BCAG Model Development Report

Prepared for

BCAG
BUTTE COUNTY ASSOCIATION OF GOVERNMENTS

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INTRODUCTION

This report presents the Travel Demand Forecasting (TDF) model built for the Butte County Association of Governments (BCAG) in preparation for the 2016 Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS) Update. This report describes the model development process, including the data sources used to develop key model inputs.

GENERAL DISCUSSION OF THE TDF MODEL

This section summarizes the answers to commonly asked questions related to TDF models and how BCAG can use a TDF model.

What is a TDF model?

A TDF model is a computer program that simulates traffic levels and travel patterns for a specific geographic area. The program consists of input files that summarize the area's land uses, roadway network, travel characteristics, and other key factors. Using this data, the model performs a series of calculations to determine the amount of trips generated, the beginning and ending location of each trip, and the route taken by the trip. The model's output includes projections of traffic volumes on major roads, and peak hour turning movements at certain key intersections.

How is a TDF model useful?

The TDF model is a valuable tool for preparing long-range transportation planning studies, like the Regional Transportation Plan. The TDF model can be used to estimate the average daily and peak hour traffic volumes on the major roads in response to planned population and employment growth, changes in transportation infrastructure, policy assumptions, and provides a consistent platform to analyze different land use and transportation scenarios.

How do we know if the TDF model is accurate?

To be deemed accurate for projecting traffic volumes in the future, a model must first be calibrated to a year in which actual land use data and traffic volumes are available and well

documented. A model is accurately validated when it replicates the actual traffic counts on the major roads within certain ranges of error established in 2010 California Regional Transportation Plan Guidelines (California Transportation Commission [CTC], 2010) and it demonstrates stable responses to varying levels of inputs.

The BCAG model has been calibrated and validated to 2014 base year conditions using actual traffic counts, census data, and land use data compiled by BCAG staff.

Is the BCAG TDF model consistent with standard practices?

The BCAG model is consistent in form and function with standard travel forecasting models used in transportation planning. The model includes a land-use based trip generation module, a gravity-based trip distribution model, and a capacity-constrained equilibrium traffic assignment process. While it is not sensitive to mode choice in relation to transit, walk or bike, the model was built in a framework that would allow transit and active-mode sensitivity if the need arises. The travel model uses Version 7.0 (Build 12175) of the TransCAD transportation planning software, which is consistent with many of the models used by local jurisdictions in California and throughout the nation.

How can the TDF model be used?

The TDF model can be used for many purposes related to the planning and design of Butte County's transportation system. The following is a partial listing of the potential uses of the TDF model.

- To update the land use and circulation elements of City or County general plans
- To conduct a regional transportation mitigation fee program
- To evaluate the traffic impacts of area-wide land use plan alternatives
- To evaluate the shift in traffic resulting from a roadway improvement
- To evaluate the traffic impacts of land development proposals
- To determine trip distribution patterns of land development proposals
- To support the development of transportation sections of Environmental Impact Reports (EIRs)
- To support the preparation of project development reports for Caltrans

What are the TDF model limitations?

The BCAG TDF Model has been developed for regional planning purposes within a trip-based model framework. The model conforms to the recommendations outlined in the 2010 California Regional Transportation Guidelines for a Type B metropolitan planning organization (MPO), but does have limitations.

- The current structure has limited sensitivity to factors that may affect trip generation rates such as significant declines in economic activity. However, since the model has a land use occupancy component, economic cycles can be reflected in the assumed intensity of land uses within the model.
- Although the model network includes all local roadways, not all local roadways are assigned vehicle trips. Use of the model for local applications will require sub-area refinements and validation to ensure the model is appropriately sensitive to changes at this scale.
- Model parameters relying on household travel survey data are based on a small sample size. Future model updates would benefit from a larger sample of households in Butte County.
- The trip-based model structure does not allow for complete estimates of forecasts of vehicle trips (VT) or

VMT generated by residential households or individual persons. Vehicle trips are assigned at the TAZ level and any connection to individual land uses that originally generated the trips are lost. VT and VMT can be expressed as ratios such as VMT per capita or VMT per household. But these ratios are based only on dividing total VMT by the number of people or households in the model area. It does not indicate the level of VT or VMT being generated.

STUDY AREA

The model area for the BCAG TDF Model encompasses Butte County, which includes the cities of Chico, Paradise, Oroville, Biggs, and Gridley. Figure 1 shows the BCAG TDF model area. To represent travel into and out of Butte County, the model also includes 20 "external gateways" at major roads that cross the county line.

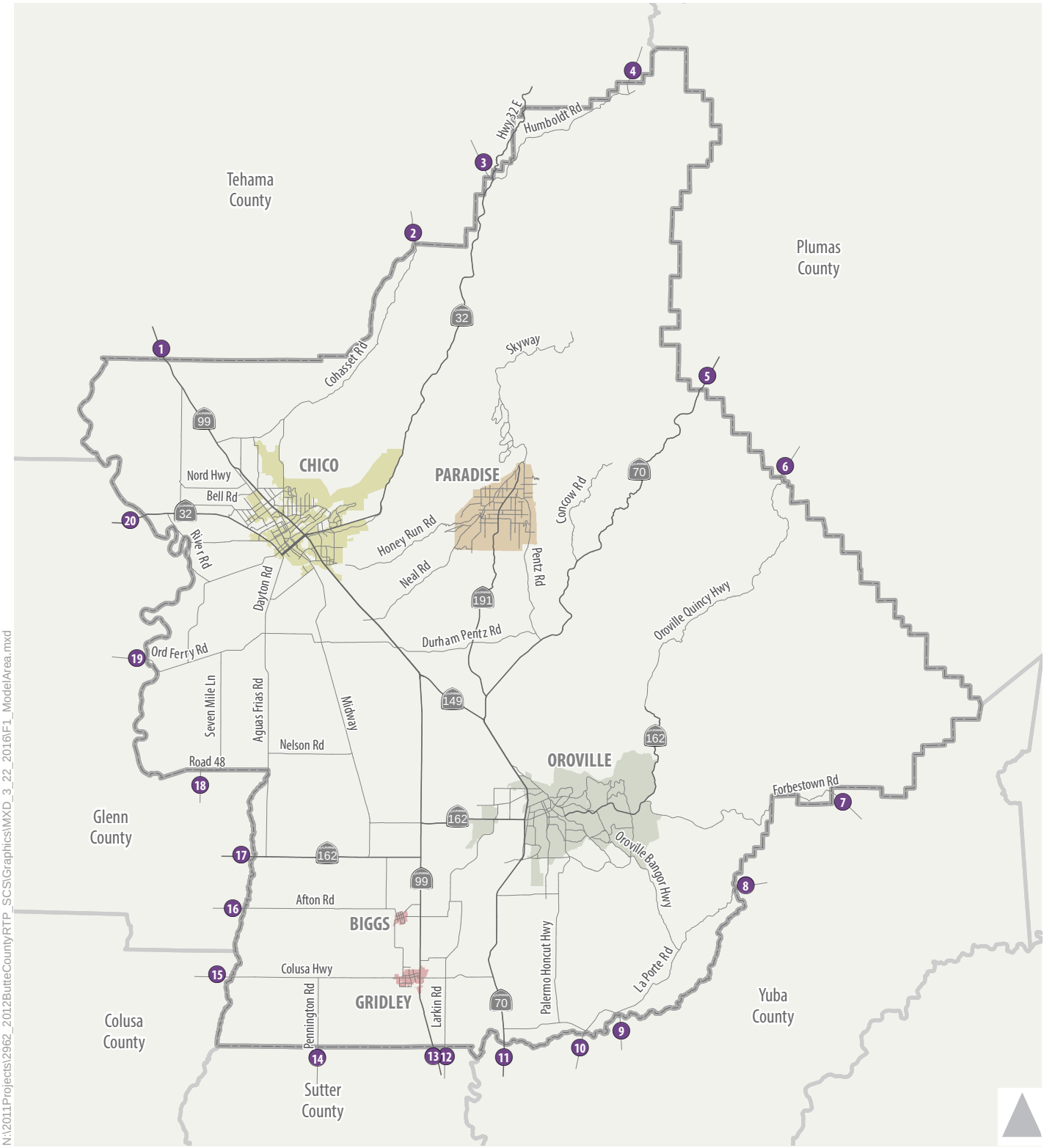

Figure 1

Model Area

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MODEL INPUT DATA

DATA COLLECTION

A data collection effort was undertaken at the outset of the model development process. Data sources included the BCAG traffic count database, Caltrans Traffic Data Branch for freeway counts, and CSU Chico for Geographic Information Systems (GIS) data. Additional data sources are listed below.

- Census Bureau data
- Department of Finance (DOF) housing estimates
- California Statewide Household Travel Survey (CHTS), 2012
- Employment Development Department (EDD) employment estimates
- Longitudinal Employer-Household Dynamics (LEHD) data

LAND USE DATA

Land use data is one of the primary inputs to the BCAG model and this data is instrumental in estimating trip generation. The model's primary source of land use data is BCAG's residential, school, and commercial parcel and footprint datasets (maintained in a GIS format). Each database provides information on the existing level of development within the county and is aggregated to the model's traffic analysis zones (TAZs). These databases are maintained by BCAG staff in association with CSU Chico.

The land use data in the model is divided into several residential and non-residential categories. The BCAG model has 17 land use categories, which are described in Table 1.

TABLE 1 MODEL LAND USE CATEGORIES

Land Use Type	Model LU	Units
Single Family Residential	SF_DU	Dwelling Units
Multi-Family Residential	MF_DU	Dwelling Units
Mobile Home Residential	MH_DU	Dwelling Units
Office	OFF_KSF	Thousand Square Feet
Medical Office	MED_KSF	Thousand Square Feet
Hospital	HOSP_KSF	Thousand Square Feet
Industrial	IND_KSF	Thousand Square Feet
Public/Quasi-Public	PQP_KSF	Thousand Square Feet
Park	PARK_AC	Acres
Neighborhood-Serving Retail	RET_KSF	Thousand Square Feet
Region-Serving Retail	RRET_KSF	Thousand Square Feet
Hotels	HOTEL_RMS	Rooms
K-12 School	K12_STU	Students
University	UNIV_STU	Students
Community College	CC_STU	Students
Casino (Special Generator)	CASINO_SLT	Slots

Source: Fehr & Peers, 2016.

TRAFFIC ANALYSIS ZONE SYSTEM

TAZs represent geographic areas containing land uses that produce or attract vehicle-trip ends. Travel demand models use TAZs to connect land uses to the roadway network. The TAZ boundaries for the BCAG model were developed from the Butte County parcel layer and closely nest within the City boundaries in Butte County.

The TAZ structure and detail from the previous model were maintained for this update. Therefore, the model TAZ system maintains 962 zones in the model area, of which 912 zones cover Butte County and the remaining 50 are extra zones available for use in more detailed project analyses.

Also included in the TAZ structure are the external stations at points where major roadways provide access into the model area (see Figure 1 for specific locations). The external stations represent all major routes by which traffic can enter, exit, or pass through the model area.

ROADWAY NETWORK

The detailed roadway network for the base year model was originally developed in the 2008 TDF model update from a Butte County GIS centerline file provided by BCAG and subsequently updated in 2012 and 2016. The model roadway network includes all freeways, arterials, collectors, local, and rural roads within the study area (see Figure 1).

As is typical for travel demand models, the model network focuses on the most used facility types. Residential and rural streets are included on the network, but are not widely assigned trips. The roadway classifications included in the model, and consistent with the Butte County RTP/SCS, are described below.

Freeways

Freeways are high-capacity facilities that primarily serve longer distance travel. Access is limited to interchanges typically spaced at least one mile apart. State Route (SR) 70 and SR 99 are the major freeways in the Butte County. Portions of SR 149 that connects SR 70 and SR 99 are also designed to freeway standards.

Expressways

Expressways are high-capacity facilities that primarily serve intermediate distance travel between intercity destinations. Access is limited, but not to the extent of freeways and travel lanes may or may not be divided. Portions of SR 70, SR 99, and SR 149 are classified as expressways in Butte County.

Arterials

Roadway segments classified as Arterials are major roads that provide connections within cities, between cities and neighboring areas, and through the cities (cut-through traffic) of Butte County. Arterials in Butte County typically have one or two lanes in each direction, with travel speeds of 30-40 miles per hour (mph). Examples of these arterials are East Avenue in Chico, Clark Road in Paradise, and Olive Highway in Oroville.

Collectors

Collectors (Major and Minor) are facilities that connect local streets to the arterial system, and may also provide direct access to local land uses. Collectors generally provide two travel lanes and typically have a posted speed limit of 25 mph or greater. Examples of these collectors are Ceres Avenue in Chico, Nunneley Road in Paradise, and Myers Street in Oroville.

Local Streets

Local Streets primarily feed collector roads and generally provide two travel lanes with a posted speed limit of 25-30 mph. The model network focuses on freeways, arterials, and collectors but does include most of the local streets represented in the Butte County GIS centerline file to provide access from traffic analysis zones to the larger network. If a project application needs to assess local roadway performance, the model has been designed such that detail can be added to improve its sensitivity related to these facilities. These types of changes would typically be performed as part of a specific project application.

The roadway network database includes a street name, distance, functional class, speed, capacity, and number of lanes for each record. These attributes were checked using maps, aerial photographs, and other data provided by BCAG. Table 2 shows the initial roadway speeds and capacities used for each roadway class in the model. Where necessary, these values were adjusted to reflect the relative attractiveness of roadways in relation to each other. The speeds listed in the model are primarily used during the traffic assignment routine and may not reflect posted speed limits.

TABLE 2 TYPICAL MODEL ROADWAY SPEEDS AND CAPACITIES

Roadway Functional Classification	Speed Range (MPH)	Lane Capacity (vphl)[1]
Freeway Mainline	55 - 65	1,800
Freeway Ramp	20 - 55	1,700
Expressway (4 Lanes)	35 - 55	1,500
Expressway (2 Lanes)	35 - 55	1,400
Arterial	30 - 40	800
Collector	25 - 45	700
Local	25 - 30	600
Centroid Connectors[2]	25	10,000

1. vphl - vehicles per hour, per lane

2. Centroid connectors are abstract representations of the starting and ending point of each trip, and therefore should have no capacity constraints

Source: Fehr & Peers, 2016.

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MODEL CALIBRATION

Model calibration is the term used to describe the process by which the coefficients and inputs of the model are determined and adjusted to better replicate travel behavior and traffic volumes. This section provides a general description of the calibration steps and the adjustments made during the process to achieve accuracy levels that are within the established CTC guidelines.

TRIP GENERATION

Trip generation rates relate the number of vehicle trips going to and from a site to the type of land use intensity and diversity of that particular site.

Residential Trip Generation

The previous update of the BCAG model for the 2012 Metropolitan Transportation Plan/ Sustainable Communities Strategy enhanced the residential trip generation sub-model from one that relied exclusively on land use as the independent variable to one that considered land use, demographic, and socioeconomic factors in a cross-classified formulation. The trip generation rates for single family and multi-family homes were expanded to represent the different trip making characteristics of a variety of households within Butte County. For this model update, the trip generation rates were also expanded for mobile homes and the number of household income categories was aggregated from 6 to 4 to simplify the land use inputs for model users. The cross-classification is based on the following characteristics.

- Household size (1, 2, 3, or 4+)
- Number of workers (0, 1, 2, 3, or 4+)
- Household income (<$35K, $35K-$50K, $50K-$75K, >$75K)

Tables 3, 4, and 5 display the cross-classified residential vehicle trip rates for single family, multi-family and mobile homes, respectively. These trip generation rates help to explain the differences in trip generation that are observed in different parts of the BCAG region. The rates were estimated using the 2012 CHTS data and adjusted during the model calibration. This survey was conducted statewide and provides a complete summary of daily household trip making.

TABLE 3 – SINGLE FAMILY DAILY VEHICLE TRIP GENERATION RATES

Household Size	Number of Workers	Income			
		< $35K	$35K - $50K	$50K - $75K	> $75K
1	0	2.90	3.02	3.02	3.02
	1	3.25	3.34	3.09	3.48
	2	N/A	N/A	N/A	N/A
	3	N/A	N/A	N/A	N/A
	4+	N/A	N/A	N/A	N/A
2	0	5.50	4.89	5.45	5.73
	1	5.82	4.88	4.94	5.04
	2	5.62	5.62	5.29	5.79
	3	N/A	N/A	N/A	N/A
	4+	N/A	N/A	N/A	N/A
3	0	5.37	5.37	5.37	5.37
	1	7.38	7.38	7.02	7.02
	2	8.00	8.00	8.00	8.96
	3	9.33	9.57	9.63	9.40
	4+	N/A	N/A	N/A	N/A
4+	0	7.57	7.57	11.67	10.24
	1	9.45	9.45	14.60	12.81
	2	11.75	11.75	15.52	12.86
	3	13.69	13.69	13.69	13.69
	4+	15.60	15.60	15.60	15.60

Source: Fehr & Peers, 2016

TABLE 4 – MULTI-FAMILY DAILY VEHICLE TRIP GENERATION RATES

Household Size	Number of Workers	Income			
		< $35K	$35K - $50K	$50K - $75K	> $75K
1	0	2.13	2.22	2.22	2.22
	1	2.39	2.47	2.29	2.57
	2	N/A	N/A	N/A	N/A
	3	N/A	N/A	N/A	N/A
	4+	N/A	N/A	N/A	N/A
2	0	4.06	3.61	4.02	4.23
	1	4.3	3.59	3.64	3.72
	2	4.13	4.13	3.9	4.26
	3	N/A	N/A	N/A	N/A
	4+	N/A	N/A	N/A	N/A
3	0	3.95	3.95	3.95	3.95
	1	5.45	5.45	5.17	5.17
	2	5.89	5.89	5.89	6.6
	3	6.88	7.06	7.1	6.93
	4+	N/A	N/A	N/A	N/A
4+	0	5.58	5.58	8.61	7.55
	1	6.97	6.97	10.76	9.44
	2	8.66	8.66	11.44	9.48
	3	10.09	10.09	10.09	10.09
	4+	11.51	11.51	11.51	11.51

Source: Fehr & Peers, 2016

TABLE 5 – MOBILE HOME DAILY VEHICLE TRIP GENERATION RATES

Household Size	Number of Workers	Income			
		< $35K	$35K - $50K	$50K - $75K	> $75K
1	0	1.99	2.08	2.08	2.08
	1	2.24	2.3	2.13	2.41
	2	N/A	N/A	N/A	N/A
	3	N/A	N/A	N/A	N/A
	4+	N/A	N/A	N/A	N/A
2	0	3.78	3.37	3.76	3.95
	1	4.02	3.35	3.41	3.47
	2	3.86	3.86	3.64	3.98
	3	N/A	N/A	N/A	N/A
	4+	N/A	N/A	N/A	N/A
3	0	3.69	3.69	3.69	3.69
	1	5.08	5.08	4.84	4.84
	2	5.51	5.51	5.51	6.16
	3	6.42	6.59	6.64	6.47
	4+	N/A	N/A	N/A	N/A
4+	0	5.21	5.21	8.05	7.06
	1	6.51	6.51	10.05	8.81
	2	8.1	8.1	10.7	8.85
	3	9.43	9.43	9.43	9.43
	4+	10.74	10.74	10.74	10.74

Source: Fehr & Peers, 2016

Non-Residential Trip Generation

The primary source for non-residential trip generation rates in the BCAG TDF model was Trip Generation, 9th Edition (Institute of transportation Engineers [ITE], 2012). This reference document contains national averages of vehicle trip generation rates for a variety of land uses in what are generally suburban locations. These rates were calibrated for major non-residential land uses such as prominent retail centers and institutions within Butte County using a methodology similar to that explained above for residential uses. Table 6 displays the final non-residential trip rates.

Trip Purposes

Trip generation rates are initially defined for total trips and later split by trip purpose. Each trip has two ends, a "production" and an "attraction". By convention, trips with one end at a residence are defined as being "produced" by the residence and "attracted" to the other use (workplace, school, retail store, etc.), and are called "Home-Based" trips. Trips that do not have one end at a residence are called "Non-Home-Based" trips.

There are 6 trip purposes used in the BCAG model:

- Home-Based Work (HBW): trips between a residence and a workplace

TABLE 6 NON-RESIDENTIAL LAND USE DAILY TRIP GENERATION

Land Use Type	Model LU	Units	Rate
Office	OFF_KSF	Thousand Square Feet	11.64
Medical Office	MED_KSF	Thousand Square Feet	33.79
Hospital	HOSP_KSF	Thousand Square Feet	13.22
Industrial	IND_KSF	Thousand Square Feet	3.70
Public/Quasi-Public	PQP_KSF	Thousand Square Feet	8.00
Park	PARK_AC	Acres	1.89
Neighborhood-Serving Retail	RET_KSF	Thousand Square Feet	42.94
Region-Serving Retail	RRET_KSF	Thousand Square Feet	47.63
Hotels	HOTEL_RMS	Rooms	6.23
K-12 School	K12_STU	Students	1.54
University	UNIV_STU	Students	1.71
Community College	CC_STU	Students	1.23
Casino (Special Generator)	CASINO_SLT	Slots	5.18

Source: Fehr & Peers, 2016

- Home-Based Other (HBO): trips between a residence and any other destination
- Non-Home-Based (NHB): trips that do not begin or end at a residence, such as traveling from a workplace to a restaurant, or from a retail store to a bank
- School (SCHOOL): trips to and from a school (K-12)
- University (UNIV): trips to and from a community college or university
- Casino (CASINO): trips to and from a casino

The 2012 CHTS data was used to determine the appropriate proportion of trips that represent each purpose. The University trip purpose category was added as part of this model update to better represent the travel patterns of students attending CSU Chico and Butte College.

Trip Productions and Attractions

Local trips (internal-to-internal, or I-I) are trips that both start and end in the study area. One of the basic requirements of any travel model is that the total number of local trips produced is equal to the total number of local trips attracted. It is logically assumed that if a journey is started somewhere, it must have an ending somewhere else. If the total productions and attractions are not equal, the model will typically adjust the attractions to match the productions, thus ensuring that each departing traveler finds a destination. While it is never possible to achieve a perfect match between productions and attractions prior to the automatic balancing procedure, a substantial mismatch in one or more trip purposes may indicate an error in the model land use inputs or trip generation.

Table 5 summarizes the local trip productions and attractions from the BCAG model for each trip purpose, prior to the application of the automatic balancing procedure. Guidelines published by Federal Highway Administration's Transportation Model Improvement Program (TMIP) and National Highway Cooperative Research Program (NCHRP) suggest that, prior to balancing, the number of productions and attractions should match to within plus or minus 10% (i.e., the production-to-attraction ratio should be within the range of 0.90 to 1.10). The results shown in Table 7 indicate that the model meets the published guidelines for all trip purposes.

TABLE 7 TRIP PRODUCTION TO ATTRACTION RATIOS BY PURPOSE

Home-Based Work (HBW)	0.98
Home-Based Other (HBO)	0.97
Non-Home-Based (NHB)	1.00

1. The trip purposes listed are the broad categories applied in most every travel model. The more specific BCAG trip purposes are subsets of these broader trip purposes, and have been aggregated here for ease of comparison. The School, Casino, and University purposes are subsets of the HBO trip purpose.

Source: Fehr & Peers, 2016.

Trip Generation Sensitivity

The BCAG TDF model contains enhancements added as part of the previous update to better capture local trip making characteristics and provide the ability to test certain policy options for future development scenarios. These enhancements include adjustments for residential and non-residential vacancy rates and adding sensitivity for aging population, the cost of travel, smart growth development, and changes to the transit system.

Vacancy Rates

The trip generation sub-model has the ability to reflect varying levels of occupancy for residential and non-residential buildings. However, for this update, BCAG staff elected to provide land use information already adjusted for vacancy. Therefore, the vacancy rate adjustment factors were set to 1.0.

Aging Population

It has long been recognized that households with older residents generate fewer vehicle trips than similar households where the residents are younger. The reason behind the reduced trip generation is generally thought to be due to the reduced number of work trips, fewer activities requiring travel, and the fact that a proportion of this age group cannot drive.

In the previous TDF model update, a scenario testing adjustment tool was developed to account for the impact an aging population would have on trip generation. However, detailed age distribution forecasts were not available at a subarea level within the county, so the tool was not applied to the future year models. For this model update, the adjustment tool was not applied because the trip generation rates estimated from the 2012 CHTS data were determined to sufficiently capture trip generation within the county.

Cost of Travel

Auto operating costs are a major influence on travel. Auto operating costs include fuel price, maintenance costs, and tire replacement costs. When determining the effects of auto operating costs on travel, economists typically use the idea of price elasticity. In the case of auto operating cost elasticity, this represents the change in VMT with respect to the auto operating cost. For the BCAG TDF model, an elasticity of -0.15 was chosen[11]. This indicates that an increase in auto operating costs of 10 percent would result in a 0.015 percent decline in VMT.

The adjustment is applied to the future year model scenarios and can be easily updated to test auto operating cost scenarios and evaluate how changes impact travel outcomes. Table 8 shows the assumed auto operating costs applied in the model.

[1] Elasticity estimate based on SACOG literature review of long-run elasticities (greater than five years) reported in the SACOG 2012 MTP/SCS. -0.11 to -0.34 (Small and Van Dender, 2007).

TABLE 8 BCAG AUTO OPERATING COSTS

Year	Cost[1]
2014	$ 0.246
2020	$ 0.256
2040	$ 0.290

1. Costs represented in 2010 dollars. 2014 & 2040 values derived from SACOG 2012 Base Year estimates (SACOG 2016 MTP/SCS). 2020 values estimated from linear interpolation.

Source: Fehr & Peers, 2016.

Built Environment Sensitivity

The 2010 RTP Guidelines recognize the importance of increasing travel demand model sensitivity to more compact development with a mix of housing types (e.g., single-family homes and apartments), work places, and retail opportunities and encourage model enhancements to account for their unique travel characteristics.

Such communities have been proven to generate fewer and shorter vehicle trips since residents and employees of these areas have more home, work, and shopping opportunities within walking or biking distance. Since future land use alternatives may be developed to follow these planning principles, the model applies the Ds (specifically Design, Diversity, Destinations, and Density), which are key built environment variables that have a proven influence on vehicle travel.

Density is measured in dwelling units or employment per acre. A wide body of research suggests that, all else being equal, denser developments generate fewer vehicle-trips per dwelling unit than less dense developments.

Diversity measures how closely the neighborhood in question matches the "ideal" mix of jobs and households, which is assumed to be the ratio of jobs to households measured across the region as a whole. Research suggests that having residences and jobs in close proximity will reduce the vehicle trips generated by each use by allowing some trips to be made on foot or by bicycle.

