	76	576	0	0	0	0	0	0	0	9	0	92	15	676	245	20	0	0	0	220
552	197	0	0	0	1	0	0	0	0	0	0	0	3	0	4	0	10	0	0	2	0	5	0
553	1180	113	33	0	0	398	0	0	0	0	0	0	2	0	17	0	0	0	50	0	0	0	56
554	585	56	167	0	0	269	0	0	0	0	0	0	1	0	13	0	0	0	34	0	0	25	73

2035 Model Land Use

TAZ	LU1 SFDU	LU2 MFDU	LU3 RET	LU4 FIRES	LU5 INDUST	LU6 SCH	LU7 ACCOM	LU8 AER	LU9 OSFDU	LU10 PSS	LU11 AGRI	LU12 WFRT	LU13 POL	LU14 TRNWH	LU15 MED	LU16 GOVT	LU17 ASWMR	LU18 PSTMC	LU19 EDUSRV	LU20 OTHER	LU21 INFO	LU22 UTLCONST	LU23 FS
555	127	0	16	17	74	0	0	25	0	0	0	0	2	2	14	0	36	1	0	22	0	7	0
556	90	52	6	0	0	1500	0	0	0	0	0	0	86	0	0	441	0	0	109	0	0	0	0
557	163	58	0	0	0	0	0	0	0	0	0	0	198	0	0	0	0	0	0	0	0	0	0
558	123	178	108	43	7	0	121	0	0	0	0	0	3	1	109	0	6	0	16	4	0	0	259
559	111	59	550	32	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	38	0	5	125
560	194	408	0	799	0	0	0	5	0	0	0	0	27	0	25	0	0	1	0	0	0	17	11
561	0	0	0	44	0	0	0	0	0	0	0	0	0	0	215	10	273	6	153	0	0	1	0
562	77	14	250	30	34	0	0	0	0	0	0	0	8	18	86	0	55	30	4	23	2	0	48
563	50	18	0	0	0	0	0	23	0	3689	0	0	6	0	0	37	0	0	792	0	0	0	20
564	225	93	0	0	6	0	0	0	0	0	0	0	1	0	10	0	0	11	0	2	0	83	0
565	85	32	91	9	7	0	0	28	0	0	0	0	1	0	36	32	0	36	0	67	0	0	99
566	419	15	0	4	0	400	0	1	0	0	0	0	7	0	0	0	0	4	63	1	0	4	0
567	112	89	55	12	7	0	21	48	0	0	0	0	3	12	24	0	68	42	1	14	26	21	272
568	223	14	0	1	0	0	0	5	0	0	0	0	6	0	0	0	0	0	27	17	0	1	0
569	380	22	0	0	0	400	0	0	0	0	0	0	12	0	36	0	6	1	72	1	0	0	0
570	119	48	86	36	26	0	216	27	0	0	0	0	4	2	30	0	0	21	0	11	0	9	117
571	7	126	159	270	69	0	30	275	0	0	0	0	196	0	5	149	54	127	7	52	6	2	160
572	0	0	1	0	0	0	416	168	0	0	0	0	0	53	0	0	0	100	0	86	0	0	590
573	2	101	0	0	0	0	34	177	0	0	0	0	4	0	0	0	0	0	0	7	0	0	31
574	0	0	0	0	0	0	0	2	339	0	113	0	1	0	1	0	0	1	0	0	0	1	0
575	0	0	4	0	5	0	0	0	254	0	2547	0	19	0	0	0	9	4	0	34	0	15	4
576	0	0	0	0	0	0	0	136	296	0	11713	0	5807	0	0	0	0	0	0	7	0	0	24
577	0	0	0	0	0	0	370	789	0	0	141	0	226	0	0	0	0	0	0	0	0	0	116
578	25	23	0	0	0	0	0	0	0	0	66	0	64	0	0	26	1	0	0	1	0	0	0
579	287	0	0	4	1	0	0	0	0	0	0	0	5	0	1	0	0	1	0	0	0	26	0
580	0	0	0	0	0	0	0	0	0	0	182	0	5	0	0	0	0	0	0	0	0	0	0
581	6	35	0	0	0	0	0	0	0	0	297	0	11	0	8	0	0	0	0	0	0	0	0
582	131	0	6	0	0	438	0	0	0	257	402	0	97	0	8	0	0	0	55	0	0	0	6
583	648	34	3	0	0	142	0	0	0	0	332	0	9	1	0	0	0	0	18	0	0	0	0
584	66	0	0	0	0	0	0	0	0	0	361	0	10	0	4	0	0	0	0	0	0	6	0
585	0	0	0	0	0	0	0	0	19	0	201	0	20	20	0	0	0	0	0	0	0	22	0
586	206	21	52	1	0	0	0	0	0	0	276	0	13	0	0	0	0	0	0	0	0	55	0
587	55	0	0	1	0	0	0	0	0	0	313	0	8	1	0	0	0	0	0	0	0	0	0
588	493	52	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
589	71	0	66	9	7	0	0	0	0	0	0	0	1	1	188	0	2	10	0	0	0	37	58
590	2	12	14	25	2	0	0	0	0	0	0	0	0	0	6	460	0	31	0	0	1	0	11
591	42	0	14	11	0	0	0	0	0	0	0	0	0	0	230	0	0	16	0	9	0	0	61
592	80	1	0	0	0	0	0	0	72	0	2299	0	21	0	0	0	0	2	0	0	0	0	0
593	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
594	0	27	556	26	10	0	0	0	0	0	0	0	11	0	143	0	0	109	0	4	17	52	56
595	33	1	0	0	6	323	0	0	62	0	361	0	44	0	4	0	1	0	40	0	4	9	0
596	0	0	0	0	0	0	0	0	265	0	2241	0	43	0	0	0	0	7	0	0	0	7	0
