Metropolitan Washington Council of Governments

COG/TPB Travel Forecasting Model

Version 2.1 D Draft #50

Calibration Report

September 17, 2004

The preparation of this report was financially aided through grants from the District of Columbia Department of Public Works, the Maryland Department of Transportation, the Virginia Department of Transportation, and the U.S. Department of Transportation (Federal Highway Administration and Federal Transit Administration) under the Urban Mass Transit Act of 1964, as amended. The material herein does not necessarily reflect the views of the sponsoring agencies.

Title	**Date** September 17, 2004
COG/TPB Travel Forecasting Model, Version 2.1 D Draft #50, Calibration Report	**Number of pages**
	Publication number
	Price $20.00

Agency

The Metropolitan Washington Council of Governments (COG) and the National Capital Region Transportation Planning Board (TPB).

COG serves as the regional planning organization for the Washington metropolitan area. COG works toward solutions to regional problems, especially those related to regional growth, transportation, housing, human services, and the environment. The TPB is the designated Metropolitan Planning Organization (MPO) for transportation for the Washington region. Members of the TPB include representatives of local governments; state transportation agencies; the Maryland and Virginia General Assemblies; the Washington Metropolitan Area Transit Authority; and non-voting members from the Metropolitan Washington Airports Authority and federal agencies.

Credits

Authors:	Ronald Milone, Hamid Humeida, Mark Moran, & Meseret Seifu
Program Administration:	James C. Hogan
Technical Manager:	Ronald Milone

Abstract: This report describes the model calibration and validation results of a travel forecasting model for the Washington, D.C. region known as the Version 2.1 D Draft #50 model. This work represents a continuation of an ongoing models development plan that was formulated in FY-93 by the Travel Forecasting Subcommittee (TFS), a subcommittee of the TPB's Technical Committee. A series of 2.1D models have been in development for the past six months and the Draft #50 model represents the culmination of the development process. The Draft #50 model is a refinement of the TPB's prior application process, 2.1/TP+ Release C. The model incorporates many changes that were recommended as a result a formal review of 2.1/TP+ Release C model by a TRB-based expert review panel.

Order copies from:

Information Center
Metropolitan Washington Council of Governments
777 N. Capitol Street, N.E., Suite 300
Washington, D.C. 20002-4239
Tel. (202) 962-3256 (1-5 p.m.)
Order online at www.mwcog.org

Table of Contents

Appendices

List of Exhibits

Chapter 1. Introduction

This report documents MWCOG's model calibration work relating to an updated travel forecasting process for the Washington, D.C. Region. This work represents a continuation of a multi-year models development plan that was formulated in FY1993 in response to the Federal Clean Air Act Amendments (CAAA) of 1990 and the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. The models development program at MWCOG is monitored by the Travel Forecasting Subcommittee (TFS) - a subcommittee of the Transportation Planning Board's Technical Committee. The TFS is comprised of representatives from state and local transportation agencies, as well as local transportation consultants. It provides review and guidance to MWCOG's models development work program.

A major component of the models development program during FY2004 was the completion of the Transportation Research Board (TRB) Committee review of the TPB travel demand models. Six aspects of the TPB modeling process are being enhanced in response to the TRB committee review:

1. Model validation;
2. Travel estimation for trucks and commercial vehicles;
3. Bus network characterization;
4. Use of adjustment factors;
5. Speed feedback incorporating mode choice; and
6. Traffic speed and volume estimation for air pollution emissions estimation.

The TPB staff prepared a time line of work program activities designed to address these topics as part of the proposed work program submitted to the TRB Committee on December 24, 2003, shown in Exhibit 1-1.

This report documents the calibration and validation of the COG/TPB travel forecasting model, Version 2.1 D Draft #50, (also referenced in this report as the Draft #50 model). The new model represents an incremental update of the Version 2.1/TP+, Release C model, the current TPB model of record, to incorporate the enhancements recommended by the TRB Committee review.

An overview of the Version 2.1 D Draft #50 model features and application is provided in section 1.1 of this chapter. A summary of the travel survey data used in the calibration work is discussed next, in Chapter 2. The detailed calibration work associated with individual model steps is presented in Chapters 3 through 8. The results of validation checks of the model are described in Chapter 9. An appendix section appears at the end of this report containing detailed summaries.

Exhibit 1-1 Proposed TPB work program: Multi-year staging of models development activities

	FY-04		FY-2005				FY-2006				FY-2007				FY-2008			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Application Track																		
A. Highway & Transit Validation																		
1) Network enhancements to better reflect actual conditions																		
2) Improve transit modeling: Short term																		
- Transit assignment: Migrate transit sub-models to TP+																		
- Make bus speeds a function of link delay																		
- Consistent treatment of travel time weights through model																		
3) Improve transit modeling: Longer term																		
- Develop nested logit mode choice model																		
- Update procedures for calculation of bus & rail fare matrices																		
- Ability to constrain demand at park-and-ride lots																		
- Inclusion of PNR parking costs in mode choice process																		
- Revise method used to code auto-access to transit links																		
4) Testing of SUMMIT model for use as a diagnostic tool																		
B. Business and Commercial Trips																		
1) Design models, counts, surveys																		
2) Implement counts, surveys																		
3) Calibrate models																		
4) Refine medium- and heavy-duty truck models																		
C. Bus Speeds in TPB Networks (See Item 1.A.2)																		
D. Minimize the use of adjustment factors in the model																		
1) Documentation of existing factors																		
2) Trip generation																		
- Develop workers-in household model																		
- Develop one or more special generator models																		
3) Trip distribution																		
- Short-term changes to gravity model																		
- Long term: Move to destination choice model																		
4) Mode choice																		
- Test model w/o adjustment factors																		
- Move to nested logit mode choice model (See item above)																		
E. Speed feedback																		
1) Test: Include mode choice in each iteration of speed feedback																		
2) Test: Include post-processor in speed feedback process																		
F. Emissions post-processor																		
1) Sensitivity tests																		
2) Update code																		
G. Incremental refinement of Version 2.1 C model																		
1) Version 2.1 D *																		
2) Version 2.1 E																		
3) Version 2.1 F																		
4) Version 2.1 G																		
5) Version 2.1 H																		
2. Methods Development Track																		
A. Continue development of airport choice/ground access model																		
B. Develop tour-based and/or activity-based travel model																		
C. Grain of analysis zones																		
D. Data, software, hardware, and training requirements																		
3. Research Track																		
4. Data Collection Track **																		
A. Household travel survey																		
1) Survey design																		
2) Data collection																		
3) Processing and cleaning																		
4) Final report																		
B. Auto external survey																		
1) Data collection																		
2) Processing, cleaning, and final report																		
C. Analysis of census data																		
D. Regional transportation clearinghouse																		
5. Maintenance Track																		

Notes:

* Version 2.1D model includes updates from Intercounty Connector (ICC) study and TRB-recommended improvements that can be done in short term.

** Level of survey data collection is a function of future federal funding levels

1.1 Overview of Version 2.1 D Draft #50 Model

The Version 2.1 D Draft #50 model like its predecessor, the Version 2.1/TP+, Release C model, is a four-step model that is applied on a study area known as the expanded cordon area. The study area is comprised of 2,191 transportation analysis zones, or TAZs. A graphic depiction of the Draft #50 model structure is shown as Exhibit 1-2. An overview of the similarities and differences of the two models follows below.

The models utilize identical demographic models which are first applied for the purpose of disaggregating the total number of households among 64 cross-classes: 4 household income groups[1] by 4 household size groups (1, 2, 3, 4+) by 4 vehicle availability groups (0, 1, 2, and 3+ vehicles available). The allocation of households to each cross-class is made at traffic analysis zone (TAZ) level. The exhibit indicates that peak-hour transit accessibility measures are used as part of the demographic (vehicle availability) submodel step.

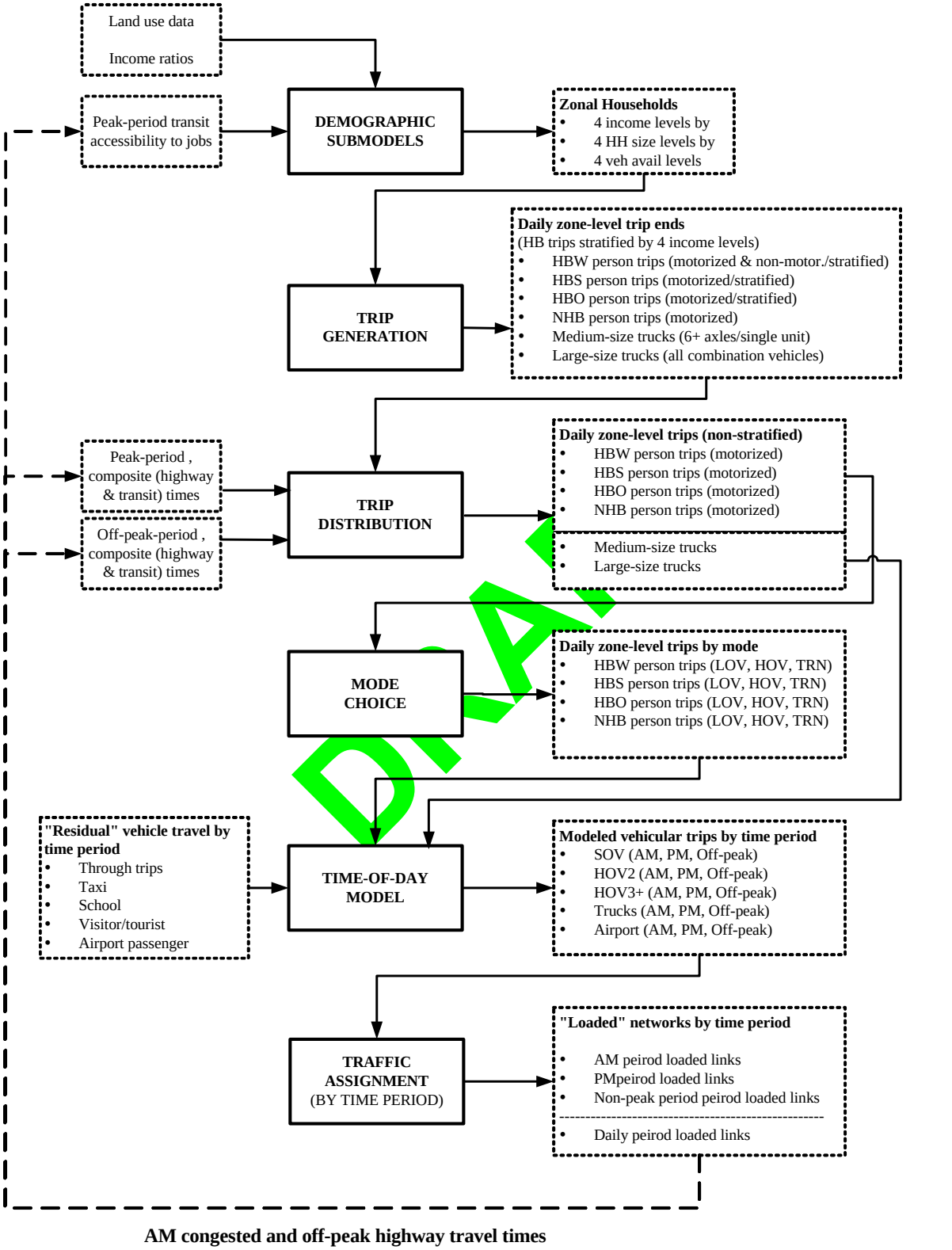
The trip generation process is also identical. Both models apply daily trip rates to the number of households in each of the 64 classes. The HBW trip rates reflect both motorized and non-motorized (transit, automobile, bicycle, and walk) person travel. Trip rates associated with the remaining modeled purposes represent motorized (transit and automobile) person travel only. The non-motorized component of HBW trip-ends generated is subsequently extracted from the total trip-ends prior to trip distribution. Trip attractions are computed by purpose as a function of gross land use categories. External (E/I and I/E) productions and attractions are entered as an exogenous input, by purpose into the trip generation process and are unaltered. External Home-Based and NHB travel relates to auto person travel only, i.e. transit travel is not represented in MWCOG's external trip tables. The trip generation process yields productions and attractions, which are stratified by the 4 income levels for the home-based purposes, and non-stratified for the NHB and truck-related purposes.

The trip distribution model structure is also identical. A standard gravity model formulation is used, making use of a composite time function that represents a blending of transit and highway travel times. The distribution step involves separate gravity model runs for 25 travel markets, given that home-based purposes are income stratified, and external travel is modeled separately by purpose and facility type (interstate travel vs. non-interstate). However, the trip distribution process ultimately results in six daily trip tables corresponding to the basic motorized person and truck purposes.

The mode choice process consists of four models corresponding to the HBW, HBS, HBO and NHB purposes. The models are used to apportion total motorized person trips among auto driver, auto passenger, and transit modes. The HBW model also distinguishes auto trips that utilize special preferential HOV facilities that have been coded into the highway network.

[1] The income levels used approximate household income quartiles.