Design relates to the street network characteristics within a neighborhood. The design variable, when isolated, has the weakest influence on the overall adjustment of the D variables. Street networks vary from dense urban grids of highly interconnected, straight streets to sparse suburban networks of curving streets forming loops and cul-de-sacs. Street accessibility is usually measured in terms of average block size, proportion of four-way intersections, or number of intersections per square mile. Occasionally, it is also measured in terms of sidewalk coverage, building setbacks, street widths, or other physical variables that differentiate pedestrian-oriented environments.

Destination accessibility is synonymous with regional accessibility. In some cases, regional accessibility is simply represented by distance to the central business district. In other cases, it is represented by the number of jobs or other attractions reachable within a given travel time, which tends to be highest at central locations and lowest at peripheral ones. The gravity model used in the trip distribution stage of the model process adequately accounts for this D variable so it was also not applied.

The Ds are applied by comparing the built environment characteristics of one alternative to another in the same forecast year. For each of the D variables, there is an associated elasticity, derived from numerous studies, which is used to adjust the vehicle trip generation of each TAZ. Table 9 shows the elasticities applied in the BCAG model.

TABLE 9 D ELASTICITIES

Variable	Elasticity
Density	-0.04
Diversity	-0.06
Design	-0.02

Source: ***INDEX® 4D Method: A Quick-Response Method of Estimating Travel Impacts from Land-Use Changes,*** Criterion Planners/Engineers and Fehr & Peers, U.S. EPA, October, 2001.

TRIP DISTRIBUTION (GRAVITY MODEL)

Once the trip generation step has estimated the number of trips that begin and end in each zone, the trip distribution process determines the specific destination of each originating trip. The destination may be within the zone itself, resulting in an intra-zonal trip. If the destination is outside of the zone of origin, it is an inter-zonal trip. Inter-zonal trips consist of three types.

- Internal-internal (I-I) trips that originate and terminate within the model area.
- Internal-external (I-X) trips that originate within but terminate outside of the model area.
- External-internal (X-I) trips that originate outside and terminate inside of the model area.

Trips passing completely through the model area, without stopping, are external-external (X-X).

The trip distribution model uses a gravity model equation to distribute trips to all zones. This equation estimates an accessibility index for each zone based on the number of attractions in each zone and the travel time between zones. Each attraction zone is given its share of productions based on its share of the accessibility index. This process applies to the I-I, I-X, and X-I trips. The X-X trips are added to the trip matrix prior to final assignment.

Friction Factors

Friction factors, also known as travel time factors, are used in calculating the relative attractiveness of each destination zone based on the travel time between TAZs and the number of potential origins and destinations in each TAZ. These factors are used in the trip distribution stage of the model. The BCAG model friction factors are based on data reported in national modeling reference documents such as National Cooperative Highway Research Program (NCHRP) 365 and remain unchanged from the previous model update.

Internal/External Trips Interactions

One of the important inputs to a travel model is an estimate of the amount of travel between the study area and neighboring areas outside the model. These are typically called internal-external, or I-X/X-I, trips. The I-X/X-I percentages were initially estimated for each model trip purpose using the 2012 CHTS data. These estimates were then refined using the County's external station counts. Table 10 summarizes the proportion of trips by purpose that are assumed to have one end outside the model area.

TABLE 10 PERCENT OF TRIPS BY PURPOSE THAT ARE INTERNAL/EXTERNAL

Purpose	Prod.	Attr.
Home-Based Work (HBW)	7.2%	7.6%
Home-Based Other (HBO)	5.2%	5.1%
Non-Home-Based (NHB)	2.8%	2.8%
School	0.5%	0.5%
University	0.5%	0.5%

1. Casino trips are distributed separately to external stations using a special generator specification in the model land use table.

Source: Fehr & Peers, 2016.

After the number of I-X/X-I trips are estimated, these trips are distributed to the stations around the perimeter of the model area using external station weights. External station weights are based on counts collected at each external station (these are roadway segments at the border of the model area). The number of through trips at each station was subtracted from the count and the remainder was filled in by I-X/X-I trips estimates. The resulting external station weights are presented in Table 11.

TABLE 11 EXTERNAL STATION WEIGHTS

ID	Description	Weight
1	Hwy 99 - north of Butte County Line	17.0%
2	Cohasset Rd - north of Musty Buck Rd	0.2%
3	Hwy 32 - north of Humboldt Rd	0.9%
4	Humboldt Rd - north of Jonesville Rd	0.01%
5	Hwy 70 - north of Butte County Line	1.7%
6	Oroville Quincy Hwy - north of Haskins Valley Rd	0.4%
7	Forbestown Rd - east of Reservoir Rd	1.1%
8	La Porte Rd - northeast of Robinson Mill Rd	0.4%
9	Loma Rica Rd - south of La Porte Rd	0.3%
10	La Porte Rd - south of Butte County Line	0.2%
11	Hwy 70 - south of Butte County Line	18.0%
12	Larkin Rd - south of Butte County Line	4.9%
13	Hwy 99 - south of Butte County Line	24.0%
14	Pennington Rd - south of Rutherford Rd	0.6%
15	Colusa Hwy - west of Cherokee Canal Rd	1.2%
16	Afton Rd - west of Aguas Frias Rd	0.2%
17	Hwy 162 - west of Butte County Line	2.3%
18	Road Z - south of Road 48	0.1%
19	Ord Ferry Rd - west of Hugh Baber Ln	4.9%
20	Hwy 32 - west of Butte County Line	21.3%

Source: Fehr & Peers, 2016.

Through Trips

Through trips (also called external-external, or X-X trips) are trips that pass through the study area without stopping inside the study area. The major flows of through traffic in Butte County use Hwy 99, Hwy 70, and Hwy 32, with lower volumes of through traffic using other arterials. The size of these flows was estimated based on traffic counts collected as part of the model update.

TRIP ASSIGNMENT

The trip assignment process determines the route that each vehicle trip takes from a particular origin to a particular destination. It uses an iterative, capacity-restrained assignment routine to determine a travel path that minimizes travel time, while taking into account congestion delays caused by the other simulated trips in the model.

The general assignment process includes the following steps.

- Assign all trips to the links along their selected paths
- After all assignments, examine the volume on each link and adjust its impedance based on the volume-to-capacity ratio
- Repeat the assignment process for a set number of iterations or until specified criteria related to minimizing travel delays are satisfied

Calibration of the roadway network included modification of the centroid connectors to more accurately represent the location that traffic accesses local roads; adjustment of speeds from posted speed limits to reflect the attractiveness of the route and the prevailing speed of traffic; and adjustment of capacities to reflect the attractiveness of the route.

Time Periods

The BCAG model estimates travel for the average weekday (Monday through Friday). The daily roadway volumes are aggregated from the AM and PM peak period, and Mid-day and Evening off-peak period assignments. Additionally, the model performs AM and PM peak one hour assignments. Descriptions of each assignment time period are presented in Table 12. The specific time periods represented in the model were developed by reviewing the distribution of existing traffic counts across a 24 hour period as well as reviewing the time period distributions of travel models in neighboring jurisdictions (i.e. NCTC, SACOG, TRPA).

TABLE 12 TIME PERIODS

Description	Duration	Time
AM Peak Period	3 Hours	6:00 – 8:59 AM
Mid-day Period	7 Hours	9:00 AM – 3:59 PM
PM Peak Period	3 Hours	4:00 – 6:59 PM
Off-Peak Period	11 Hours	7:00 PM – 5:59 AM
AM Peak Hour	1 Hour	7:00 – 7:59 AM
PM Peak Hour	1 Hour	5:00 – 5:59 PM

Source: Fehr & Peers, 2016.

Turn Penalties

Turn penalties are used to prohibit or add delay to certain turning movements. The BCAG model prohibits traffic from making turns across impassable medians. In addition, the model may prohibit U-turns at some locations in order to avoid counter-intuitive traffic routing. Turn penalties may be in effect during the entire day, during one or all peak periods, or only at the peak hour level.

TRANSIT FORECASTING

While the BCAG TDF Model does not have a mode choice sub-model, a separate off-model tool was developed as part of the previous model update to use transportation and land use data along bus lines to predict ridership. Given the geographic and demographic diversity in the County, three direct ridership forecasting (DRF) models were developed and tested, using BCAG's extensive bus data, to best fit the existing ridership levels based on land use and transit system information.

For this update the DRF models were re-estimated and calibrated to fit current ridership data provided by BCAG staff. The models can be used, not only to forecast future B-Line ridership, but to estimate the effect of rerouting existing lines, adjusting headways, or developing new bus lines in the County.

4

MODEL VALIDATION

Model validation is the term used to describe model performance in terms of how closely the model's output matches existing travel data in the base year. The extent to which model outputs match existing travel data validates the assumptions of the inputs.

Traditionally, most model validation guidelines have focused on the performance of the trip assignment function in accurately assigning trips to the roadway network. This metric is called static validation, and it remains the most common means of measuring model accuracy.

Models, however, are seldom used for static applications. By far the most common use of models is to forecast how a change in inputs would result in a change in traffic conditions. Therefore, another test of a model's accuracy focuses on the model's ability to predict realistic differences in outputs as inputs are changed. This method is referred to as dynamic validation. This section describes the highest-level validation checks that have been performed for the BCAG TDF model.

STATIC VALIDATION

The most critical static measurement of the accuracy of any travel model is the degree to which it can approximate actual traffic counts in the base year. The 2010 California Regional Transportation Plan Guidelines, California Transportation Commission, contains the following specific static validation criteria and thresholds that have been used to evaluate the BCAG model performance.

- At least 75 percent of the roadway links for which counts are available should be within the maximum desirable deviation, which ranges from approximately 15 to 60 percent depending on total volume (the larger the volume, the less deviation is permitted).
- A correlation coefficient of at least 0.88 - The correlation coefficient estimates the overall level of accuracy between observed traffic counts and the estimated traffic volumes from the model. These coefficient ranges from 0 to 1.0, where 1.0 indicates that the model perfectly fits the data.

- The percent root mean square error (RMSE) below 40% - The RMSE is the square root of the model volume minus the actual count squared, divided by the number of counts. In other words, it is the average of all the link-by-link percent differences, and it is an indicator on how far the model volumes are away from counts, on link-by-link average, expressed as a percent. It is a measure similar to standard deviation in that it assesses the accuracy of the entire model.

In addition to these criteria, the model-wide volume-to-count ratio was checked against a desired maximum threshold of no more than a 10 percent deviation. The validity of the BCAG model was tested for 282 individual roadway segments under daily, AM peak hour, and PM peak hour conditions. The results are shown in Table 13.

DYNAMIC VALIDATION

Static validation provides information on a model's ability to reproduce a static condition. However, the most common use of models is to forecast how a change in inputs would result in a change in traffic conditions. Dynamic validation tests, recommended in the 2010 California Regional Transportation Plan Guidelines, evaluate a model's response to changing inputs. The results of dynamic validation tests are inspected for reasonableness relative to the direction and magnitude of change. The tests described below do not reflect any planned changes or improvements.

Land Use Tests

The BCAG Model has been developed to be used as a tool to evaluate land use scenarios in planning efforts such as EIRs, City General Plans, and the Regional Transportation Plan. The

TABLE 13 RESULTS OF MODEL VALIDATION

Validation Item	Criterion of Acceptance	Daily	AM Peak Hour	PM Peak Hour
Model-wide Volume-to-Count Ratio	Within + 10%	0%	-2%	+5%
Percent of Links Within Deviation Allowance	At Least 75%	83%	78%	76%
Correlation Coefficient	At Least 88%	95%	91%	95%
RMSE	40% or Less	29%	39%	32%

Source: Fehr & Peers, 2016.

specific dynamic validation tests completed for this model update are listed below.

- Add 10, 100, and 1,000 dwelling units to a TAZ
- Add 10,000 and 100,000 square feet of retail to a TAZ
- Remove 10 and 100 dwelling units from a TAZ
- Remove 10,000 and 100,000 square feet of retail from a TAZ

The key model output variables involved in the dynamic validation tests are vehicle trips (VT) generated and vehicle miles of travel (VMT). These tests are intended to reveal whether the model output changes in the correct direction and magnitude. The dynamic validation results for the land use changes are summarized in Table 14.

Table 14 shows that the model responds reasonably to changes in land uses. For example, when changing residential uses, the change in overall model vehicle trip generation and VMT is stable across the entire range and produces results that are reasonable (i.e., 7.8 vehicle trips per household and approximately 60 VMT per household). In addition, the change in trip generation at the TAZ level is as expected with the increase/decrease corresponding to the change in households. The magnitude of vehicle trip generation at the TAZ level is reasonable given the socioeconomic characteristics of the test area located in Chico.

TABLE 14 DYNAMIC VALIDATION: CHANGE IN LAND USES

Land Use Change	Change in TAZ Trip Generation	Model-wide Changes			
		Vehicle Trips	Vehicle Trips/HU or KSF	VMT	VMT/HU or KSF
Add 10 Housing Units	+81	251,753	7.79	5,483,894	61.6
Add 100 Housing Units	+731	252,294	7.79	5,484,180	61.5
Add 1,000 Housing Units	+7,229	257,708	7.77	5,488,037	60.9
Remove 10 Housing Units	-72	251,632	7.73	5,332,841	59.9
Remove 100 Housing Units	-717	251,091	7.73	5,332,785	59.9
Add 10 KSF of Retail Space	+421	251,834	59.7	5,335,165	462.2
Add 100 KSF of Retail Space	+4,195	253,103	59.3	5,357,839	460.6
Remove 10 KSF of Retail Space	-419	251,551	59.7	5,330,349	462.6
Remove 100 KSF of Retail Space	-4,201	250,282	60.1	5,310,822	464.5

Source: Fehr & Peers, 2016.

Roadway Network Tests

The specific network dynamic validation tests performed on the BCAG Model focused on what happens when network capacity is increased or decreased via lane additions or new roadway segments. The specific tests are listed below.

- Add lanes to a roadway segment
- Remove lanes from a roadway segment
- Add a new roadway segment
- Remove a roadway segment

The dynamic validation results for the network tests are summarized in Table 15.

As shown in Table 15, the model behaves as would be expected in response to changes in the roadway network. For example, the addition of a lane in each direction on Clark Road between Bille Road and Wagstaff Road increases traffic on the link as well and the entire screen-line. Similarly, removing the E. Lassen Avenue crossing decreases traffic across the screen-line.

When a new extension of Montgomery Street from SR 70 to 7th Street was added, the overall screen-line volumes increased. However, the new roadway experienced more growth than the screen-line as a whole. This result is reasonable, since the new roadway would provide an alternative to more parallel routes and would induce more traffic across the screen-line.

TABLE 15 DYNAMIC VALIDATION: CHANGE IN ROADWAY NETWORK

Test	ADT Before Change	ADT After Change		
	Test Roadway	Screen-line	Test Roadway	Screen-line
Add one lane in each direction to Clark Road between Bille Road and Wagstaff Road[1]	13,650	40,744	13,828	40,791
Remove one lane in each direction from Clark Road between Bille Road and Wagstaff Road	13,650	40,744	11,940	39,397
New Road: New extension of Montgomery Street from SR 70 interchange to 7th Street[2]	0	18,930	2,036	19,217
Remove Road: Remove E. Lassen Avenue crossing under SR 99[3]	5,791	66,286	0	65,033

ADT – Average Daily Traffic

1. Screen-line includes ADT on Skyway, Oak Way, Harvey Rd., Clark Rd., Forest Ln., and Pentz Rd.

2. Screen-line includes ADT on Nelson Ave., Grand Ave., and Oroville Dam Blvd.

3. Screen-line includes ADT on E. Eaton Rd., East Ave., and Cohasset Rd.

Source: Fehr & Peers, 2016.

05

FUTURE YEAR MODEL

Once the base year model calibration and validation was complete, Fehr & Peers received TAZ growth projections provided by BCAG staff and developed one future year (2040) and two interim (2020 & 2035) model scenarios.

Table 16 reports the land use totals for the base year, interim years, and future year, along with the growth projections

TABLE 16 MODEL LAND USE TOTALS BY SCENARIO YEAR

Land Use Type	Units	2014	2020	2035	2040
Single Family Residential	Dwelling Units	54,299	60,630	79,093	82,553
Multi-Family Residential	Dwelling Units	22,948	25,317	33,121	34,573
Mobile Home Residential	Dwelling Units	11,825	11,972	11,972	11,972
Office	Thousand Square Feet	6,423	7,102	9,423	9,489
Medical Office	Thousand Square Feet	1,900	2,014	2,225	2,618
Hospital	Thousand Square Feet	1,157	1,248	1,580	1,647
Industrial	Thousand Square Feet	10,948	12,469	15,628	16,206
Public/Quasi-Public	Thousand Square Feet	2,128	2,293	2,912	3,031
Park	Acres	476	514	651	675
Neighborhood-Serving Retail	Thousand Square Feet	11,533	13,022	16,506	17,154
Region-Serving Retail1	Thousand Square Feet	0	0	0	0
Hotels	Rooms	2,143	2,314	2,933	3,053
K-12 School	Students	28,653	29,021	29,508	29,711
University	Students	16,500	17,812	22,581	23,504
Community College	Students	12,600	13,602	17,243	17,948
Casino (Special Generator)	Slots	2,000	2,159	2,737	2,849

1. For this model update, all retail land uses were placed in the Neighborhood-Serving Retail land use category.

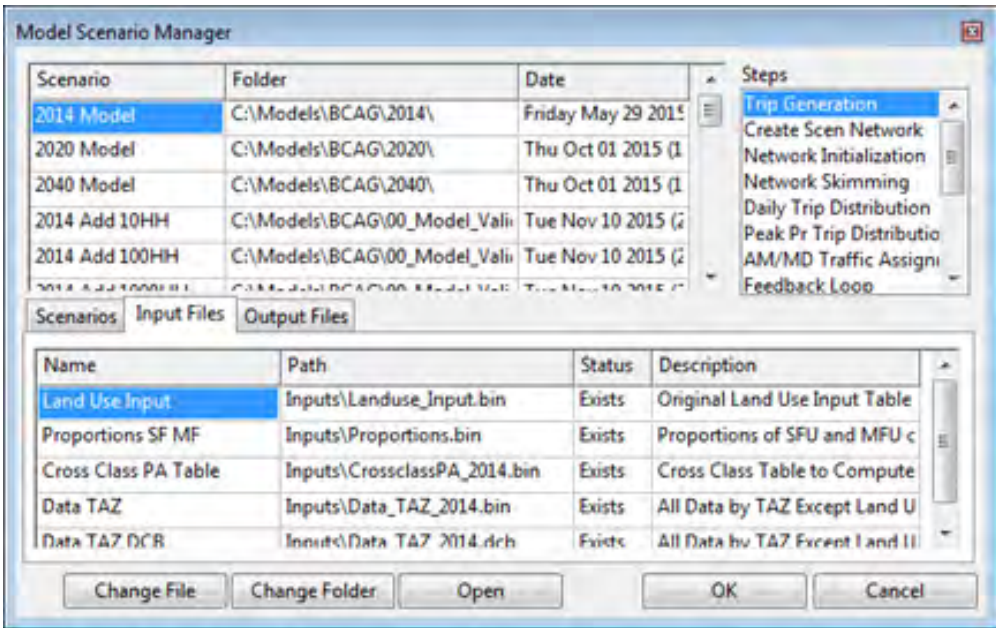
Source: Fehr & Peers, 2016.

06

MODEL INTERFACE

The Graphical User Interface (GUI) developed for the BCAG Travel Demand Model was built to allow the user to conveniently run the model with the click of a button, without going into the technicalities of the programs beneath the model. The GUI closely follows the stages in the model and gives the user the ability to run one stage of the model at a time or run the entire model system by the click of a button.

The figure below shows the TransCAD based GUI and model scenario manager, programmed with GISDK