597	0	0	0	0	2	0	0	0	174	0	624	0	498	0	0	0	0	0	0	0	0	4	0
598	0	1	1	0	0	0	0	0	107	0	127	0	8	0	0	0	0	0	0	0	0	1	0
599	0	0	0	0	0	0	0	63	78	0	2858	0	64446	0	0	0	0	0	0	0	0	4	43

2045 Model Land Use

TAZ	LU1 SFDU	LU2 MFDU	LU3 RET	LU4 FIRES	LU5 INDUST	LU6 SCH	LU7 ACCOM	LU8 AER	LU9 OSFDU	LU10 PSS	LU11 AGRI	LU12 WFRT	LU13 POL	LU14 TRNWH	LU15 MED	LU16 GOVT	LU17 ASWMR	LU18 PSTMC	LU19 EDUSRV	LU20 OTHER	LU21 INFO	LU22 UTLCONST	LU23 FS
1	154	173	3	0	3	494	0	204	498	0	7793	0	5700	1	1	0	0	0	72	0	1	17	0
2	111	0	0	0	0	0	10	30	0	0	7776	0	2731	0	0	0	0	0	0	1	0	0	0
3	248	2	0	0	0	0	0	0	354	0	6448	0	977	0	3	0	1	0	0	3	0	14	0
4	181	4	7	1	4	0	0	0	380	0	1896	0	170	0	0	0	4	1	0	3	0	25	0
5	242	6	158	0	4	0	0	0	454	0	1829	0	88	0	3	0	8	3	0	1	0	54	0
7	0	33	12	0	0	0	13	351	627	0	642	0	2499	3	0	84	18	61	0	3	0	0	30
8	0	5	0	0	0	0	0	702	116	0	1652	0	3810	0	0	55	0	0	0	0	0	1	0
9	31	0	3	1	10	0	0	0	413	0	788	0	279	0	1	0	0	3	0	1	4	45	0
10	100	0	0	0	1	0	0	0	271	0	379	0	45	0	1	0	0	1	0	3	1	1	0
11	315	0	30	0	110	450	0	0	0	0	0	0	90	13	5	47	14	18	65	4	8	6	32
12	94	4	7	0	4	0	0	0	397	0	1421	0	27	0	0	0	0	1	0	0	0	14	0
13	80	0	0	0	1	0	0	112	306	0	3779	0	1666	3	3	0	0	6	0	1	0	18	0
14	235	196	5	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5
15	0	0	17	1	86	450	0	0	726	0	499	0	47	98	4	0	37	3	57	25	0	234	0
16	0	0	0	0	0	0	0	0	339	0	3107	0	2399	0	3	0	4	0	0	0	6	34	0
17	0	0	0	1	0	0	0	0	54	0	1716	0	61388	0	0	0	0	0	0	0	0	0	0
18	369	25	18	0	8	0	0	1	0	0	197	0	6	23	13	0	1	0	0	0	0	13	27
19	82	10	10	10	11	1201	0	4	0	0	0	0	11	1	0	7	78	1	334	16	0	4	140
20	86	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
21	276	61	3	0	0	0	0	7	0	0	0	0	10	0	17	0	6	6	13	30	0	17	0
22	37	1	0	3	0	0	0	0	0	0	0	0	0	0	13	86	0	10	0	0	0	0	59
23	296	22	0	3	0	0	0	0	0	0	0	0	0	1	22	0	0	1	0	7	0	7	37
24	213	0	3	0	23	0	0	0	0	0	0	0	1	0	17	0	18	0	0	3	0	1	28
25	170	143	0	1	10	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3	0	0	0
26	384	0	0	0	0	450	0	0	0	0	0	0	2	0	0	0	1	0	46	0	0	10	0
27	253	0	0	1	30	0	0	0	584	0	954	0	26	7	3	0	13	0	0	1	0	134	0
28	62	0	0	0	0	0	0	204	0	0	0	0	35	0	0	0	0	0	0	0	0	13	0
29	1133	12	5	4	0	0	0	0	0	0	0	0	6	0	10	0	0	0	0	1	0	14	5
30	1238	0	17	4	0	0	0	0	0	0	0	0	46	4	19	0	8	1	0	0	0	42	10
31	50	0	6	0	0	0	0	0	0	0	117	0	25	0	12	0	0	0	0	0	0	1	0
32	0	0	38	0	14	0	0	25	479	0	1296	0	94	0	28	0	3	35	0	4	0	108	10
33	0	0	0	0	3	0	0	8	409	0	2005	0	39	0	1	0	0	3	0	0	0	6	0
34	0	0	0	0	0	0	0	0	244	0	778	0	38	3	0	0	8	0	0	0	0	14	0
42	436	630	0	0	0	667	0	0	0	0	0	0	74	0	0	0	0	0	83	0	0	0	0
43	922	648	0	0	0	898	0	0	0	0	49	0	16	0	0	0	0	0	113	0	0	8	0
46	57	0	0	3	0	236	0	0	0	0	124	0	17	0	0	0	0	0	38	0	0	13	0
48	7	0	21	3	27	0	0	0	0	0	286	0	42	0	0	0	1	0	0	0	0	18	0
49	34	0	25	0	76	0	0	17	0	0	400	0	24	0	4	0	0	0	0	0	0	6	0
50	232	280	6	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
51	756	156	0	0	1	0	0	0	0	0	0	0	20	0	4	0	0	8	0	0	0	7	0
52	549	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	7	0	0	0	4	0
53	516	0	0	0	0	0	0	204	0	0	0	0	21	0	1	3	10	1	0	3	0	11	0