Exhibit 1-2 Version 2.1 D Draft #50 Travel Model Structure



v2.1 D struct.vsd
09/13/2004

The time-of-day model functions to convert daily residential travel among three time periods: AM peak period (6AM-9AM), PM peak period (4PM-7PM) and off-peak period (all remaining hours). The model consists of survey-based factors that are applied on the basis of purpose, mode, and trip orientation, i.e. home-to-non-home or non-home-to-home. This step also includes provisions for apportioning daily residual travel[2] and truck travel among the three time periods. The time-of-day process ultimately produces three 'total vehicle' trip tables, one for each of the three time periods.

The Version 2.1 D Draft #50 traffic assignment process consists of separate assignment executions, which correspond to the above mentioned three time periods. A link level method of successive averaging (MSA) process is applied after each successive highway assignment process to ensure converging highway volumes and speeds.

The elements that distinguish the Version 2.1 D Draft #50 model from the Version 2.1/TP+, Release C model pertain to an assortment of parameter updates and procedural modifications. The updates are summarized below:

- The Volume-Delay Function (VDF) used in the traffic assignment process has been adjusted for freeways. Free-flow speeds and capacities expressed as a function of facility type and area type have also been updated. The equilibrium assignment process has also been changed from a *maximum* of 10 iterations (subject to default stopping criteria in the TP+) to a *fixed number* of 20 iterations. A great deal of testing was conducted in the traffic assignment area testing various conical functional forms, altering the number of iterations in the equilibrium assignment, and examining various closure characteristics. This particular area is one that will continue to be refined with respect to research findings and improved software capabilities.

- A toll modeling capability has been added to the model so that monetary values are considered in the trip distribution and traffic assignment steps. The network link file now contains a toll value variable (TOLL) and a toll facility type variable (TOLLGRP) whereby tolls can be specified as a fixed fee or per-mile rate. Three parameter files, TOLL.ESC, TOLL.INC and TOLL.SKM, are to be used to specify various toll policies. The capability involves converting monetary toll values to an equivalent time that is, in turn, added to the normal highway time and therefore affects highway pathbuilding. The added toll capability is a first step towards making the model sensitive to highway pricing policies.

- All cost components in the model previously developed in constant 1980 dollars are now developed in 1994 dollars. 1994 is the base year of the model calibration. These components include parking costs, highway tolls, and transit fares. All deflation factors in the model (i.e., in the highway building and transit fare building steps) are used to convert current-year costs into base-year 1994 costs.

- Zonal area type designations normally developed as a function of land activity density may now be optionally assigned an override value at the user's option. An override area type

[2] Residual travel is also referred to as 'miscellaneous' travel which represents special travel markets that are typically not (or not well) represented in home-interview surveys; it is comprised of taxi, school, visitor/tourist, and air passenger auto driver travel.

value may be deemed appropriate if special information about a zone's development is inconsistent with the automated code assigned on the basis of land use density (e.g., an aerial photograph of the zone). The override is specified in a zonal file used in network building.

- The model is now applied as a series of six iterations, i.e., the trip generation-to-traffic assignment 'loop' is executed six times so that reasonable equilibrium of the input speeds driving trip distribution and the output highway speeds resulting from the highway assignment process is attained. Moreover, the speed feedback process affects *both* trip distribution and *mode choice*. The rerunning of the mode choice model as a part of the speed feedback process had not been undertaken in previous TPB models.

- The NHB F-factors have been updated to account for a presumed under-estimation of commercial vehicle travel in the previous application model. The adjustment results in slightly larger NHB trip lengths than those developed previously.

- A parameter in the transit network build program (PATHSTYLE) has been revised from a value of '1' to a value of '0' to allow for more rigorous development of transit paths. The traditional specification of '1' is more computationally efficient but has recently been determined, in some cases, to produce inconsistent or illogical transit paths between closely competing alternatives. These types of problems have been largely reduced using the updated PATHSTYLE value. Transit pathbuilding has also been affected with an updated walk access link development process. The update was determined to be necessary based on a rigorous analysis of transit paths as a part of regional planning work. The WLKLNKTP program has been updated to more accurately reflect Metrorail station-to-bus-stop connections, particularly in the downtown area. Subsequent to these two transit pathbuilding updates, the mode choice model was re-estimated. The re-estimation also took into account recent FTA guidelines on ranges and characteristics of various mode choice coefficients.

- A methodology for reflecting the degradation of local bus speeds over time has been added to the model. The method involves reducing bus speeds on a service type and time-period basis in direct proportion to the expected reduction in arterial highway speeds. This type of modeling improvement had not been considered in previous TPB models.

- The number and magnitude of K-factors used in the trip distribution model have been reduced. Much of the reduction has been due to the implementation of the above technical improvements, such as the revised VDF function. Moreover, staff is comfortable that the remaining K-factors are justified and necessary to account for the fact that substantial regional travel patterns in the Washington region are not adequately captured using a traditional gravity model. In addition, aggregate adjustment factors used in the mode choice model have also been reduced.

Implementation of the above improvements in the Version 2.1 D Draft #50 model has resulted in an incrementally superior process for travel forecasting relative to the current TPB model of record, Version 2.1/TP+, Release C.

Chapter 2 Observed Data

This chapter provides an overview of the observed data and base-year land use files that were used in the development of the Version 2.1 D Draft #50 models. The model development was undertaken with data used in the development of the Version 2.1/TP+, Release C model, including:

- 1990 Census Transportation Planning Package (CTPP);
- 1993 Baltimore Regional Household Travel Survey (BTS);
- 1994 COG/TPB Household Travel Survey (HTS);
- 1994 COG/TPB Auto External Survey (AES);
- 1994 WMATA Metrorail Survey (WMS);
- 1996 COG/TPB Truck Internal Survey; and
- 1996 COG/TPB Truck External Survey (TES).

In addition, county level worker flows from the 2000 CTPP was also used to for checking HBW trip distribution patterns. TPB staff intends to conduct more detailed checks of the demographic models and the HBW mode choice model as the data become available.

The 1994 COG/TPB Household Travel Survey (HTS) was the predominant data source of for model calibration. Exhibit 2-1 shows the extent of the HTS (as well as the Baltimore Household Travel Survey) with respect to the modeled area. The exhibit indicates that the HTS targeted residents 13 of the 22 jurisdictions comprising the modeled area. The Baltimore survey was used to obtain information for the three Baltimore-area counties within the modeled area, which are beyond the scope of the HTS. The exhibit further indicates that household travel information was unavailable for six exurban jurisdictions of the modeled area (the City of Fredericksburg, and, St. Mary's, King George, Spotsylvania[1], Clarke, and Jefferson Counties).

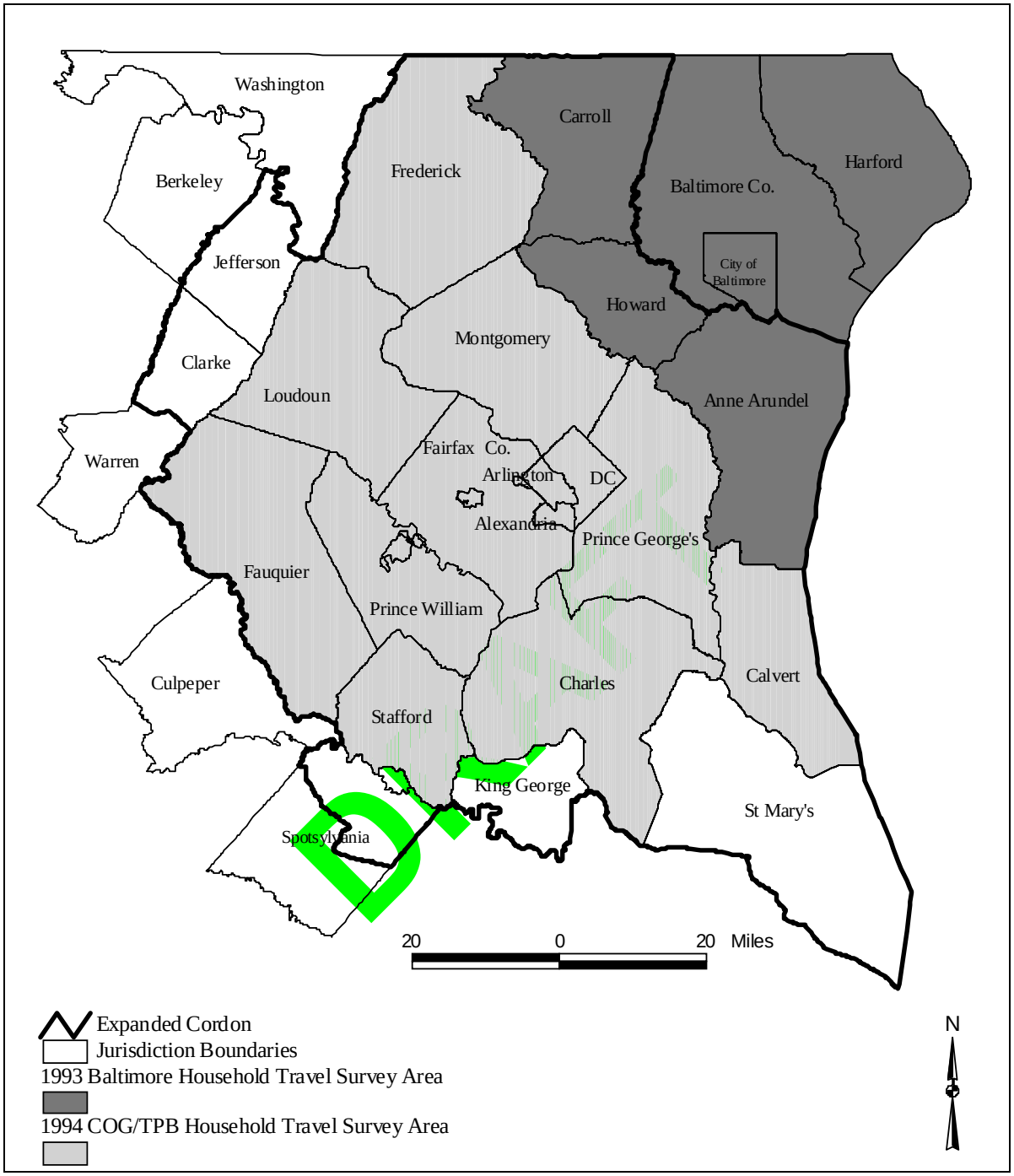
A general description of the information obtained from the above surveys for the Version 2.1 D Draft #50 model work follows. A description of the land use forecast data, known as Cooperative Forecast data, used for model application work is also provided.

2.1 1993 Baltimore Household Travel Survey

The BTS was used to obtain travel information for the three Baltimore area counties within the modeled region, Carroll, Anne Arundel, and Howard Counties. The distribution of travel generated was of key interest since substantial travel interaction between the three counties and the Baltimore region is recognized. The travel summaries were subject to two constraints: 1) since BTS file was not geocoded to the modeled (2,191) TAZ system, summaries where made at the county level or higher, and 2) the travel summaries were limited to motorized person travel for home-based purposes only.

[1] Spotsylvania County is only partially included in the modeled area, approximately the portion north of VA Rt. 606. All other jurisdictions are within the modeled cordon, in their entirety.

Exhibit 2-1 1993 Baltimore & 1994 COG/TPB Travel Survey Areas



Ref: 1994hts.wmf

A previous review of the BTS data[2] has established reasonable comparability with the HTS, in terms of the overall sampling rate, person trip rates, and travel distributions by purpose between

[2] See, FY-98 Models Development Program for COG/TPB Models, MWCOG, 6/98, Section 3.1.3.

the BTS and the HTS. The BTS survey file consists of 21,000 linked trip records associated with 2,700 households in the greater Baltimore region (approximately a 1-in-300 sample). Prior to using the Baltimore data, steps where taken to convert the travel data from 1993 to 1994.

2.2 1994 COG/TPB Household Travel Survey

The 1994 HTS served as the primary data source for estimating the initial Version 2.1 D Draft #50 model parameters. The survey file contains travel information associated with 4,863 households residing in 13 jurisdictions comprising the greater Washington, D.C. region (approximately a 1-in-300 sample). The survey was conducted in two waves during the fall and the spring. The survey file contains 39,800 internal trip records with respect to the expanded cordon. A more detailed description of the file development can be found in previously published documents.[3]

A summary of the weighted HTS trips by purpose and mode is displayed as Exhibit 2-2. The trip summary reflects travel made by residents of the HTS area to any location within the expanded cordon (i.e. travel made to areas beyond the expanded cordon is not included). The summary also includes trips associated with modes such as taxi and school bus, which are included in traffic assignment, but are not explicitly modeled in trip generation, distribution, and mode choice.

Exhibit 2-2 indicates approximately 13,774,800 daily trips (weighted) are made within the surveyed area, approximately 87% of which are related to automobile and transit modes. Given that 1,562,000 households resided in the surveyed area during 1994, the survey yields an average household trip rate of 8.82 person trips per household, as per all modes of travel.

[3] 1994 COG/TPB Household Travel Survey for the Metropolitan Washington Region/Technical Report and Documentation, MWCOG, June 1997.