APPENDIX
TRIP GENERATION RATES

BCAG Trip Generation Table

Output Table for Area 1

[Area Type]	[Employment Type]	LU_Type	LU_Unit	R_HBW_P	R_HBO_P	R_NHB_P	R_SCHOOL_P	R_CASINO_P	R_UNIV_P	R_SP3_P	R_SP2_P	R_SP1_P	R_HBW_A	R_HBO_A	R_NHB_A	R_SCHOOL_A	R_CASINO_A	R_UNIV_A	R_SP3_A	R_SP2_A	R_SP1_A	R_HBW_IX_P	R_HBO_IX_P	R_NHB_IX_P	R_SCHOOL_IX_P	R_CASINO_IX_P	R_UNIV_IX_P	R_SP3_IX_P	R_SP2_IX_P	R_SP1_IX_P	R_HBW_XI_A	R_HBO_XI_A	R_NHB_XI_A	R_SCHOOL_XI_A	R_CASINO_XI_A	R_UNIV_XI_A	R_SP3_XI_A	R_SP2_XI_A	R_SP1_XI_A
1	1	SF101	DU	0.081	1.705	0.028	0.000	0.029	0.866	0.000	0.000	0.000	0.000	0.055	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.093	0.001	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	2	SF102	DU	0.084	1.774	0.029	0.000	0.030	0.900	0.000	0.000	0.000	0.000	0.057	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.096	0.001	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	3	SF103	DU	0.084	1.774	0.029	0.000	0.030	0.900	0.000	0.000	0.000	0.000	0.057	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.096	0.001	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	4	SF104	DU	0.084	1.774	0.029	0.000	0.030	0.900	0.000	0.000	0.000	0.000	0.057	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.096	0.001	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	5	SF111	DU	1.207	1.695	0.032	0.000	0.033	0.000	0.000	0.000	0.000	0.000	0.062	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.093	0.092	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	6	SF112	DU	1.240	1.743	0.032	0.000	0.033	0.000	0.000	0.000	0.000	0.000	0.063	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.096	0.095	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	7	SF113	DU	1.149	1.614	0.030	0.000	0.031	0.000	0.000	0.000	0.000	0.000	0.059	0.030	0.000	0.000	0.000	0.000	0.000	0.000	0.089	0.088	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	8	SF114	DU	1.294	1.817	0.034	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.066	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.100	0.099	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	9	SF201	DU	0.204	3.077	0.053	0.109	0.055	1.642	0.000	0.000	0.000	0.000	0.104	0.053	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.167	0.002	0.001	0.000	0.008	0.000	0.000	0.000	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	10	SF202	DU	0.181	2.735	0.047	0.097	0.049	1.459	0.000	0.000	0.000	0.000	0.093	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.149	0.001	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.005	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	11	SF203	DU	0.202	3.048	0.053	0.108	0.054	1.626	0.000	0.000	0.000	0.000	0.103	0.053	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.166	0.002	0.001	0.000	0.008	0.000	0.000	0.000	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	12	SF204	DU	0.213	3.208	0.056	0.114	0.057	1.712	0.000	0.000	0.000	0.000	0.109	0.056	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.174	0.002	0.001	0.000	0.008	0.000	0.000	0.000	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	13	SF211	DU	1.676	3.425	0.057	0.116	0.058	0.000	0.000	0.000	0.000	0.000	0.111	0.057	0.000	0.000	0.000	0.000	0.000	0.000	0.130	0.186	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	14	SF212	DU	1.403	2.867	0.047	0.097	0.049	0.000	0.000	0.000	0.000	0.000	0.093	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.108	0.156	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	15	SF213	DU	1.422	2.905	0.048	0.098	0.049	0.000	0.000	0.000	0.000	0.000	0.094	0.048	0.000	0.000	0.000	0.000	0.000	0.000	0.110	0.158	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	16	SF214	DU	1.451	2.966	0.049	0.100	0.050	0.000	0.000	0.000	0.000	0.000	0.096	0.049	0.000	0.000	0.000	0.000	0.000	0.000	0.112	0.161	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	17	SF221	DU	2.606	2.397	0.055	0.000	0.056	0.000	0.000	0.000	0.000	0.000	0.107	0.055	0.000	0.000	0.000	0.000	0.000	0.000	0.202	0.130	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	18	SF222	DU	2.606	2.397	0.055	0.000	0.056	0.000	0.000	0.000	0.000	0.000	0.107	0.055	0.000	0.000	0.000	0.000	0.000	0.000	0.202	0.130	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	19	SF223	DU	2.456	2.258	0.051	0.000	0.053	0.000	0.000	0.000	0.000	0.000	0.100	0.051	0.000	0.000	0.000	0.000	0.000	0.000	0.190	0.123	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	20	SF224	DU	2.685	2.469	0.056	0.000	0.058	0.000	0.000	0.000	0.000	0.000	0.110	0.056	0.000	0.000	0.000	0.000	0.000	0.000	0.208	0.134	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	21	SF301	DU	0.199	2.903	0.052	0.160	0.054	1.656	0.000	0.000	0.000	0.000	0.102	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.158	0.002	0.001	0.000	0.008	0.000	0.000	0.000	0.000	0.005	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	22	SF302	DU	0.199	2.903	0.052	0.160	0.054	1.656	0.000	0.000	0.000	0.000	0.102	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.158	0.002	0.001	0.000	0.008	0.000	0.000	0.000	0.000	0.005	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	23	SF303	DU	0.199	2.903	0.052	0.160	0.054	1.656	0.000	0.000	0.000	0.000	0.102	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.158	0.002	0.001	0.000	0.008	0.000	0.000	0.000	0.000	0.005	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	24	SF304	DU	0.199	2.903	0.052	0.160	0.054	1.656	0.000	0.000	0.000	0.000	0.102	0.052	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.158	0.002	0.001	0.000	0.008	0.000	0.000	0.000	0.000	0.005	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	25	SF311	DU	1.234	4.832	0.072	0.588	0.074	0.000	0.000	0.000	0.000	0.000	0.140	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.095	0.262	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	26	SF312	DU	1.234	4.832	0.072	0.588	0.074	0.000	0.000	0.000	0.000	0.000	0.140	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.095	0.262	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	27	SF313	DU	1.173	4.594	0.068	0.559	0.070	0.000	0.000	0.000	0.000	0.000	0.133	0.068	0.000	0.000	0.000	0.000	0.000	0.000	0.091	0.250	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	28	SF314	DU	1.173	4.594	0.068	0.559	0.070	0.000	0.000	0.000	0.000	0.000	0.133	0.068	0.000	0.000	0.000	0.000	0.000	0.000	0.091	0.250	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	29	SF321	DU	2.449	4.171	0.078	0.477	0.160	0.000	0.000	0.000	0.000	0.000	0.152	0.078	0.000	0.000	0.000	0.000	0.000	0.000	0.189	0.227	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	30	SF322	DU	2.449	4.171	0.078	0.477	0.160	0.000	0.000	0.000	0.000	0.000	0.152	0.078	0.000	0.000	0.000	0.000	0.000	0.000	0.189	0.227	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	31	SF323	DU	2.449	4.171	0.078	0.477	0.160	0.000	0.000	0.000	0.000	0.000	0.152	0.078	0.000	0.000	0.000	0.000	0.000	0.000	0.189	0.227	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	32	SF324	DU	2.744	4.673	0.087	0.535	0.179	0.000	0.000	0.000	0.000	0.000	0.170	0.087	0.000	0.000	0.000	0.000	0.000	0.000	0.212	0.254	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	33	SF331	DU	4.939	3.010	0.091	0.279	0.187	0.000	0.000	0.000	0.000	0.000	0.177	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.382	0.164	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	34	SF332	DU	5.062	3.086	0.093	0.286	0.191	0.000	0.000	0.000	0.000	0.000	0.182	0.093	0.000	0.000	0.000	0.000	0.000	0.000	0.391	0.168	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	35	SF333	DU	5.097	3.106	0.094	0.288	0.193	0.000	0.000	0.000	0.000	0.000	0.183	0.094	0.000	0.000	0.000	0.000	0.000	0.000	0.394	0.169	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	36	SF334	DU	4.973	3.031	0.091	0.281	0.188	0.000	0.000	0.000	0.000	0.000	0.178	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.384	0.165	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	37	SF401	DU	0.281	3.732	0.074	0.301	0.076	2.635	0.000	0.000	0.000	0.000	0.144	0.074	0.000	0.000	0.000	0.000	0.000	0.000	0.022	0.203	0.002	0.001	0.000	0.013	0.000	0.000	0.000	0.000	0.008	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	38	SF402	DU	0.281	3.732	0.074	0.301	0.076	2.635	0.000	0.000	0.000	0.000	0.144	0.074	0.000	0.000	0.000	0.000	0.000	0.000	0.022	0.203	0.002	0.001	0.000	0.013	0.000	0.000	0.000	0.000	0.008	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	39	SF403	DU	0.433	5.758	0.113	0.465	0.117	4.066	0.000	0.000	0.000	0.000	0.222	0.113	0.000	0.000	0.000	0.000	0.000	0.000	0.034	0.313	0.003	0.002	0.000	0.020	0.000	0.000	0.000	0.000	0.012	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	40	SF404	DU	0.380	5.052	0.100	0.408	0.102	3.568	0.000	0.000	0.000	0.000	0.195	0.100	0.000	0.000	0.000	0.000	0.000	0.000	0.029	0.274	0.003	0.002	0.000	0.017	0.000	0.000	0.000	0.000	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	41	SF411	DU	0.965	5.827	0.092	1.693	0.189	0.000	0.000	0.000	0.000	0.000	0.179	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.075	0.316	0.003	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	42	SF412	DU	0.965	5.827	0.092	1.693	0.189	0.000	0.000	0.000	0.000	0.000	0.179	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.075	0.316	0.003	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	43	SF413	DU	1.491	9.000	0.142	2.615	0.292	0.000	0.000	0.000	0.000	0.000	0.277	0.142	0.000	0.000	0.000	0.000	0.000	0.000	0.115	0.489	0.004	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.004	0.000	0.000	0.000	0.000	0.000	0.000
1	44	SF414	DU	1.307	7.894	0.124	2.294	0.256	0.000	0.000	0.000	0.000	0.000	0.243	0.124	0.000	0.000	0.000	0.000	0.000	0.000	0.101	0.429	0.004	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.004	0.000	0.000	0.000	0.000	0.000	0.000
1	45	SF421	DU	2.509	5.908	0.114	2.105	0.235	0.000	0.000	0.000	0.000	0.000	0.223	0.114	0.000	0.000	0.000	0.000	0.000	0.000	0.194	0.321	0.003	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	46	SF422	DU	2.509	5.908	0.114	2.105	0.235	0.000	0.000	0.000	0.000	0.000	0.223	0.114	0.000	0.000	0.000	0.000	0.000	0.000	0.194	0.321	0.003	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	47	SF423	DU	3.314	7.803	0.151	2.781	0.310	0.000	0.000	0.000	0.000	0.000	0.295	0.151	0.000	0.000	0.000	0.000	0.000	0.000	0.256	0.424	0.004	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.004	0.000	0.000	0.000	0.000	0.000	0.000
1	48	SF424	DU	2.745	6.463	0.125	2.303	0.257	0.000	0.000	0.000	0.000	0.000	0.244	0.125	0.000	0.000	0.000	0.000	0.000	0.000	0.212	0.351	0.004	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.013	0.004	0.000	0.000	0.000	0.000	0.000	0.000
1	49	SF431	DU	2.287	8.180	0.133	1.771	0.274	0.000	0.000	0.000	0.000	0.000	0.260	0.133	0.000	0.000	0.000	0.000	0.000	0.000	0.177	0.444	0.004	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.004	0.000	0.000	0.000	0.000	0.000	0.000
1	50	SF432	DU	2.287	8.180	0.133	1.771	0.274	0.000	0.000	0.000	0.000	0.000	0.260	0.133	0.000	0.000	0.000	0.000	0.000	0.000	0.177	0.444	0.004	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.004	0.000	0.000	0.000	0.000	0.000	0.000
1	51	SF433	DU	2.287	8.180	0.133	1.771	0.274	0.000	0.000	0.000	0.000	0.000	0.260	0.133	0.000	0.000	0.000	0.000	0.000	0.000	0.177	0.444	0.004	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.004	0.000	0.000	0.000	0.000	0.000	0.000
1	52	SF434	DU	2.287	8.180	0.133	1.771	0.274	0.000	0.000	0.000	0.000	0.000	0.260	0.133	0.000	0.000	0.000	0.000	0.000	0.000	0.177	0.444	0.004	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.004	0.000	0.000	0.000	0.000	0.000	0.000
1	53	SF441	DU	5.213	8.138	0.152	0.466	0.312	0.000	0.000	0.000	0.000	0.000	0.296	0.152	0.000	0.000	0.000	0.000	0.000	0.000	0.403	0.442	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.004	0.000	0.000	0.000	0.000	0.000	0.000
1	54	SF442	DU	5.213	8.138	0.152	0.466	0.312	0.000	0.000	0.000	0.000	0.000	0.296	0.152	0.000	0.000	0.000	0.000	0.000	0.000	0.403	0.442	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.004	0.000	0.000	0.000	0.000	0.000	0.000
1	55	SF443	DU	5.213	8.138	0.152	0.466	0.312	0.000	0.000	0.000	0.000	0.000	0.296	0.152	0.000	0.000	0.000	0.000	0.000	0.000	0.403	0.442	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.004	0.000	0.000	0.000	0.000	0.000	0.000
1	56	SF444	DU	5.213	8.138	0.152	0.466	0.312	0.000	0.000	0.000	0.000	0.000	0.296	0.152	0.000	0.000	0.000	0.000	0.000	0.000	0.403	0.442	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.004	0.000	0.000	0.000	0.000	0.000	0.000
1	57	MF101	DU	0.059	1.254	0.021	0.000	0.021	0.637	0.000	0.000	0.000	0.000	0.040	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.068	0.001	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	58	MF102	DU	0.062	1.307	0.022	0.000	0.022	0.664	0.000	0.000	0.000	0.000	0.042	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.071	0.001	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	59	MF103	DU	0.062	1.307	0.022	0.000	0.022	0.664	0.000	0.000	0.000	0.000	0.042	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.071	0.001	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	60	MF104	DU	0.062	1.307	0.022	0.000	0.022	0.664	0.000	0.000	0.000	0.000	0.042	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.071	0.001	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	61	MF111	DU	0.888	1.248	0.023	0.000	0.024	0.000	0.000	0.000	0.000	0.000	0.045	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.069	0.068	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	62	MF112	DU	0.917	1.289	0.024	0.000	0.025	0.000	0.000	0.000	0.000	0.000	0.047	0.024	0.000	0.000	0.000	0.000	0.000	0.000	0.071	0.070	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	63	MF113	DU	0.850	1.194	0.022	0.000	0.023	0.000	0.000	0.000	0.000	0.000	0.043	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.066	0.065	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	64	MF114	DU	0.956	1.343	0.025	0.000	0.026	0.000	0.000	0.000	0.000	0.000	0.049	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.074	0.073	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	65	MF201	DU	0.151	2.270	0.039	0.081	0.041	1.211	0.000	0.000	0.000	0.000	0.077	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.123	0.001	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	66	MF202	DU	0.134	2.022	0.035	0.072	0.036	1.079	0.000	0.000	0.000	0.000	0.069	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.110	0.001	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	67	MF203	DU	0.149	2.248	0.039	0.080	0.040	1.199	0.000	0.000	0.000	0.000	0.076	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.122	0.001	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	68	MF204	DU	0.157	2.364	0.041	0.084	0.042	1.261	0.000	0.000	0.000	0.000	0.080	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.128	0.001	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	69	MF211	DU	1.238	2.530	0.042	0.086	0.043	0.000	0.000	0.000	0.000	0.000	0.082	0.042	0.000	0.000	0.000	0.000	0.000	0.000	0.096	0.137	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	70	MF212	DU	1.032	2.110	0.035	0.071	0.036	0.000	0.000	0.000	0.000	0.000	0.068	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.080	0.115	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	71	MF213	DU	1.047	2.141	0.035	0.072	0.036	0.000	0.000	0.000	0.000	0.000	0.069	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.081	0.116	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	72	MF214	DU	1.070	2.186	0.036	0.074	0.037	0.000	0.000	0.000	0.000	0.000	0.071	0.036	0.000	0.000	0.000	0.000	0.000	0.000	0.083	0.119	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	73	MF221	DU	1.919	1.764	0.040	0.000	0.041	0.000	0.000	0.000	0.000	0.000	0.078	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.148	0.096	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	74	MF222	DU	1.919	1.764	0.040	0.000	0.041	0.000	0.000	0.000	0.000	0.000	0.078	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.148	0.096	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	75	MF223	DU	1.810	1.665	0.038	0.000	0.039	0.000	0.000	0.000	0.000	0.000	0.074	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.140	0.090	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	76	MF224	DU	1.979	1.820	0.041	0.000	0.043	0.000	0.000	0.000	0.000	0.000	0.081	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.153	0.099	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	77	MF301	DU	0.147	2.137	0.038	0.118	0.040	1.219	0.000	0.000	0.000	0.000	0.075	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.116	0.001	0.001	0.000	0.006	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	78	MF302	DU	0.147	2.137	0.038	0.118	0.040	1.219	0.000	0.000	0.000	0.000	0.075	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.116	0.001	0.001	0.000	0.006	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	79	MF303	DU	0.147	2.137	0.038	0.118	0.040	1.219	0.000	0.000	0.000	0.000	0.075	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.116	0.001	0.001	0.000	0.006	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	80	MF304	DU	0.147	2.137	0.038	0.118	0.040	1.219	0.000	0.000	0.000	0.000	0.075	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.116	0.001	0.001	0.000	0.006	0.000	0.000	0.000	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	81	MF311	DU	0.910	3.565	0.053	0.434	0.054	0.000	0.000	0.000	0.000	0.000	0.103	0.053	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.194	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	82	MF312	DU	0.910	3.565	0.053	0.434	0.054	0.000	0.000	0.000	0.000	0.000	0.103	0.053	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.194	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	83	MF313	DU	0.864	3.386	0.050	0.412	0.052	0.000	0.000	0.000	0.000	0.000	0.098	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.067	0.184	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	84	MF314	DU	0.864	3.386	0.050	0.412	0.052	0.000	0.000	0.000	0.000	0.000	0.098	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.067	0.184	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	85	MF321	DU	1.804	3.072	0.057	0.352	0.118	0.000	0.000	0.000	0.000	0.000	0.112	0.057	0.000	0.000	0.000	0.000	0.000	0.000	0.139	0.167	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	86	MF322	DU	1.804	3.072	0.057	0.352	0.118	0.000	0.000	0.000	0.000	0.000	0.112	0.057	0.000	0.000	0.000	0.000	0.000	0.000	0.139	0.167	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	87	MF323	DU	1.804	3.072	0.057	0.352	0.118	0.000	0.000	0.000	0.000	0.000	0.112	0.057	0.000	0.000	0.000	0.000	0.000	0.000	0.139	0.167	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	88	MF324	DU	2.023	3.445	0.064	0.394	0.132	0.000	0.000	0.000	0.000	0.000	0.125	0.064	0.000	0.000	0.000	0.000	0.000	0.000	0.156	0.187	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	89	MF331	DU	3.639	2.218	0.067	0.205	0.138	0.000	0.000	0.000	0.000	0.000	0.131	0.067	0.000	0.000	0.000	0.000	0.000	0.000	0.281	0.120	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	90	MF332	DU	3.735	2.276	0.069	0.211	0.141	0.000	0.000	0.000	0.000	0.000	0.134	0.069	0.000	0.000	0.000	0.000	0.000	0.000	0.289	0.124	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	91	MF333	DU	3.756	2.289	0.069	0.212	0.142	0.000	0.000	0.000	0.000	0.000	0.135	0.069	0.000	0.000	0.000	0.000	0.000	0.000	0.290	0.124	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	92	MF334	DU	3.666	2.234	0.067	0.207	0.139	0.000	0.000	0.000	0.000	0.000	0.132	0.067	0.000	0.000	0.000	0.000	0.000	0.000	0.283	0.121	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	93	MF401	DU	0.207	2.751	0.054	0.222	0.056	1.943	0.000	0.000	0.000	0.000	0.106	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.149	0.002	0.001	0.000	0.009	0.000	0.000	0.000	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	94	MF402	DU	0.207	2.751	0.054	0.222	0.056	1.943	0.000	0.000	0.000	0.000	0.106	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.149	0.002	0.001	0.000	0.009	0.000	0.000	0.000	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	95	MF403	DU	0.320	4.245	0.084	0.343	0.086	2.998	0.000	0.000	0.000	0.000	0.163	0.084	0.000	0.000	0.000	0.000	0.000	0.000	0.025	0.231	0.002	0.002	0.000	0.014	0.000	0.000	0.000	0.000	0.009	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	96	MF404	DU	0.280	3.725	0.073	0.301	0.076	2.631	0.000	0.000	0.000	0.000	0.143	0.073	0.000	0.000	0.000	0.000	0.000	0.000	0.022	0.202	0.002	0.001	0.000	0.013	0.000	0.000	0.000	0.000	0.008	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	97	MF411	DU	0.711	4.296	0.068	1.248	0.139	0.000	0.000	0.000	0.000	0.000	0.132	0.068	0.000	0.000	0.000	0.000	0.000	0.000	0.055	0.233	0.002	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	98	MF412	DU	0.711	4.296	0.068	1.248	0.139	0.000	0.000	0.000	0.000	0.000	0.132	0.068	0.000	0.000	0.000	0.000	0.000	0.000	0.055	0.233	0.002	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	99	MF413	DU	1.099	6.636	0.105	1.928	0.215	0.000	0.000	0.000	0.000	0.000	0.204	0.105	0.000	0.000	0.000	0.000	0.000	0.000	0.085	0.360	0.003	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	100	MF414	DU	0.964	5.819	0.092	1.691	0.189	0.000	0.000	0.000	0.000	0.000	0.179	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.074	0.316	0.003	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	101	MF421	DU	1.848	4.352	0.084	1.551	0.173	0.000	0.000	0.000	0.000	0.000	0.164	0.084	0.000	0.000	0.000	0.000	0.000	0.000	0.143	0.236	0.002	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	102	MF422	DU	1.848	4.352	0.084	1.551	0.173	0.000	0.000	0.000	0.000	0.000	0.164	0.084	0.000	0.000	0.000	0.000	0.000	0.000	0.143	0.236	0.002	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.002	0.000	0.000	0.000	0.000	0.000	0.000
1	103	MF423	DU	2.442	5.751	0.111	2.049	0.229	0.000	0.000	0.000	0.000	0.000	0.217	0.111	0.000	0.000	0.000	0.000	0.000	0.000	0.189	0.312	0.003	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	104	MF424	DU	2.023	4.764	0.092	1.698	0.190	0.000	0.000	0.000	0.000	0.000	0.180	0.092	0.000	0.000	0.000	0.000	0.000	0.000	0.156	0.259	0.003	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	105	MF431	DU	1.686	6.028	0.098	1.305	0.202	0.000	0.000	0.000	0.000	0.000	0.192	0.098	0.000	0.000	0.000	0.000	0.000	0.000	0.130	0.327	0.003	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	106	MF432	DU	1.686	6.028	0.098	1.305	0.202	0.000	0.000	0.000	0.000	0.000	0.192	0.098	0.000	0.000	0.000	0.000	0.000	0.000	0.130	0.327	0.003	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	107	MF433	DU	1.686	6.028	0.098	1.305	0.202	0.000	0.000	0.000	0.000	0.000	0.192	0.098	0.000	0.000	0.000	0.000	0.000	0.000	0.130	0.327	0.003	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	108	MF434	DU	1.686	6.028	0.098	1.305	0.202	0.000	0.000	0.000	0.000	0.000	0.192	0.098	0.000	0.000	0.000	0.000	0.000	0.000	0.130	0.327	0.003	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	109	MF441	DU	3.845	6.002	0.112	0.343	0.230	0.000	0.000	0.000	0.000	0.000	0.218	0.112	0.000	0.000	0.000	0.000	0.000	0.000	0.297	0.326	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	110	MF442	DU	3.845	6.002	0.112	0.343	0.230	0.000	0.000	0.000	0.000	0.000	0.218	0.112	0.000	0.000	0.000	0.000	0.000	0.000	0.297	0.326	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	111	MF443	DU	3.845	6.002	0.112	0.343	0.230	0.000	0.000	0.000	0.000	0.000	0.218	0.112	0.000	0.000	0.000	0.000	0.000	0.000	0.297	0.326	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	112	MF444	DU	3.845	6.002	0.112	0.343	0.230	0.000	0.000	0.000	0.000	0.000	0.218	0.112	0.000	0.000	0.000	0.000	0.000	0.000	0.297	0.326	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.003	0.000	0.000	0.000	0.000	0.000	0.000
1	113	MH101	DU	0.055	1.170	0.019	0.000	0.020	0.594	0.000	0.000	0.000	0.000	0.038	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.064	0.001	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	114	MH102	DU	0.058	1.223	0.020	0.000	0.021	0.621	0.000	0.000	0.000	0.000	0.039	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.066	0.001	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	115	MH103	DU	0.058	1.223	0.020	0.000	0.021	0.621	0.000	0.000	0.000	0.000	0.039	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.066	0.001	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	116	MH104	DU	0.058	1.223	0.020	0.000	0.021	0.621	0.000	0.000	0.000	0.000	0.039	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.066	0.001	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	117	MH111	DU	0.830	1.166	0.022	0.000	0.022	0.000	0.000	0.000	0.000	0.000	0.042	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.064	0.063	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	118	MH112	DU	0.854	1.200	0.022	0.000	0.023	0.000	0.000	0.000	0.000	0.000	0.044	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.066	0.065	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000
1	119	MH113	DU	0.792	1.112	0.021	0.000	0.021	0.000	0.000	0.000	0.000	0.000	0.040	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.061	0.060	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000

BCAG Trip Generation Table

[Area Type]	[Employment Type]	LU_Type	LU_Unit	R_HBW_P	R_HBO_P	R_NHB_P	R_SCHOOL_P	R_CASINO_P	R_UNIV_P	R_SP3_P	R_SP2_P	R_SP1_P
1	120	MH114	DU	0.893	1.255	0.023	0.000	0.024	0.000	0.000	0.000	0.000
1	121	MH201	DU	0.140	2.117	0.037	0.075	0.038	1.129	0.000	0.000	0.000
1	122	MH202	DU	0.125	1.884	0.033	0.067	0.034	1.005	0.000	0.000	0.000
1	123	MH203	DU	0.139	2.102	0.037	0.075	0.038	1.122	0.000	0.000	0.000
1	124	MH204	DU	0.147	2.212	0.038	0.079	0.040	1.180	0.000	0.000	0.000
1	125	MH211	DU	1.156	2.362	0.039	0.080	0.040	0.000	0.000	0.000	0.000
1	126	MH212	DU	0.965	1.972	0.033	0.067	0.034	0.000	0.000	0.000	0.000
1	127	MH213	DU	0.980	2.003	0.033	0.068	0.034	0.000	0.000	0.000	0.000
1	128	MH214	DU	0.999	2.041	0.034	0.069	0.035	0.000	0.000	0.000	0.000
1	129	MH221	DU	1.792	1.648	0.038	0.000	0.039	0.000	0.000	0.000	0.000
1	130	MH222	DU	1.792	1.648	0.038	0.000	0.039	0.000	0.000	0.000	0.000
1	131	MH223	DU	1.689	1.554	0.035	0.000	0.036	0.000	0.000	0.000	0.000
1	132	MH224	DU	1.846	1.698	0.039	0.000	0.040	0.000	0.000	0.000	0.000
1	133	MH301	DU	0.137	1.996	0.036	0.110	0.037	1.139	0.000	0.000	0.000
1	134	MH302	DU	0.137	1.996	0.036	0.110	0.037	1.139	0.000	0.000	0.000
1	135	MH303	DU	0.137	1.996	0.036	0.110	0.037	1.139	0.000	0.000	0.000
1	136	MH304	DU	0.137	1.996	0.036	0.110	0.037	1.139	0.000	0.000	0.000
1	137	MH311	DU	0.849	3.327	0.049	0.405	0.051	0.000	0.000	0.000	0.000
1	138	MH312	DU	0.849	3.327	0.049	0.405	0.051	0.000	0.000	0.000	0.000
1	139	MH313	DU	0.808	3.165	0.047	0.385	0.048	0.000	0.000	0.000	0.000
1	140	MH314	DU	0.808	3.165	0.047	0.385	0.048	0.000	0.000	0.000	0.000
1	141	MH321	DU	1.688	2.875	0.054	0.329	0.110	0.000	0.000	0.000	0.000
1	142	MH322	DU	1.688	2.875	0.054	0.329	0.110	0.000	0.000	0.000	0.000
1	143	MH323	DU	1.688	2.875	0.054	0.329	0.110	0.000	0.000	0.000	0.000
1	144	MH324	DU	1.888	3.214	0.060	0.368	0.123	0.000	0.000	0.000	0.000
1	145	MH331	DU	3.398	2.071	0.062	0.192	0.128	0.000	0.000	0.000	0.000
1	146	MH332	DU	3.487	2.125	0.064	0.197	0.132	0.000	0.000	0.000	0.000
1	147	MH333	DU	3.515	2.142	0.065	0.198	0.133	0.000	0.000	0.000	0.000
1	148	MH334	DU	3.425	2.088	0.063	0.193	0.129	0.000	0.000	0.000	0.000
1	149	MH401	DU	0.194	2.571	0.051	0.208	0.052	1.816	0.000	0.000	0.000
1	150	MH402	DU	0.194	2.571	0.051	0.208	0.052	1.816	0.000	0.000	0.000
1	151	MH403	DU	0.299	3.969	0.078	0.320	0.080	2.803	0.000	0.000	0.000
1	152	MH404	DU	0.262	3.482	0.069	0.281	0.071	2.459	0.000	0.000	0.000
1	153	MH411	DU	0.665	4.015	0.063	1.167	0.130	0.000	0.000	0.000	0.000
1	154	MH412	DU	0.665	4.015	0.063	1.167	0.130	0.000	0.000	0.000	0.000
1	155	MH413	DU	1.026	6.195	0.098	1.800	0.201	0.000	0.000	0.000	0.000
1	156	MH414	DU	0.900	5.434	0.086	1.579	0.176	0.000	0.000	0.000	0.000
1	157	MH421	DU	1.729	4.148	0.079	1.370	0.162	0.000	0.000	0.000	0.000
1	158	MH422	DU	1.729	4.148	0.079	1.370	0.162	0.000	0.000	0.000	0.000
1	159	MH423	DU	2.284	5.480	0.104	1.810	0.214	0.000	0.000	0.000	0.000
1	160	MH424	DU	1.890	4.534	0.086	1.498	0.177	0.000	0.000	0.000	0.000
1	161	MH431	DU	1.575	5.721	0.092	1.126	0.189	0.000	0.000	0.000	0.000
1	162	MH432	DU	1.575	5.721	0.092	1.126	0.189	0.000	0.000	0.000	0.000
1	163	MH433	DU	1.575	5.721	0.092	1.126	0.189	0.000	0.000	0.000	0.000
1	164	MH434	DU	1.575	5.721	0.092	1.126	0.189	0.000	0.000	0.000	0.000
1	165	MH441	DU	3.588	5.602	0.104	0.321	0.215	0.000	0.000	0.000	0.000
1	166	MH442	DU	3.588	5.602	0.104	0.321	0.215	0.000	0.000	0.000	0.000
1	167	MH443	DU	3.588	5.602	0.104	0.321	0.215	0.000	0.000	0.000	0.000
1	168	MH444	DU	3.588	5.602	0.104	0.321	0.215	0.000	0.000	0.000	0.000
1	169	RET_KSF	KSF	0.000	0.000	8.761	0.000	0.000	0.000	0.000	0.000	0.000
1	170	RRET_KSF	KSF	0.000	0.000	9.718	0.000	0.000	0.000	0.000	0.000	0.000
1	171	IND_KSF	KSF	0.000	0.000	0.611	0.000	0.000	0.000	0.000	0.000	0.000
1	172	OFF_KSF	KSF	0.000	0.000	2.261	0.000	0.000	0.000	0.000	0.000	0.000
1	173	MED_KSF	KSF	0.000	0.000	9.849	0.000	0.000	0.000	0.000	0.000	0.000
1	174	HOSP_KSF	KSF	0.000	0.000	3.853	0.000	0.000	0.000	0.000	0.000	0.000
1	175	PQP_KSF	KSF	0.000	0.000	1.554	0.000	0.000	0.000	0.000	0.000	0.000
1	176	HOTEL_RMS	Rooms	0.000	0.000	1.514	0.000	0.000	0.000	0.000	0.000	0.000
1	177	UNIV_STU	Student	0.000	0.000	0.083	0.000	0.000	0.000	0.000	0.000	0.000
1	178	CC_STU	Student	0.000	0.000	0.060	0.000	0.000	0.000	0.000	0.000	0.000
1	179	K12_STU	Student	0.000	0.000	0.075	0.000	0.000	0.000	0.000	0.000	0.000
1	180	PARK_AC	Acres	0.000	0.000	0.459	0.000	0.000	0.000	0.000	0.000	0.000
1	181	CASINO_SLT	Slots	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	182	CASINO_PRD	Slots	0.000	0.000	0.000	0.000	5.175	0.000	0.000	0.000	0.000
1	183	LU_Spare17	none	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	184	LU_Spare16	none	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	185	LU_Spare15	none	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	186	LU_Spare14	none	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	187	LU_Spare13	none	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	188	LU_Spare12	none	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	189	LU_Spare11	none	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	190	LU_Spare10	none	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	191	LU_Spare09	none	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	192	LU_Spare08	none	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	193	LU_Spare07	none	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	194	LU_Spare06	none	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	195	LU_Spare05	none	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	196	LU_Spare04	none	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	197	LU_Spare03	none	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	198	LU_Spare02	none	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	199	LU_Spare01	none	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
				255.391	596.723	49.715	83.897	23.355	71.648	0.000	0.000	0.000