55	707	217	0	0	0	0	0	6	0	0	0	0	34	0	7	0	6	3	0	1	0	1	0
56	438	832	6	17	0	0	0	6	0	0	0	0	28	0	0	0	0	1	17	1	0	20	6
57	1003	238	4	1	1	335	0	0	0	0	0	0	9	0	3	0	0	0	42	0	0	0	0
58	97	0	0	0	0	0	0	0	0	0	40	0	1	0	1	0	0	0	0	0	0	48	0
59	614	53	0	0	1	867	0	7	0	0	0	0	35	0	18	0	35	0	95	0	0	38	0
60	526	163	0	0	6	800	0	11	0	0	0	0	39	0	5	0	7	0	71	0	0	6	1
61	602	8	1	0	0	0	0	0	0	0	0	0	3	0	1	0	0	8	0	7	0	0	0
62	219	0	0	0	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	0	0	4	0
63	513	0	3	1	1	0	0	6	0	0	0	0	17	0	0	0	0	0	0	0	0	18	0
64	465	0	0	1	0	1950	0	0	0	0	0	0	83	0	1	0	6	1	127	0	0	1	0
65	603	225	5	3	0	0	0	55	0	0	0	0	1	0	65	0	0	1	0	17	0	0	73
66	103	86	41	0	0	1900	0	0	0	0	0	0	37	65	119	0	30	7	385	0	48	61	25

2045 Model Land Use

TAZ	LU1 SFDU	LU2 MFDU	LU3 RET	LU4 FIRES	LU5 INDUST	LU6 SCH	LU7 ACCOM	LU8 AER	LU9 OSFDU	LU10 PSS	LU11 AGRI	LU12 WFRT	LU13 POL	LU14 TRNWH	LU15 MED	LU16 GOVT	LU17 ASWMR	LU18 PSTMC	LU19 EDUSRV	LU20 OTHER	LU21 INFO	LU22 UTLCONST	LU23 FS
67	242	22	0	8	0	0	0	0	0	0	0	0	0	0	65	0	7	6	0	3	0	1	0
68	290	120	0	0	0	0	0	0	0	0	0	0	0	0	85	0	3	0	0	0	0	6	0
69	303	236	21	41	4	0	0	0	0	0	0	0	13	0	26	0	0	3	0	0	0	11	27
70	356	804	49	23	59	0	0	6	0	0	0	0	9	0	30	14	11	3	0	1	0	176	0
71	230	423	78	3	65	0	140	81	0	0	0	0	2	3	44	0	1	0	0	16	34	0	78
72	499	11	6	4	0	0	0	0	0	0	0	0	0	0	22	0	1	4	0	4	0	91	0
73	139	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	63	0	182	1	0	0	0	243	0	0	0	0	34	0	0	78	0	0	0	4	0	13	0
76	2	69	21	0	0	0	0	3	0	0	0	0	5	0	0	0	0	1	0	0	0	0	54
77	20	14	54	61	4	0	0	0	0	0	0	0	0	0	40	0	35	8	0	3	0	0	59
78	37	36	59	54	10	0	0	1	0	0	0	0	0	0	3	0	0	11	0	13	0	0	195
79	1	2	171	54	0	0	0	202	0	0	0	0	1	0	671	117	0	28	0	0	0	0	69
81	266	0	442	0	0	0	0	188	0	0	0	0	0	0	339	0	0	0	0	16	0	0	44
82	253	0	19	16	1	0	0	204	0	0	0	0	3	0	0	0	3	0	17	52	0	6	84
83	602	240	50	0	0	442	0	0	0	0	0	0	18	0	10	0	0	0	55	0	0	0	20
84	0	0	50	13	969	0	101	38	0	91	0	0	21	0	31	11	31	131	171	0	33	190	23
85	379	0	6	3	25	0	119	21	0	0	0	0	52	0	0	0	34	0	0	0	0	10	18
86	288	136	0	3	0	0	0	10	0	0	0	0	16	0	0	0	0	0	0	0	0	0	6
88	0	301	10	1	10	0	0	59	0	0	0	0	20	0	84	0	0	0	0	0	0	0	69
89	54	293	50	11	57	227	0	3	0	0	0	0	11	0	61	117	7	21	0	37	0	7	73
92	66	402	30	1	0	0	0	1	0	0	0	0	9	0	20	14	1	0	0	0	0	14	61
93	0	0	230	25	3	0	0	0	0	0	0	0	0	0	48	0	7	33	3	14	0	8	339
95	12	0	16	45	88	0	67	0	0	0	0	0	0	0	4	0	20	11	0	59	0	0	81
97	15	0	7	3	197	0	0	0	0	0	11	0	36	13	0	37	31	0	0	0	0	31	10
98	20	120	5	0	1	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
99	191	624	4	0	23	0	238	86	0	0	0	0	13	3	0	0	3	1	0	8	0	20	20
100	301	38	0	3	28	0	0	81	0	0	0	0	64	31	7	30	0	0	0	0	0	55	0
101	447	191	0	6	0	0	0	0	0	0	0	0	4	78	4	0	1	0	0	0	0	20	0
102	593	774	6	3	96	0	0	1	0	0	0	0	5	0	1	0	0	8	68	3	0	6	0
103	458	0	1	6	3	0	0	21	0	0	0	0	36	1	0	0	4	0	0	0	3	11	0
104	461	148	0	1	7	0	0	0	0	0	0	0	2	0	69	0	1	7	0	0	0	16	0
105	352	68	1	1	7	0	0	0	0	0	0	0	9	0	0	0	6	35	0	3	0	41	0
107	276	0	15	0	524	0	0	0	0	0	0	0	0	4	0	0	136	21	0	35	48	217	0
108	617	0	1	3	0	0	0	0	0	0	57	0	0	21	0	0	0	4	0	1	0	20	0