Exhibit 2-2 1994 HTS Summary of Trips by Purpose and Mode

(Current Model Purpose Definitions)
Source: 1994 COG/TPB Household Travel Survey

Mode of Travel	Purpose				TOTAL	*Row Percent*
	HB Work	HB Shop	HB Other	NHB		
Auto Driver	2,070,084	1,158,878	2,967,634	2,544,072	8,740,668	***63.45%***
Auto Passenger	239,038	269,340	1,313,190	638,297	2,459,865	***17.86%***
Auto Person Subtotal:	2,309,122	1,428,218	4,280,824	3,182,369	11,200,533	***81.31%***
Average Auto Occupancy	***1.12***	***1.23***	***1.44***	***1.25***	***1.28***	
Transit	434,121	26,649	133,921	161,401	756,092	***5.49%***
Auto Person and Transit Subtotal:	2,743,243	1,454,867	4,414,745	3,343,770	11,956,625	***86.80%***
Transit Percentage	***15.83%***	***1.83%***	***3.03%***	***4.83%***	***6.32%***	
Taxi	11,600	1,134	23,313	24,240	60,287	***0.44%***
Walk	87,635	117,587	380,673	486,760	1,072,655	***7.79%***
Bicycle	19,855	6,089	39,111	7,017	72,072	***0.52%***
Nonmotorized Subtotal:	107,490	123,676	419,784	493,777	1,144,727	***8.31%***
School Bus	1,274	0	482,776	69,624	553,674	***4.02%***
Heavy Truck	1,903	450	2,438	22,512	27,303	***0.20%***
Other Modes	5,237	1,461	9,607	15,829	32,134	***0.23%***
Total Person Travel	2,870,747	1,581,588	5,352,663	3,969,752	13,774,750	***100.00%***
Column Percent	***20.84%***	***11.48%***	***38.86%***	***28.82%***	***100.00%***	

- *Motorcycles have been combined into the auto driver mode.*
- *Trips shown are made by HHs in the jurisdictions of DC, Alexandria, Calvert, Charles, Frederick, Montgomery, Prince George's, Arlington, Fairfax, Fauquier, Loudoun, Prince William, and Stafford Counties.*
- *The surveyed trips shown are those geocoded within the expanded cordon area only.*

Ref: modpur.xls

2.3 1994 COG/TPB Auto External Survey

The Auto External Survey was conducted during the fall of 1994. The survey effort entailed two phases. First, license plate numbers of automobiles crossing the expanded cordon in the inbound direction over an eight-hour period were recorded. Second, after obtaining addresses from several state motor vehicle departments, mail-out/mail-back postcards were distributed with a limited number of travel-related questions concerning the trip purpose, origin/destination location, and vehicle occupancy. 16,000 post cards were returned to MWCOG. The information obtained from the post cards provided the basis for the development of automobile external and through trip tables by purpose, mode (auto driver and auto passenger), and time-of-day. The processing of the survey and the development of trip tables can be obtained in prior documents.[4] The daily trips developed from the auto external survey are shown by purpose and mode in the table below.

Summary of 1994 External / Through Auto Trips
By Purpose and Mode

Purpose	Auto Drivers	Auto Persons
External HBW Trips	354,700	403,700
External HBS Trips	81,000	134,700
External HBO Trips	261,800	424,400
External NHB Trips	167,000	215,800
Through (X-X) Trips	31,800	54,600
Total External/Through Trips	896,300	1,233,200

A summary of auto travel at each external station is shown as Exhibit 2.3. Total auto driver travel shown (930,300) accounts for 82% of the total average annual weekday traffic (1,134,900) crossing the modeled cordon line.

[4] See, 1994 Auto External Survey for the Metropolitan Washington Region, MWCOG, 9/96 and FY-97 Models Development Program for COG/TPB Models, MWCOG, 6/30/97 (section 3.1.3).

Exhibit 2-3 Summary of 1994 Daily Auto External / Through Trip Totals by Station

Extl. Sta.	Facility Name	AADT	AAWDT	Truck %	Truck Count	I-I Auto %	**Control Total for External/Thru Auto Trips**	Total Ext'l Auto Prods	Total Ext'l Auto Attrs	Total Auto Thru Trip-Ends
2145	VA 3 (East)	5,600	6,160	13%	801	0%	**5,359**	2,733	2,145	563
2146	US 301 (South)	13,000	14,300	19%	2,717	6%	**10,888**	4,483	4,764	1,867
2147	US 17	2,200	2,420	5%	121	0%	**2,299**	1,370	929	14
2148	VA 2	5,500	6,050	5%	303	0%	**5,748**	3,421	2,344	0
2149	I-95 (South)	65,000	71,500	24%	17,160	0%	**54,340**	16,012	26,280	12,051
2150	US 1(South)	5,500	6,050	7%	424	2%	**5,514**	3,252	1,832	0
2151	VA 208/606	2,200	2,420	7%	169	2%	**2,206**	1,304	727	0
2152	VA 612	1,400	1,540	7%	108	2%	**1,404**	826	450	0
2153	VA 3(West)	12,000	13,200	7%	924	2%	**12,030**	7,142	3,979	572
2154	US 15/29 (South)	14,000	15,400	15%	2,310	0%	**13,090**	6,580	5,343	1,155
2155	US 211	13,000	14,300	3%	429	2%	**13,594**	8,848	4,607	257
2156	I-66	18,000	19,800	12%	2,376	0%	**17,424**	9,684	6,219	840
2157	VA 55	1,800	1,980	17%	337	1%	**1,627**	1,024	554	12
2158	US 340	6,400	7,040	17%	1,197	1%	**5,785**	3,442	2,133	216
2159	US 17/50	13,000	14,300	17%	2,431	1%	**11,750**	6,219	3,751	1,020
2160	VA 7	13,000	14,300	7%	1,001	0%	**13,299**	6,749	6,170	635
2161	WV 51	6,500	7,150	7%	501	0%	**6,650**	3,509	2,927	110
2162	WV 9	10,000	11,000	6%	660	1%	**10,237**	4,008	5,595	348
2163	WV 45	7,300	8,030	2%	161	1%	**7,791**	3,710	3,153	466
2164	MD 34/WVA 480	5,100	5,610	2%	112	1%	**5,443**	2,578	2,185	579
2165	Alt US 40	4,900	5,390	6%	323	8%	**4,661**	3,018	1,500	81
2166	I-70 (West)	41,100	45,210	17%	7,686	0%	**37,524**	19,703	12,923	5,335
2167	US 40	3,500	3,850	6%	231	8%	**3,329**	2,080	1,037	84
2168	MD 77	2,200	2,420	9%	218	0%	**2,202**	1,029	834	269
2169	MD 550	1,600	1,760	9%	158	0%	**1,602**	853	690	40
2170	MD 140/PA16	6,500	7,150	9%	644	0%	**6,507**	2,758	2,243	937
2171	US 15 (North)	10,600	11,660	18%	2,099	0%	**9,561**	4,019	3,690	1,193
2172	MD 194 /PA194	3,600	3,960	9%	356	0%	**3,604**	1,622	1,972	0
2173	MD 97/PA 97	5,100	5,610	9%	505	0%	**5,105**	2,275	2,794	20
2174	MD 30 (North)/ PA 94	12,500	13,750	9%	1,238	0%	**12,513**	4,719	5,779	1,972
2175	MD 86 / PA 516	2,800	3,080	9%	277	0%	**2,803**	1,267	1,549	0
2176	MD 88	5,500	6,050	9%	545	0%	**5,506**	2,489	3,045	0
2177	MD 30 (East)	12,500	13,750	9%	1,238	0%	**12,513**	4,410	5,428	1,948
2178	MD 140/91	31,400	34,540	4%	1,382	2%	**32,495**	11,542	20,523	439
2179	MD 26	26,500	29,150	4%	1,166	2%	**27,424**	9,865	17,533	170
2180	I-70 (East)	73,400	80,740	8%	6,459	9%	**67,596**	26,394	37,961	3,990
2181	US 40 (East) / MD 144	38,900	42,790	2%	856	7%	**38,999**	17,379	21,114	256
2182	I-95 (North)	130,400	143,440	13%	18,647	15%	**106,074**	50,165	49,297	8,684
2183	I-195 /US 1 (North)	47,100	51,810	5%	2,591	26%	**36,422**	20,605	15,379	284
2184	Md 295 / B/W Pkwy	64,200	70,620	3%	2,119	10%	**61,651**	39,836	19,829	963
2185	MD 170	12,700	13,970	2%	279	32%	**9,310**	4,382	4,952	0
2186	MD 648	26,000	28,600	2%	572	32%	**19,059**	8,946	10,117	0
2187	MD 3 / I-97	73,100	80,410	8%	6,433	14%	**63,620**	23,318	33,880	7,243
2188	MD 2	45,200	49,720	2%	994	22%	**38,006**	24,779	13,246	284
2189	MD 10	48,900	53,790	2%	1,076	22%	**41,117**	26,687	14,263	0
2190	MD 710	29,600	32,560	2%	651	22%	**24,889**	16,153	8,639	0
2191	US 50 (East) / 301	51,400	56,540	12%	6,785	0%	**49,755**	24,665	16,198	8,735
Total:		1,031,700	1,134,870	9%	99,766	10%	**930,322**	451,852	412,502	63,632

Ref: ext_ctl.xls

2.4 1996 Internal Truck Survey

The Internal Truck Survey was conducted in 1994 to obtain information on the travel patterns of local truck operators within the Washington region. A random sample was established from state vehicle registration data. A 'cluster' sample was established, based on the fleet size of the operator: less than 5 trucks, 5 to 49 trucks, and 50 or more trucks. The sample frame resulted in approximately 1,700 operators. 200 firms ultimately participated in the survey. Information collected included vehicle characteristics, cargo types, origin/destination locations, etc.[5]

The internal truck survey file contains 3,800 geocoded trip records. Although 6,600 trips were recorded in total, origin/destination locations were collected for only the first 9 truck stops. The distribution of the geocoded records by truck type is as follows:

Truck Type	Geocoded Trip Records	Percentage
Light Truck (single unit <6 tires)	1,461	38.2%
Medium Truck (single unit 6+ Tires	1,270	33.2%
Heavy Truck (all combination vehicles)	1,093	28.6%
Total	3,824	100.0%

A jurisdictional trip summary of the geocoded truck trips was prepared and compared to the existing modeled truck trips. The distribution summaries indicated that the majority of truck interchanges were within-jurisdiction movements, which was inconsistent with the existing modeled distributions, and was deemed unreasonable. Therefore, work on updating the regional truck trip generation, distribution models using the survey was discontinued.

It is the staff's recommendation to use the survey to provide temporal information on internal truck travel only. As an alternative to the development of a new truck model, the existing truck model used in Version 1 model work was adjusted based on available truck counts within the region.

2.5 1996 Truck External Survey

The External Truck Survey was conducted in the spring of 1996. Truck information was collected from 5,000 truck drivers at 12 sites that were 1) as nearby the modeled cordon, as possible, and 2) at locations that were suitable for safe data collection by human observers. The information was collected in the inbound direction, except for one site, the Bay Bridge, where an outbound intercept was more practical. Detailed information regarding the survey collection procedures is provided in a prior MWCOG publication.[6]

[5] FY1996 Truck Surveys Technical Documentation, MWCOG, 6/96 for more detailed information.
[6] ibid.

The External Truck Survey was used to produced external and through truck trips, by type and time-of-day.[7] The development of the trip tables resulted in the following 1994 trip totals.

Truck Type	**Daily Trips, 1994**
External Medium Truck Trips	6,300
External Heavy Truck Trips	41,100
Through Truck Trips	26,200
Total External/Through Truck Trips	73,600

A summary of truck travel at each external station is shown as Exhibit 2-4. The exhibit indicates 1994 trucks crossing the expanded cordon amounts to about 99,800. Approximately 47,400 of these total truck trips are attributed to external travel (48%), while 52,400 trips are attributed to external trip-ends (52%). While I-95 (north/south) serves the largest market of through truck travel (32%), other substantial through truck interchanges include I-70 (east/west) and the Bay Bridge to I –97, US 301 (south), and I-95 (south).

[7] See 3/16/99 Memorandum from H. Humeida to Files on the subject: Development of 1994 External /Through Truck Trips based on 1996 External Truck Survey.