[Employment Type]	LU_Type	R_HBW_A	R_HBO_A	R_NHB_A	R_SCHOOL_A	R_CASINO_A	R_UNIV_A	R_SP3_A	R_SP2_A	R_SP1_A
120	MH114	0.000	0.046	0.023	0.000	0.000	0.000	0.000	0.000	0.000
121	MH201	0.000	0.072	0.037	0.000	0.000	0.000	0.000	0.000	0.000
122	MH202	0.000	0.064	0.033	0.000	0.000	0.000	0.000	0.000	0.000
123	MH203	0.000	0.071	0.037	0.000	0.000	0.000	0.000	0.000	0.000
124	MH204	0.000	0.075	0.038	0.000	0.000	0.000	0.000	0.000	0.000
125	MH211	0.000	0.076	0.039	0.000	0.000	0.000	0.000	0.000	0.000
126	MH212	0.000	0.064	0.033	0.000	0.000	0.000	0.000	0.000	0.000
127	MH213	0.000	0.065	0.033	0.000	0.000	0.000	0.000	0.000	0.000
128	MH214	0.000	0.066	0.034	0.000	0.000	0.000	0.000	0.000	0.000
129	MH221	0.000	0.073	0.038	0.000	0.000	0.000	0.000	0.000	0.000
130	MH222	0.000	0.073	0.038	0.000	0.000	0.000	0.000	0.000	0.000
131	MH223	0.000	0.069	0.035	0.000	0.000	0.000	0.000	0.000	0.000
132	MH224	0.000	0.076	0.039	0.000	0.000	0.000	0.000	0.000	0.000
133	MH301	0.000	0.070	0.036	0.000	0.000	0.000	0.000	0.000	0.000
134	MH302	0.000	0.070	0.036	0.000	0.000	0.000	0.000	0.000	0.000
135	MH303	0.000	0.070	0.036	0.000	0.000	0.000	0.000	0.000	0.000
136	MH304	0.000	0.070	0.036	0.000	0.000	0.000	0.000	0.000	0.000
137	MH311	0.000	0.097	0.049	0.000	0.000	0.000	0.000	0.000	0.000
138	MH312	0.000	0.097	0.049	0.000	0.000	0.000	0.000	0.000	0.000
139	MH313	0.000	0.092	0.047	0.000	0.000	0.000	0.000	0.000	0.000
140	MH314	0.000	0.092	0.047	0.000	0.000	0.000	0.000	0.000	0.000
141	MH321	0.000	0.105	0.054	0.000	0.000	0.000	0.000	0.000	0.000
142	MH322	0.000	0.105	0.054	0.000	0.000	0.000	0.000	0.000	0.000
143	MH323	0.000	0.105	0.054	0.000	0.000	0.000	0.000	0.000	0.000
144	MH324	0.000	0.117	0.060	0.000	0.000	0.000	0.000	0.000	0.000
145	MH331	0.000	0.122	0.062	0.000	0.000	0.000	0.000	0.000	0.000
146	MH332	0.000	0.125	0.064	0.000	0.000	0.000	0.000	0.000	0.000
147	MH333	0.000	0.126	0.065	0.000	0.000	0.000	0.000	0.000	0.000
148	MH334	0.000	0.123	0.063	0.000	0.000	0.000	0.000	0.000	0.000
149	MH401	0.000	0.099	0.051	0.000	0.000	0.000	0.000	0.000	0.000
150	MH402	0.000	0.099	0.051	0.000	0.000	0.000	0.000	0.000	0.000
151	MH403	0.000	0.153	0.078	0.000	0.000	0.000	0.000	0.000	0.000
152	MH404	0.000	0.134	0.069	0.000	0.000	0.000	0.000	0.000	0.000
153	MH411	0.000	0.124	0.063	0.000	0.000	0.000	0.000	0.000	0.000
154	MH412	0.000	0.124	0.063	0.000	0.000	0.000	0.000	0.000	0.000
155	MH413	0.000	0.191	0.098	0.000	0.000	0.000	0.000	0.000	0.000
156	MH414	0.000	0.167	0.086	0.000	0.000	0.000	0.000	0.000	0.000
157	MH421	0.000	0.154	0.079	0.000	0.000	0.000	0.000	0.000	0.000
158	MH422	0.000	0.154	0.079	0.000	0.000	0.000	0.000	0.000	0.000
159	MH423	0.000	0.203	0.104	0.000	0.000	0.000	0.000	0.000	0.000
160	MH424	0.000	0.168	0.086	0.000	0.000	0.000	0.000	0.000	0.000
161	MH431	0.000	0.179	0.092	0.000	0.000	0.000	0.000	0.000	0.000
162	MH432	0.000	0.179	0.092	0.000	0.000	0.000	0.000	0.000	0.000
163	MH433	0.000	0.179	0.092	0.000	0.000	0.000	0.000	0.000	0.000
164	MH434	0.000	0.179	0.092	0.000	0.000	0.000	0.000	0.000	0.000
165	MH441	0.000	0.204	0.104	0.000	0.000	0.000	0.000	0.000	0.000
166	MH442	0.000	0.204	0.104	0.000	0.000	0.000	0.000	0.000	0.000
167	MH443	0.000	0.204	0.104	0.000	0.000	0.000	0.000	0.000	0.000
168	MH444	0.000	0.204	0.104	0.000	0.000	0.000	0.000	0.000	0.000
169	RET_KSF	3.174	20.384	8.761	0.000	0.000	0.000	0.000	0.000	0.000
170	RRET_KSF	3.521	22.610	9.718	0.000	0.000	0.000	0.000	0.000	0.000
171	IND_KSF	2.016	0.246	0.611	0.000	0.000	0.000	0.000	0.000	0.000
172	OFF_KSF	5.913	0.552	2.261	0.000	0.000	0.000	0.000	0.000	0.000
173	MED_KSF	2.498	10.266	9.849	0.000	0.000	0.000	0.000	0.000	0.000
174	HOSP_KSF	0.977	4.016	3.853	0.000	0.000	0.000	0.000	0.000	0.000
175	PQP_KSF	0.739	3.798	1.554	0.000	0.000	0.000	0.000	0.000	0.000
176	HOTEL_RMS	1.152	1.775	1.514	0.000	0.000	0.000	0.000	0.000	0.000
177	UNIV_STU	0.000	0.000	0.083	0.000	0.000	1.531	0.000	0.000	0.000
178	CC_STU	0.000	0.000	0.060	0.000	0.000	1.101	0.000	0.000	0.000
179	K12_STU	0.000	0.000	0.075	1.379	0.000	0.000	0.000	0.000	0.000
180	PARK_AC	0.000	0.897	0.459	0.000	0.000	0.000	0.000	0.000	0.000
181	CASINO_SLT	0.000	0.000	0.000	0.000	5.149	0.000	0.000	0.000	0.000
182	CASINO_PRD	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
183	LU_Spare17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
184	LU_Spare16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
185	LU_Spare15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
186	LU_Spare14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
187	LU_Spare13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
188	LU_Spare12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
189	LU_Spare11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
190	LU_Spare10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
191	LU_Spare09	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
192	LU_Spare08	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
193	LU_Spare07	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
194	LU_Spare06	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
195	LU_Spare05	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
196	LU_Spare04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
197	LU_Spare03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
198	LU_Spare02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
199	LU_Spare01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		19.989	85.880	49.715	1.379	5.149	2.632	0.000	0.000	0.000

[Employment Type]	LU_Type	R_HBW_IX_P	R_HBO_IX_P	R_NHB_IX_P	R_SCHOOL_IX_P	R_CASINO_IX_P	R_UNIV_IX_P	R_SP3_IX_P	R_SP2_IX_P	R_SP1_IX_P
120	MH114	0.069	0.068	0.001	0.000	0.000	0.000	0.000	0.000	0.000
121	MH201	0.011	0.115	0.001	0.000	0.000	0.005	0.000	0.000	0.000
122	MH202	0.010	0.102	0.001	0.000	0.000	0.005	0.000	0.000	0.000
123	MH203	0.011	0.114	0.001	0.000	0.000	0.005	0.000	0.000	0.000
124	MH204	0.011	0.120	0.001	0.000	0.000	0.006	0.000	0.000	0.000
125	MH211	0.089	0.128	0.001	0.000	0.000	0.000	0.000	0.000	0.000
126	MH212	0.075	0.107	0.001	0.000	0.000	0.000	0.000	0.000	0.000
127	MH213	0.076	0.109	0.001	0.000	0.000	0.000	0.000	0.000	0.000
128	MH214	0.077	0.111	0.001	0.000	0.000	0.000	0.000	0.000	0.000
129	MH221	0.139	0.090	0.001	0.000	0.000	0.000	0.000	0.000	0.000
130	MH222	0.139	0.090	0.001	0.000	0.000	0.000	0.000	0.000	0.000
131	MH223	0.131	0.084	0.001	0.000	0.000	0.000	0.000	0.000	0.000
132	MH224	0.143	0.092	0.001	0.000	0.000	0.000	0.000	0.000	0.000
133	MH301	0.011	0.108	0.001	0.001	0.000	0.005	0.000	0.000	0.000
134	MH302	0.011	0.108	0.001	0.001	0.000	0.005	0.000	0.000	0.000
135	MH303	0.011	0.108	0.001	0.001	0.000	0.005	0.000	0.000	0.000
136	MH304	0.011	0.108	0.001	0.001	0.000	0.005	0.000	0.000	0.000
137	MH311	0.066	0.181	0.001	0.002	0.000	0.000	0.000	0.000	0.000
138	MH312	0.066	0.181	0.001	0.002	0.000	0.000	0.000	0.000	0.000
139	MH313	0.062	0.172	0.001	0.002	0.000	0.000	0.000	0.000	0.000
140	MH314	0.062	0.172	0.001	0.002	0.000	0.000	0.000	0.000	0.000
141	MH321	0.131	0.156	0.002	0.002	0.000	0.000	0.000	0.000	0.000
142	MH322	0.131	0.156	0.002	0.002	0.000	0.000	0.000	0.000	0.000
143	MH323	0.131	0.156	0.002	0.002	0.000	0.000	0.000	0.000	0.000
144	MH324	0.146	0.175	0.002	0.002	0.000	0.000	0.000	0.000	0.000
145	MH331	0.263	0.112	0.002	0.001	0.000	0.000	0.000	0.000	0.000
146	MH332	0.270	0.115	0.002	0.001	0.000	0.000	0.000	0.000	0.000
147	MH333	0.272	0.116	0.002	0.001	0.000	0.000	0.000	0.000	0.000
148	MH334	0.265	0.113	0.002	0.001	0.000	0.000	0.000	0.000	0.000
149	MH401	0.015	0.140	0.001	0.001	0.000	0.009	0.000	0.000	0.000
150	MH402	0.015	0.140	0.001	0.001	0.000	0.009	0.000	0.000	0.000
151	MH403	0.023	0.216	0.002	0.002	0.000	0.014	0.000	0.000	0.000
152	MH404	0.020	0.189	0.002	0.001	0.000	0.012	0.000	0.000	0.000
153	MH411	0.051	0.218	0.002	0.006	0.000	0.000	0.000	0.000	0.000
154	MH412	0.051	0.218	0.002	0.006	0.000	0.000	0.000	0.000	0.000
155	MH413	0.079	0.337	0.003	0.009	0.000	0.000	0.000	0.000	0.000
156	MH414	0.070	0.295	0.003	0.008	0.000	0.000	0.000	0.000	0.000
157	MH421	0.134	0.225	0.002	0.007	0.000	0.000	0.000	0.000	0.000
158	MH422	0.134	0.225	0.002	0.007	0.000	0.000	0.000	0.000	0.000
159	MH423	0.177	0.298	0.003	0.009	0.000	0.000	0.000	0.000	0.000
160	MH424	0.146	0.246	0.003	0.007	0.000	0.000	0.000	0.000	0.000
161	MH431	0.122	0.311	0.003	0.005	0.000	0.000	0.000	0.000	0.000
162	MH432	0.122	0.311	0.003	0.005	0.000	0.000	0.000	0.000	0.000
163	MH433	0.122	0.311	0.003	0.005	0.000	0.000	0.000	0.000	0.000
164	MH434	0.122	0.311	0.003	0.005	0.000	0.000	0.000	0.000	0.000
165	MH441	0.277	0.304	0.003	0.002	0.000	0.000	0.000	0.000	0.000
166	MH442	0.277	0.304	0.003	0.002	0.000	0.000	0.000	0.000	0.000
167	MH443	0.277	0.304	0.003	0.002	0.000	0.000	0.000	0.000	0.000
168	MH444	0.277	0.304	0.003	0.002	0.000	0.000	0.000	0.000	0.000
169	RET_KSF	0.000	0.000	0.256	0.000	0.000	0.000	0.000	0.000	0.000
170	RRET_KSF	0.000	0.000	0.284	0.000	0.000	0.000	0.000	0.000	0.000
171	IND_KSF	0.000	0.000	0.018	0.000	0.000	0.000	0.000	0.000	0.000
172	OFF_KSF	0.000	0.000	0.066	0.000	0.000	0.000	0.000	0.000	0.000
173	MED_KSF	0.000	0.000	0.288	0.000	0.000	0.000	0.000	0.000	0.000
174	HOSP_KSF	0.000	0.000	0.113	0.000	0.000	0.000	0.000	0.000	0.000
175	PQP_KSF	0.000	0.000	0.046	0.000	0.000	0.000	0.000	0.000	0.000
176	HOTEL_RMS	0.000	0.000	0.044	0.000	0.000	0.000	0.000	0.000	0.000
177	UNIV_STU	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000
178	CC_STU	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000
179	K12_STU	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000
180	PARK_AC	0.000	0.000	0.013	0.000	0.000	0.000	0.000	0.000	0.000
181	CASINO_SLT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
182	CASINO_PRD	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
183	LU_Spare17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
184	LU_Spare16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
185	LU_Spare15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
186	LU_Spare14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
187	LU_Spare13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
188	LU_Spare12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
189	LU_Spare11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
190	LU_Spare10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
191	LU_Spare09	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
192	LU_Spare08	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
193	LU_Spare07	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
194	LU_Spare06	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
195	LU_Spare05	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
196	LU_Spare04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
197	LU_Spare03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
198	LU_Spare02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
199	LU_Spare01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		19.744	32.413	1.455	0.405	0.000	0.346	0.000	0.000	0.000

[Employment Type]	LU_Type	R_HBW_XI_A	R_HBO_XI_A	R_NHB_XI_A	R_SCHOOL_XI_A	R_CASINO_XI_A	R_UNIV_XI_A	R_SP3_XI_A	R_SP2_XI_A	R_SP1_XI_A
120	MH114	0.000	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000
121	MH201	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
122	MH202	0.000	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000
123	MH203	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
124	MH204	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
125	MH211	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
126	MH212	0.000	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000
127	MH213	0.000	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000
128	MH214	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
129	MH221	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
130	MH222	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
131	MH223	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
132	MH224	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
133	MH301	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
134	MH302	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
135	MH303	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
136	MH304	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000
137	MH311	0.000	0.005	0.001	0.000	0.000	0.000	0.000	0.000	0.000
138	MH312	0.000	0.005	0.001	0.000	0.000	0.000	0.000	0.000	0.000
139	MH313	0.000	0.005	0.001	0.000	0.000	0.000	0.000	0.000	0.000
140	MH314	0.000	0.005	0.001	0.000	0.000	0.000	0.000	0.000	0.000
141	MH321	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
142	MH322	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
143	MH323	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
144	MH324	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
145	MH331	0.000	0.006	0.002	0.000	0.000	0.000	0.000	0.000	0.000
146	MH332	0.000	0.007	0.002	0.000	0.000	0.000	0.000	0.000	0.000
147	MH333	0.000	0.007	0.002	0.000	0.000	0.000	0.000	0.000	0.000
148	MH334	0.000	0.007	0.002	0.000	0.000	0.000	0.000	0.000	0.000
149	MH401	0.000	0.005	0.001	0.000	0.000	0.000	0.000	0.000	0.000
150	MH402	0.000	0.005	0.001	0.000	0.000	0.000	0.000	0.000	0.000
151	MH403	0.000	0.008	0.002	0.000	0.000	0.000	0.000	0.000	0.000
152	MH404	0.000	0.007	0.002	0.000	0.000	0.000	0.000	0.000	0.000
153	MH411	0.000	0.007	0.002	0.000	0.000	0.000	0.000	0.000	0.000
154	MH412	0.000	0.007	0.002	0.000	0.000	0.000	0.000	0.000	0.000
155	MH413	0.000	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000
156	MH414	0.000	0.009	0.003	0.000	0.000	0.000	0.000	0.000	0.000
157	MH421	0.000	0.008	0.002	0.000	0.000	0.000	0.000	0.000	0.000
158	MH422	0.000	0.008	0.002	0.000	0.000	0.000	0.000	0.000	0.000
159	MH423	0.000	0.011	0.003	0.000	0.000	0.000	0.000	0.000	0.000
160	MH424	0.000	0.009	0.003	0.000	0.000	0.000	0.000	0.000	0.000
161	MH431	0.000	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000
162	MH432	0.000	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000
163	MH433	0.000	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000
164	MH434	0.000	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000
165	MH441	0.000	0.011	0.003	0.000	0.000	0.000	0.000	0.000	0.000
166	MH442	0.000	0.011	0.003	0.000	0.000	0.000	0.000	0.000	0.000
167	MH443	0.000	0.011	0.003	0.000	0.000	0.000	0.000	0.000	0.000
168	MH444	0.000	0.011	0.003	0.000	0.000	0.000	0.000	0.000	0.000
169	RET_KSF	0.261	1.086	0.256	0.000	0.000	0.000	0.000	0.000	0.000
170	RRET_KSF	0.290	1.205	0.284	0.000	0.000	0.000	0.000	0.000	0.000
171	IND_KSF	0.166	0.013	0.018	0.000	0.000	0.000	0.000	0.000	0.000
172	OFF_KSF	0.487	0.029	0.066	0.000	0.000	0.000	0.000	0.000	0.000
173	MED_KSF	0.206	0.547	0.288	0.000	0.000	0.000	0.000	0.000	0.000
174	HOSP_KSF	0.080	0.214	0.113	0.000	0.000	0.000	0.000	0.000	0.000
175	PQP_KSF	0.061	0.202	0.046	0.000	0.000	0.000	0.000	0.000	0.000
176	HOTEL_RMS	0.095	0.095	0.044	0.000	0.000	0.000	0.000	0.000	0.000
177	UNIV_STU	0.000	0.000	0.002	0.000	0.000	0.008	0.000	0.000	0.000
178	CC_STU	0.000	0.000	0.002	0.000	0.000	0.006	0.000	0.000	0.000
179	K12_STU	0.000	0.000	0.002	0.007	0.000	0.000	0.000	0.000	0.000
180	PARK_AC	0.000	0.048	0.013	0.000	0.000	0.000	0.000	0.000	0.000
181	CASINO_SLT	0.000	0.000	0.000	0.000	0.026	0.000	0.000	0.000	0.000
182	CASINO_PRD	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
183	LU_Spare17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
184	LU_Spare16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
185	LU_Spare15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
186	LU_Spare14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
187	LU_Spare13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
188	LU_Spare12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
189	LU_Spare11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
190	LU_Spare10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
191	LU_Spare09	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
192	LU_Spare08	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
193	LU_Spare07	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
194	LU_Spare06	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
195	LU_Spare05	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
196	LU_Spare04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
197	LU_Spare03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
198	LU_Spare02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
199	LU_Spare01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		1.645	4.577	1.455	0.007	0.026	0.014	0.000	0.000	0.000

APPENDIX
FRICTION FACTOR CURVES

B

Friction Factors

TIME	HBW	HBO	NHB	SCHOOL	CASINO	UNIV	SP3	SP2	SP1	IX	XI
0	50	50	50	50	50	50	0	0	0	50	50
1	1416227	1764960	1807770	1349467	1000	1349467	1000	1000	1000	360620	360620
2	528961	659213	649893	504026	1000	504026	1000	1000	1000	314460	314460
3	286078	356522	342572	272592	1000	272592	1000	1000	1000	275814	275814
4	179861	224150	211208	171382	1000	171382	1000	1000	1000	242517	242517
5	122976	153257	141910	117179	1000	117179	1000	1000	1000	213487	213487
6	88514	110310	100934	84342	1000	84342	1000	1000	1000	188123	188123
7	66091	82365	74420	62975	1000	62975	1000	1000	1000	165825	165825
8	50748	63244	56342	48356	1000	48356	1000	1000	1000	146231	146231
9	39654	49419	43386	37785	1000	37785	1000	1000	1000	128982	128982
10	31629	39417	34348	30138	1000	30138	1000	1000	1000	113836	113836
11	25492	31769	27418	24290	1000	24290	1000	1000	1000	100493	100493
12	20771	25886	21995	19792	1000	19792	1000	1000	1000	88652	88652
13	16995	21180	17776	16194	1000	16194	1000	1000	1000	78315	78315
14	14162	17650	14763	13495	1000	13495	1000	1000	1000	69119	69119
15	11802	14708	12052	11246	1000	11246	1000	1000	1000	61065	61065
16	9914	12355	9943	9446	1000	9446	1000	1000	1000	53913	53913
17	8261	10296	8436	7872	1000	7872	1000	1000	1000	47602	47602
18	7081	8825	6930	6747	1000	6747	1000	1000	1000	42072	42072
19	5901	7354	6026	5623	1000	5623	1000	1000	1000	37144	37144
20	4957	6177	5122	4723	1000	4723	1000	1000	1000	32816	32816
21	4249	5295	4218	4048	1000	4048	1000	1000	1000	28970	28970
22	3777	4707	3616	3599	1000	3599	1000	1000	1000	25604	25604
23	3068	3824	3013	2924	1000	2924	1000	1000	1000	22659	22659
24	2832	3530	2712	2699	1000	2699	1000	1000	1000	20014	20014
25	2360	2942	2109	2249	1000	2249	1000	1000	1000	17670	17670
26	2124	2647	1808	2024	1000	2024	1000	1000	1000	15627	15627
27	1888	2353	1808	1799	1000	1799	1000	1000	1000	13764	13764
28	1652	2059	1506	1574	1000	1574	1000	1000	1000	12201	12201
29	1416	1765	1205	1349	1000	1349	1000	1000	1000	10758	10758
30	1180	1471	1205	1125	1000	1125	1000	1000	1000	9496	9496
31	944	1177	904	900	1000	900	1000	1000	1000	7453	7453
32	708	882	603	675	1000	675	1000	1000	1000	5830	5830
33	472	588	603	450	1000	450	1000	1000	1000	4508	4508
34	472	588	301	450	1000	450	1000	1000	1000	3546	3546
35	236	294	301	225	1000	225	1000	1000	1000	2765	2765
36	236	294	1	225	1000	225	1000	1000	1000	1503	1503
37	1	1	1	1	1000	1	1000	1000	1000	240	240
38	1	1	1	1	1000	1	1000	1000	1000	1	1
39	1	1	1	1	1000	1	1000	1000	1000	1	1
40	1	1	1	1	1000	1	1000	1000	1000	1	1
41	1	1	1	1	1000	1	1000	1000	1000	1	1
42	1	1	1	1	1000	1	1000	1000	1000	1	1
43	1	1	1	1	1000	1	1000	1000	1000	1	1
44	1	1	1	1	1000	1	1000	1000	1000	1	1
45	1	1	1	1	1000	1	1000	1000	1000	1	1
46	1	1	1	1	1000	1	1000	1000	1000	1	1
47	1	1	1	1	1000	1	1000	1000	1000	1	1
48	1	1	1	1	1000	1	1000	1000	1000	1	1
49	1	1	1	1	1000	1	1000	1000	1000	1	1
50	1	1	1	1	1000	1	1000	1000	1000	1	1
51	1	1	1	1	1000	1	1000	1000	1000	1	1
52	1	1	1	1	1000	1	1000	1000	1000	1	1

Friction Factors

TIME	HBW	HBO	NHB	SCHOOL	CASINO	UNIV	SP3	SP2	SP1	IX	XI
53	1	1	1	1	1000	1	1000	1000	1000	1	1
54	1	1	1	1	1000	1	1000	1000	1000	1	1
55	1	1	1	1	1000	1	1000	1000	1000	1	1
56	1	1	1	1	1000	1	1000	1000	1000	1	1
57	1	1	1	1	1000	1	1000	1000	1000	1	1
58	1	1	1	1	1000	1	1000	1000	1000	1	1
59	1	1	1	1	1000	1	1000	1000	1000	1	1
60	1	1	1	1	1000	1	1000	1000	1000	1	1
61	1	1	1	1	1000	1	1000	1000	1000	1	1
62	1	1	1	1	1000	1	1000	1000	1000	1	1
63	1	1	1	1	1000	1	1000	1000	1000	1	1
64	1	1	1	1	1000	1	1000	1000	1000	1	1
65	1	1	1	1	1000	1	1000	1000	1000	1	1
66	1	1	1	1	1000	1	1000	1000	1000	1	1
67	1	1	1	1	1000	1	1000	1000	1000	1	1
68	1	1	1	1	1000	1	1000	1000	1000	1	1
69	1	1	1	1	1000	1	1000	1000	1000	1	1
70	1	1	1	1	1000	1	1000	1000	1000	1	1
71	1	1	1	1	1000	1	1000	1000	1000	1	1
72	1	1	1	1	1000	1	1000	1000	1000	1	1
73	1	1	1	1	1000	1	1000	1000	1000	1	1
74	1	1	1	1	1000	1	1000	1000	1000	1	1
75	1	1	1	1	1000	1	1000	1000	1000	1	1
76	1	1	1	1	1000	1	1000	1000	1000	1	1
77	1	1	1	1	1000	1	1000	1000	1000	1	1
78	1	1	1	1	1000	1	1000	1000	1000	1	1
79	1	1	1	1	1000	1	1000	1000	1000	1	1
80	1	1	1	1	1000	1	1000	1000	1000	1	1
81	1	1	1	1	1000	1	1000	1000	1000	1	1
82	1	1	1	1	1000	1	1000	1000	1000	1	1
83	1	1	1	1	1000	1	1000	1000	1000	1	1
84	1	1	1	1	1000	1	1000	1000	1000	1	1
85	1	1	1	1	1000	1	1000	1000	1000	1	1
86	1	1	1	1	1000	1	1000	1000	1000	1	1
87	1	1	1	1	1000	1	1000	1000	1000	1	1
88	1	1	1	1	1000	1	1000	1000	1000	1	1
89	1	1	1	1	1000	1	1000	1000	1000	1	1
90	1	1	1	1	1000	1	1000	1000	1000	1	1
91	1	1	1	1	1000	1	1000	1000	1000	1	1