109	366	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	4	0	0	3	20	0
110	729	30	16	3	7	0	0	447	135	6	17	0	73	1	54	0	4	6	0	4	0	33	30
111	540	0	0	1	0	450	0	17	0	0	0	0	15	0	21	6	4	1	58	4	0	28	0
112	11	0	3	0	469	0	0	34	0	0	0	0	729	237	15	40	1	1	0	28	0	88	1
113	110	0	13	21	303	0	0	102	0	44	0	0	38	48	7	0	24	8	0	4	0	580	0
114	610	4	15	1	50	0	0	0	0	0	0	0	2	0	27	0	6	0	0	10	0	17	0
115	457	35	26	0	3	0	0	0	0	4	0	0	7	0	186	0	7	37	0	13	0	25	36
116	6	4	26	3	84	197	0	0	0	0	0	0	0	0	25	0	3	0	0	6	0	133	7
117	34	0	22	23	110	0	0	123	0	0	0	0	0	0	0	33	81	18	0	14	0	310	16
118	348	0	15	0	50	0	0	0	0	0	0	0	3	0	30	0	0	3	0	0	0	33	0
120	706	0	31	1	31	0	0	7	0	0	0	0	11	0	26	0	30	6	3	11	3	3	0
121	736	0	15	1	4	600	0	6	0	0	0	0	20	3	1	129	4	3	69	0	0	10	33
122	493	24	0	8	7	0	0	0	0	0	0	0	23	0	35	0	1	0	0	4	0	11	0
123	5	97	237	41	24	0	134	377	0	0	0	0	4	59	18	0	44	45	3	23	1	24	131
124	98	34	191	50	3	0	0	202	0	0	0	0	0	0	50	0	3	0	3	86	59	151	177
125	953	0	5	10	0	0	0	64	0	0	0	0	22	0	13	0	1	7	1	3	0	28	13
126	988	189	0	3	0	0	0	0	0	0	0	0	11	0	1	0	3	1	0	0	3	8	0
127	953	25	1	1	0	600	0	8	0	0	0	0	31	4	17	24	0	4	73	10	0	16	0
128	457	283	5	0	0	0	0	1	0	0	0	0	11	0	96	0	0	4	0	3	1	8	27
129	346	50	0	0	0	0	0	0	0	0	0	0	2	0	44	0	0	4	0	0	0	6	0

2045 Model Land Use

TAZ	LU1 SFDU	LU2 MFDU	LU3 RET	LU4 FIRES	LU5 INDUST	LU6 SCH	LU7 ACCOM	LU8 AER	LU9 OSFDU	LU10 PSS	LU11 AGRI	LU12 WFRT	LU13 POL	LU14 TRNWH	LU15 MED	LU16 GOVT	LU17 ASWMR	LU18 PSTMC	LU19 EDUSRV	LU20 OTHER	LU21 INFO	LU22 UTLCONST	LU23 FS
130	0	250	7	35	51	0	0	61	0	0	0	0	0	0	231	76	532	107	0	6	0	35	1
131	0	212	465	24	4	0	0	0	0	0	0	0	0	0	26	0	310	8	0	16	0	0	92
132	202	0	0	3	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	16	0
133	615	2	4	3	3	0	0	0	51	0	425	0	22	0	1	0	6	6	1	1	0	17	0
134	148	0	0	1	7	0	0	4	0	0	0	0	4	0	0	0	0	3	0	4	0	7	0
135	124	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	10	0
136	460	0	0	0	0	0	0	0	0	0	0	0	2	0	3	0	14	3	0	0	0	1	0
137	361	63	47	0	504	0	0	4	0	0	0	0	0	28	116	113	54	0	0	3	0	153	5
138	447	260	3	6	7	301	0	0	0	0	0	0	30	0	62	78	4	4	0	0	0	6	0
139	541	77	9	6	149	0	0	255	0	0	0	0	21	11	48	0	8	0	0	0	0	30	0
140	247	53	0	0	0	750	0	0	0	0	0	0	16	0	0	0	0	0	83	0	0	3	0
141	30	170	103	24	33	0	71	0	0	0	0	0	0	0	38	0	160	16	62	86	0	30	186
142	49	48	506	0	17	0	0	33	0	0	0	0	0	0	16	0	21	20	16	71	0	31	44
143	95	0	0	0	0	450	0	1	0	0	0	0	13	0	0	3	0	0	74	0	0	21	0
144	434	2	0	0	0	117	0	0	0	0	0	0	7	0	13	0	0	3	25	0	0	14	0
146	758	124	27	6	1	0	0	204	0	3	0	0	13	0	1	45	8	1	0	3	13	13	0
147	293	607	426	16	0	0	0	0	0	0	0	0	39	0	9	0	153	1	1	16	0	40	122
148	74	0	69	110	78	0	0	3	0	0	0	0	60	164	86	357	0	144	0	14	24	239	5
149	169	115	413	17	11	0	0	227	0	6	0	0	0	0	21	0	47	6	6	69	0	62	63
150	249	241	649	0	0	0	0	170	0	0	0	0	3	0	114	0	0	131	7	61	31	13	72
151	509	94	0	4	0	0	0	3	0	0	0	0	10	4	3	0	20	3	0	0	0	7	0
152	654	0	0	16	7	800	0	33	0	0	0	0	21	0	1	0	0	8	55	6	3	8	0
153	75	507	102	277	33	0	629	89	0	0	0	0	5	0	535	0	3	54	0	92	47	132	297
154	7	536	10	0	18	0	0	110	0	0	0	0	0	3	17	0	3	8	11	0	0	3	0