Exhibit 2-4 Final 1994 Daily External / Through Truck Trips by Station

Based on the 1996 COG/TPB External Truck Survey

External Station TAZ	Facility	Control Total	Daily External Truck Trips			Daily X-X Truck Trip-Ends
			Medium	Heavy	Total	
2145	VA 3	800	40	262	302	498
2146	US 301	2,720	98	658	756	1,964
2147	US 17	120	6	36	42	78
2148	VA 2	300	14	92	106	194
2149	I-95	17,160	750	5084	5,834	11,326
2150	US 1	420	20	126	146	274
2151	VA 208/606	170	6	50	56	114
2152	VA 612	110	4	34	38	72
2153	VA 3	920	42	274	316	604
2154	US 15/29	2,310	152	1028	1,180	1,130
2155	US 211	430	28	192	220	210
2156	I-66	2,380	154	1058	1,212	1,168
2157	VA 55	340	22	152	174	166
2158	US 340	1,200	78	534	612	588
2159	US 17/50	2,430	160	1082	1,242	1,188
2160	VA 7	1,000	66	444	510	490
2161	WVA 51	500	32	222	254	246
2162	WVA 9	660	44	296	340	320
2163	WVA 45	160	8	72	80	80
2164	WVA 480 (MD 34)	110	6	52	58	52
2165	US 40 (Alt)	320	26	126	152	168
2166	I-70	7,690	616	2956	3,572	4,118
2167	US 40	230	18	88	106	124
2168	MD 77	215	16	100	116	99
2169	MD 550	160	12	74	86	74
2170	PA 16/MD 140	640	46	294	340	300
2171	US 15	2,100	146	958	1,104	996
2172	MD 194	360	26	162	188	172
2173	MD 97	500	34	230	264	236
2174	MD 30 (PA 94)	1,240	160	1078	1,238	2
2175	MD 86 (PA 516)	280	34	242	276	4
2176	MD 88/833	545	70	474	544	1
2177	MD 30	1,240	160	1078	1,238	2
2178	MD 140 and 91	1,380	178	1204	1,382	0
2179	MD 26	1,170	20	124	144	1,026
2180	I-70	6,460	98	666	764	5,696
2181	US 40 / MD 144	860	14	86	100	760
2182	I-95	18,650	948	6424	7,372	11,278
2183	US 1 / I-195	2,590	334	2258	2,592	0
2184	MD 295 B-W Pkwy	2,120	274	1846	2,120	0
2185	MD 170	280	16	96	112	168
2186	MD 648	570	74	498	572	0
2187	MD 3 / I-97	6,430	574	3964	4,538	1,892
2188	MD 2	990	98	670	768	222
2189	MD 10	1,080	54	372	426	654
2190	MD 710	650	84	568	652	0
2191	US 50/301	6,790	406	2756	3,162	3,628
Total: *tendtrk.xls*		**99,780**	**6,266**	**41,140**	**47,406**	**52,382**

2.6 1994 Metrorail Survey

The 1994 Metrorail on-board survey was conducted by WMATA as part of an ongoing data collection activity to monitor the trends of passenger travel over time. This information was used to support the development of regional transit trips for the expanded cordon area. The file contains 56,000 records corresponding to 518,000 week-day trips (a sampling rate of nearly 11.0%). Metrorail-related trips account for about two thirds of total transit trips in the Washington region.

2.7 Round 6.4 Cooperative Land Use Forecasts –With CTPP Employment Adjustments

The Round 6.4 Cooperative Forecast Process furnishes land use inputs for model application work. This set of land use forecasts was released in the spring of 2004. A recent analysis comparing the 2000 CTPP at-place worker tabulations with the Round 6.4 base year estimates uncovered systematic differences in the formulation of jobs by jurisdiction. These differences are attributed to fundamental definitional differences of employment that exist between jurisdictions[8]. To address these differences TPB staff now adjusts employment data produced by the Cooperative Forecasting Process to account for these definitional issues. Base year employment factors are applied uniformly, on a jurisdictional basis, to the year 2000 land use and to all years beyond. Employment factors were also developed specially for 1994 land use to support the calibration year simulation work. Exhibit 2-5 and Exhibit 2-6 show the land use totals for the expanded cordon region before and after the employment adjustment.

[8] See a May 7, 2004 Memorandum from Robert Griffiths to the TPB Technical Committee on the subject: Travel Model Employment Data Adjustment Factors

Exhibit 2-5 Round 6.4 Regional Control Totals (No Employment Adjustments)

Year	HHs.	HH Pop.	GQ Pop.	Total Pop.	Total Jobs	Indust. Jobs	Retail Jobs	Office Jobs	Other Jobs
1994	1,940,449	5,144,770	100,857	5,245,630	3,113,246	436,849	573,536	1,435,450	667,374
2000	2,144,177	5,647,247	98,778	5,746,025	3,401,899	462,670	653,322	1,590,093	695,815
2005	2,355,717	6,209,108	96,973	6,306,081	3,743,641	513,943	703,848	1,767,269	758,582
2010	2,541,703	6,655,968	97,091	6,753,059	4,092,584	551,950	783,983	1,943,800	812,852
2015	2,709,508	7,030,034	97,246	7,127,280	4,359,385	589,899	832,466	2,078,823	858,198
2020	2,836,590	7,312,086	97,400	7,409,486	4,624,065	627,969	881,885	2,204,025	910,186
2025	2,935,289	7,521,775	97,556	7,619,331	4,880,977	676,535	905,339	2,328,485	970,619
2030	3,012,414	7,686,059	97,711	7,783,770	5,064,007	704,805	938,931	2,414,086	1,006,186

Ref: Zone_rnd64.xls

Exhibit 2-6 Round 6.4 Regional Control Totals (with CTPP-Based Employment Adjustments)

Year	HHs.	HH Pop.	GQ Pop.	Total Pop.	Total Jobs	Indust. Jobs	Retail Jobs	Office Jobs	Other Jobs
1994	1,940,449	5,144,770	100,857	5,245,630	3,273,042	452,376	605,752	1,517,456	697,458
2000	2,144,177	5,647,247	98,778	5,746,025	3,441,356	455,554	659,917	1,634,867	691,018
2005	2,355,717	6,209,108	96,973	6,306,081	3,788,461	505,836	714,429	1,815,935	752,261
2010	2,541,703	6,655,968	97,091	6,753,059	4,144,257	545,084	794,295	1,997,828	807,050
2015	2,709,508	7,030,034	97,246	7,127,280	4,415,907	583,449	844,888	2,135,588	851,982
2020	2,836,590	7,312,086	97,400	7,409,486	4,685,708	621,884	896,573	2,263,646	903,605
2025	2,935,289	7,521,775	97,556	7,619,331	4,949,308	670,576	925,337	2,390,620	962,775
2030	3,012,414	7,686,059	97,711	7,783,770	5,138,239	700,375	960,775	2,478,868	998,221

Ref: Zone_rnd64.xls

Chapter 3 Demographic models

This chapter describes the demographic modeling process used within the Version 2.1 D Draft #50 model, which functions to allocate the total number of households among socioeconomic groups, arrayed by household size, income quartile, and vehicle availability groups. The Draft #50 model uses the same programs as those used in the Version 2.1/TP+, Release C model. This details the specification those models and also presents validation results produced by the Draft #50 model.

3.1 Model structure

The demographic models are used to distribute the total number of households in a given zone among 64 classes. The classes are established by three dimensions:

- Household size (1, 2, 3, or 4+ persons per household);
- Household income (Income "quartile" 1, 2, 3, or 4); and
- Vehicle ownership/availability (0, 1, 2, or 3+ vehicles per household).

The income quartiles are defined as discrete ranges shown in the table below.

Quartile	Income range (1994 dollars)
First	Less than $30,000
Second	$30,000 to $49,999
Third	$50,000 to $74,999
Fourth	$75,000 or more

A socioeconomic sub-model was developed for each of the three dimensions. The household size sub-model uses Census-based relationships to estimate the percent of households in each integer class of household size, given the zone's average household size. The household income sub-model uses similar Census-based relationships to estimate the percent of households in each income class, given the zone's median household income. Lastly, the vehicle ownership model uses a disaggregate logit model to estimate the percentage of households in each of the four vehicle-availability classes. The logit model makes use of the household size and income information developed in prior steps. The next three sections discuss the calibration of each sub-model.

3.2 Household size sub-model

The household size sub-model was developed as an "aggregate share" model. The model is essentially a family of four curves used to allocate the total number of households among integer size levels, based on the average household size of a given zone. Each curve uses the same independent variable:

Curve	Dependent variable	Independent variable
1	Percent of HHs with 1 person	Average zonal household size
2	Percent of HHs with 2 persons	Average zonal household size
3	Percent of HHs with 3 persons	Average zonal household size
4	Percent of HHs with 4+ persons	Average zonal household size

The model was estimated or calibrated using the 1990 Census Transportation Planning Package, Urban Element, Part 1 (tabulations by place of residence). The 2000 CTPP was not available for calibration purposes during the development of the Draft #50 model, but will be used for validation in the coming months. The CTPP data is an aggregate data set with the smallest summary level being CTPP zones. CTPP zones are, in many cases, similar to COG/TPB TAZs. However, there are about 4,000 CTPP zones in the expanded cordon modeled area, but only 2,191 TAZs. The CTPP data is organized as a series of "tables." Two tables were used to develop the household size sub-model: 1) Table 1-11: Persons in households, and 2) Table 1-17: Household size by vehicles available.

The base year for the Version 2.1 D Draft #50 model set is 1994, but the household size sub-model was calibrated using 1990 data. As a reasonableness check, the household size distribution from the 1990 CTPP was compared to that from the 1994 HTS. It was found that the two distributions were quite comparable, despite the time difference.[1]

The household size sub-model was developed using a standard set of procedures which are typically used for developing aggregate share models. The following steps were taken:

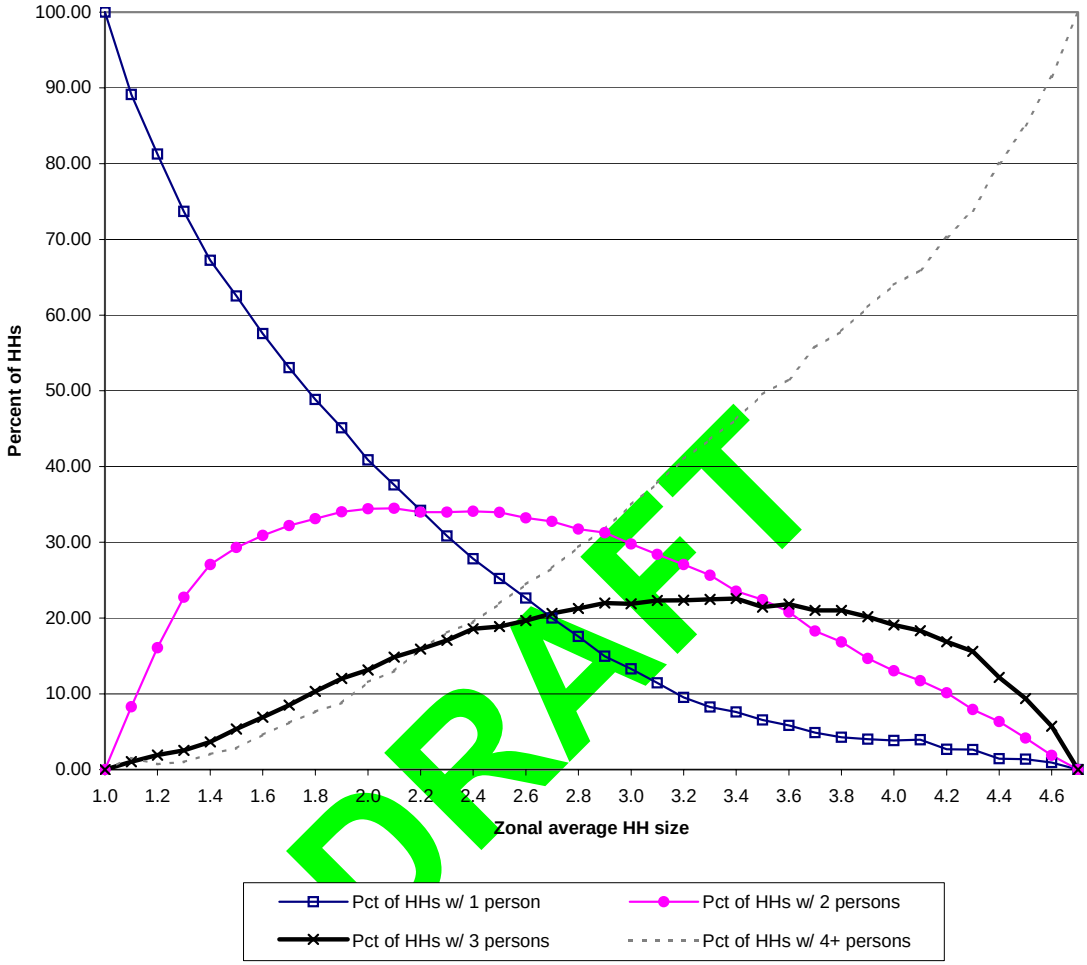
1) Select the following zone-level totals for those CTPP zones that lie within the expanded-cordon modeled area
   a) Number of persons
   b) Number of 1-person households
   c) Number of 2-person households
   d) Number of 3-person households
   e) Number of 4+person households
   f) Total number of households
2) For each zone, compute the average zonal household size:
   avehhsiz = (total HH population in zone) / (total number of HHs in zone)
3) Round the values of average zonal household size to one decimal place.
4) Aggregate data from the CTPP zone level to one observation for each tenth-unit increment of zonal average household size. During this aggregation, the number of households by household size (1, 2, 3, and 4+ persons) is summed.
5) For each average household size value, compute the *percent* of households with 1, 2, 3, and 4+ persons, such that these four percentages add up to 100.0% for each average household size value. Now, there are four percentage curves, one for each of the four auto availability classes.

[1] "Development of a household size submodel", Memo from Mark Moran to Project Files, December 11, 1998.