APPENDIX C
VALIDATION

BCAG Model Validation Results: Daily Two-Way Total Traffic Volumes									
		Count	Model	Model	Model	Maximum	Within	Model	Difference
Roadway	Segment	Two Way	Two Way	/Count	# Deviation	Deviation	Deviation	- Count	Squared
B ST	E of 7TH ST	2,158	1,463	0.68	-0.51	0.63	Yes	-695	483,025
W BIGGS GRIDLEY RD	S of BANNOCK ST	2,043	1,988	0.97	-0.04	0.63	Yes	-55	3,025
AFTON RD	W of AGUA FRIAS RD	118	81	0.69	-0.46	0.68	Yes	-37	1,369
AGUAS FRIAS RD	S of DURHAM DAYTON RD	761	8	0.01	-1.45	0.68	No	-753	567,009
AGUAS FRIAS RD	S of NELSON RD	593	0	0.00	-1.46	0.68	No	-593	351,649
CHICO RIVER RD	W of ALBERTON RD	1,202	1,130	0.94	-0.09	0.68	Yes	-72	5,184
COHASSET HWY	N of KEEFER RD	1,511	2,503	1.66	1.04	0.63	No	992	984,064
COLUSA HWY	W of HATCH RD	658	660	1.00	0.00	0.68	Yes	2	4
DAYTON RD	S of ARCHER AVE	6,112	5,386	0.88	-0.25	0.48	Yes	-726	527,076
DAYTON RD	N of HEGAN LN	3,138	1,979	0.63	-0.64	0.58	Yes	-1,159	1,343,281
DUNSTONE DR	S of GRUBBS RD	169	271	1.60	0.88	0.68	Yes	102	10,404
DURHAM DAYTON HWY	W of OROVILLE-CHICO HWY	2,235	2,633	1.18	0.28	0.63	Yes	398	158,404
DURHAM PENTZ RD	E of SR 99	9,784	11,096	1.13	0.35	0.38	Yes	1,312	1,721,344
DURHAM PENTZ RD	E of SR 191	2,257	3,050	1.35	0.56	0.63	Yes	793	628,849
E GRIDLEY RD	At FEATHER RIVER BRIDGE	5,972	5,366	0.90	-0.21	0.48	Yes	-606	367,236
FORBESTOWN RD	S of OLD OLIVE HWY	2,859	2,887	1.01	0.02	0.58	Yes	28	784
GARNER LN	N of SR 99	5,300	8,638	1.63	1.33	0.48	No	3,338	11,142,244
HAMILTON CITY NORD	N of BENNETT RD	486	183	0.38	-0.91	0.68	Yes	-303	91,809
HEGAN LN	E of FIMPLE LN	3,406	1,393	0.41	-1.03	0.58	No	-2,013	4,052,169
HICKS LN	N of EATON RD	2,925	1,696	0.58	-0.73	0.58	Yes	-1,229	1,510,441
HONEY RUN RD	W of CENTERVILLE RD	1,363	1,796	1.32	0.50	0.63	Yes	433	187,489
KEEFER RD	W of GARNER LN	886	257	0.29	-1.04	0.68	No	-629	395,641
LARKIN RD	S of CHANDON AVE	2,777	2,776	1.00	0.00	0.58	Yes	-1	1
LARKIN RD	S of SR 162	4,101	3,334	0.81	-0.36	0.52	Yes	-767	588,289
LOS VERJELES RD	S of LA PORTE RD	986	592	0.60	-0.59	0.68	Yes	-394	155,236
LOWER WYANDOTTE RD	W of ALVERDA DR	6,948	12,158	1.75	1.70	0.44	No	5,210	27,144,100
MERIDIAN RD	E of SR 99	1,047	712	0.68	-0.47	0.68	Yes	-335	112,225
MIDWAY RD	S of DURHAM DAYTON RD	3,814	3,494	0.92	-0.16	0.52	Yes	-320	102,400
MIDWAY RD	N of NELSON SHIPPEE RD	1,282	2,067	1.61	0.97	0.63	Yes	785	616,225
MINERS RANCH RD	S of SR 162	2,890	1,361	0.47	-0.92	0.58	Yes	-1,529	2,337,841
OAKVALE AVE	S of SR 162	2,683	2,028	0.76	-0.42	0.58	Yes	-655	429,025
OPHIR RD	E of FEATHER RIVER BLVD	6,641	10,597	1.60	1.35	0.44	No	3,956	15,649,936
ORD FERRY RD	W of RIVER RD	2,955	3,336	1.13	0.22	0.58	Yes	381	145,161
ORD FERRY RD	W of AGUAS FRIAS RD	3,437	3,227	0.94	-0.11	0.58	Yes	-210	44,100
ORO-QUINCY HWY	At LAKE MADRONE BRIDGE	502	1,572	3.13	3.12	0.68	No	1,070	1,144,900
ORO-BANGOR HWY	S of V-7 RD	1,742	1,228	0.70	-0.47	0.63	Yes	-514	264,196
ORO-BANGOR HWY	E of FOOTHILL BLVD	1,558	1,167	0.75	-0.40	0.63	Yes	-391	152,881
OROVILLE-BANGOR HWY	N of SWEDES FLAT RD	1,955	6,315	3.23	3.54	0.63	No	4,360	19,009,600
ORO-QUINCY HWY	E of FOOTHILL BLVD	3,071	1,696	0.55	-0.78	0.58	Yes	-1,375	1,890,625
PENNINGTON RD	S of W EVANS REIMER RD	336	334	0.99	-0.01	0.68	Yes	-2	4
SKYLINE BLVD	S of SR 162	1,135	1,309	1.15	0.22	0.68	Yes	174	30,276
SKYWAY	S of COUTOLENC RD	505	2,789	5.52	6.62	0.68	No	2,284	5,216,656
SKYWAY	N of NIMSHEW RD	1,604	1,529	0.95	-0.07	0.63	Yes	-75	5,625
SKYWAY	S of POWELLTON RD	915	1,419	1.55	0.81	0.68	Yes	504	254,016
UPPER PALERMO RD	S of OPHIR RD/LOWER WYANDO	3,426	2,695	0.79	-0.37	0.58	Yes	-731	534,361
W SACRAMENTO AVE	W of MUIR AVE	836	381	0.46	-0.80	0.68	Yes	-455	207,025
COHASSET RD	N of EATON RD	9,699	10,441	1.08	0.20	0.38	Yes	742	550,564
EAST AVE	W of CUSSICK/HOLLY AVE	19,267	15,365	0.80	-0.72	0.28	Yes	-3,902	15,225,604
EAST AVE	E of SR 32	16,630	14,148	0.85	-0.51	0.29	Yes	-2,482	6,160,324
EATON RD	W of BURNAP AVE	6,016	4,762	0.79	-0.44	0.48	Yes	-1,254	1,572,516
EATON RD	E of ESPLANADE RD	16,955	10,530	0.62	-1.29	0.29	No	-6,425	41,280,625
EATON RD	W of SILVERBELL RD	9,609	6,216	0.65	-0.93	0.38	Yes	-3,393	11,512,449
ESPLANADE RD	N of EAST AVE	**22,320**	26,976	1.21	0.77	0.27	Yes	4,656	21,678,336
ESPLANADE RD	N of EATON RD	12,325	10,070	0.82	-0.54	0.34	Yes	-2,255	5,085,025
ESPLANADE RD	N of LASSEN AVE	15,420	15,072	0.98	-0.07	0.30	Yes	-348	121,104
IVY ST	N of 11TH ST	3,344	907	0.27	-1.27	0.58	No	-2,437	5,938,969
ROSE AVE	S of WEBB AVE	1,461	938	0.64	-0.57	0.63	Yes	-523	273,529
W 1ST AVE	E of HOBART ST	8,725	8,484	0.97	-0.07	0.41	Yes	-241	58,081
W 2ND ST	E of WALNUT ST (SR 32)	5,930	3,401	0.57	-0.90	0.48	Yes	-2,529	6,395,841
W 5TH ST	W of WALNUT ST (SR 32)	5,699	4,473	0.78	-0.45	0.48	Yes	-1,226	1,503,076
W 5TH ST	E of WALNUT ST (SR 32)	5,722	2,165	0.38	-1.31	0.48	No	-3,557	12,652,249
W 8TH AVE	E of NORD AVE (SR 32)	6,700	3,724	0.56	-1.01	0.44	No	-2,976	8,856,576
W LINDO AVE	E of NORD AVE (SR 32)	1,200	738	0.62	-0.56	0.68	Yes	-462	213,444
W SACRAMENTO AVE	W of CITRUS AVE	6,006	9,817	1.63	1.34	0.48	No	3,811	14,523,721
W SACRAMENTO AVE	W of NORD AVE (SR 32)	6,453	5,198	0.81	-0.44	0.44	Yes	-1,255	1,575,025
W SACRAMENTO AVE	E of NORD AVE (SR 32)	12,519	8,192	0.65	-1.06	0.33	No	-4,327	18,722,929
WARNER ST	S of W SACAMENTO AVE	7,694	9,656	1.26	0.62	0.41	Yes	1,962	3,849,444
E GRIDLEY RD	E of SR 99	6,760	4,626	0.68	-0.72	0.44	Yes	-2,134	4,553,956
MAGNOLIA ST	W of SR 99	5,844	6,013	1.03	0.06	0.48	Yes	169	28,561
SPRUCE ST	W of SR 99	8,100	6,577	0.81	-0.46	0.41	Yes	-1,523	2,319,529
SYCAMORE ST	W of SR 99	3,431	1,746	0.51	-0.85	0.58	Yes	-1,685	2,839,225
18TH ST	N of GRAND AV	427	167	0.39	-0.89	0.68	Yes	-260	67,600
5TH AV	S of ORO DAM BLVD (SR 162)	3,750	3,468	0.92	-0.14	0.52	Yes	-282	79,524
5TH AV	S of CAL OAK AV	2,652	1,886	0.71	-0.50	0.58	Yes	-766	586,756
FEATHER RIVER BLVD	S of ORO-DAM BLVD (SR 162)	8,173	6,066	0.74	-0.63	0.41	Yes	-2,107	4,439,449
FOOTHILL BLVD	S of SR 162	6,058	7,869	1.30	0.63	0.48	Yes	1,811	3,279,721
GRAND AVE	E of 20TH ST	1,276	621	0.49	-0.81	0.63	Yes	-655	429,025
GRAND AVE	E of SR 70	5,733	5,861	1.02	0.05	0.48	Yes	128	16,384
GRAND AVE	E of 10TH ST	4,990	3,695	0.74	-0.50	0.52	Yes	-1,295	1,677,025
LINCOLN BLVD	N of OPHIR RD	6,967	4,894	0.70	-0.68	0.44	Yes	-2,073	4,297,329
LINCOLN BLVD	S of JUNCTION W/ MYERS	10,936	10,903	1.00	-0.01	0.36	Yes	-33	1,089
LOWER WYANDOTTE RD	S of SR 162	8,168	7,077	0.87	-0.33	0.41	Yes	-1,091	1,190,281
MITCHELL ST	E of MYERS ST	5,666	5,722	1.01	0.02	0.48	Yes	56	3,136
MITCHELL ST	E of FEATHER RIVER BLVD	3,387	4,050	1.20	0.34	0.58	Yes	663	439,569
MONTGOMERY ST	W of LINCOLN BLVD	6,399	7,553	1.18	0.41	0.44	Yes	1,154	1,331,716
MONTGOMERY ST	W of TABLE MTN BLVD	6,143	9,551	1.55	1.17	0.48	No	3,408	11,614,464
NELSON AVE	E of SR 70	9,161	7,890	0.86	-0.37	0.38	Yes	-1,271	1,615,441
ORANGE AVE	E of BRIDGE ST	613	476	0.78	-0.33	0.68	Yes	-137	18,769
ORO-DAM BLVD	E of FOOTHILL BLVD/BRIDGE	4,891	5,948	1.22	0.42	0.52	Yes	1,057	1,117,249
TABLE MTN BLVD	S of GRAND AVE	17,383	16,606	0.96	-0.15	0.29	Yes	-777	603,729

BCAG Model Validation Results: Daily Two-Way Total Traffic Volumes									
		Count	Model	Model	Model	Maximum	Within	Model	Difference
Roadway	Segment	Two Way	Two Way	/Count	# Deviation	Deviation	Deviation	- Count	Squared
TABLE MTN BLVD	S of NELSON AVE	12,704	13,400	1.05	0.17	0.33	Yes	696	484,416
WYANDOTTE AVE	W of LOWER WYANDOTTE RD	4,228	6,028	1.43	0.82	0.52	Yes	1,800	3,240,000
BILLE RD	E of CLARK RD	7,639	6,226	0.82	-0.45	0.41	Yes	-1,413	1,996,569
CLARK RD	N of WAGSTAFF RD	10,069	10,707	1.06	0.18	0.36	Yes	638	407,044
CLARK RD	N of PEARSON RD	14,733	11,907	0.81	-0.61	0.31	Yes	-2,826	7,986,276
ELLIOT RD	W of CLARK RD	9,853	10,196	1.03	0.09	0.38	Yes	343	117,649
ELLIOT RD	E of CLARK RD	5,555	4,063	0.73	-0.57	0.48	Yes	-1,492	2,226,064
NEAL RD	S of SKYWAY	3,812	3,399	0.89	-0.21	0.52	Yes	-413	170,569
PEARSON RD	E of CLARK RD	9,104	12,098	1.33	0.87	0.38	Yes	2,994	8,964,036
PENTZ RD	N of PEARSON RD	5,151	5,182	1.01	0.01	0.48	Yes	31	961
PENTZ RD	N of WAGSTAFF RD	6,534	9,542	1.46	1.05	0.44	No	3,008	9,048,064
SKYWAY	N of ELLIOT RD	**20,992**	24,222	1.15	0.56	0.28	Yes	3,230	10,432,900
SKYWAY	W of CLARK RD	9,759	10,616	1.09	0.23	0.38	Yes	857	734,449
NEW SKYWAY	W of PENTZ RD	15,598	17,573	1.13	0.42	0.30	Yes	1,975	3,900,625
NEW SKYWAY	E of PENTZ RD	15,313	19,286	1.26	0.86	0.30	Yes	3,973	15,784,729
SKYWAY	N of WAGSTAFF RD	10,751	12,622	1.17	0.48	0.36	Yes	1,871	3,500,641
SKYWAY	N of WYCLIFF WAY	9,848	12,226	1.24	0.64	0.38	Yes	2,378	5,654,884
WAGSTAFF RD	W of CLARK RD	5,655	3,430	0.61	-0.83	0.48	Yes	-2,225	4,950,625
WAGSTAFF RD	E of CLARK RD	5,964	7,467	1.25	0.53	0.48	Yes	1,503	2,259,009
ENTLER AVE	E of MIDWAY	1,236	1,226	0.99	-0.01	0.68	Yes	-10	100
MIDWAY RD	S of E PARK AVE	17,084	14,178	0.83	-0.58	0.29	Yes	-2,906	8,444,836
MIDWAY RD	S of HEGAN LN	8,742	11,083	1.27	0.65	0.41	Yes	2,341	5,480,281
BROADWAY	N of SR 32 (8TH ST)	7,629	10,364	1.36	0.87	0.41	Yes	2,735	7,480,225
BROADWAY	S of 2ND ST	8,895	11,477	1.29	0.76	0.38	Yes	2,582	6,666,724
BRUCE RD	N of LAKEWEST DR	12,034	11,422	0.95	-0.15	0.34	Yes	-612	374,544
BRUCE RD	S of HUMBOLDT RD	10,790	12,960	1.20	0.56	0.36	Yes	2,170	4,708,900
BRUCE RD	N of SKYWAY	8,058	12,250	1.52	1.27	0.41	No	4,192	17,572,864
BRUCE RD	N of E 20TH ST	10,699	14,536	1.36	1.00	0.36	Yes	3,837	14,722,569
COHASSET RD	N of EAST AVE	19,055	16,131	0.85	-0.55	0.28	Yes	-2,924	8,549,776
COHASSET RD	S of EAST AVE	**23,237**	24,946	1.07	0.28	0.27	Yes	1,709	2,920,681
E 1ST AVE	E of ESPLANADE	12,278	14,288	1.16	0.48	0.34	Yes	2,010	4,040,100
E 1ST AVE	W of ESPLANADE RD	10,848	8,819	0.81	-0.52	0.36	Yes	-2,029	4,116,841
E 1ST AVE	W of LONGFELLOW	16,910	12,714	0.75	-0.84	0.29	Yes	-4,196	17,606,416
E 1ST AVE	W of SHERMAN AVE	17,328	17,975	1.04	0.13	0.29	Yes	647	418,609
E 20TH ST	E of FOREST AVE	10,778	12,599	1.17	0.47	0.36	Yes	1,821	3,316,041
E 20TH ST	W of BRUCE RD	7,831	7,650	0.98	-0.06	0.41	Yes	-181	32,761
E 20TH ST	W of WHITMAN AVE	18,491	18,513	1.00	0.00	0.29	Yes	22	484
E 20TH ST	W of FOREST AVE	**20,931**	24,117	1.15	0.55	0.28	Yes	3,186	10,150,596
E 5TH AVE	E of ESPLANADE RD	4,567	3,098	0.68	-0.62	0.52	Yes	-1,469	2,157,961
E 8TH ST	E of EL MONTE AVE	2,423	3,483	1.44	0.69	0.63	Yes	1,060	1,123,600
E 8TH ST	W of PARK VISTA DR	4,353	5,609	1.29	0.55	0.52	Yes	1,256	1,577,536
E 8TH ST	W of BRUCE RD	2,701	2,788	1.03	0.06	0.58	Yes	87	7,569
EAST AVE	E of FLORAL AVE	18,232	17,174	0.94	-0.20	0.29	Yes	-1,058	1,119,364
EAST AVE	E of COHASSET RD	17,924	17,017	0.95	-0.18	0.29	Yes	-907	822,649
EAST AVE	W of COHASSET RD	14,368	14,663	1.02	0.07	0.31	Yes	295	87,025
EAST AVE	E of ESPLANADE RD	**24,027**	21,759	0.91	-0.36	0.26	Yes	-2,268	5,143,824
EAST AVE	W of ESPLANADE RD	**24,616**	18,348	0.75	-0.98	0.26	Yes	-6,268	39,287,824
E PARK AVE	Btwn SR 99 & CARMICHAEL DR	**23,967**	19,520	0.81	-0.71	0.26	Yes	-4,447	19,775,809
E PARK AVE	E of MIDWAY	18,994	17,881	0.94	-0.21	0.28	Yes	-1,113	1,238,769
EL MONTE AVE	S of 8TH ST	741	86	0.12	-1.29	0.68	No	-655	429,025
ESPLANADE RD	S of EAST AVE	**21,434**	23,812	1.11	0.41	0.27	Yes	2,378	5,654,884
ESPLANADE RD	N of E 1ST AVE	**22,467**	20,822	0.93	-0.27	0.27	Yes	-1,645	2,706,025
ESPLANADE RD	S of W SACRAMENTO AVE	**21,539**	25,789	1.20	0.73	0.27	Yes	4,250	18,062,500
FLORAL AVE	N of EAST AVE	7,109	7,258	1.02	0.05	0.44	Yes	149	22,201
FOREST AVE	S of E 20TH ST	13,750	13,579	0.99	-0.04	0.31	Yes	-171	29,241
FOREST AVE	S of HUMBOLDT RD	14,024	11,349	0.81	-0.61	0.31	Yes	-2,675	7,155,625
LASSEN AVE	W of BURNAP AVE	7,911	4,273	0.54	-1.12	0.41	No	-3,638	13,235,044
LASSEN AVE	E of ESPLANADE RD	9,763	7,656	0.78	-0.57	0.38	Yes	-2,107	4,439,449
MAIN ST	S of 2ND ST	10,171	12,911	1.27	0.75	0.36	Yes	2,740	7,507,600
MAIN ST	S of SR 32 (8TH ST)	10,920	13,036	1.19	0.54	0.36	Yes	2,116	4,477,456
MANGROVE AVE	S of VALLOMBROSA AVE	18,495	19,787	1.07	0.24	0.29	Yes	1,292	1,669,264
MANGROVE AVE	S of COHASSET RD	**21,932**	21,865	1.00	-0.01	0.27	Yes	-67	4,489
MANGROVE AVE	S of E 1ST AVE	**23,197**	18,159	0.78	-0.82	0.27	Yes	-5,038	25,381,444
MANGROVE AVE	N of E 1ST AVE	**20,009**	19,794	0.99	-0.04	0.28	Yes	-215	46,225
MANZANITA AVE	N of VALLOMBROSA AVE	11,371	10,920	0.96	-0.12	0.34	Yes	-451	203,401
MANZANITA AVE	N of CHICO CANYON RD	12,424	11,341	0.91	-0.26	0.34	Yes	-1,083	1,172,889
MANZANITA AVE	E of LONGFELLOW AVE	8,464	5,188	0.61	-0.94	0.41	Yes	-3,276	10,732,176
MULBERRY ST	S of PINE ST/CYPRESS ST J	9,514	13,401	1.41	1.08	0.38	No	3,887	15,108,769
PALMETTO	W of BRYANT AVE	3,880	1,868	0.48	-1.00	0.52	Yes	-2,012	4,048,144
PARK AVE	N of E PARK AVE	12,753	15,134	1.19	0.57	0.33	Yes	2,381	5,669,161
PARK AVE	S of 16TH ST	17,241	17,016	0.99	-0.04	0.29	Yes	-225	50,625
PARK AVE	S of SR 32	18,388	11,489	0.62	-1.31	0.29	No	-6,899	47,596,201
PINE ST	N of 4TH ST	8,961	8,434	0.94	-0.15	0.38	Yes	-527	277,729
SKYWAY	E of BRUCE RD	**21,941**	24,240	1.10	0.39	0.27	Yes	2,299	5,285,401
SKYWAY	W of NOTRE DAME BLVD	**31,242**	33,717	1.08	0.33	0.24	Yes	2,475	6,125,625
SKYWAY	E of NOTRE DAME BLVD	**20,661**	23,971	1.16	0.58	0.28	Yes	3,310	10,956,100
VALLOMBROSA AVE	E of SR 99	4,356	2,617	0.60	-0.77	0.52	Yes	-1,739	3,024,121
VALLOMBROSA AVE	W of MANZANITA AVE	3,842	1,497	0.39	-1.17	0.52	No	-2,345	5,499,025
W 8TH AVE	W of ESPLANADE RD	4,462	2,357	0.53	-0.91	0.52	Yes	-2,105	4,431,025
WHITMAN	N of 23RD ST	7,869	3,293	0.42	-1.42	0.41	No	-4,576	20,939,776
W 3RD ST	E of IVY ST	1,941	1,356	0.70	-0.48	0.63	Yes	-585	342,225
E 3RD ST	E of WALL ST	1,526	1,882	1.23	0.37	0.63	Yes	356	126,736
W 4TH ST	E of HAZEL ST	987	1,191	1.21	0.30	0.68	Yes	204	41,616
E 4TH ST	E of FLUME ST	1,692	263	0.16	-1.34	0.63	No	-1,429	2,042,041
E 8TH ST	E of KERN ST	1,971	3,345	1.70	1.11	0.63	No	1,374	1,887,876
BIDWELL AVE	E of CARRIAGE LN	728	1,865	2.56	2.29	0.68	No	1,137	1,292,769
COHASSET RD	E of RIO LINDO AVE	20,486	14,633	0.71	-1.04	0.28	No	-5,853	34,257,609
ESPANADE	S of COHASSET RD	**23,468**	19,943	0.85	-0.57	0.27	Yes	-3,525	12,425,625
FAIR ST	S of E 20TH ST	6,391	5,157	0.81	-0.44	0.44	Yes	-1,234	1,522,756
FIR ST	S of HWY 32	3,215	3,010	0.94	-0.11	0.58	Yes	-205	42,025