155	3	0	50	25	33	0	522	0	0	0	0	0	0	0	13	0	0	0	0	7	0	0	278
156	23	64	61	139	0	0	252	0	0	0	0	0	0	0	0	0	0	0	0	23	0	8	258
158	429	87	0	0	1	0	0	0	0	0	0	0	7	0	0	0	1	1	0	1	0	181	0
159	180	36	31	3	6	472	0	0	0	0	0	0	11	0	176	0	17	0	93	17	0	0	74
160	504	4	4	0	0	0	0	8	49	0	2062	0	639	0	1	0	1	7	0	1	0	18	0
161	0	200	0	20	16	0	11	0	0	0	0	0	1	0	3822	0	10	3	6	10	0	0	0
162	193	21	13	54	37	500	0	4	0	0	0	0	8	0	106	0	6	17	72	0	0	0	21
163	234	78	10	34	0	0	0	0	0	0	0	0	2	0	315	0	21	42	0	0	0	0	0
164	84	34	248	48	55	204	0	0	0	0	0	0	10	117	22	14	31	85	0	13	0	20	62
165	506	127	0	1	0	245	0	0	0	0	0	0	8	0	5	0	0	6	85	0	0	7	17
166	115	30	7	0	0	389	0	10	0	6	0	0	7	0	0	0	6	0	17	7	0	1	0
167	256	61	0	1	0	0	0	0	0	0	0	0	0	0	35	0	3	16	0	0	0	4	0
168	403	2	9	0	0	800	0	0	0	0	0	0	8	0	36	0	0	6	74	4	0	11	3
169	332	51	0	31	0	400	0	1	0	0	0	0	6	0	0	0	0	13	299	8	0	1	1
170	282	41	0	0	0	0	0	0	0	0	0	0	3	0	15	0	0	0	0	0	0	3	0
171	541	324	0	8	0	0	0	147	0	0	9	0	62	0	7	25	7	17	4	1	0	37	0
172	184	131	0	3	0	0	0	0	0	0	0	0	0	0	1	0	3	10	0	0	0	3	0
173	504	113	0	0	0	0	0	6	0	0	0	0	3	0	26	0	0	6	0	3	3	4	0
174	162	0	0	0	0	0	0	37	0	0	16	0	36	0	0	0	0	3	0	4	0	8	0
176	597	6	0	1	4	0	0	0	0	0	315	0	385	0	1	0	0	4	0	1	0	11	0
178	82	24	0	0	1	0	0	65	327	0	190	0	11	0	0	0	0	0	0	0	0	8	37
179	4	0	4	0	1	0	0	102	387	0	211	0	55	0	1	0	24	0	1	0	0	8	0
180	2	0	0	0	0	0	0	0	346	0	222	0	6	0	0	0	0	0	0	0	0	7	4
181	329	62	0	8	0	0	0	310	61	0	694	0	55	0	10	0	0	1	0	189	0	3	0
182	0	0	0	0	6	0	0	0	662	0	5036	0	169	18	4	0	0	1	14	0	0	8	0
183	0	0	31	0	0	0	0	0	65	0	15159	0	1004	0	0	20	1	0	0	1	0	7	0
184	0	0	0	0	0	0	0	0	158	0	6468	0	691	0	0	0	0	6	0	1	0	1	0
185	0	0	0	1	0	0	0	1	638	0	1263	0	663	0	0	0	1	3	0	1	0	6	0
187	55	0	0	7	14	0	0	45	732	0	1723	0	75	0	5	0	7	3	0	1	0	16	0
188	0	0	1	14	3	0	0	41	481	0	3695	0	202	0	0	4	3	8	0	13	0	16	0

2045 Model Land Use

TAZ	LU1 SFDU	LU2 MFDU	LU3 RET	LU4 FIRES	LU5 INDUST	LU6 SCH	LU7 ACCOM	LU8 AER	LU9 OSFDU	LU10 PSS	LU11 AGRI	LU12 WFRT	LU13 POL	LU14 TRNWH	LU15 MED	LU16 GOVT	LU17 ASWMR	LU18 PSTMC	LU19 EDUSRV	LU20 OTHER	LU21 INFO	LU22 UTLCONST	LU23 FS
190	109	2	0	0	3	0	0	0	217	0	2941	0	2536	0	0	0	3	3	0	0	0	13	0
191	128	0	0	3	7	0	24	57	175	0	354	0	359	0	4	0	0	10	0	0	0	11	0
192	0	0	0	0	0	0	0	0	108	0	1996	0	433	0	0	0	0	1	0	0	0	0	0
193	0	6	0	3	4	0	0	497	403	0	6800	0	1362	0	1	0	0	0	0	7	3	7	0
194	0	56	4	6	0	0	142	299	348	0	2707	0	229	0	0	27	25	6	3	33	0	23	0
197	0	0	0	0	3	0	0	23	144	0	5500	0	11186	0	1	0	0	0	0	4	0	10	0
198	0	0	7	0	0	0	0	3	217	0	3671	0	3959	0	4	0	14	0	4	0	0	6	4
199	0	0	0	1	23	91	0	0	178	0	4341	0	31528	0	0	0	0	0	14	0	0	6	15
200	0	0	0	0	0	0	0	0	60	0	3904	0	1439	0	0	13	0	0	0	0	0	0	0
201	0	0	0	1	0	0	0	16	165	0	2031	0	1189	0	0	0	0	0	0	0	0	42	0
203	9	0	0	0	0	0	0	45	121	0	4791	0	1284	0	0	0	0	3	0	3	0	7	0
204	113	3	7	0	0	0	0	1	156	0	5365	0	5648	11	0	6	7	0	0	0	0	0	0
205	138	1	7	4	0	0	21	38	7	0	781	0	115	3	3	7	0	0	0	0	3	1	30
206	0	0	0	0	0	194	0	0	188	0	4328	0	325	0	0	0	0	0	74	0	0	11	0
207	0	0	0	0	0	0	0	10	156	0	5457	0	804	0	0	0	0	0	0	0	0	37	0