6) The last step is to smooth the four curves to remove bumpiness. This smoothing, which is typically done by hand, must be done such that
    - For all average household size values, the sum of the households by integer size category must equal 100%
    - Using the integer household size percentage distribution, the calculated average persons per household must equal the average household size being used as the independent variable.

The final model is shown in graphical form in Exhibit 3-1and in tabular form in Exhibit 3-2.

Exhibit 3-1 Household size sub-model: Graphical form



Notes:

1. Source: 1990 CTPP, Urban Element, Part 1, Tables 1-17 and 1-11.
2. Study area: COG's expanded cordon (2,191-zone) area.

Ref:Demographicu.1Tpp.xls HHsizg

Exhibit 3-2 Household size sub-model: Tabular form

Ave zonal HH size	Pct of HHs with 1-pers.	Pct of HHs with 2-pers.	Pct of HHs with 3-pers.	Pct of HHs with 4+pers.	Total percent
1.0	100.00	0.00	0.00	0.00	100.00
1.1	89.12	8.29	1.04	1.55	100.00
1.2	81.26	16.11	1.91	0.72	100.00
1.3	73.69	22.76	2.52	1.03	100.00
1.4	67.23	27.07	3.65	2.05	100.00
1.5	62.51	29.31	5.37	2.81	100.00
1.6	57.57	30.92	6.92	4.59	100.00
1.7	53.08	32.21	8.50	6.21	100.00
1.8	48.86	33.14	10.34	7.66	100.00
1.9	45.12	34.04	12.04	8.80	100.00
2.0	40.88	34.43	13.14	11.55	100.00
2.1	37.60	34.52	14.85	13.03	100.00
2.2	34.21	33.98	15.90	15.91	100.00
2.3	30.85	33.98	17.08	18.09	100.00
2.4	27.84	34.09	18.61	19.46	100.00
2.5	25.23	33.96	18.89	21.92	100.00
2.6	22.64	33.23	19.67	24.46	100.00
2.7	20.00	32.77	20.62	26.61	100.00
2.8	17.58	31.75	21.27	29.40	100.00
2.9	14.98	31.28	22.01	31.73	100.00
3.0	13.30	29.81	21.91	34.98	100.00
3.1	11.45	28.43	22.32	37.80	100.00
3.2	9.52	27.09	22.38	41.01	100.00
3.3	8.25	25.66	22.48	43.61	100.00
3.4	7.61	23.57	22.57	46.25	100.00
3.5	6.57	22.45	21.45	49.53	100.00
3.6	5.82	20.79	21.84	51.55	100.00
3.7	4.90	18.31	21.04	55.75	100.00
3.8	4.26	16.85	21.02	57.87	100.00
3.9	4.04	14.68	20.20	61.08	100.00
4.0	3.84	13.05	19.11	64.00	100.00
4.1	3.96	11.73	18.33	65.98	100.00
4.2	2.70	10.14	16.89	70.27	100.00
4.3	2.64	7.93	15.63	73.80	100.00
4.4	1.46	6.33	12.17	80.04	100.00
4.5	1.39	4.17	9.38	85.06	100.00
4.6	0.95	1.90	5.71	91.44	100.00
4.7	0.00	0.00	0.00	100.00	100.00

Ref:Demographicu.1Tpp.xls HHsizT

3.3 Household income sub-model

The household income sub-model was developed as an "aggregate share" model using 1990 CTPP data in the same way as the household size sub-model. Income data was taken from CTPP Table 1-14: Households by number of vehicles available and household income. The analysis was performed at the CTPP zone level.

Before using the 1990 CTPP data, it was compared to the 1994 HTS data, to make sure the two data sets were comparable. The income distributions at the regional level for both data sets were quite similar. The income distribution for the 1994 HTS was shifted slightly to the right of that for the 1990 CTPP data, which was in line with expectations of income growth over the four-year gap. Further details can be found in the memo documenting the calibration of the household income sub-model.[2]

Determination of income quartiles

Both the 1994 Household Travel Survey and the 1990 Census (CTPP) use income ranges or classes to portray income information. The Census data set uses 25 income classes. The size of each income class varies from $2,500 to $25,000, with the mode class size being $2,500. The first class is "less than $5,000" and the last class is "$150,000 or more." By contrast, the 1994 HTS uses only 10 income classes. For the 1994 HTS, the class size varies from $5,000 to $25,000, with the mode size being $10,000. Despite these differences, the income classes in the 1994 HTS were designed to be coterminous with those in the 1990 Census, so the Census income ranges map into the 1994 HTS income ranges.

Income quartiles were determined by computing the cumulative percent of households in each of 25 income ranges used in the 1990 Census Transportation Planning Package (CTPP). The boundaries of these quartiles were then shifted slightly so that they would line up with the income ranges used in the 1994 HTS. The final income "quartile" ranges were as follows:

Quartile	Income range (1994 dollars)
First	Less than $30,000
Second	$30,000 to $49,999
Third	$50,000 to $74,999
Fourth	$75,000 or more

Calibration

The household income sub-model is used to estimate the share of households in each of the four income quartiles in each zone, given the median household income for the zone. As a surrogate for the median zonal household income, the following normalized variable was used as the independent variable for the model:

[2] "Household income tabulations from the 1990 CTPP", Memo from Mark Moran to Project Files, February 17, 1999.

Income ratio = (zonal median HH income in 1989) / (regional median HH income in 1989)

In this case, the "region" is defined to be the Washington MSA, which had a median household income of $46,884.

The household income sub-model was developed using a similar procedure to that used for the household size model. This procedure is typical for aggregate share models:

1) Select the following zone-level totals for those CTPP zones that lie within the expanded-cordon modeled area:
   a) Number of households in income group 1,
   b) Number of households in income group 2,
   c) Number of households in income group 3,
   d) Number of households in income group 4, and
   e) Total number of households.

   This results in one observation for each of the 4,066 CTPP zones in the expanded cordon modeled area.
2) For each zone, calculate the income ratio, as defined above. This results in 42 observations with missing values, since there are 42 CTPP zones with no households. Thus, there are 4,024 usable observations.
3) Round the income ratio to one decimal place. The rounded income ratios range from 0.1 to 3.2. The value of 3.2 comes from the fact that the maximum income range, "$150,000 or more," is coded as 150000 in the data set, and 150,000/46,884 = 3.199.
4) Aggregate observations by rounded income ratio value (summing up the number of households). This reduces the data set to 32 observations (0.1, 0.2, 0.3, …, 3.2).
5) Compute the percent or share of households in each of the four income quartiles.
6) The last step is to smooth the four curves to remove bumpiness. This smoothing, which is typically done by hand, must be done such that
   - For all income ratio values, the sum of the households by income group must equal 100%
   - Using the four household income curves, the calculated average household income must equal the income ratio being used as the independent variable.

The final model is shown in graphical form in Exhibit 3-3 and in tabular form in Exhibit 3-4.

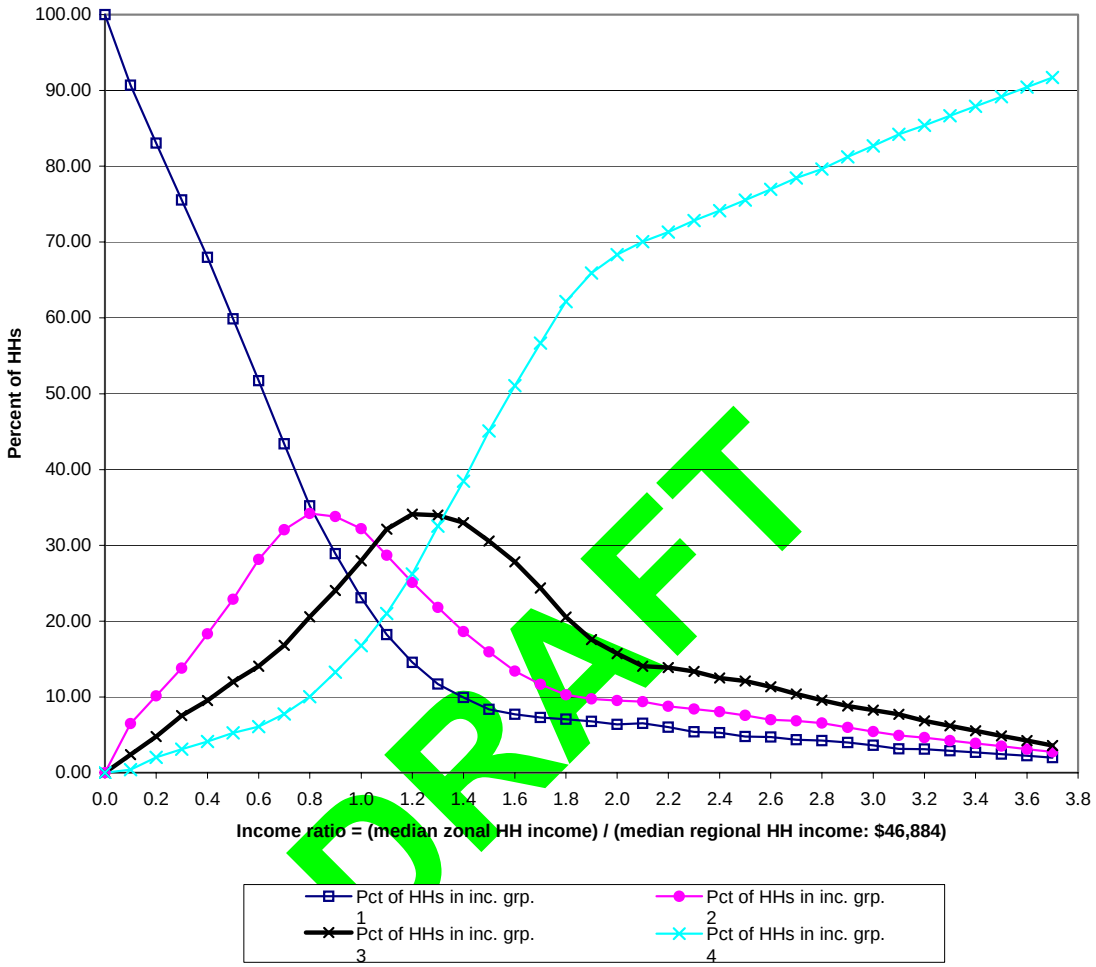
3.4 Vehicle availability sub-model

The vehicle availability sub-model is the last sub-model, which uses household size and income information from the previous models. This section presents the sub-model's development and adjustments made in the migration process to TP+.

Estimation of the model

The vehicle availability (VA) model is used to determine the number of households in each transportation analysis zone with 0, 1, 2, or 3+ vehicles. The model form chosen was the multinomial logit, which is currently a popular model form for vehicle availability models. The model was estimated ("calibrated") using disaggregate, household-level data.

Exhibit 3-3 Household income sub-model: Graphical form



Notes:

1. Source: 1990 CTPP, Urban Element, Part 1, Table 1-14.
2. Study area: COG's expanded cordon (2,191-zone) area.

Ref:Demographicu.1Tpp.xls HHIncG

Exhibit 3-4 Household income sub-model: Tabular form

Income ratio	Pct of HHs in inc. grp. 1	Pct of HHs in inc. grp. 2	Pct of HHs in inc. grp. 3	Pct of HHs in inc. grp. 4	Total percent
0.0	100.00	0.00	0.00	0.00	100.00
0.1	90.70	6.49	2.40	0.41	100.00
0.2	83.05	10.13	4.79	2.03	100.00
0.3	75.55	13.80	7.55	3.10	100.00
0.4	68.00	18.33	9.53	4.14	100.00
0.5	59.88	22.90	11.98	5.24	100.00
0.6	51.72	28.13	14.07	6.08	100.00
0.7	43.39	32.04	16.81	7.76	100.00
0.8	35.20	34.18	20.57	10.05	100.00
0.9	28.89	33.80	24.04	13.27	100.00
1.0	23.07	32.21	27.95	16.77	100.00
1.1	18.21	28.68	32.11	21.00	100.00
1.2	14.55	25.11	34.12	26.22	100.00
1.3	11.69	21.81	33.99	32.51	100.00
1.4	9.92	18.62	33.01	38.45	100.00
1.5	8.38	15.95	30.58	45.09	100.00
1.6	7.70	13.41	27.83	51.06	100.00
1.7	7.28	11.68	24.37	56.67	100.00
1.8	7.05	10.27	20.54	62.14	100.00
1.9	6.76	9.74	17.58	65.92	100.00
2.0	6.39	9.54	15.71	68.36	100.00
2.1	6.53	9.37	14.05	70.05	100.00
2.2	6.03	8.77	13.88	71.32	100.00
2.3	5.38	8.41	13.36	72.85	100.00
2.4	5.30	8.05	12.50	74.15	100.00
2.5	4.79	7.56	12.09	75.56	100.00
2.6	4.72	6.99	11.33	76.96	100.00
2.7	4.33	6.83	10.39	78.45	100.00
2.8	4.25	6.55	9.56	79.64	100.00
2.9	3.98	5.97	8.81	81.24	100.00
3.0	3.62	5.43	8.27	82.68	100.00
3.1	3.16	4.91	7.72	84.21	100.00
3.2	3.13	4.63	6.83	85.41	100.00
3.3	2.90	4.25	6.18	86.67	100.00
3.4	2.68	3.88	5.53	87.91	100.00
3.5	2.45	3.50	4.87	89.18	100.00
3.6	2.23	3.12	4.22	90.43	100.00
3.7	2.00	2.74	3.57	91.69	100.00

Ref:Demographicu.1Tpp.xls HHIncT

The calibration file for the vehicle availability model includes three types of data:

Type of data	Examples	Source
Household	Residence jurisdiction, household size, household income, vehicles available	1994 Household Travel Survey
Accessibility	Number of jobs accessible in 40 minutes travel time by transit	COG's 1994 transit networks (both AM peak and off-peak), as developed in TP+
Land use	Households, employment, land use mix index, area type	1994 Round 6A (interpolated) file

The calibration file (`vacal94u.dat`) contains 22 variables and 4,863 observations (households). Further detail about this file and its development can be found in a May 5, 1999 memo from Ronald Milone to Mark Moran entitled, "Calibration files for vehicle availability, non-motorized trip extraction submodels."