BCAG Model Validation Results: Daily Two-Way Total Traffic Volumes									
		Count	Model	Model	Model	Maximum	Within	Model	Difference
Roadway	Segment	Two Way	Two Way	/Count	# Deviation	Deviation	Deviation	- Count	Squared
FOREST AVE	W of NOTRE DAME BLVD	11,527	10,180	0.88	-0.34	0.34	Yes	-1,347	1,814,409
FOREST AVE	N of HUMBOLDT RD	13,302	11,561	0.87	-0.40	0.33	Yes	-1,741	3,031,081
FOREST AVE	N of HWY 32	3,534	1,955	0.55	-0.78	0.58	Yes	-1,579	2,493,241
HOOKER OAK AVE	E of MADRONE AVE	1,603	1,482	0.92	-0.12	0.63	Yes	-121	14,641
HOOKER OAK AVE	W of MANZANITA AVE	2,085	1,240	0.59	-0.64	0.63	Yes	-845	714,025
HAWTHORNE AVE	W of MADRONE AVE	1,022	279	0.27	-1.06	0.68	No	-743	552,049
HUMBOLDT RD	W of FOREST AVE	2,777	2,757	0.99	-0.01	0.58	Yes	-20	400
MANZANITA AVE	E of MADRONE AVE	4,297	2,360	0.55	-0.87	0.52	Yes	-1,937	3,751,969
MANGROVE AVE	N of E 7TH AVE	18,938	20,333	1.07	0.26	0.28	Yes	1,395	1,946,025
MARIGOLD AVE	S of EAST AVE	3,071	2,845	0.93	-0.13	0.58	Yes	-226	51,076
MARIGOLD AVE	N of EAST AVE	2,964	3,689	1.24	0.43	0.58	Yes	725	525,625
MARIPOSA AVE	N of EAST AVE	4,403	2,109	0.48	-1.00	0.52	No	-2,294	5,262,436
NOTRE DAME BLVD	N of SKYWAY	13,532	10,308	0.76	-0.73	0.33	Yes	-3,224	10,394,176
NOTRE DAME BLVD	N of FOREST AVE	4,545	2,281	0.50	-0.96	0.52	Yes	-2,264	5,125,696
PALMETTO AVE	E of MANGROVE AVE	5,313	4,194	0.79	-0.44	0.48	Yes	-1,119	1,252,161
PALMETTO AVE	E of SHERIDAN AVE	6,117	2,010	0.33	-1.41	0.48	No	-4,107	16,867,449
SKYWAY	N of COUTOLENC RD	16,277	22,483	1.38	1.30	0.29	No	6,206	38,514,436
SKYWAY	E of CLIFFHANGER LN	19,234	23,218	1.21	0.74	0.28	Yes	3,984	15,872,256
SYCAMORE ST	E of RANDOLPH AVE	3,651	1,810	0.50	-0.88	0.58	Yes	-1,841	3,389,281
W BIGGS GRIDLEY RD	S of SPRUCE ST	2,776	957	0.34	-1.14	0.58	No	-1,819	3,308,761
GEORGIA PACIFIC WAY	E of HWY 70	1,713	2,371	1.38	0.61	0.63	Yes	658	432,964
HUNTOON ST	S of GRACE ST	2,079	2,193	1.05	0.09	0.63	Yes	114	12,996
YARD ST	W of WASHINGTON AVE	1,077	1,899	1.76	1.12	0.68	No	822	675,684
OLIVER RD	W of SKYWAY	4,208	4,595	1.09	0.18	0.52	Yes	387	149,769
PEARSON RD	E of SKYWAY	9,116	6,703	0.74	-0.70	0.38	Yes	-2,413	5,822,569
SKYWAY	S of NEAL RD	**23,054**	25,368	1.10	0.38	0.27	Yes	2,314	5,354,596
BILLE RD	E of SKYWAY	7,957	5,685	0.71	-0.70	0.41	Yes	-2,272	5,161,984
W EATON RD	W of ESPLANADE	5,340	5,875	1.10	0.21	0.48	Yes	535	286,225
NEAL RD	E of HWY 99	1,486	2,225	1.50	0.79	0.63	Yes	739	546,121
PENTZ RD	N of HWY 70	3,393	6,604	1.95	1.65	0.58	No	3,211	10,310,521
HUMBOLDT RD	E of HWY 32 (Chico)	69	0	0.00	-1.46	0.68	No	-69	4,761
NORD HWY	W of ESPLANADE	3,147	2,195	0.70	-0.53	0.58	Yes	-952	906,304
SKYWAY	S of PEARSON RD	**23,230**	28,405	1.22	0.84	0.27	Yes	5,175	26,780,625
LOWER HONCUT RD	E of HWY 70	962	42	0.04	-1.40	0.68	No	-920	846,400
RICHVALE HWY	E of MIDWAY	1,361	3,104	2.28	2.03	0.63	No	1,743	3,038,049
CANYON DR	N of OLIVE HWY	3,266	3,104	0.95	-0.09	0.58	Yes	-162	26,244
OROVILLE DAM BLVD E	E of CANYON HIGHLANDS DR	4,930	4,993	1.01	0.02	0.52	Yes	63	3,969
FEATHER RIVER BLVD	N of ORO DAM BLVD	7,476	4,365	0.58	-0.95	0.44	Yes	-3,111	9,678,321
PALERMO RD	E of HWY 70	1,173	1,289	1.10	0.14	0.68	Yes	116	13,456
FORBESTOWN RD	W of ROBINSON MILL RD	777	885	1.14	0.20	0.68	Yes	108	11,664
LUMPKIN RD	N of FORBESTOWN RD	712	624	0.88	-0.18	0.68	Yes	-88	7,744
PALERMO HONCUT HWY	N of LWR HONCUT RD	897	331	0.37	-0.92	0.68	Yes	-566	320,356
SEVEN MILE LN	S of ORD FERRY RD	424	162	0.38	-0.90	0.68	Yes	-262	68,644
TOWNSHIP RD	W of HWY 99	1,475	1,255	0.85	-0.24	0.63	Yes	-220	48,400
BIGGS EAST HWY	E of HWY 99	2,683	1,751	0.65	-0.60	0.58	Yes	-932	868,624
LARKIN RD	N of EAST GRIDLEY RD	1,217	2,011	1.65	0.96	0.68	Yes	794	630,436
LINCOLN ST	S of GRACE ST	2,570	2,528	0.98	-0.03	0.58	Yes	-42	1,764
MONTGOMERY ST	W of FEATHER RIVER BLVD	7,717	9,354	1.21	0.52	0.41	Yes	1,637	2,679,769
MYERS ST	N of ORO DAM BLVD	6,119	5,533	0.90	-0.20	0.48	Yes	-586	343,396
WASHINGTON AVE	W of ORO DAM BLVD	10,869	11,845	1.09	0.25	0.36	Yes	976	952,576
LINCOLN BLVD	S of ORO DAM BLVD	13,355	15,802	1.18	0.56	0.33	Yes	2,447	5,987,809
LINCOLN BLVD	S of OPHIR RD	5,599	4,336	0.77	-0.47	0.48	Yes	-1,263	1,595,169
GARDEN DR	E of HWY 70	3,020	4,935	1.63	1.10	0.58	No	1,915	3,667,225
KELLY RIDGE RD	N of OLIVE HWY	1,985	1,116	0.56	-0.69	0.63	Yes	-869	755,161
ORO QUINCY HWY	W of OLIVE HWY	3,001	2,426	0.81	-0.33	0.58	Yes	-575	330,625
18TH ST	N of ORO DAM BLVD	1,732	2,189	1.26	0.42	0.63	Yes	457	208,849
CONCOW RD	W of HWY 70	961	2,173	2.26	1.85	0.68	No	1,212	1,468,944
LARKIN RD	N of E RIO BONITO RD	2,887	2,113	0.73	-0.47	0.58	Yes	-774	599,076
WALMER RD	E of LINCOLN BLVD	3,614	2,663	0.74	-0.46	0.58	Yes	-951	904,401
FOOTHILL BLVD	N of LWR WYANDOTTE RD	1,371	5,085	3.71	4.30	0.63	No	3,714	13,793,796
W RIO BONITO RD	E of HAWKINS LN	1,194	1,517	1.27	0.40	0.68	Yes	323	104,329
B ST	E of FIRST ST	2,367	2,087	0.88	-0.19	0.63	Yes	-280	78,400
PEARSON RD	W of CLARK RD	11,544	12,098	1.05	0.14	0.34	Yes	554	306,916
PEARSON RD	E of SAWMILL RD	6,925	5,731	0.83	-0.39	0.44	Yes	-1,194	1,425,636
PENTZ RD	S or PEARSON RD	6,247	7,604	1.22	0.46	0.48	Yes	1,357	1,841,449
PENTZ RD	N or BILLE RD	5,784	5,814	1.01	0.01	0.48	Yes	30	900
SKYWAY	N or BILLE RD	12,184	14,921	1.22	0.66	0.34	Yes	2,737	7,491,169
SKYWAY	N or NEAL RD	**20,119**	25,436	1.26	0.96	0.28	Yes	5,317	28,270,489
WAGSTAFF RD	W of SKYWAY	1,736	707	0.41	-0.94	0.63	Yes	-1,029	1,058,841
BILLE RD	W of SKYWAY	2,728	1,607	0.59	-0.71	0.58	Yes	-1,121	1,256,641
CLARK RD	N of BILLE RD	16,274	13,574	0.83	-0.56	0.29	Yes	-2,700	7,290,000
CLARK RD	N of ELLIOT RD	15,383	14,843	0.96	-0.12	0.30	Yes	-540	291,600
SKYWAY	S of MANZANITA ST (Stirling City)	404	1,176	2.91	2.80	0.68	No	772	595,984
HWY 99	N OF BUTTE COUNTY LINE	11,200	12,076	1.08	0.22	0.36	Yes	876	767,376
COHASSET RD	N OF MUSTY BUCK RD	121	121	1.00	0.00	0.68	Yes	0	0
HWY 32	N OF HUMBOLDT RD	1,050	1,050	1.00	0.00	0.68	Yes	0	0
HUMBOLDT RD	N OF JONESVILLE RD	5	5	1.00	0.00	0.68	Yes	0	0
HWY 70	N OF BUTTE COUNTY LINE	1,450	1,452	1.00	0.00	0.63	Yes	2	4
OROVILLE QUINCY HWY	N OF HASKINS VALLEY RD	243	244	1.00	0.01	0.68	Yes	1	1
FORBESTOWN RD	E OF RESERVOIR RD	777	780	1.00	0.01	0.68	Yes	3	9
LA PORTE RD	NE OF ROBINSON MILL RD	395	393	0.99	-0.01	0.68	Yes	-2	4
LOMA RICA RD	S OF LA PORTE RD	286	285	1.00	-0.01	0.68	Yes	-1	1
LA PORTE RD	S OF BUTTE COUNTY LINE	121	120	0.99	-0.01	0.68	Yes	-1	1
HWY 70	S OF BUTTE COUNTY LINE	11,600	12,520	1.08	0.23	0.34	Yes	920	846,400
LARKIN RD	S OF BUTTE COUNTY LINE	2,777	2,776	1.00	0.00	0.58	Yes	-1	1
HWY 99	S OF BUTTE COUNTY LINE	14,600	14,630	1.00	0.01	0.31	Yes	30	900
PENNINGTON RD	S OF RUTHERFORD RD	336	337	1.00	0.00	0.68	Yes	1	1
COLUSA HWY	W OF CHEROKEE CANAL RD	658	660	1.00	0.00	0.68	Yes	2	4
AFTON RD	W OF AGUAS FRIAS RD	118	119	1.01	0.01	0.68	Yes	1	1
HWY 162	W OF BUTTE COUNTY LINE	1,500	1,502	1.00	0.00	0.63	Yes	2	4
ROAD Z	S OF ROAD 48	243	245	1.01	0.01	0.68	Yes	2	4

BCAG Model Validation Results: Daily Two-Way Total Traffic Volumes									
		Count	Model	Model	Model	Maximum	Within	Model	Difference
Roadway	Segment	Two Way	Two Way	/Count	# Deviation	Deviation	Deviation	- Count	Squared
ORD FERRY RD	W OF HUGH BABER LN	2,955	3,308	1.12	0.21	0.58	Yes	353	124,609
HWY 32	W OF BUTTE COUNTY LINE	12,400	12,588	1.02	0.04	0.34	Yes	188	35,344
HWY 99	N OF NELSON SHIPPEE RD	10,100	15,643	1.55	1.53	0.36	No	5,543	30,724,849
HWY 99	S OF SR 162 W	14,000	17,094	1.22	0.71	0.31	Yes	3,094	9,572,836
HWY 70	S OF WELSH/PALERMO RD	13,300	16,722	1.26	0.79	0.33	Yes	3,422	11,710,084
HWY 70	BETWEEN NELSON AVE AND GARDEN DR	21,900	31,332	1.43	1.60	0.27	No	9,432	88,962,624
HWY 70	N OF PENTZ RD	2,850	3,887	1.36	0.63	0.58	Yes	1,037	1,075,369
HWY 149	BETWEEN SR 70 & SR 99	16,600	16,085	0.97	-0.11	0.29	Yes	-515	265,225
PENTZ RD	N OF LIME SADDLE ROAD	3,393	5,557	1.64	1.11	0.58	No	2,164	4,682,896
OROVILLE DAM BLVD W	BETWEEN 12TH ST AND SR 70	4,930	10,515	2.13	2.18	0.52	No	5,585	31,192,225
RICETON HWY	S OF SH 162	1,153	709	0.61	-0.56	0.68	Yes	-444	197,136
PALERMO HONCUT HWY	S OF OLD HONCUT RD	897	909	1.01	0.02	0.68	Yes	12	144
	Total	2,089,045	2,090,162						

Indicates Model Below Target Volume

Indicates Model Above Target High Volume

Model/Count Ratio =	**1.00**	
Percent Within Caltrans Maximum Deviation =	**83%**	> 75%
Percent Root Mean Square Error =	**29%**	< 30%
Correlation Coefficient =	**0.95**	> 0.88

Total Count	**282**
Link Within Deviation	**234**
Link Outside Deviation	**48**

BCAG Model Validation Results: AM Peak Hour Two-Way Total Traffic Volumes									
		Count	Model	Model	Model	Maximum	Within	Model	Difference
Roadway	Segment	Two Way	Two Way	/Count	# Deviation	Deviation	Deviation	- Count	Squared
B ST	E of 7TH ST	153	156	1.02	0.03	0.63	Yes	3	9
W BIGGS GRIDLEY RD	S of BANNOCK ST	170	133	0.78	-0.35	0.63	Yes	-37	1,369
AFTON RD	W of AGUA FRIAS RD	15	8	0.53	-0.68	0.68	Yes	-7	49
AGUAS FRIAS RD	S of DURHAM DAYTON RD	98	1	0.01	-1.45	0.68	No	-97	9,409
AGUAS FRIAS RD	S of NELSON RD	62	0	0.00	-1.46	0.68	No	-62	3,844
CHICO RIVER RD	W of ALBERTON RD	131	48	0.37	-1.01	0.63	No	-83	6,889
COHASSET HWY	N of KEEFER RD	224	245	1.09	0.15	0.63	Yes	21	441
COLUSA HWY	W of HATCH RD	65	23	0.35	-0.95	0.68	Yes	-42	1,764
DAYTON RD	S of ARCHER AVE	498	449	0.90	-0.19	0.52	Yes	-49	2,401
DAYTON RD	N of HEGAN LN	286	133	0.47	-0.93	0.58	Yes	-153	23,409
DUNSTONE DR	S of GRUBBS RD	13	97	7.46	9.46	0.68	No	84	7,056
DURHAM DAYTON HWY	W of OROVILLE-CHICO HWY	243	289	1.19	0.30	0.63	Yes	46	2,116
DURHAM PENTZ RD	E of SR 99	1,297	915	0.71	-0.91	0.33	Yes	-382	145,924
DURHAM PENTZ RD	E of SR 191	217	262	1.21	0.33	0.63	Yes	45	2,025
E GRIDLEY RD	At FEATHER RIVER BRIDGE	455	396	0.87	-0.25	0.52	Yes	-59	3,481
FORBESTOWN RD	S of OLD OLIVE HWY	242	245	1.01	0.02	0.63	Yes	3	9
GARNER LN	N of SR 99	590	802	1.36	0.76	0.48	Yes	212	44,944
HAMILTON CITY NORD	N of BENNETT RD	57	14	0.25	-1.10	0.68	No	-43	1,849
HEGAN LN	E of FIMPLE LN	246	92	0.37	-0.99	0.63	Yes	-154	23,716
HICKS LN	N of EATON RD	273	144	0.53	-0.82	0.58	Yes	-129	16,641
HONEY RUN RD	W of CENTERVILLE RD	137	180	1.31	0.50	0.63	Yes	43	1,849
KEEFER RD	W of GARNER LN	91	17	0.19	-1.19	0.68	No	-74	5,476
LARKIN RD	S of CHANDON AVE	230	97	0.42	-0.92	0.63	Yes	-133	17,689
LARKIN RD	S of SR 162	380	358	0.94	-0.11	0.52	Yes	-22	484
LOS VERJELES RD	S of LA PORTE RD	70	43	0.61	-0.56	0.68	Yes	-27	729
LOWER WYANDOTTE RD	W of ALVERDA DR	473	1,550	3.28	4.38	0.52	No	1,077	1,159,929
MERIDIAN RD	E of SR 99	103	75	0.73	-0.40	0.68	Yes	-28	784
MIDWAY RD	S of DURHAM DAYTON RD	353	517	1.46	0.81	0.58	Yes	164	26,896
MIDWAY RD	N of NELSON SHIPPEE RD	122	169	1.39	0.56	0.68	Yes	47	2,209
MINERS RANCH RD	S of SR 162	200	192	0.96	-0.06	0.63	Yes	-8	64
OAKVALE AVE	S of SR 162	457	256	0.56	-0.85	0.52	Yes	-201	40,401
OPHIR RD	E of FEATHER RIVER BLVD	551	1,048	1.90	1.90	0.48	No	497	247,009
ORD FERRY RD	W of RIVER RD	278	190	0.68	-0.55	0.58	Yes	-88	7,744
ORD FERRY RD	W of AGUAS FRIAS RD	297	245	0.82	-0.30	0.58	Yes	-52	2,704
ORO-QUINCY HWY	At LAKE MADRONE BRIDGE	43	75	1.74	1.09	0.68	No	32	1,024
ORO-BANGOR HWY	S of V-7 RD	184	130	0.71	-0.47	0.63	Yes	-54	2,916
ORO-BANGOR HWY	E of FOOTHILL BLVD	203	185	0.91	-0.14	0.63	Yes	-18	324
OROVILLE-BANGOR HWY	N of SWEDES FLAT RD	150	595	3.97	4.71	0.63	No	445	198,025
ORO-QUINCY HWY	E of FOOTHILL BLVD	303	321	1.06	0.10	0.58	Yes	18	324
PENNINGTON RD	S of W EVANS REIMER RD	40	12	0.30	-1.02	0.68	No	-28	784
SKYLINE BLVD	S of SR 162	112	102	0.91	-0.13	0.68	Yes	-10	100
SKYWAY	S of COUTOLENC RD	49	625	12.76	17.21	0.68	No	576	331,776
SKYWAY	N of NIMSHEW RD	127	35	0.28	-1.15	0.63	No	-92	8,464
SKYWAY	S of POWELLTON RD	71	24	0.34	-0.97	0.68	Yes	-47	2,209
UPPER PALERMO RD	S of OPHIR RD/LOWER WYANDO	382	439	1.15	0.29	0.52	Yes	57	3,249
W SACRAMENTO AVE	W of MUIR AVE	78	39	0.50	-0.73	0.68	Yes	-39	1,521
COHASSET RD	N of EATON RD	1,046	1,066	1.02	0.05	0.36	Yes	20	400
EAST AVE	W of CUSSICK/HOLLY AVE	1,505	1,079	0.72	-0.93	0.30	Yes	-426	181,476
EAST AVE	E of SR 32	1,338	970	0.72	-0.85	0.33	Yes	-368	135,424
EATON RD	W of BURNAP AVE	603	413	0.68	-0.66	0.48	Yes	-190	36,100
EATON RD	E of ESPLANADE RD	1,673	867	0.52	-1.64	0.29	No	-806	649,636
EATON RD	W of SILVERBELL RD	868	544	0.63	-0.91	0.41	Yes	-324	104,976
ESPLANADE RD	N of EAST AVE	1,816	2,173	1.20	0.69	0.29	Yes	357	127,449
ESPLANADE RD	N of EATON RD	1,398	748	0.54	-1.49	0.31	No	-650	422,500
ESPLANADE RD	N of LASSEN AVE	1,259	1,238	0.98	-0.05	0.33	Yes	-21	441
IVY ST	N of 11TH ST	233	87	0.37	-0.99	0.63	Yes	-146	21,316
ROSE AVE	S of WEBB AVE	140	85	0.61	-0.62	0.63	Yes	-55	3,025
W 1ST AVE	E of HOBART ST	605	1,014	1.68	1.42	0.48	No	409	167,281
W 2ND ST	E of WALNUT ST (SR 32)	445	316	0.71	-0.56	0.52	Yes	-129	16,641
W 5TH ST	W of WALNUT ST (SR 32)	375	397	1.06	0.11	0.52	Yes	22	484
W 5TH ST	E of WALNUT ST (SR 32)	404	218	0.54	-0.89	0.52	Yes	-186	34,596
W 8TH AVE	E of NORD AVE (SR 32)	705	366	0.52	-1.09	0.44	No	-339	114,921
W LINDO AVE	E of NORD AVE (SR 32)	122	70	0.57	-0.62	0.68	Yes	-52	2,704
W SACRAMENTO AVE	W of CITRUS AVE	487	868	1.78	1.50	0.52	No	381	145,161
W SACRAMENTO AVE	W of NORD AVE (SR 32)	529	476	0.90	-0.21	0.48	Yes	-53	2,809
W SACRAMENTO AVE	E of NORD AVE (SR 32)	837	678	0.81	-0.46	0.41	Yes	-159	25,281
WARNER ST	S of W SACAMENTO AVE	613	1,183	1.93	1.96	0.48	No	570	324,900
E GRIDLEY RD	E of SR 99	545	228	0.42	-1.22	0.48	No	-317	100,489
MAGNOLIA ST	W of SR 99	439	197	0.45	-1.06	0.52	No	-242	58,564
SPRUCE ST	W of SR 99	637	251	0.39	-1.38	0.44	No	-386	148,996
SYCAMORE ST	W of SR 99	268	778	2.90	3.31	0.58	No	510	260,100
18TH ST	N of GRAND AV	32	14	0.44	-0.82	0.68	Yes	-18	324
5TH AV	S of ORO DAM BLVD (SR 162)	318	306	0.96	-0.07	0.58	Yes	-12	144
5TH AV	S of CAL OAK AV	228	151	0.66	-0.54	0.63	Yes	-77	5,929
FEATHER RIVER BLVD	S of ORO-DAM BLVD (SR 162)	707	371	0.52	-1.08	0.44	No	-336	112,896
FOOTHILL BLVD	S of SR 162	502	664	1.32	0.68	0.48	Yes	162	26,244
GRAND AVE	E of 20TH ST	214	88	0.41	-0.93	0.63	Yes	-126	15,876
GRAND AVE	E of SR 70	570	484	0.85	-0.32	0.48	Yes	-86	7,396
GRAND AVE	E of 10TH ST	562	384	0.68	-0.67	0.48	Yes	-178	31,684
LINCOLN BLVD	N of OPHIR RD	640	443	0.69	-0.70	0.44	Yes	-197	38,809
LINCOLN BLVD	S of JUNCTION W/ MYERS	883	1,052	1.19	0.50	0.38	Yes	169	28,561
LOWER WYANDOTTE RD	S of SR 162	692	551	0.80	-0.46	0.44	Yes	-141	19,881
MITCHELL ST	E of MYERS ST	509	461	0.91	-0.20	0.48	Yes	-48	2,304
MITCHELL ST	E of FEATHER RIVER BLVD	282	340	1.21	0.36	0.58	Yes	58	3,364
MONTGOMERY ST	W of LINCOLN BLVD	527	604	1.15	0.31	0.48	Yes	77	5,929
MONTGOMERY ST	W of TABLE MTN BLVD	578	775	1.34	0.72	0.48	Yes	197	38,809
NELSON AVE	E of SR 70	997	690	0.69	-0.81	0.38	Yes	-307	94,249
ORANGE AVE	E of BRIDGE ST	148	111	0.75	-0.40	0.63	Yes	-37	1,369
ORO-DAM BLVD	E of FOOTHILL BLVD/BRIDGE	457	684	1.50	0.96	0.52	Yes	227	51,529
TABLE MTN BLVD	S of GRAND AVE	1,514	1,552	1.03	0.08	0.30	Yes	38	1,444

Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
TABLE MTN BLVD	S of NELSON AVE	1,195	1,263	1.06	0.17	0.34	Yes	68	4,624
WYANDOTTE AVE	W of LOWER WYANDOTTE RD	348	512	1.47	0.82	0.58	Yes	164	26,896
BILLE RD	E of CLARK RD	706	609	0.86	-0.31	0.44	Yes	-97	9,409
CLARK RD	N of WAGSTAFF RD	822	969	1.18	0.44	0.41	Yes	147	21,609
CLARK RD	N of PEARSON RD	1,248	1,008	0.81	-0.57	0.34	Yes	-240	57,600
ELLIOT RD	W of CLARK RD	830	936	1.13	0.31	0.41	Yes	106	11,236
ELLIOT RD	E of CLARK RD	470	444	0.94	-0.11	0.52	Yes	-26	676
NEAL RD	S of SKYWAY	337	391	1.16	0.28	0.58	Yes	54	2,916
PEARSON RD	E of CLARK RD	803	1,097	1.37	0.89	0.41	Yes	294	86,436
PENTZ RD	N of PEARSON RD	449	432	0.96	-0.07	0.52	Yes	-17	289
PENTZ RD	N of WAGSTAFF RD	676	938	1.39	0.88	0.44	Yes	262	68,644
SKYWAY	N of ELLIOT RD	1,822	1,864	1.02	0.08	0.29	Yes	42	1,764
SKYWAY	W of CLARK RD	879	854	0.97	-0.07	0.38	Yes	-25	625
NEW SKYWAY	W of PENTZ RD	1,415	1,300	0.92	-0.26	0.31	Yes	-115	13,225
NEW SKYWAY	E of PENTZ RD	1,481	1,385	0.94	-0.21	0.31	Yes	-96	9,216
SKYWAY	N of WAGSTAFF RD	1,003	978	0.98	-0.07	0.36	Yes	-25	625
SKYWAY	N of WYCLIFF WAY	853	937	1.10	0.24	0.41	Yes	84	7,056
WAGSTAFF RD	W of CLARK RD	495	257	0.52	-0.92	0.52	Yes	-238	56,644
WAGSTAFF RD	E of CLARK RD	579	637	1.10	0.21	0.48	Yes	58	3,364
ENTLER AVE	E of MIDWAY	123	103	0.84	-0.24	0.68	Yes	-20	400
MIDWAY RD	S of E PARK AVE	1,406	1,270	0.90	-0.31	0.31	Yes	-136	18,496
MIDWAY RD	S of HEGAN LN	762	1,007	1.32	0.78	0.41	Yes	245	60,025
BROADWAY	N of SR 32 (8TH ST)	494	439	0.89	-0.21	0.52	Yes	-55	3,025
BROADWAY	S of 2ND ST	651	777	1.19	0.44	0.44	Yes	126	15,876
BRUCE RD	N of LAKEWEST DR	1,119	1,064	0.95	-0.14	0.36	Yes	-55	3,025
BRUCE RD	S of HUMBOLDT RD	910	1,043	1.15	0.38	0.38	Yes	133	17,689
BRUCE RD	N of SKYWAY	684	774	1.13	0.30	0.44	Yes	90	8,100
BRUCE RD	N of E 20TH ST	960	1,227	1.28	0.73	0.38	Yes	267	71,289
COHASSET RD	N of EAST AVE	1,560	1,394	0.89	-0.35	0.30	Yes	-166	27,556
COHASSET RD	S of EAST AVE	1,760	2,068	1.18	0.61	0.29	Yes	308	94,864
E 1ST AVE	E of ESPLANADE	957	1,293	1.35	0.92	0.38	Yes	336	112,896
E 1ST AVE	W of ESPLANADE RD	857	1,068	1.25	0.60	0.41	Yes	211	44,521
E 1ST AVE	W of LONGFELLOW	1,428	993	0.70	-0.97	0.31	Yes	-435	189,225
E 1ST AVE	W of SHERMAN AVE	1,350	1,394	1.03	0.10	0.33	Yes	44	1,936
E 20TH ST	E of FOREST AVE	886	1,085	1.22	0.59	0.38	Yes	199	39,601
E 20TH ST	W of BRUCE RD	712	752	1.06	0.13	0.44	Yes	40	1,600
E 20TH ST	W of WHITMAN AVE	1,433	1,448	1.01	0.03	0.31	Yes	15	225
E 20TH ST	W of FOREST AVE	1,648	1,898	1.15	0.52	0.29	Yes	250	62,500
E 5TH AVE	E of ESPLANADE RD	470	292	0.62	-0.73	0.52	Yes	-178	31,684
E 8TH ST	E of EL MONTE AVE	329	423	1.29	0.50	0.58	Yes	94	8,836
E 8TH ST	W of PARK VISTA DR	445	629	1.41	0.80	0.52	Yes	184	33,856
E 8TH ST	W of BRUCE RD	346	342	0.99	-0.02	0.58	Yes	-4	16
EAST AVE	E of FLORAL AVE	1,648	1,628	0.99	-0.04	0.29	Yes	-20	400
EAST AVE	E of COHASSET RD	1,501	1,431	0.95	-0.15	0.30	Yes	-70	4,900
EAST AVE	W of COHASSET RD	1,122	1,061	0.95	-0.15	0.36	Yes	-61	3,721
EAST AVE	E of ESPLANADE RD	1,822	1,679	0.92	-0.27	0.29	Yes	-143	20,449
EAST AVE	W of ESPLANADE RD	1,838	1,413	0.77	-0.81	0.29	Yes	-425	180,625
E PARK AVE	Btwn SR 99 & CARMICHAEL DR	1,937	1,657	0.86	-0.52	0.28	Yes	-280	78,400
E PARK AVE	E of MIDWAY	1,574	1,585	1.01	0.02	0.30	Yes	11	121
EL MONTE AVE	S of 8TH ST	113	18	0.16	-1.23	0.68	No	-95	9,025
ESPLANADE RD	S of EAST AVE	1,810	1,805	1.00	-0.01	0.29	Yes	-5	25
ESPLANADE RD	N of E 1ST AVE	1,831	1,770	0.97	-0.12	0.29	Yes	-61	3,721
ESPLANADE RD	S of W SACRAMENTO AVE	1,610	1,803	1.12	0.40	0.30	Yes	193	37,249
FLORAL AVE	N of EAST AVE	707	768	1.09	0.20	0.44	Yes	61	3,721
FOREST AVE	S of E 20TH ST	1,215	878	0.72	-0.82	0.34	Yes	-337	113,569
FOREST AVE	S of HUMBOLDT RD	947	981	1.04	0.09	0.38	Yes	34	1,156
LASSEN AVE	W of BURNAP AVE	725	432	0.60	-0.92	0.44	Yes	-293	85,849
LASSEN AVE	E of ESPLANADE RD	749	718	0.96	-0.09	0.44	Yes	-31	961
MAIN ST	S of 2ND ST	726	1,082	1.49	1.11	0.44	No	356	126,736
MAIN ST	S of SR 32 (8TH ST)	800	1,353	1.69	1.69	0.41	No	553	305,809
MANGROVE AVE	S of VALLOMBROSA AVE	1,413	1,805	1.28	0.89	0.31	Yes	392	153,664
MANGROVE AVE	S of COHASSET RD	1,840	1,720	0.93	-0.23	0.29	Yes	-120	14,400
MANGROVE AVE	S of E 1ST AVE	1,888	1,354	0.72	-1.01	0.28	No	-534	285,156
MANGROVE AVE	N of E 1ST AVE	1,634	1,555	0.95	-0.16	0.29	Yes	-79	6,241
MANZANITA AVE	N of VALLOMBROSA AVE	1,185	1,098	0.93	-0.22	0.34	Yes	-87	7,569
MANZANITA AVE	N of CHICO CANYON RD	1,392	1,130	0.81	-0.60	0.31	Yes	-262	68,644
MANZANITA AVE	E of LONGFELLOW AVE	898	601	0.67	-0.87	0.38	Yes	-297	88,209
MULBERRY ST	S of PINE ST/CYPRESS ST J	747	910	1.22	0.50	0.44	Yes	163	26,569
PALMETTO	W of BRYANT AVE	464	334	0.72	-0.54	0.52	Yes	-130	16,900
PARK AVE	N of E PARK AVE	1,043	1,362	1.31	0.85	0.36	Yes	319	101,761
PARK AVE	S of 16TH ST	1,355	1,643	1.21	0.65	0.33	Yes	288	82,944
PARK AVE	S of SR 32	1,389	854	0.61	-1.23	0.31	No	-535	286,225
PINE ST	N of 4TH ST	697	689	0.99	-0.03	0.44	Yes	-8	64
SKYWAY	E of BRUCE RD	1,995	2,334	1.17	0.61	0.28	Yes	339	114,921
SKYWAY	W of NOTRE DAME BLVD	2,309	2,851	1.23	0.89	0.27	Yes	542	293,764
SKYWAY	E of NOTRE DAME BLVD	1,904	2,053	1.08	0.28	0.28	Yes	149	22,201
VALLOMBROSA AVE	E of SR 99	473	306	0.65	-0.68	0.52	Yes	-167	27,889
VALLOMBROSA AVE	W of MANZANITA AVE	435	146	0.34	-1.28	0.52	No	-289	83,521
W 8TH AVE	W of ESPLANADE RD	334	256	0.77	-0.41	0.58	Yes	-78	6,084
WHITMAN	N of 23RD ST	769	224	0.29	-1.73	0.41	No	-545	297,025
W 3RD ST	E of IVY ST	138	89	0.64	-0.56	0.63	Yes	-49	2,401
E 3RD ST	E of WALL ST	160	160	1.00	0.00	0.63	Yes	0	0
W 4TH ST	E of HAZEL ST	91	113	1.24	0.35	0.68	Yes	22	484
E 4TH ST	E of FLUME ST	137	14	0.10	-1.43	0.63	No	-123	15,129
E 8TH ST	E of KERN ST	302	400	1.32	0.56	0.58	Yes	98	9,604
BIDWELL AVE	E of CARRIAGE LN	67	165	2.46	2.14	0.68	No	98	9,604
COHASSET RD	E of RIO LINDO AVE	1,847	1,039	0.56	-1.53	0.29	No	-808	652,864
ESPANADE	S of COHASSET RD	1,782	1,617	0.91	-0.32	0.29	Yes	-165	27,225
FAIR ST	S of E 20TH ST	543	380	0.70	-0.63	0.48	Yes	-163	26,569
FIR ST	S of HWY 32	280	157	0.56	-0.76	0.58	Yes	-123	15,129
FOREST AVE	W of NOTRE DAME BLVD	1,057	840	0.79	-0.57	0.36	Yes	-217	47,089

Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
FOREST AVE	N of HUMBOLDT RD	888	966	1.09	0.23	0.38	Yes	78	6,084
FOREST AVE	N of HWY 32	405	190	0.47	-1.02	0.52	No	-215	46,225
HOOKER OAK AVE	E of MADRONE AVE	279	188	0.67	-0.57	0.58	Yes	-91	8,281
HOOKER OAK AVE	W of MANZANITA AVE	326	144	0.44	-0.97	0.58	Yes	-182	33,124
HAWTHORNE AVE	W of MADRONE AVE	120	35	0.29	-1.04	0.68	No	-85	7,225
HUMBOLDT RD	W of FOREST AVE	243	227	0.93	-0.10	0.63	Yes	-16	256
MANZANITA AVE	E of MADRONE AVE	477	246	0.52	-0.93	0.52	Yes	-231	53,361
MANGROVE AVE	N of E 7TH AVE	1,540	1,580	1.03	0.09	0.30	Yes	40	1,600
MARIGOLD AVE	S of EAST AVE	469	312	0.67	-0.64	0.52	Yes	-157	24,649
MARIGOLD AVE	N of EAST AVE	391	339	0.87	-0.26	0.52	Yes	-52	2,704
MARIPOSA AVE	N of EAST AVE	413	210	0.51	-0.95	0.52	Yes	-203	41,209
NOTRE DAME BLVD	N of SKYWAY	1,167	714	0.61	-1.14	0.34	No	-453	205,209
NOTRE DAME BLVD	N of FOREST AVE	419	166	0.40	-1.16	0.52	No	-253	64,009
PALMETTO AVE	E of MANGROVE AVE	513	446	0.87	-0.27	0.48	Yes	-67	4,489
PALMETTO AVE	E of SHERIDAN AVE	625	372	0.60	-0.92	0.44	Yes	-253	64,009
SKYWAY	N of COUTOLENC RD	1,486	1,980	1.33	1.06	0.31	No	494	244,036
SKYWAY	E of CLIFFHANGER LN	1,754	2,153	1.23	0.80	0.29	Yes	399	159,201
SYCAMORE ST	E of RANDOLPH AVE	292	163	0.56	-0.77	0.58	Yes	-129	16,641
W BIGGS GRIDLEY RD	S of SPRUCE ST	226	43	0.19	-1.29	0.63	No	-183	33,489
GEORGIA PACIFIC WAY	E of HWY 70	137	393	2.87	2.97	0.63	No	256	65,536
HUNTOON ST	S of GRACE ST	208	191	0.92	-0.13	0.63	Yes	-17	289
YARD ST	W of WASHINGTON AVE	97	187	1.93	1.36	0.68	No	90	8,100
OLIVER RD	W of SKYWAY	405	400	0.99	-0.02	0.52	Yes	-5	25
PEARSON RD	E of SKYWAY	767	422	0.55	-1.10	0.41	No	-345	119,025
SKYWAY	S of NEAL RD	2,050	2,283	1.11	0.41	0.28	Yes	233	54,289
BILLE RD	E of SKYWAY	634	542	0.85	-0.33	0.44	Yes	-92	8,464
W EATON RD	W of ESPLANADE	582	555	0.95	-0.10	0.48	Yes	-27	729
NEAL RD	E of HWY 99	154	156	1.01	0.02	0.63	Yes	2	4
PENTZ RD	N of HWY 70	283	509	1.80	1.39	0.58	No	226	51,076
HUMBOLDT RD	E of HWY 32 (Chico)	8	0	0.00	-1.46	0.68	No	-8	64
NORD HWY	W of ESPLANADE	333	127	0.38	-1.08	0.58	No	-206	42,436
SKYWAY	S of PEARSON RD	2,055	2,208	1.07	0.27	0.28	Yes	153	23,409
LOWER HONCUT RD	E of HWY 70	66	2	0.03	-1.42	0.68	No	-64	4,096
RICHVALE HWY	E of MIDWAY	124	267	2.15	1.69	0.68	No	143	20,449
CANYON DR	N of OLIVE HWY	308	194	0.63	-0.64	0.58	Yes	-114	12,996
OROVILLE DAM BLVD E	E of CANYON HIGHLANDS DR	495	792	1.60	1.15	0.52	No	297	88,209
FEATHER RIVER BLVD	N of ORO DAM BLVD	632	297	0.47	-1.20	0.44	No	-335	112,225
PALERMO RD	E of HWY 70	78	312	4.00	4.39	0.68	No	234	54,756
FORBESTOWN RD	W of ROBINSON MILL RD	70	47	0.67	-0.48	0.68	Yes	-23	529
LUMPKIN RD	N of FORBESTOWN RD	54	59	1.09	0.14	0.68	Yes	5	25
PALERMO HONCUT HWY	N of LWR HONCUT RD	65	20	0.31	-1.01	0.68	No	-45	2,025
SEVEN MILE LN	S of ORD FERRY RD	33	10	0.30	-1.02	0.68	No	-23	529
TOWNSHIP RD	W of HWY 99	132	128	0.97	-0.05	0.63	Yes	-4	16
BIGGS EAST HWY	E of HWY 99	224	124	0.55	-0.71	0.63	Yes	-100	10,000
LARKIN RD	N of EAST GRIDLEY RD	89	129	1.45	0.66	0.68	Yes	40	1,600
LINCOLN ST	S of GRACE ST	223	143	0.64	-0.57	0.63	Yes	-80	6,400
MONTGOMERY ST	W of FEATHER RIVER BLVD	603	819	1.36	0.75	0.48	Yes	216	46,656
MYERS ST	N of ORO DAM BLVD	572	347	0.61	-0.83	0.48	Yes	-225	50,625
WASHINGTON AVE	W of ORO DAM BLVD	840	643	0.77	-0.57	0.41	Yes	-197	38,809
LINCOLN BLVD	S of ORO DAM BLVD	1,017	1,312	1.29	0.81	0.36	Yes	295	87,025
LINCOLN BLVD	S of OPHIR RD	466	428	0.92	-0.16	0.52	Yes	-38	1,444
GARDEN DR	E of HWY 70	439	441	1.00	0.01	0.52	Yes	2	4
KELLY RIDGE RD	N of OLIVE HWY	145	118	0.81	-0.30	0.63	Yes	-27	729
ORO QUINCY HWY	W of OLIVE HWY	341	544	1.60	1.04	0.58	No	203	41,209
18TH ST	N of ORO DAM BLVD	160	232	1.45	0.71	0.63	Yes	72	5,184
CONCOW RD	W of HWY 70	82	194	2.37	2.00	0.68	No	112	12,544
LARKIN RD	N of E RIO BONITO RD	221	174	0.79	-0.34	0.63	Yes	-47	2,209
WALMER RD	E of LINCOLN BLVD	486	284	0.58	-0.80	0.52	Yes	-202	40,804
FOOTHILL BLVD	N of LWR WYANDOTTE RD	105	470	4.48	5.09	0.68	No	365	133,225
W RIO BONITO RD	E of HAWKINS LN	112	112	1.00	0.00	0.68	Yes	0	0
B ST	E of FIRST ST	220	240	1.09	0.14	0.63	Yes	20	400
PEARSON RD	W of CLARK RD	1,209	1,097	0.91	-0.27	0.34	Yes	-112	12,544
PEARSON RD	E of SAWMILL RD	584	505	0.86	-0.28	0.48	Yes	-79	6,241
PENTZ RD	S or PEARSON RD	506	629	1.24	0.51	0.48	Yes	123	15,129
PENTZ RD	N or BILLE RD	683	508	0.74	-0.58	0.44	Yes	-175	30,625
SKYWAY	N or BILLE RD	1,136	1,103	0.97	-0.09	0.34	Yes	-33	1,089
SKYWAY	N or NEAL RD	1,823	2,164	1.19	0.65	0.29	Yes	341	116,281
WAGSTAFF RD	W of SKYWAY	165	63	0.38	-0.98	0.63	Yes	-102	10,404
BILLE RD	W of SKYWAY	240	136	0.57	-0.69	0.63	Yes	-104	10,816
CLARK RD	N of BILLE RD	1,323	1,241	0.94	-0.19	0.33	Yes	-82	6,724
CLARK RD	N of ELLIOT RD	1,299	1,316	1.01	0.04	0.33	Yes	17	289
SKYWAY	S of MANZANITA ST (Stirling City)	41	57	1.39	0.57	0.68	Yes	16	256
HWY 99	N OF BUTTE COUNTY LINE	973	654	0.67	-0.86	0.38	Yes	-319	101,761
COHASSET RD	N OF MUSTY BUCK RD	11	4	0.36	-0.93	0.68	Yes	-7	49
HWY 32	N OF HUMBOLDT RD	92	68	0.74	-0.38	0.68	Yes	-24	576
HUMBOLDT RD	N OF JONESVILLE RD	1	0	0.00	-1.46	0.68	No	-1	1
HWY 70	N OF BUTTE COUNTY LINE	126	79	0.63	-0.59	0.63	Yes	-47	2,209
OROVILLE QUINCY HWY	N OF HASKINS VALLEY RD	22	9	0.41	-0.87	0.68	Yes	-13	169
FORBESTOWN RD	E OF RESERVOIR RD	68	36	0.53	-0.69	0.68	Yes	-32	1,024
LA PORTE RD	NE OF ROBINSON MILL RD	35	23	0.66	-0.50	0.68	Yes	-12	144
LOMA RICA RD	S OF LA PORTE RD	25	16	0.64	-0.53	0.68	Yes	-9	81
LA PORTE RD	S OF BUTTE COUNTY LINE	11	4	0.36	-0.93	0.68	Yes	-7	49
HWY 70	S OF BUTTE COUNTY LINE	1,008	721	0.72	-0.79	0.36	Yes	-287	82,369
LARKIN RD	S OF BUTTE COUNTY LINE	242	97	0.40	-0.95	0.63	Yes	-145	21,025
HWY 99	S OF BUTTE COUNTY LINE	1,268	562	0.44	-1.71	0.33	No	-706	498,436
PENNINGTON RD	S OF RUTHERFORD RD	30	12	0.40	-0.88	0.68	Yes	-18	324
COLUSA HWY	W OF CHEROKEE CANAL RD	58	23	0.40	-0.88	0.68	Yes	-35	1,225
AFTON RD	W OF AGUAS FRIAS RD	11	4	0.36	-0.93	0.68	Yes	-7	49
HWY 162	W OF BUTTE COUNTY LINE	131	63	0.48	-0.82	0.63	Yes	-68	4,624
ROAD Z	S OF ROAD 48	22	19	0.86	-0.20	0.68	Yes	-3	9
ORD FERRY RD	W OF HUGH BABER LN	257	187	0.73	-0.47	0.58	Yes	-70	4,900
HWY 32	W OF BUTTE COUNTY LINE	1,077	454	0.42	-1.61	0.36	No	-623	388,129

Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
HWY 99	N OF NELSON SHIPPEE RD	938	882	0.94	-0.16	0.38	Yes	-56	3,180
HWY 99	S OF SR 162 W	1,216	989	0.81	-0.55	0.34	Yes	-227	51,529
HWY 70	S OF WELSH/PALERMO RD	1,155	1,012	0.88	-0.36	0.34	Yes	-143	20,449
HWY 70	BETWEEN NELSON AVE AND GARDEN DR	1,902	3,510	1.85	3.02	0.28	No	1,608	2,585,664
HWY 70	N OF PENTZ RD	248	362	1.46	0.73	0.63	Yes	114	12,996
HWY 149	BETWEEN SR 70 & SR 99	1,442	1,922	1.33	1.06	0.31	No	480	230,400
PENTZ RD	N OF LIME SADDLE ROAD	295	499	1.69	1.20	0.58	No	204	41,616
OROVILLE DAM BLVD W	BETWEEN 12TH ST AND SR 70	429	938	2.19	2.28	0.52	No	509	259,081
RICETON HWY	S OF SH 162	101	57	0.56	-0.64	0.68	Yes	-44	1,936
PALERMO HONCUT HWY	S OF OLD HONCUT RD	78	80	1.03	0.04	0.68	Yes	2	4
	Total	181,442	177,295						

Indicates Model Below Target Volume

Indicates Model Above Target High Volume

Model/Count Ratio =	**0.98**	
Percent Within Caltrans Maximum Deviation =	**78%**	> 75%
Percent Root Mean Square Error =	**39%**	< 30%
Correlation Coefficient =	**0.91**	> 0.88

Total Count	**282**
Link Within Deviation	**220**
Link Outside Deviation	**62**

BCAG Model Validation Results: PM Peak Hour Two-Way Total Traffic Volumes									
		Count	Model	Model	Model	Maximum	Within	Model	Difference
Roadway	Segment	Two Way	Two Way	/Count	# Deviation	Deviation	Deviation	- Count	Squared
B ST	E of 7TH ST	209	144	0.69	-0.49	0.63	Yes	-65	4,225
W BIGGS GRIDLEY RD	S of BANNOCK ST	189	306	1.62	0.98	0.63	Yes	117	13,689
AFTON RD	W of AGUA FRIAS RD	15	8	0.53	-0.68	0.68	Yes	-7	49
AGUAS FRIAS RD	S of DURHAM DAYTON RD	70	1	0.01	-1.44	0.68	No	-69	4,761
AGUAS FRIAS RD	S of NELSON RD	55	0	0.00	-1.46	0.68	No	-55	3,025
CHICO RIVER RD	W of ALBERTON RD	131	114	0.87	-0.21	0.63	Yes	-17	289
COHASSET HWY	N of KEEFER RD	114	239	2.10	1.61	0.68	No	125	15,625
COLUSA HWY	W of HATCH RD	64	59	0.92	-0.11	0.68	Yes	-5	25
DAYTON RD	S of ARCHER AVE	598	515	0.86	-0.29	0.48	Yes	-83	6,889
DAYTON RD	N of HEGAN LN	333	178	0.53	-0.81	0.58	Yes	-155	24,025
DUNSTONE DR	S of GRUBBS RD	20	22	1.10	0.15	0.68	Yes	2	4
DURHAM DAYTON HWY	W of OROVILLE-CHICO HWY	218	253	1.16	0.25	0.63	Yes	35	1,225
DURHAM PENTZ RD	E of SR 99	938	848	0.90	-0.25	0.38	Yes	-90	8,100
DURHAM PENTZ RD	E of SR 191	197	305	1.55	0.87	0.63	Yes	108	11,664
E GRIDLEY RD	At FEATHER RIVER BRIDGE	529	274	0.52	-1.01	0.48	No	-255	65,025
FORBESTOWN RD	S of OLD OLIVE HWY	259	220	0.85	-0.26	0.58	Yes	-39	1,521
GARNER LN	N of SR 99	510	895	1.75	1.59	0.48	No	385	148,225
HAMILTON CITY NORD	N of BENNETT RD	50	19	0.38	-0.91	0.68	Yes	-31	961
HEGAN LN	E of FIMPLE LN	336	137	0.41	-1.03	0.58	No	-199	39,601
HICKS LN	N of EATON RD	282	187	0.66	-0.59	0.58	Yes	-95	9,025
HONEY RUN RD	W of CENTERVILLE RD	126	165	1.31	0.49	0.63	Yes	39	1,521
KEEFER RD	W of GARNER LN	96	26	0.27	-1.07	0.68	No	-70	4,900
LARKIN RD	S of CHANDON AVE	250	250	1.00	0.00	0.58	Yes	0	0
LARKIN RD	S of SR 162	458	630	1.38	0.72	0.52	Yes	172	29,584
LOS VERJELES RD	S of LA PORTE RD	91	68	0.75	-0.37	0.68	Yes	-23	529
LOWER WYANDOTTE RD	W of ALVERDA DR	592	925	1.56	1.18	0.48	No	333	110,889
MERIDIAN RD	E of SR 99	109	63	0.58	-0.62	0.68	Yes	-46	2,116
MIDWAY RD	S of DURHAM DAYTON RD	354	467	1.32	0.56	0.58	Yes	113	12,769
MIDWAY RD	N of NELSON SHIPPEE RD	134	184	1.37	0.59	0.63	Yes	50	2,500
MINERS RANCH RD	S of SR 162	250	113	0.45	-0.95	0.58	Yes	-137	18,769
OAKVALE AVE	S of SR 162	391	160	0.41	-1.14	0.52	No	-231	53,361
OPHIR RD	E of FEATHER RIVER BLVD	605	674	1.11	0.24	0.48	Yes	69	4,761
ORD FERRY RD	W of RIVER RD	285	289	1.01	0.02	0.58	Yes	4	16
ORD FERRY RD	W of AGUAS FRIAS RD	339	268	0.79	-0.36	0.58	Yes	-71	5,041
ORO-QUINCY HWY	At LAKE MADRONE BRIDGE	47	152	3.23	3.27	0.68	No	105	11,025
ORO-BANGOR HWY	S of V-7 RD	179	91	0.51	-0.78	0.63	Yes	-88	7,744
ORO-BANGOR HWY	E of FOOTHILL BLVD	183	115	0.63	-0.59	0.63	Yes	-68	4,624
OROVILLE-BANGOR HWY	N of SWEDES FLAT RD	178	547	3.07	3.29	0.63	No	369	136,161
ORO-QUINCY HWY	E of FOOTHILL BLVD	300	166	0.55	-0.78	0.58	Yes	-134	17,956
PENNINGTON RD	S of W EVANS REIMER RD	34	30	0.88	-0.17	0.68	Yes	-4	16
SKYLINE BLVD	S of SR 162	102	119	1.17	0.24	0.68	Yes	17	289
SKYWAY	S of COUTOLENC RD	48	380	7.92	10.13	0.68	No	332	110,224
SKYWAY	N of NIMSHEW RD	159	110	0.69	-0.49	0.63	Yes	-49	2,401
SKYWAY	S of POWELLTON RD	87	101	1.16	0.24	0.68	Yes	14	196
UPPER PALERMO RD	S of OPHIR RD/LOWER WYANDO	322	309	0.96	-0.07	0.58	Yes	-13	169
W SACRAMENTO AVE	W of MUIR AVE	90	34	0.38	-0.91	0.68	Yes	-56	3,136
COHASSET RD	N of EATON RD	988	1,312	1.33	0.86	0.38	Yes	324	104,976
EAST AVE	W of CUSSICK/HOLLY AVE	1,661	1,527	0.92	-0.27	0.29	Yes	-134	17,956
EAST AVE	E of SR 32	1,412	1,413	1.00	0.00	0.31	Yes	1	1
EATON RD	W of BURNAP AVE	614	539	0.88	-0.26	0.48	Yes	-75	5,625
EATON RD	E of ESPLANADE RD	1,613	1,000	0.62	-1.25	0.30	No	-613	375,769
EATON RD	W of SILVERBELL RD	942	687	0.73	-0.71	0.38	Yes	-255	65,025
ESPLANADE RD	N of EAST AVE	1,960	2,908	1.48	1.73	0.28	No	948	898,704
ESPLANADE RD	N of EATON RD	1,207	944	0.78	-0.64	0.34	Yes	-263	69,169
ESPLANADE RD	N of LASSEN AVE	1,402	1,534	1.09	0.30	0.31	Yes	132	17,424
IVY ST	N of 11TH ST	276	88	0.32	-1.18	0.58	No	-188	35,344
ROSE AVE	S of WEBB AVE	176	96	0.55	-0.72	0.63	Yes	-80	6,400
W 1ST AVE	E of HOBART ST	744	584	0.78	-0.49	0.44	Yes	-160	25,600
W 2ND ST	E of WALNUT ST (SR 32)	519	394	0.76	-0.51	0.48	Yes	-125	15,625
W 5TH ST	W of WALNUT ST (SR 32)	496	469	0.95	-0.10	0.52	Yes	-27	729
W 5TH ST	E of WALNUT ST (SR 32)	491	218	0.44	-1.07	0.52	No	-273	74,529
W 8TH AVE	E of NORD AVE (SR 32)	601	413	0.69	-0.66	0.48	Yes	-188	35,344
W LINDO AVE	E of NORD AVE (SR 32)	124	72	0.58	-0.61	0.68	Yes	-52	2,704
W SACRAMENTO AVE	W of CITRUS AVE	578	688	1.19	0.40	0.48	Yes	110	12,100
W SACRAMENTO AVE	W of NORD AVE (SR 32)	589	444	0.75	-0.52	0.48	Yes	-145	21,025
W SACRAMENTO AVE	E of NORD AVE (SR 32)	1,072	714	0.67	-0.93	0.36	Yes	-358	128,164
WARNER ST	S of W SACAMENTO AVE	745	312	0.42	-1.32	0.44	No	-433	187,489
E GRIDLEY RD	E of SR 99	581	596	1.03	0.05	0.48	Yes	15	225
MAGNOLIA ST	W of SR 99	529	786	1.49	1.02	0.48	No	257	66,049
SPRUCE ST	W of SR 99	660	647	0.98	-0.04	0.44	Yes	-13	169
SYCAMORE ST	W of SR 99	316	198	0.63	-0.65	0.58	Yes	-118	13,924
18TH ST	N of GRAND AV	40	21	0.53	-0.70	0.68	Yes	-19	361
5TH AV	S of ORO DAM BLVD (SR 162)	377	307	0.81	-0.36	0.52	Yes	-70	4,900
5TH AV	S of CAL OAK AV	271	245	0.90	-0.17	0.58	Yes	-26	676
FEATHER RIVER BLVD	S of ORO-DAM BLVD (SR 162)	714	809	1.13	0.30	0.44	Yes	95	9,025
FOOTHILL BLVD	S of SR 162	550	720	1.31	0.65	0.48	Yes	170	28,900
GRAND AVE	E of 20TH ST	148	48	0.32	-1.07	0.63	No	-100	10,000
GRAND AVE	E of SR 70	552	636	1.15	0.32	0.48	Yes	84	7,056
GRAND AVE	E of 10TH ST	456	352	0.77	-0.44	0.52	Yes	-104	10,816
LINCOLN BLVD	N of OPHIR RD	606	520	0.86	-0.30	0.48	Yes	-86	7,396
LINCOLN BLVD	S of JUNCTION W/ MYERS	1,009	1,000	0.99	-0.02	0.36	Yes	-9	81
LOWER WYANDOTTE RD	S of SR 162	735	813	1.11	0.24	0.44	Yes	78	6,084
MITCHELL ST	E of MYERS ST	547	570	1.04	0.09	0.48	Yes	23	529
MITCHELL ST	E of FEATHER RIVER BLVD	312	468	1.50	0.87	0.58	Yes	156	24,336
MONTGOMERY ST	W of LINCOLN BLVD	574	767	1.34	0.71	0.48	Yes	193	37,249
MONTGOMERY ST	W of TABLE MTN BLVD	591	992	1.68	1.43	0.48	No	401	160,801
NELSON AVE	E of SR 70	892	591	0.66	-0.89	0.38	Yes	-301	90,601
ORANGE AVE	E of BRIDGE ST	74	74	1.00	0.00	0.68	Yes	0	0
ORO-DAM BLVD	E of FOOTHILL BLVD/BRIDGE	452	691	1.53	1.02	0.52	No	239	57,121
TABLE MTN BLVD	S of GRAND AVE	1,527	1,479	0.97	-0.10	0.30	Yes	-48	2,304

Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
TABLE MTN BLVD	S of NELSON AVE	1,152	1,099	0.95	-0.14	0.34	Yes	-53	2,809
WYANDOTTE AVE	W of LOWER WYANDOTTE RD	387	776	2.01	1.93	0.52	No	389	151,321
BILLE RD	E of CLARK RD	682	764	1.12	0.27	0.44	Yes	82	6,724
CLARK RD	N of WAGSTAFF RD	947	1,017	1.07	0.19	0.38	Yes	70	4,900
CLARK RD	N of PEARSON RD	1,309	1,171	0.89	-0.32	0.33	Yes	-138	19,044
ELLIOT RD	W of CLARK RD	968	1,029	1.06	0.17	0.38	Yes	61	3,721
ELLIOT RD	E of CLARK RD	520	376	0.72	-0.58	0.48	Yes	-144	20,736
NEAL RD	S of SKYWAY	346	395	1.14	0.25	0.58	Yes	49	2,401
PEARSON RD	E of CLARK RD	816	1,189	1.46	1.11	0.41	No	373	139,129
PENTZ RD	N of PEARSON RD	461	453	0.98	-0.03	0.52	Yes	-8	64
PENTZ RD	N of WAGSTAFF RD	619	953	1.54	1.14	0.48	No	334	111,556
SKYWAY	N of ELLIOT RD	1,902	2,455	1.29	1.04	0.28	No	553	305,809
SKYWAY	W of CLARK RD	961	886	0.92	-0.21	0.38	Yes	-75	5,625
NEW SKYWAY	W of PENTZ RD	1,409	1,474	1.05	0.15	0.31	Yes	65	4,225
NEW SKYWAY	E of PENTZ RD	1,420	1,551	1.09	0.29	0.31	Yes	131	17,161
SKYWAY	N of WAGSTAFF RD	1,006	1,090	1.08	0.23	0.36	Yes	84	7,056
SKYWAY	N of WYCLIFF WAY	906	998	1.10	0.27	0.38	Yes	92	8,464
WAGSTAFF RD	W of CLARK RD	503	347	0.69	-0.65	0.48	Yes	-156	24,336
WAGSTAFF RD	E of CLARK RD	582	906	1.56	1.17	0.48	No	324	104,976
ENTLER AVE	E of MIDWAY	128	135	1.05	0.09	0.63	Yes	7	49
MIDWAY RD	S of E PARK AVE	1,576	1,508	0.96	-0.14	0.30	Yes	-68	4,624
MIDWAY RD	S of HEGAN LN	858	1,115	1.30	0.73	0.41	Yes	257	66,049
BROADWAY	N of SR 32 (8TH ST)	774	1,201	1.55	1.35	0.41	No	427	182,329
BROADWAY	S of 2ND ST	802	1,100	1.37	0.91	0.41	Yes	298	88,804
BRUCE RD	N of LAKEWEST DR	1,218	1,114	0.91	-0.25	0.34	Yes	-104	10,816
BRUCE RD	S of HUMBOLDT RD	1,108	1,175	1.06	0.17	0.36	Yes	67	4,489
BRUCE RD	N of SKYWAY	830	1,014	1.22	0.54	0.41	Yes	184	33,856
BRUCE RD	N of E 20TH ST	1,146	1,314	1.15	0.43	0.34	Yes	168	28,224
COHASSET RD	N of EAST AVE	1,615	1,800	1.11	0.38	0.30	Yes	185	34,225
COHASSET RD	S of EAST AVE	1,909	2,754	1.44	1.58	0.28	No	845	714,025
E 1ST AVE	E of ESPLANADE	1,054	1,064	1.01	0.03	0.36	Yes	10	100
E 1ST AVE	W of ESPLANADE RD	917	615	0.67	-0.87	0.38	Yes	-302	91,204
E 1ST AVE	W of LONGFELLOW	1,436	1,272	0.89	-0.36	0.31	Yes	-164	26,896
E 1ST AVE	W of SHERMAN AVE	1,452	1,296	0.89	-0.34	0.31	Yes	-156	24,336
E 20TH ST	E of FOREST AVE	1,016	1,269	1.25	0.69	0.36	Yes	253	64,009
E 20TH ST	W of BRUCE RD	819	655	0.80	-0.49	0.41	Yes	-164	26,896
E 20TH ST	W of WHITMAN AVE	1,696	1,932	1.14	0.47	0.29	Yes	236	55,696
E 20TH ST	W of FOREST AVE	1,837	2,226	1.21	0.74	0.29	Yes	389	151,321
E 5TH AVE	E of ESPLANADE RD	436	393	0.90	-0.19	0.52	Yes	-43	1,849
E 8TH ST	E of EL MONTE AVE	250	420	1.68	1.18	0.58	No	170	28,900
E 8TH ST	W of PARK VISTA DR	465	656	1.41	0.79	0.52	Yes	191	36,481
E 8TH ST	W of BRUCE RD	279	336	1.20	0.36	0.58	Yes	57	3,249
EAST AVE	E of FLORAL AVE	1,862	1,742	0.94	-0.23	0.29	Yes	-120	14,400
EAST AVE	E of COHASSET RD	1,647	1,759	1.07	0.23	0.29	Yes	112	12,544
EAST AVE	W of COHASSET RD	1,248	1,687	1.35	1.03	0.34	No	439	192,721
EAST AVE	E of ESPLANADE RD	1,950	2,241	1.15	0.53	0.28	Yes	291	84,681
EAST AVE	W of ESPLANADE RD	2,061	1,801	0.87	-0.46	0.28	Yes	-260	67,600
E PARK AVE	Btwn SR 99 & CARMICHAEL DR	2,195	1,982	0.90	-0.36	0.27	Yes	-213	45,369
E PARK AVE	E of MIDWAY	1,703	1,819	1.07	0.23	0.29	Yes	116	13,456
EL MONTE AVE	S of 8TH ST	98	8	0.08	-1.34	0.68	No	-90	8,100
ESPLANADE RD	S of EAST AVE	1,755	2,557	1.46	1.60	0.29	No	802	643,204
ESPLANADE RD	N of E 1ST AVE	2,085	2,099	1.01	0.02	0.28	Yes	14	196
ESPLANADE RD	S of W SACRAMENTO AVE	1,966	2,428	1.23	0.84	0.28	Yes	462	213,444
FLORAL AVE	N of EAST AVE	762	755	0.99	-0.02	0.41	Yes	-7	49
FOREST AVE	S of E 20TH ST	1,298	1,356	1.04	0.14	0.33	Yes	58	3,364
FOREST AVE	S of HUMBOLDT RD	1,253	1,281	1.02	0.07	0.33	Yes	28	784
LASSEN AVE	W of BURNAP AVE	800	546	0.68	-0.77	0.41	Yes	-254	64,516
LASSEN AVE	E of ESPLANADE RD	954	847	0.89	-0.30	0.38	Yes	-107	11,449
MAIN ST	S of 2ND ST	944	1,360	1.44	1.16	0.38	No	416	173,056
MAIN ST	S of SR 32 (8TH ST)	971	1,268	1.31	0.80	0.38	Yes	297	88,209
MANGROVE AVE	S of VALLOMBROSA AVE	1,770	1,743	0.98	-0.05	0.29	Yes	-27	729
MANGROVE AVE	S of COHASSET RD	1,967	2,474	1.26	0.92	0.28	Yes	507	257,049
MANGROVE AVE	S of E 1ST AVE	2,052	2,071	1.01	0.03	0.28	Yes	19	361
MANGROVE AVE	N of E 1ST AVE	1,778	2,268	1.28	0.96	0.29	Yes	490	240,100
MANZANITA AVE	N of VALLOMBROSA AVE	1,186	1,104	0.93	-0.20	0.34	Yes	-82	6,724
MANZANITA AVE	N of CHICO CANYON RD	1,275	1,146	0.90	-0.31	0.33	Yes	-129	16,641
MANZANITA AVE	E of LONGFELLOW AVE	922	482	0.52	-1.26	0.38	No	-440	193,600
MULBERRY ST	S of PINE ST/CYPRESS ST J	980	1,071	1.09	0.24	0.38	Yes	91	8,281
PALMETTO	W of BRYANT AVE	432	253	0.59	-0.80	0.52	Yes	-179	32,041
PARK AVE	N of E PARK AVE	1,139	1,547	1.36	1.05	0.34	No	408	166,464
PARK AVE	S of 16TH ST	1,583	1,980	1.25	0.83	0.30	Yes	397	157,609
PARK AVE	S of SR 32	1,639	1,106	0.67	-1.11	0.29	No	-533	284,089
PINE ST	N of 4TH ST	844	770	0.91	-0.21	0.41	Yes	-74	5,476
SKYWAY	E of BRUCE RD	2,040	2,014	0.99	-0.05	0.28	Yes	-26	676
SKYWAY	W of NOTRE DAME BLVD	3,105	3,429	1.10	0.43	0.24	Yes	324	104,976
SKYWAY	E of NOTRE DAME BLVD	1,896	1,964	1.04	0.13	0.28	Yes	68	4,624
VALLOMBROSA AVE	E of SR 99	469	235	0.50	-0.96	0.52	Yes	-234	54,756
VALLOMBROSA AVE	W of MANZANITA AVE	403	142	0.35	-1.25	0.52	No	-261	68,121
W 8TH AVE	W of ESPLANADE RD	436	256	0.59	-0.79	0.52	Yes	-180	32,400
WHITMAN	N of 23RD ST	818	400	0.49	-1.25	0.41	No	-418	174,724
W 3RD ST	E of IVY ST	179	170	0.95	-0.08	0.63	Yes	-9	81
E 3RD ST	E of WALL ST	132	176	1.33	0.53	0.63	Yes	44	1,936
W 4TH ST	E of HAZEL ST	107	116	1.08	0.12	0.68	Yes	9	81
E 4TH ST	E of FLUME ST	195	11	0.06	-1.50	0.63	No	-184	33,856
E 8TH ST	E of KERN ST	190	446	2.35	2.14	0.63	No	256	65,536
BIDWELL AVE	E of CARRIAGE LN	99	194	1.96	1.40	0.68	No	95	9,025
COHASSET RD	E of RIO LINDO AVE	1,902	1,854	0.97	-0.09	0.28	Yes	-48	2,304
ESPANADE	S of COHASSET RD	1,962	2,130	1.09	0.31	0.28	Yes	168	28,224
FAIR ST	S of E 20TH ST	649	629	0.97	-0.07	0.44	Yes	-20	400
FIR ST	S of HWY 32	307	486	1.58	1.01	0.58	No	179	32,041
FOREST AVE	W of NOTRE DAME BLVD	1,097	1,428	1.30	0.84	0.36	Yes	331	109,561

Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
FOREST AVE	N of HUMBOLDT RD	1,145	1,304	1.14	0.41	0.34	Yes	159	25,281
FOREST AVE	N of HWY 32	360	144	0.40	-1.04	0.58	No	-216	46,656
HOOKER OAK AVE	E of MADRONE AVE	203	119	0.59	-0.66	0.63	Yes	-84	7,056
HOOKER OAK AVE	W of MANZANITA AVE	259	99	0.38	-1.07	0.58	No	-160	25,600
HAWTHORNE AVE	W of MADRONE AVE	102	27	0.26	-1.08	0.68	No	-75	5,625
HUMBOLDT RD	W of FOREST AVE	286	346	1.21	0.36	0.58	Yes	60	3,600
MANZANITA AVE	E of MADRONE AVE	469	230	0.49	-0.98	0.52	Yes	-239	57,121
MANGROVE AVE	N of E 7TH AVE	1,724	2,049	1.19	0.64	0.29	Yes	325	105,625
MARIGOLD AVE	S of EAST AVE	346	268	0.77	-0.39	0.58	Yes	-78	6,084
MARIGOLD AVE	N of EAST AVE	296	393	1.33	0.57	0.58	Yes	97	9,409
MARIPOSA AVE	N of EAST AVE	438	202	0.46	-1.04	0.52	No	-236	55,696
NOTRE DAME BLVD	N of SKYWAY	1,248	1,441	1.15	0.45	0.34	Yes	193	37,249
NOTRE DAME BLVD	N of FOREST AVE	467	302	0.65	-0.68	0.52	Yes	-165	27,225
PALMETTO AVE	E of MANGROVE AVE	563	532	0.94	-0.12	0.48	Yes	-31	961
PALMETTO AVE	E of SHERIDAN AVE	662	273	0.41	-1.34	0.44	No	-389	151,321
SKYWAY	N of COUTOLENC RD	1,493	2,028	1.36	1.14	0.31	No	535	286,225
SKYWAY	E of CLIFFHANGER LN	1,819	1,927	1.06	0.21	0.29	Yes	108	11,664
SYCAMORE ST	E of RANDOLPH AVE	333	131	0.39	-1.05	0.58	No	-202	40,804
W BIGGS GRIDLEY RD	S of SPRUCE ST	242	53	0.22	-1.24	0.63	No	-189	35,721
GEORGIA PACIFIC WAY	E of HWY 70	161	255	1.58	0.93	0.63	Yes	94	8,836
HUNTOON ST	S of GRACE ST	203	230	1.13	0.21	0.63	Yes	27	729
YARD ST	W of WASHINGTON AVE	107	233	2.18	1.72	0.68	No	126	15,876
OLIVER RD	W of SKYWAY	395	384	0.97	-0.05	0.52	Yes	-11	121
PEARSON RD	E of SKYWAY	775	645	0.83	-0.41	0.41	Yes	-130	16,900
SKYWAY	S of NEAL RD	2,115	2,224	1.05	0.19	0.28	Yes	109	11,881
BILLE RD	E of SKYWAY	749	688	0.92	-0.19	0.44	Yes	-61	3,721
W EATON RD	W of ESPLANADE	519	593	1.14	0.30	0.48	Yes	74	5,476
NEAL RD	E of HWY 99	140	238	1.70	1.11	0.63	No	98	9,604
PENTZ RD	N of HWY 70	299	588	1.97	1.68	0.58	No	289	83,521
HUMBOLDT RD	E of HWY 32 (Chico)	8	0	0.00	-1.46	0.68	No	-8	64
NORD HWY	W of ESPLANADE	335	199	0.59	-0.71	0.58	Yes	-136	18,496
SKYWAY	S of PEARSON RD	2,082	2,686	1.29	1.05	0.28	No	604	364,816
LOWER HONCUT RD	E of HWY 70	90	4	0.04	-1.40	0.68	No	-86	7,396
RICHVALE HWY	E of MIDWAY	120	390	3.25	3.29	0.68	No	270	72,900
CANYON DR	N of OLIVE HWY	271	212	0.78	-0.38	0.58	Yes	-59	3,481
OROVILLE DAM BLVD E	E of CANYON HIGHLANDS DR	429	626	1.46	0.88	0.52	Yes	197	38,809
FEATHER RIVER BLVD	N of ORO DAM BLVD	641	554	0.86	-0.31	0.44	Yes	-87	7,569
PALERMO RD	E of HWY 70	94	230	2.45	2.12	0.68	No	136	18,496
FORBESTOWN RD	W of ROBINSON MILL RD	66	82	1.24	0.35	0.68	Yes	16	256
LUMPKIN RD	N of FORBESTOWN RD	69	54	0.78	-0.32	0.68	Yes	-15	225
PALERMO HONCUT HWY	N of LWR HONCUT RD	77	30	0.39	-0.89	0.68	Yes	-47	2,209
SEVEN MILE LN	S of ORD FERRY RD	39	15	0.38	-0.90	0.68	Yes	-24	576
TOWNSHIP RD	W of HWY 99	153	124	0.81	-0.30	0.63	Yes	-29	841
BIGGS EAST HWY	E of HWY 99	245	298	1.22	0.34	0.63	Yes	53	2,809
LARKIN RD	N of EAST GRIDLEY RD	129	388	3.01	3.19	0.63	No	259	67,081
LINCOLN ST	S of GRACE ST	244	384	1.57	0.91	0.63	Yes	140	19,600
MONTGOMERY ST	W of FEATHER RIVER BLVD	766	773	1.01	0.02	0.41	Yes	7	49
MYERS ST	N of ORO DAM BLVD	573	719	1.25	0.54	0.48	Yes	146	21,316
WASHINGTON AVE	W of ORO DAM BLVD	882	736	0.83	-0.44	0.38	Yes	-146	21,316
LINCOLN BLVD	S of ORO DAM BLVD	1,169	1,760	1.51	1.49	0.34	No	591	349,281
LINCOLN BLVD	S of OPHIR RD	474	433	0.91	-0.17	0.52	Yes	-41	1,681
GARDEN DR	E of HWY 70	356	429	1.21	0.36	0.58	Yes	73	5,329
KELLY RIDGE RD	N of OLIVE HWY	173	102	0.59	-0.65	0.63	Yes	-71	5,041
ORO QUINCY HWY	W of OLIVE HWY	303	308	1.02	0.03	0.58	Yes	5	25
18TH ST	N of ORO DAM BLVD	158	239	1.51	0.81	0.63	Yes	81	6,561
CONCOW RD	W of HWY 70	93	200	2.15	1.68	0.68	No	107	11,449
LARKIN RD	N of E RIO BONITO RD	263	447	1.70	1.22	0.58	No	184	33,856
WALMER RD	E of LINCOLN BLVD	394	222	0.56	-0.84	0.52	Yes	-172	29,584
FOOTHILL BLVD	N of LWR WYANDOTTE RD	131	484	3.69	4.28	0.63	No	353	124,609
W RIO BONITO RD	E of HAWKINS LN	117	193	1.65	0.95	0.68	Yes	76	5,776
B ST	E of FIRST ST	226	138	0.61	-0.62	0.63	Yes	-88	7,744
PEARSON RD	W of CLARK RD	1,038	1,189	1.15	0.41	0.36	Yes	151	22,801
PEARSON RD	E of SAWMILL RD	614	530	0.86	-0.29	0.48	Yes	-84	7,056
PENTZ RD	S or PEARSON RD	563	673	1.20	0.41	0.48	Yes	110	12,100
PENTZ RD	N or BILLE RD	529	585	1.11	0.22	0.48	Yes	56	3,136
SKYWAY	N or BILLE RD	1,099	1,315	1.20	0.55	0.36	Yes	216	46,656
SKYWAY	N or NEAL RD	1,909	2,179	1.14	0.51	0.28	Yes	270	72,900
WAGSTAFF RD	W of SKYWAY	159	69	0.43	-0.90	0.63	Yes	-90	8,100
BILLE RD	W of SKYWAY	268	147	0.55	-0.79	0.58	Yes	-121	14,641
CLARK RD	N of BILLE RD	1,583	1,419	0.90	-0.34	0.30	Yes	-164	26,896
CLARK RD	N of ELLIOT RD	1,412	1,535	1.09	0.28	0.31	Yes	123	15,129
SKYWAY	S of MANZANITA ST (Stirling City)	40	79	1.98	1.43	0.68	No	39	1,521
HWY 99	N OF BUTTE COUNTY LINE	1,039	1,085	1.04	0.12	0.36	Yes	46	2,116
COHASSET RD	N OF MUSTY BUCK RD	12	11	0.92	-0.12	0.68	Yes	-1	1
HWY 32	N OF HUMBOLDT RD	98	104	1.06	0.09	0.68	Yes	6	36
HUMBOLDT RD	N OF JONESVILLE RD	1	0	0.00	-1.46	0.68	No	-1	1
HWY 70	N OF BUTTE COUNTY LINE	135	137	1.01	0.02	0.63	Yes	2	4
OROVILLE QUINCY HWY	N OF HASKINS VALLEY RD	23	22	0.96	-0.06	0.68	Yes	-1	1
FORBESTOWN RD	E OF RESERVOIR RD	73	71	0.97	-0.04	0.68	Yes	-2	4
LA PORTE RD	NE OF ROBINSON MILL RD	37	37	1.00	0.00	0.68	Yes	0	0
LOMA RICA RD	S OF LA PORTE RD	27	27	1.00	0.00	0.68	Yes	0	0
LA PORTE RD	S OF BUTTE COUNTY LINE	12	11	0.92	-0.12	0.68	Yes	-1	1
HWY 70	S OF BUTTE COUNTY LINE	1,076	1,109	1.03	0.09	0.36	Yes	33	1,089
LARKIN RD	S OF BUTTE COUNTY LINE	258	250	0.97	-0.05	0.58	Yes	-8	64
HWY 99	S OF BUTTE COUNTY LINE	1,354	1,334	0.99	-0.05	0.33	Yes	-20	400
PENNINGTON RD	S OF RUTHERFORD RD	32	30	0.94	-0.09	0.68	Yes	-2	4
COLUSA HWY	W OF CHEROKEE CANAL RD	61	59	0.97	-0.05	0.68	Yes	-2	4
AFTON RD	W OF AGUAS FRIAS RD	11	11	1.00	0.00	0.68	Yes	0	0
HWY 162	W OF BUTTE COUNTY LINE	140	137	0.98	-0.03	0.63	Yes	-3	9
ROAD Z	S OF ROAD 48	23	24	1.04	0.06	0.68	Yes	1	1
ORD FERRY RD	W OF HUGH BABER LN	274	287	1.05	0.08	0.58	Yes	13	169
HWY 32	W OF BUTTE COUNTY LINE	1,150	1,135	0.99	-0.04	0.34	Yes	-15	225

Roadway	Segment	Count Two Way	Model Two Way	Model /Count	Model # Deviation	Maximum Deviation	Within Deviation	Model - Count	Difference Squared
HWY 99	N OF NELSON SHIPPEE RD	1,003	1,476	1.47	1.32	0.36	No	473	224,117
HWY 99	S OF SR 162 W	1,298	1,482	1.14	0.44	0.33	Yes	184	33,856
HWY 70	S OF WELSH/PALERMO RD	1,233	1,275	1.03	0.10	0.34	Yes	42	1,764
HWY 70	BETWEEN NELSON AVE AND GARDEN DR	2,031	2,087	1.03	0.10	0.28	Yes	56	3,136
HWY 70	N OF PENTZ RD	265	348	1.31	0.54	0.58	Yes	83	6,889
HWY 149	BETWEEN SR 70 & SR 99	1,539	868	0.56	-1.44	0.30	No	-671	450,241
PENTZ RD	N OF LIME SADDLE ROAD	315	455	1.44	0.77	0.58	Yes	140	19,600
OROVILLE DAM BLVD W	BETWEEN 12TH ST AND SR 70	458	1,221	2.67	3.20	0.52	No	763	582,169
RICETON HWY	S OF SH 162	107	93	0.87	-0.19	0.68	Yes	-14	196
PALERMO HONCUT HWY	S OF OLD HONCUT RD	84	78	0.93	-0.10	0.68	Yes	-6	36
	Total	193,742	204,159						

Indicates Model Below Target Volume

Indicates Model Above Target High Volume

Model/Count Ratio =	**1.05**	
Percent Within Caltrans Maximum Deviation =	**76%**	> 75%
Percent Root Mean Square Error =	**32%**	< 30%
Correlation Coefficient =	**0.95**	> 0.88

Total Count	**282**
Link Within Deviation	**214**
Link Outside Deviation	**68**