210	0	0	4	0	7	0	0	0	246	0	11913	0	9772	0	0	0	0	0	0	1	0	1	0
211	0	0	0	0	0	0	0	50	117	0	14999	0	16003	0	3	0	1	1	0	0	0	0	0
212	0	0	0	0	0	0	23	0	25	0	4852	0	17170	0	1	0	0	0	0	0	0	0	0
400	1411	0	23	10	11	0	0	50	0	0	572	0	177	4	6	6	1	11	0	0	0	101	28
401	8	488	579	0	190	0	0	0	0	0	0	0	2	50	0	0	1	0	0	3	0	16	33
402	0	0	0	0	115	0	0	0	0	0	0	0	11	0	0	0	0	0	27	0	13	0	0
403	398	119	37	0	23	0	0	0	0	0	0	0	1	0	9	0	38	0	0	0	0	363	0
404	494	0	0	1	3	0	0	10	0	0	0	0	36	23	0	0	4	1	0	1	1	59	0
405	435	0	0	3	1	0	0	0	0	0	0	0	3	0	5	0	6	3	0	0	0	8	0
406	205	200	0	0	0	0	0	0	0	0	350	0	38	0	0	0	27	0	0	0	0	0	0
407	243	491	0	8	8	678	0	8	0	0	0	0	26	0	22	0	0	55	0	0	0	6	102
408	0	0	3	0	0	0	0	0	94	0	144	0	6	0	0	0	0	0	0	0	0	57	0
409	381	0	0	0	0	2600	0	8	0	0	0	0	106	0	0	0	0	11	183	0	0	20	0
410	558	130	16	21	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	81	35	22
411	2	569	7	11	0	0	0	72	0	0	0	0	41	114	38	14	0	17	0	4	0	0	66
412	51	51	69	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
413	476	5	9	0	0	0	0	0	0	0	0	0	0	0	25	0	13	13	0	3	0	23	7
414	91	0	180	6	388	913	0	18	0	0	0	0	5	25	0	0	101	8	85	0	0	11	0
415	1	0	13	108	0	0	91	0	0	0	0	0	3	0	581	136	8	65	0	1	0	10	0
416	32	253	10	92	0	0	0	202	0	0	0	0	14	0	1710	0	163	34	6	25	1	0	0
417	26	230	173	298	13	0	167	0	0	0	0	0	5	0	71	0	1	28	16	17	40	21	182
418	173	101	187	57	11	0	0	115	0	0	0	0	0	0	38	0	0	0	0	57	0	125	253
419	41	439	176	20	82	0	0	37	0	0	0	0	1	10	54	58	11	13	0	7	0	126	131
420	420	41	12	16	0	0	0	0	0	0	0	0	9	0	59	0	18	24	8	0	0	45	37
421	492	45	15	1	13	0	0	4	0	0	0	0	10	0	0	0	3	10	0	14	0	37	1
422	891	74	0	3	1	0	0	0	0	0	0	0	7	0	1	0	17	13	1	1	0	17	0
423	475	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	0
424	65	232	50	122	21	0	20	98	0	0	0	0	6	0	173	59	31	201	3	98	195	11	271
425	19	11	92	45	130	0	0	0	0	0	0	0	5	13	3	0	57	11	13	27	0	299	0
426	415	159	0	1	10	0	0	14	0	0	38	0	34	0	3	0	7	3	0	8	0	4	0
427	509	105	3	13	4	0	0	0	0	0	0	0	1	0	3	0	0	8	0	23	0	55	5
428	514	15	16	0	45	0	0	0	0	0	0	0	7	0	5	0	11	1	0	6	0	25	0
429	3	12	35	0	18	0	0	0	0	0	0	0	1	0	8	0	13	0	0	0	0	58	10
430	0	0	31	1	0	0	0	0	0	0	0	0	0	0	6	0	8	0	0	0	0	14	6
431	1559	160	100	3	1	237	0	17	0	0	0	0	21	0	51	0	0	0	31	0	0	0	25
432	192	92	0	1	0	0	0	133	1	0	15	0	17	0	1	0	0	3	0	0	0	0	38
433	0	0	0	0	6	0	0	0	326	0	1992	0	9764	0	0	0	0	1	1	0	0	3	0
434	155	217	0	13	0	0	0	4	0	0	0	0	9	0	207	11	0	7	0	0	0	16	218
435	5	363	4	67	25	0	0	0	0	0	0	0	21	0	155	13	10	169	0	3	0	0	4

2045 Model Land Use

TAZ	LU1 SFDU	LU2 MFDU	LU3 RET	LU4 FIRES	LU5 INDUST	LU6 SCH	LU7 ACCOM	LU8 AER	LU9 OSFDU	LU10 PSS	LU11 AGRI	LU12 WFRT	LU13 POL	LU14 TRNWH	LU15 MED	LU16 GOVT	LU17 ASWMR	LU18 PSTMC	LU19 EDUSRV	LU20 OTHER	LU21 INFO	LU22 UTLCONST	LU23 FS
500	108	6	0	3	4	0	0	6	698	0	10755	0	1651	0	0	0	0	6	0	0	0	55	7
501	435	30	4	1	0	472	11	21	0	0	390	0	19	0	15	0	0	0	58	0	8	5	84
502	952	39	83	35	0	1182	20	7	0	0	0	0	45	4	25	40	0	10	125	0	0	8	0
503	0	0	0	1	0	0	0	0	908	0	1242	0	68	1	6	0	10	6	0	3	0	20	0
504	169	6	0	0	28	0	0	0	705	0	487	0	12	1	5	0	10	4	0	0	0	41	0