Estimating a logit model is a heuristic, trial-and-error process. A series of candidate models was estimated, each one using a different combination of independent variables. Each candidate model consists of a utility function made up of four utility equations (one for each alternative: 0, 1, 2, and 3+ vehicles available). The Alogit software package (version 3.8f) was used to estimate the coefficient values for each model. Fourteen candidate models were estimated: 01, 01b, 01c, 02, 02b, 03, 04, 04b, 05, 06, 06b, 06c, 06d, 07. The first models were the simplest in structure and the last models were generally the most complicated. Model #06d was judged to be the best of the fourteen and was selected to be the vehicle availability model (See Exhibit 3-5). The other candidate models can be seen in the memo describing the model calibration.[3]

Discussion of the chosen model

Exhibit 3-5 shows both the *structure* of the utility function and the estimated values for the coefficients of the independent variables. The left part of the table shows the structure of the utility function. There are four alternatives (0, 1, 2, and 3+ vehicles) and four utility equations. Each utility equation is represented by a column in the left part of the table. An "x" in one of these columns indicates the presence of an independent variable in the equations. For example, the first term in the 1-vehicle utility equation is an alternative-specific constant with the value of 1.4183. Note that the utility equation for the 0-vehicle alternative has no terms in it. This is because of two rules governing the specification of utility equations for logit models:

- Alternative-specific constants may appear in up to (n - 1) utility equations, where n is the number of alternatives.
- Socioeconomic variables and other variables that do not vary across alternatives may appear in up to (n - 1) utility equations.

Since all the models tested are composed entirely of these two types of terms (alternative-specific constants and socioeconomic variables), no variable can appear in all four alternatives. Instead of alternating which alternative does not include each variable, a typical convention is to pick one alternative (we chose the 0-vehicle alternative) as the "referent," and leave the independent variables out of this alternative. The choice of which alternative to make as the

[3] "Estimation of the vehicle availability model for the Version-2 model set: The best model to date", Memo from Mark Moran to Ron Milone, June 7, 1999.

Exhibit 3-5 Vehicle availability model

No. of vehicles				Variable name	Coeff.	T-stat
0	1	2	3+			
	x			Constant	1.5988	(4.1)
		x		Constant	-1.4608	(-3.5)
			x	Constant	-4.3021	(-9.2)
		x		HH size	0.8700	(21.1)
			x	HH size	1.3026	(24.1)
	x			Income level 2 dummy	1.2376	(7.9)
		x		Income level 2 dummy	1.7892	(10.1)
			x	Income level 2 dummy	1.8221	(8.4)
	x			Income level 3 dummy	1.3285	(7.6)
		x		Income level 3 dummy	2.4831	(13.1)
			x	Income level 3 dummy	2.7395	(12.4)
	x			Income level 4 dummy	1.9991	(8.1)
		x		Income level 4 dummy	3.7372	(14.7)
			x	Income level 4 dummy	4.1987	(15.1)
	x			Tot emp w/in 40 min transit (AM pk)	-1.095E-06	(-3.5)
		x		Tot emp w/in 40 min transit (AM pk)	-1.815E-06	(-5.4)
			x	Tot emp w/in 40 min transit (AM pk)	-2.053E-06	(-5.6)
	x			Area type, 1994 (1 to 7)	0.0668	(0.9)
		x		Area type, 1994 (1 to 7)	0.2783	(3.5)
			x	Area type, 1994 (1 to 7)	0.4093	(5.0)
	x			DC dummy	-0.9246	(-5.5)
		x		DC dummy	-1.0751	(-5.7)
			x	DC dummy	-1.6334	(-6.4)
				Number of obs	4,863	
				LL(0)	-6,742	
				Max. LL	-4,670	
				Rho-sq. wrt zero	0.3073	
				Rho-sq. wrt constants	0.2347	

Notes:

This model corresponds to model #06d. The calibration file used was vacal94u.dat (renamed to vau.dat 7/15/2002). The control file was vau06d.bin.

Ref:Demographicu.1Tpp.xls VA

referent is entirely arbitrary. One can think of the referent as having values of zero for each term.

All coefficient estimates are shown to have the logical signs and have significant t-statistics.[4] The household size variable has values of 1, 2, 3, or 4, where the 4 means 4 or more persons per household. The household size variable is included in only two of the four alternatives (it was included in the 1-vehicle alternative in model #06, but since the t-statistic was equal to 1.0, the term was dropped and the model re-estimated). The t-statistics for these two terms are both above 20, so household size is a very important determinant in vehicle ownership decisions, particularly in the decision of whether to own 2 or 3+ vehicles. Household income is represented with a series of dummy variables. Normally, the number of dummy variables is one fewer than the number of classes being represented. Since there are four household income classes (1, 2, 3, 4), these are represented using three income dummy variables. All of the income dummy terms have high t-statistics. The signs on all of the household income terms are positive, which makes sense, since an increase in household income is likely to increase vehicle ownership.

Transit accessibility is represented in the model with the variable "total employment within 40 minutes transit travel time (AM peak period)." This variable appears in three utility equations. Like the preceding terms, it is included in an alternative-specific manner, so there is a different coefficient estimate for each term. All three coefficient estimates for transit accessibility are negative, which is sensible, since an increase in job accessibility would likely lead to a decrease in vehicle ownership. Area type is represented with the same "area type" variable as is used for highway networks. This variable ranges from 1 to 7, with 1 indicating areas with high employment and population density, and 7 indicating areas with low employment and population density. All three coefficient estimates for area type are positive, since increases in area type (decreases in population and employment density) tend to result in increases in auto ownership. Lastly, the chosen model includes a dummy variable for whether the household is located in DC or not. This was added to the model because models without this term (such as #06c) significantly underestimated 0-vehicle ownership and overestimated 3+vehicle ownership in the District. The coefficient on this variable (all three terms) is negative, since living in DC has a downward effect on the utility of owning vehicles.

Disaggregate validation

Once a logit model has been set up and the coefficients estimated, one may apply the estimated model to the disaggregate (household-level) data to determine how well the model performs for various subgroups of the population. This step is often called disaggregate validation and the results are displayed in validation tables. The validation can be done using either weighted or unweighted observations (estimation was done with unweighted observations, which is the usual procedure). The chosen model was validated for: 1) Residence jurisdiction, 2) Household size, 3) Household income, and 4) Area type.

Both weighted and unweighted validation tables for these subgroups can be found in the calibration memo.[5] Generally, the match between observed data and estimated data was quite

[4] A t-stat of over 1.0 is generally considered significant for logit modeling purposes.

[5] "Estimation of the vehicle availability model for the Version-2 model set: The best model to date", Memo from Mark Moran to Ron Milone, June 7, 1999. An update of this memo is "Re-estimation of the vehicle Availability Model (Due to changes in accessibility file)," Memo from Hamid Humeida to Ron Milone, July 15, 2002.

reasonable. One of the validation tables, vehicles available by residence jurisdiction, is reproduced in Exhibit 3-6. As can be seen in this exhibit, the match between estimated and observed data is reasonable at the jurisdiction level.

3.5 Model Application

The three models are applied using two FORTRAN programs. In the first program, the household size sub-model is applied to estimate the number of households in each of the four size classes. Next, the household income model is applied to estimate the number of households in each of the four income classes. This results in the marginal values of a two-way cross classification. Next, iterative proportional fitting (IPF), which is equivalent to the well-known Fratar method for adjusting trip tables, is applied to arrive at a joint size/income distribution. This results in 16 classes of households for each zone. In the second program, the vehicle availability model is applied, which further splits each class into four new classes, resulting in 64 classes of size/income/vehicle-availability per zone.

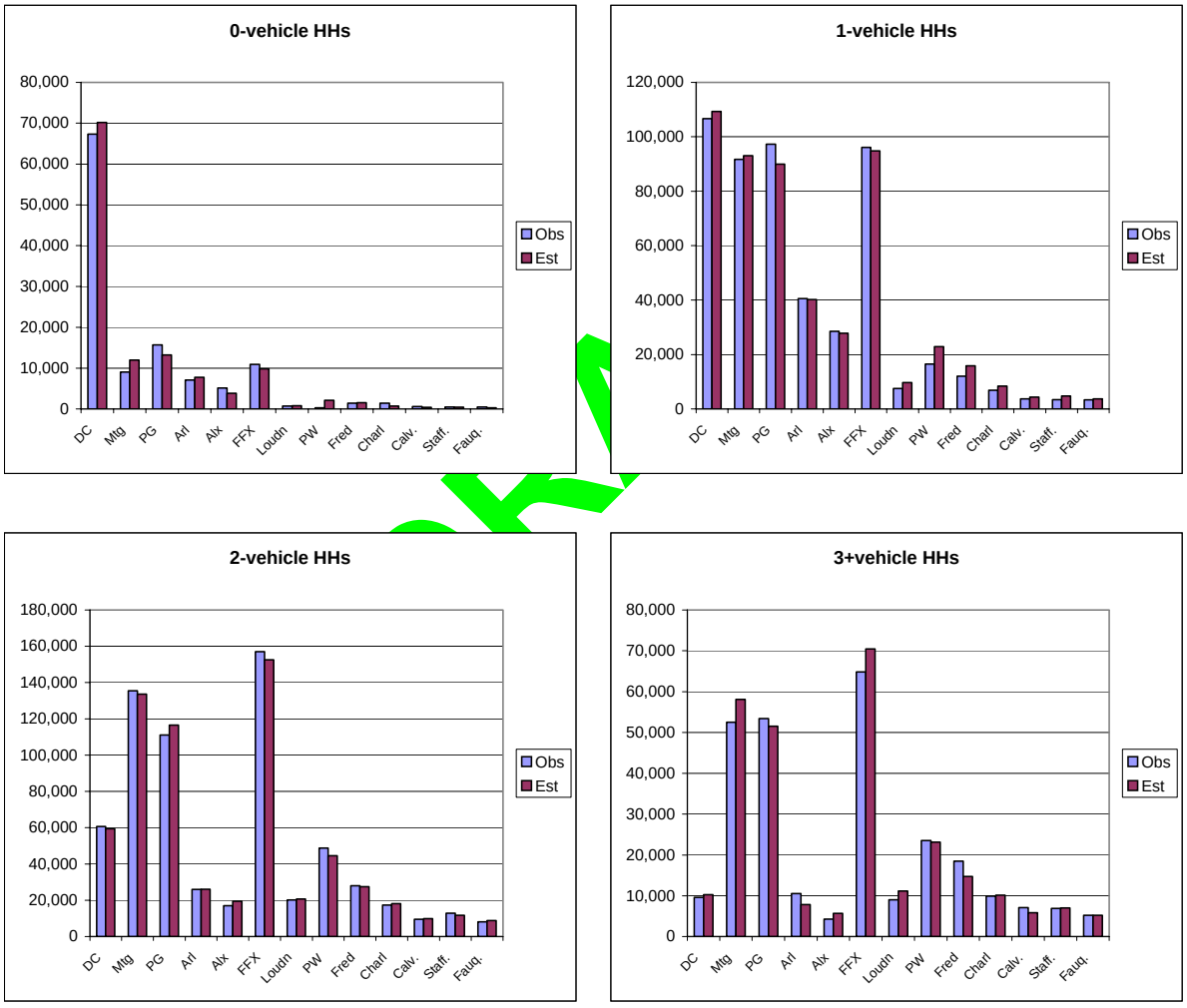
In contrast to a disaggregate validation, which was discussed earlier, an aggregate validation may be conducted by applying the three socioeconomic sub-models to aggregate data using the FORTRAN/TP+ application programs. It is important to underscore that, in application, the TP+-based household size model and the household income model application is the same as that developed using MINUTP. The vehicle availability model software is also the same as that developed previously. However, the transit accessibility information used in the vehicle availability model is now TP+-based instead of MINUTP-based. Any differences to the vehicle availability results would be attributed to the accessibility file differences between the two software packages. It was determined after executing the vehicle availability model with the TP+-based transit accessibility file that the results were not substantially different from the MINUTP-based results, and therefore, no model adjustments were implemented. The performance results are shown on Exhibits 3.7, 3.8, and 3.9 [6]. Exhibit 3-7 shows the performance of the household size sub-model at the regional level. The model appears to be performing well, without any systematic bias. Exhibit 3-8 shows the performance of the household income sub-model at the regional level. The model performance is reasonable, though not as good as for the household size sub-model. According to this exhibit, the model is overestimating the share of households in the two lower income groups and underestimating the share of households in the two upper income groups. Nonetheless, the model performance is deemed to be reasonable, since 1) income data is notoriously difficult to obtain, and 2) the estimated and observed data are for two different years: 1990 for the estimated data and 1994 for the observed data. Exhibit 3-9 shows the performance of the vehicle availability sub-model at the regional level. Like the household size sub-model, this model is performing quite well without any systematic bias. Appendix A contains a jurisdiction level comparison of estimated and observed distributions for each of the demographic variables.