505	193	0	0	0	16	0	0	0	197	0	787	0	691	0	3	0	8	0	0	3	0	10	0
506	0	0	0	1	317	0	0	0	240	0	1546	0	11	0	1	0	0	1	0	3	1	1	0
507	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	28	0	0	0	0	0	0	16
508	123	0	40	11	0	0	0	0	0	0	0	0	6	0	18	0	0	0	0	1	8	3	0
509	333	72	187	11	23	1500	0	0	0	0	0	0	30	0	7	0	0	30	111	84	0	7	50
510	24	0	0	0	6	0	0	0	0	0	436	0	86	0	0	0	0	0	0	0	0	27	0
511	141	0	0	0	0	0	0	0	0	0	281	0	124	0	19	0	0	0	0	0	0	20	0
512	24	0	0	0	0	0	0	0	0	0	196	0	319	0	0	0	0	0	0	0	0	0	0
513	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
514	0	0	40	0	422	0	0	86	0	0	0	0	0	0	0	0	14	0	30	0	0	239	10
515	668	353	0	0	3	0	0	8	0	0	323	0	5	0	44	0	0	0	0	0	0	6	0
516	2	0	0	0	0	0	0	0	0	0	98	0	18	0	0	0	0	0	0	0	0	0	0
517	0	0	0	0	55	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
518	386	0	0	0	3	0	0	0	0	0	145	0	6	0	0	0	0	0	0	0	0	11	0
519	248	0	0	0	102	0	0	0	0	0	116	0	3	24	0	0	0	0	0	0	0	10	0
520	26	0	0	0	0	0	0	0	0	0	121	0	5	1	0	0	0	0	0	0	0	3	0
521	5	0	40	6	126	0	0	0	0	0	56	0	20	0	0	0	0	6	0	6	0	113	0
522	27	0	27	0	0	0	0	144	0	0	0	0	6	0	0	13	0	0	0	0	0	0	48
523	215	0	0	0	0	0	0	0	0	0	43	0	0	0	18	0	6	0	0	0	0	3	0
524	771	212	1	1	251	450	0	1	0	0	0	0	24	0	1	0	1	0	63	0	0	42	10
525	1246	320	0	0	3	450	0	0	0	0	0	0	17	0	0	0	0	21	54	0	0	0	0
526	918	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
527	158	810	50	0	1	0	0	0	0	0	63	0	2	0	15	0	0	0	0	0	0	0	0
528	2	500	16	0	0	0	0	0	0	0	196	0	0	0	20	0	0	0	0	0	0	0	50
529	300	200	0	0	0	0	0	0	0	0	161	0	7	0	0	0	0	0	0	0	0	0	0
530	441	80	200	0	0	0	0	0	0	0	0	0	4	0	25	0	0	0	0	0	0	0	100
531	402	320	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7	0	0	4	0	57	0
532	109	0	0	1	0	0	0	102	0	0	24	0	1	0	0	0	0	0	0	0	0	4	0
533	238	1	32	6	1	0	0	0	0	0	0	0	6	7	9	0	13	0	4	0	0	0	0
534	343	71	32	11	35	546	0	0	0	0	0	0	30	42	10	14	18	6	59	3	0	4	0
535	200	280	0	0	0	0	0	0	0	0	206	0	4	0	0	0	0	0	0	0	0	0	0
536	776	300	40	0	0	0	0	0	0	0	69	0	14	0	0	0	78	0	0	0	0	8	0
537	119	0	0	0	0	0	0	0	0	0	39	0	1	0	0	0	0	1	0	1	0	4	0
538	323	1	1	6	7	0	0	0	0	0	0	0	1	0	54	0	0	0	0	0	0	6	0
539	0	0	321	0	0	0	0	0	0	0	0	0	5	0	644	0	0	20	0	0	0	0	0
540	15	0	59	48	31	0	0	0	0	0	0	0	0	0	390	0	34	35	8	14	0	81	155
541	6	0	5	1	418	0	0	27	0	0	0	0	0	0	0	0	13	76	0	0	41	4	0
542	0	0	68	0	217	0	0	18	0	0	0	0	0	13	0	0	6	21	0	23	0	44	25
543	246	54	1	0	0	0	25	0	0	0	0	0	8	0	49	0	0	0	0	7	0	11	20
544	213	64	0	18	1	0	0	4	0	0	0	0	18	0	6	74	0	14	0	1	0	25	107
545	0	0	0	0	0	0	0	0	0	0	322	0	139	0	0	0	0	0	0	0	0	0	0
546	0	0	54	0	258	0	0	18	0	0	263	0	5	0	50	0	0	0	0	11	0	7	50
547	550	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	16	0
548	132	0	19	1	0	1351	0	0	0	0	74	0	23	0	0	0	0	0	136	0	0	0	0
549	795	951	43	14	6	544	0	0	0	0	0	0	13	0	190	0	0	1	68	0	0	17	27
550	47	145	177	28	31	0	0	0	0	0	0	0	0	0	208	314	76	174	0	1	65	0	56
551	44	339	168	88	661	0	0	0	0	0	0	0	9	0	102	17	776	282	23	0	0	0	244
552	197	0	0	0	1	0	0	0	0	0	0	0	3	0	4	0	11	0	0	3	0	6	0
553	1306	434	60	0	0	837	0	0	0	0	0	0	2	0	30	0	0	0	104	0	0	0	100

2045 Model Land Use