[6] To ensure consistency when comparing estimated and observed data in these three tables, the geographic area for both data sets is the 1994 Household Travel Survey area. This area includes 13 jurisdictions, and is a subset of the 22-jurisdiction area in the expanded cordon.

Exhibit 3-6 Disaggregate validation of the chosen vehicle availability model

By residence jurisdiction

		DC	Mtg	PG	Arl	Alx	FFX	Loudn	PW	Fred	Charl	Calv.	Staff.	Fauq.	Total
0-veh.	Obs	67,300	9,000	15,700	7,100	5,100	10,900	700	300	1,400	1,400	600	500	500	120,500
	Est	70,154	11,970	13,216	7,783	3,871	9,837	779	2,144	1,560	739	375	414	311	123,153
1-veh.	Obs	106,700	91,700	97,300	40,500	28,500	96,100	7,500	16,500	12,000	6,900	3,700	3,400	3,300	514,200
	Est	109,297	93,061	89,933	40,170	27,784	94,841	9,675	22,863	15,845	8,384	4,310	4,770	3,702	524,635
2-veh.	Obs	60,700	135,500	111,100	26,000	17,000	157,000	20,200	48,700	28,000	17,400	9,500	12,900	8,100	652,000
	Est	59,332	133,615	116,516	26,084	19,397	152,503	20,743	44,504	27,464	18,092	9,917	11,769	8,741	648,677
3+veh.	Obs	9,600	52,500	53,400	10,500	4,300	64,800	9,000	23,500	18,500	9,900	7,100	6,900	5,200	275,300
	Est	10,292	58,101	51,545	7,829	5,681	70,440	11,140	23,126	14,700	10,138	5,823	6,982	5,231	281,028
Total	Obs	244,400	288,600	277,500	84,200	54,900	328,800	37,400	88,900	60,000	35,600	20,900	23,700	17,200	1,562,100
	Est	249,075	296,747	271,210	81,866	56,733	327,621	42,337	92,637	59,569	37,353	20,425	23,935	17,985	1,577,493



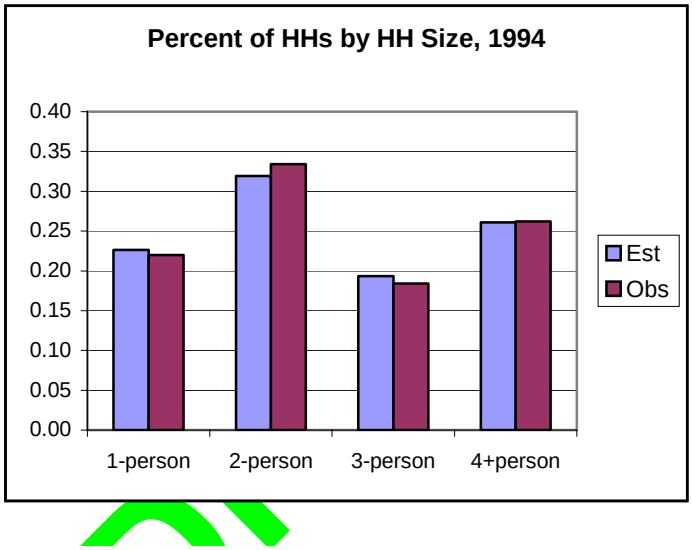
Notes:
Results are weighted, based on VA model #06d.

Ref:Demographic2.1 D.xls VAval

Exhibit 3-7 Aggregate validation Households by household size, 1994

Estimated vs. Observed

	Number		Percent	
HH size	Est	Obs	Est	Obs
1-person	439,486	343,428	22.6%	22.0%
2-person	619,070	521,849	31.9%	33.4%
3-person	375,375	287,469	19.3%	18.4%
4+person	506,518	409,324	26.1%	26.2%
Total	1,940,449	1,562,070	100.0%	100.0%



Notes:

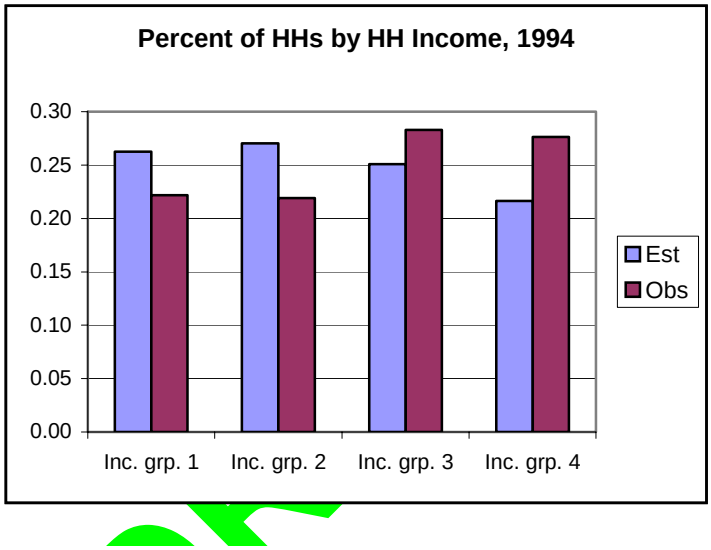
Observed data comes from the 1994 Household Travel Survey. Estimated data comes from an application of the Version 2.0/TP+ socioeconomic submodels.

The geographic areas for the estimated and observed data are the same (i.e., the estimated data includes only the 13 jurisdictions that are in the 1994 HTS area, which is a subset of the 22 jurisdictions included in the expanded cordon area).

Ref:Demographic2.1 D.xls Apply

Exhibit 3-8 Aggregate validation Households by household income group, 1994 Estimated vs. Observed

	Number		Percent	
HH inc.	Est	Obs	Est	Obs
Inc. grp. 1	509,539	346,504	26.3%	22.2%
Inc. grp. 2	524,736	342,032	27.0%	21.9%
Inc. grp. 3	486,545	441,954	25.1%	28.3%
Inc. grp. 4	419,630	431,577	21.6%	27.6%
Total	1,940,450	1,562,067	100.0%	100.0%



Notes:

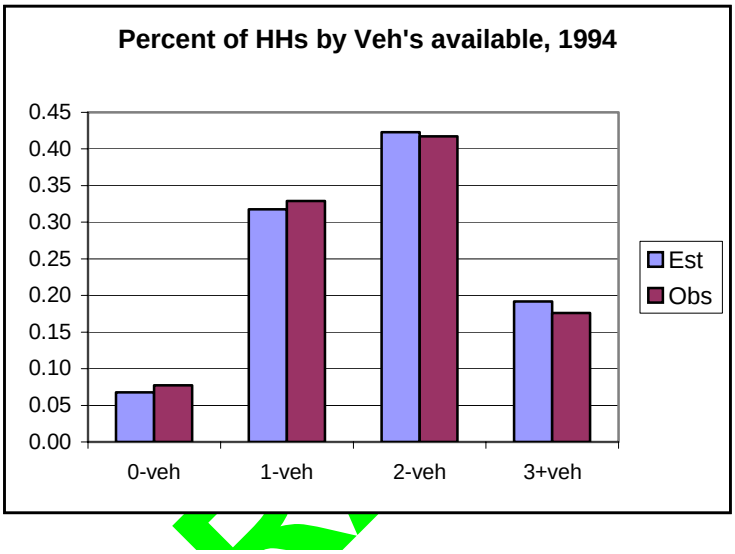
Observed data comes from the 1994 Household Travel Survey. Estimated data comes from an application of the Version 2.0/TP+ socioeconomic submodels.

The geographic areas for the estimated and observed data are the same (i.e., the estimated data includes only the 13 jurisdictions that are in the 1994 HTS area, which is a subset of the 22 jurisdictions included in the expanded cordon area).

Ref:Demographic2.1 D.xls Apply

Exhibit 3-9 Aggregate validation Households by vehicle availability, 1994 Estimated vs. Observed

	Number		Percent	
Vehicles	Est	Obs	Est	Obs
0-veh	131,609	120,538	6.8%	7.7%
1-veh	616,163	514,168	31.8%	32.9%
2-veh	820,642	652,013	42.3%	41.7%
3+veh	371,870	275,347	19.2%	17.6%
Total	1,940,284	1,562,066	100.0%	100.0%



Notes:

Observed data comes from the 1994 Household Travel Survey. Estimated data comes from an application of the Version 2.0/TP+ socioeconomic submodels.

The geographic areas for the estimated and observed data are the same (i.e., the estimated data includes only the 13 jurisdictions that are in the 1994 HTS area, which is a subset of the 22 jurisdictions included in the expanded cordon area).

Ref:Demographic2.1 D.xls Apply

Chapter 4 Trip Generation

The Version 2.1 D Draft #50 trip generation process is applied to generate trip productions and trip attractions at zone level. Production models have been estimated for the residential purposes using the 1994 HTS data. Truck trip rates in the Version 2.1 D Draft #50 model, however, have been preserved from the Version 1 process. This chapter details the residential trip generation model development process. The Draft #50 model uses the same trip generation model as that used in the Version 2.1/TP+, Release C model. This chapter reviews the structure of the model.

4.1 Model Structure

The Version 2.1 D Draft #50 trip generation model is used to compute the number of daily motorized person trips and truck trips produced and attracted to each traffic analysis zone. Motorized person trips are defined as those using automobile, motorcycle, or transit modes. Residential trips are developed for 4 purposes:

- Home-Based Work (HBW)
- Home-Based Shopping (HBS)
- Home-Based Other (HBO)
- Non-Home-Based (NHB)

Truck trips are developed for 2 vehicle types:

- Medium (single unit, 2 Axles, 6 or more tires)
- Heavy (all combination vehicles)

Light trucks, including panel trucks, vans, pickups, and tow trucks, are currently subsumed within the NHB purpose. The trip generation process also estimates productions and attractions associated with HBW non-motorized (walk and bicycle) trips. The non-motorized trips are ultimately removed from the 'final' trip-ends as the trip distribution model addresses motorized travel only. The trip generation model produces home-based productions and attractions which are stratified by the 4 income levels.

The trip generation process can be envisioned as a series of five sequential steps. These are: 1) the trip production model, 2) the internal-to-external trip extraction model, 3) the non-motorized HBW trip extraction model, 4) the trip attraction model, and 5) the Home-based attraction income disaggregation model. The development of each model estimation is discussed below.

4.2 Trip Production Model

The trip production model is a cross-classification type model involving the application of trip rates which are applied to households in specific socio-economic categories. The trip rates are developed for each purpose. The classes established for the Version 2.1 D Draft #50 model are structured by three dimensions: 4 household income levels (approximating quartiles), 4 household size levels (1, 2, 3, 4+), and 4 vehicle availability levels (0, 1, 2, 3+). The total number of classes involved, therefore, equals 64 (4x4x4).

Trip production rates for each purpose and cross-class were estimated using the HTS. The rates are based on trip records that, 1) represented internal (I-I) and internal-to-external (I-X) travel

movements with respect to the expanded cordon, and 2) were associated with the motorized modes (in the case of HBW trips motorized and non-motorized modes were selected). These selection criteria reduced the total number of linked trip records in the survey from 41,714 to 40,237 (representing 13,908,198 weighted trips).

The initial trip rates computed were reviewed and checked for logic and consistency. This review led to a manual adjustment of some rates, as deemed necessary. Such adjustments are common given that household sample sizes in some cells are low and may yield unreasonable rates, in comparison to the rates of adjacent cells with larger samples. Cells associated with low income levels and high family sizes, for example, are usually under-represented in travel surveys. The final trip rates are displayed by purpose, as Exhibit 4-1, Exhibit 4-2, Exhibit 4-3, and Exhibit 4-4.

Trip generation model adjustments where made to in further refine results. The adjustments are comprehensively explained and documented in Appendix F of this report.

4.3 The Internal-to-External Trip Extraction Model

External (I-X, X-I) travel developed from the AES is entered exogenously into the trip generation process, by purpose and is passed through to the final trip-ends, unaltered. Since the trip production rates reflect both internal and internal-to-external (I-X) travel generated by households in the modeled area, it is, therefore, necessary to remove the I-X portion of total trip productions to avoid 'double-counting'. According to the HTS, the I-X trips account for about 1.00% of all I-I, I-X trips produced.