TAZ	LU1 SFDU	LU2 MFDU	LU3 RET	LU4 FIRES	LU5 INDUST	LU6 SCH	LU7 ACCOM	LU8 AER	LU9 OSFDU	LU10 PSS	LU11 AGRI	LU12 WFRT	LU13 POL	LU14 TRNWH	LU15 MED	LU16 GOVT	LU17 ASWMR	LU18 PSTMC	LU19 EDUSRV	LU20 OTHER	LU21 INFO	LU22 UTLCONST	LU23 FS
554	648	216	300	0	0	408	0	0	0	0	0	0	1	0	24	0	0	0	51	0	0	28	131
555	110	0	18	20	85	0	0	28	0	0	0	0	2	3	16	0	41	1	0	25	0	8	0
556	100	200	10	0	0	1500	0	0	0	0	0	0	86	0	0	507	0	0	97	0	0	0	0
557	180	223	0	0	0	0	0	0	0	0	0	0	198	0	0	0	0	0	0	0	0	0	0
558	124	196	120	50	8	0	139	0	0	0	0	0	3	1	121	0	7	0	18	4	0	0	288
559	112	86	611	37	0	0	0	0	0	0	0	0	2	0	3	0	0	0	0	44	0	6	138
560	222	980	0	917	0	0	0	6	0	0	0	0	27	0	27	0	0	1	0	0	0	20	20
561	0	0	0	51	0	0	0	0	0	0	0	0	0	0	239	11	314	7	176	0	0	1	0
562	78	41	277	34	40	0	0	0	0	0	0	0	8	21	96	0	64	34	4	27	3	0	53
563	58	68	0	0	0	0	0	27	0	4238	0	0	6	0	0	42	0	0	910	0	0	0	22
564	228	115	0	0	7	0	0	0	0	0	0	0	1	0	12	0	0	13	0	3	0	95	0
565	86	60	100	10	8	0	0	33	0	0	0	0	1	0	40	37	0	41	0	76	0	0	110
566	426	18	0	4	0	450	0	1	0	0	0	0	7	0	0	0	0	4	71	1	0	4	0
567	114	104	61	14	8	0	24	55	0	0	0	0	3	14	26	0	78	48	1	16	30	24	302
568	225	14	0	1	0	0	0	6	0	0	0	0	6	0	0	0	0	0	31	20	0	1	0
569	385	22	0	0	0	450	0	0	0	0	0	0	12	0	40	0	7	1	82	1	0	0	0
570	121	85	96	41	30	0	248	31	0	0	0	0	4	3	34	0	0	24	0	13	0	10	130
571	7	201	177	310	79	0	34	316	0	0	0	0	196	0	5	171	62	145	7	59	7	3	178
572	0	0	1	0	0	0	478	193	0	0	0	0	0	61	0	0	0	114	0	98	0	0	655
573	2	305	0	0	0	0	40	204	0	0	0	0	4	0	0	0	0	0	0	8	0	0	35
574	0	0	0	0	0	0	0	3	379	0	98	0	1	0	1	0	0	1	0	0	0	1	0
575	0	0	4	0	6	0	0	0	320	0	2197	0	19	0	0	0	10	4	0	40	0	17	5
576	0	0	0	0	0	0	0	156	323	0	10102	0	5807	0	0	0	0	0	0	8	0	0	26
577	0	0	0	0	0	0	425	906	0	0	121	0	226	0	0	0	0	0	0	0	0	0	129
578	58	28	0	0	0	0	0	0	0	0	58	0	64	0	0	30	1	0	0	1	0	0	0
579	385	0	0	4	1	0	0	0	0	0	0	0	5	0	1	0	0	1	0	0	0	30	0
580	260	240	0	0	0	0	0	0	0	0	156	0	5	0	0	0	0	0	0	0	0	0	0
581	8	264	0	0	0	0	0	0	0	0	256	0	11	0	15	0	0	0	0	0	0	0	0
582	170	0	10	0	0	504	0	0	0	296	346	0	97	0	15	0	0	0	64	0	0	0	10
583	838	250	5	0	0	386	0	0	0	0	287	0	9	1	0	0	0	0	48	0	0	0	0
584	74	0	0	0	0	0	0	0	0	0	311	0	10	0	4	0	0	0	0	0	0	7	0
585	0	0	0	0	0	0	0	0	24	0	174	0	20	23	0	0	0	0	0	0	0	25	0
586	242	25	58	1	0	0	0	0	0	0	237	0	13	0	0	0	0	0	0	0	0	64	0
587	64	0	0	1	0	0	0	0	0	0	270	0	8	1	0	0	0	0	0	0	0	0	0
588	546	202	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50
589	83	0	80	10	8	0	0	0	0	0	0	0	1	1	203	0	3	11	0	0	0	42	65
590	2	30	16	28	3	0	0	0	0	0	0	0	0	0	6	528	0	35	0	0	1	0	13
591	34	0	16	13	0	0	0	0	0	0	0	0	0	0	227	0	0	18	0	10	0	0	73
592	100	0	0	0	0	0	0	0	92	0	1982	0	21	0	0	0	0	3	0	0	0	0	0
593	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
594	0	32	618	30	11	0	0	0	0	0	0	0	11	0	159	0	0	126	0	4	20	59	62
595	42	0	0	0	7	401	0	0	75	0	311	0	44	0	4	0	1	0	50	0	4	10	0
596	0	0	0	0	0	0	0	0	330	0	1932	0	43	0	0	0	0	8	0	0	0	8	0
597	0	0	0	0	3	0	0	0	232	0	538	0	498	0	0	0	0	0	0	0	0	4	0
598	0	0	1	0	0	0	0	0	134	0	109	0	8	0	0	0	0	0	0	0	0	1	0
599	0	0	0	0	0	0	0	72	82	0	2465	0	64446	0	0	0	0	0	0	0	0	4	48