MWCOG has developed an I-X extraction model in prior model development work undertaken in FY-97[1]. The final model developed from that work will be used for Version 2.1 D Draft #50. The model was developed using the HTS to compute the percent of I-X travel based on the distance to the nearest external station. The model is specified as follows:

$$IXP = 0.079 Exp(-0.088 * DNE)$$

where:

IXP	=	the percent of total trip productions which are I-X
DNE	=	the 'straight-line' distance to the nearest external station (in miles)
Exp	=	the exponential function

[1] See, FY-97 Models Development Program for COG/TPB Models, MWCOG, 6/30/97, section 3.2.2 b.

Exhibit 4-1 Final HBW Trip Production Rates

Income Level	HH Size	Vehicles				Sub-Total
		0	1	2	3+	
0k - 30k	1	0.69	0.85	0.75	0.96	**0.79**
	2	1.08	1.08	1.41	1.41	**1.22**
	3	1.10	1.52	1.94	1.94	**1.66**
	4+	1.66	1.66	1.94	1.94	**1.81**
	Sub-Total	**0.91**	**1.07**	**1.58**	**1.74**	**1.20**
30k- 50k	1	1.02	1.18	1.30	1.53	**1.17**
	2	1.35	1.35	1.53	2.12	**1.53**
	3	1.66	1.66	1.79	2.12	**1.85**
	4+	1.85	1.85	2.05	2.43	**2.10**
	Sub-Total	**1.21**	**1.34**	**1.73**	**2.23**	**1.61**
50k- 75k	1	1.02	1.22	1.22	1.22	**1.20**
	2	1.46	1.46	1.84	2.15	**1.77**
	3	1.66	1.66	2.02	3.02	**2.36**
	4+	2.30	2.30	2.30	3.08	**2.55**
	Sub-Total	**1.31**	**1.46**	**2.03**	**2.87**	**2.04**
>75k	1	1.33	1.33	1.33	2.00	**1.34**
	2	1.45	1.45	1.84	2.15	**1.80**
	3	1.67	1.67	2.02	3.02	**2.43**
	4+	3.33	3.33	3.33	3.36	**3.35**
	Sub-Total	**1.67**	**1.72**	**2.34**	**3.05**	**2.42**
	TOTAL	**1.05**	**1.33**	**2.02**	**2.72**	**1.85**

Exhibit 4-2 Final HBS Trip Production Rates

Income Level	HH Size	Vehicles				Sub-Total
		0	1	2	3+	
0k - 30k	1	0.22	0.60	0.60	0.63	**0.46**
	2	0.22	0.68	0.68	0.68	**0.60**
	3	0.22	0.68	0.84	0.84	**0.68**
	4+	0.22	0.68	0.96	1.00	**0.76**
	Sub-Total	**0.22**	**0.64**	**0.77**	**0.85**	**0.58**
30k- 50k	1	0.22	0.60	0.60	0.63	**0.55**
	2	0.29	0.68	0.68	0.84	**0.68**
	3	0.40	0.96	0.96	1.04	**0.96**
	4+	0.45	0.96	1.00	1.10	**1.01**
	Sub-Total	**0.27**	**0.70**	**0.83**	**1.01**	**0.76**
50k- 75k	1	0.29	0.67	0.67	0.67	**0.62**
	2	0.43	0.68	0.90	0.96	**0.83**
	3	0.50	0.96	1.00	1.14	**1.05**
	4+	0.60	0.96	1.14	1.40	**1.21**
	Sub-Total	**0.38**	**0.73**	**1.00**	**1.22**	**0.96**
>75k	1	0.43	0.86	0.86	0.86	**0.81**
	2	0.89	0.89	0.96	0.98	**0.95**
	3	0.90	1.04	1.15	1.20	**1.16**
	4+	1.09	1.28	1.33	1.66	**1.46**
	Sub-Total	**0.68**	**0.95**	**1.11**	**1.39**	**1.16**
	TOTAL	**0.27**	**0.72**	**0.97**	**1.22**	**0.88**

Exhibit 4-3 Final HBO Trip Production Rates

Income Level	HH Size	Vehicles				Sub-Total
		0	1	2	3+	
0k - 30k	1	0.42	1.12	1.44	1.44	**0.89**
	2	0.54	1.70	1.77	1.80	**1.54**
	3	1.28	2.40	2.61	2.39	**2.29**
	4+	1.36	2.90	4.27	3.82	**3.29**
	Sub-Total	**0.62**	**1.61**	**2.45**	**2.74**	**1.66**
30k- 50k	1	0.69	1.16	1.47	1.47	**1.12**
	2	0.89	1.89	1.97	2.04	**1.90**
	3	1.35	2.50	3.19	3.47	**3.02**
	4+	0.75	3.49	4.27	5.67	**4.40**
	Sub-Total	**0.81**	**1.72**	**2.88**	**3.99**	**2.42**
50k- 75k	1	0.71	1.04	1.47	1.47	**1.04**
	2	0.89	2.16	2.46	2.66	**2.34**
	3	1.55	2.84	3.19	3.56	**3.28**
	4+	3.45	4.65	5.39	6.50	**5.68**
	Sub-Total	**1.00**	**1.95**	**3.68**	**4.70**	**3.37**
>75k	1	0.71	1.09	1.08	2.00	**1.05**
	2	1.57	1.81	2.46	2.46	**2.28**
	3	3.45	3.45	3.94	3.94	**3.89**
	4+	4.15	4.84	5.92	6.74	**6.17**
	Sub-Total	**1.57**	**2.22**	**3.81**	**5.02**	**3.84**
	TOTAL	**0.75**	**1.81**	**3.40**	**4.52**	**2.88**

Exhibit 4-4 Final NHB Trip Production Rates

Income Level	HH Size	Vehicles				Sub-Total
		0	1	2	3+	
0k - 30k	1	0.20	1.26	1.26	1.26	**0.88**
	2	0.30	1.26	1.43	1.43	**1.17**
	3	0.40	1.43	1.43	1.43	**1.26**
	4+	0.50	1.50	1.60	1.70	**1.42**
	Sub-Total	**0.27**	**1.30**	**1.45**	**1.52**	**1.11**
30k- 50k	1	0.30	1.26	1.40	1.49	**1.14**
	2	0.40	1.26	2.20	2.20	**1.83**
	3	0.50	1.76	2.60	2.80	**2.36**
	4+	0.60	1.98	2.80	2.97	**2.64**
	Sub-Total	**0.36**	**1.39**	**2.42**	**2.69**	**1.90**
50k- 75k	1	0.40	1.52	1.57	1.57	**1.39**
	2	0.50	1.62	2.33	2.54	**2.10**
	3	0.60	2.48	2.89	2.89	**2.83**
	4+	0.61	2.19	2.92	4.20	**3.26**
	Sub-Total	**0.46**	**1.73**	**2.64**	**3.41**	**2.50**
>75k	1	0.60	1.76	1.76	2.40	**1.64**
	2	0.70	1.76	2.40	2.69	**2.30**
	3	0.80	2.72	2.81	3.10	**2.92**
	4+	0.90	1.54	3.35	4.38	**3.62**
	Sub-Total	**0.68**	**1.84**	**2.77**	**3.67**	**2.83**
	TOTAL	**0.33**	**1.50**	**2.48**	**3.21**	**2.13**

4.4 Non-Motorized HBW Trip Extraction Model

The HBW trip rates reflect both motorized and non-motorized travel. The inclusion of non-motorized trips in the Version 2.1 D Draft #50 model was intended to allow the modeler the ability to relate land use policy (e.g. land use mix, density, etc.) to the level of walking and bicycling, and its explicit effect on the reduction of motorized HBW travel. However, the decision was also made early on that non-motorized trips should not be carried forth into trip distribution and mode choice steps given that the non-motorized trips are extremely dissimilar in spatial scale compared to that of motorized travel (non-motorized trips predominantly occur within zones, or between adjacent zones).

Therefore, procedures are needed to remove non-motorized travel from total HBW trips generated. More specifically, non-motorized productions need to be removed from total productions, and, non-motorized attractions need to be removed from total attractions. The 1990 Census (CTPP Urban Element) was used to estimate models, as this source was believed to most thoroughly represent non-motorized travel. Non-motorized travel within the expanded cordon accounts for 4.8% of total motorized/non-motorized travel, according to the CTPP (175,500 out of 3,644,100). This percentage is slightly smaller according to the HTS, about 3.7% (107,500 out of 2,878,000).

Two zonal calibration files were established to test production-end and attraction-end models. The calibration files contained motorized and non-motorized trips and accumulated land use (households, population, employment, and zonal area) within 4 different 'straight-line' distance ranges (0.50, 0.75, 1.00, and 1.25 miles). This method of accumulating proximate zonal land use is sometimes referred to as 'floating' zone data. The calibration file also included the area-type measure used in the highway network development process. The area type variable is an index ranging from 1 to 7 and is based on both population density and employment density within 1 mile of a given zone, as shown in the table below:

Version 2.1 D Draft #50 Highway Network Area Type Definitions
Relationship of Area Type Codes (1-7) to Land Use Density

One-Mile 'Floating' Population Density (pop/sq mi)	One-Mile 'Floating' Employment Density (Emp / Sq mi)						
	0-100	101-500	501-1,500	1,501-5,000	5,001-15,0000	15,001-35,000	35,001+
0-100	7	7	5	5	2	2	2
101-350	7	5	5	5	2	2	2
351-1,500	6	6	5	5	2	2	2
1,501-3,500	6	6	4	3	2	2	2
3,501-6,500	4	4	3	3	2	2	1
6,501-10,000	4	3	3	3	2	2	1
10,0001+	3	3	3	2	2	2	1

The area type code, therefore, represents both the intensity of land use development as well as the mix of home and job locations.

A review of correlation coefficients from the calibration file indicated that a 'share' model performed better for the production-end (i.e. the proportion of non-motorized productions to total productions) , while an 'absolute trip' model appeared more appropriate for the attraction-end (i.e. the number of non-motorized trip attractions).

Several regression models were tested using the production share of non-motorized trips as a function of floating land use variables. The regression tests were based on observations with at least 50 households to exclude locations that were unrepresentative of residential activity. The optimal R-square values of these model tests ranged from 0.60 to 0.62. Another model approach, based on average non-motorized production shares by the density-based area types, was also tested, as shown below.

Area Type	Avg. Share of HBW Non-Motorized Productions
1	0.4033
2	0.1116
3	0.0320
4 – 7	0.0235

The area type-based approach was ultimately selected for several reasons: 1) its overall correlation (R-square) value with observed data was similar to that of the regression models tested, 2) its performance at jurisdiction level was also comparable to the regression models, and 3) its simplicity in explanation, and in application, was appealing.

The development of a model for estimating non-motorized HBW trips at the attraction end first focused on regression tests using the absolute number of non-motorized attractions as a function of the floating land use variables. The regressions produced rather equivocal results, with optimal R-square values ranging for, 0.50 to 0.55. A model was also developed which is quite similar to one used in the San Francisco area. The model is a regression model that estimates the number of non-motorized attractions as a function of the non-motorized productions. The latter approach was ultimately adopted. The model specification is:

MNAttrs = 0.8982 * NMProds (R-square: 0.80)

Where:

MNAttrs = The number of non-motorized attractions
MNProds= The number of non-motorized productions

Subject to following condition:

If MNAttrs > Total Attractions then MNAttrs = Total Attractions * 0.187%

A comparison of estimated and observed non-motorized results of both the production-end and attraction-end models is shown as Exhibit 4-5. Note that the total observed attractions in the exhibit are less than the observed productions (156,500 compared to 173,900). This is because

the calibration file for the attraction model was subject to the 50 household minimum (used to develop the production model), which excluded zones where only non-motorized attractions existed. In application, no such minimum will be imposed, and, moreover, the non-motorized attractions will be scaled to match the production total.

4.5 Trip Attraction Model

The HTS was used to estimate the Version 2.1 D Draft #50 trip attraction models. Regression models were developed by purpose to compute the total number of attractions from the HTS as a function of land use, as derived from the Round 6A(Updated) Cooperative Forecasts. The modal conventions established for the development of the trip production model, by purpose were preserved. However, only internal (I-I) trip records from the HTS were selected for model estimation work. NHB trip attractions from the survey were defined as one half of the total trip-ends.

The model estimations were computed at the district level since zonal attraction information from the HTS was judged to be too sparse for the model development. The number of district-level observations varied by purpose from 220 to 266. The final models were developed without Y-intercepts to preclude the possibility of generating attractions were no land activity exists in application.

The selected trip attraction models are shown as Exhibit 4-6. The exhibit indicates that the HBS and NHB trip attraction models vary by area types (as defined above). These area type distinctions were determined to be necessary for problems noted in comparing estimated (non-stratified) and observed results at jurisdiction levels.

4.6 HB Trip Attraction Income Disaggregation Model

The trip attraction model provides the total number of trip attractions for each purpose. In order to support the income stratified trip distribution process (discussed in the next chapter), a method for allocating total home-based attractions among 4 income levels is necessary. The stratification of trip productions is not problematic since income is one of the dimensions used in the cross-class structure.

There are a number of approaches that can be used to accomplish this task ranging from the most basic (e.g. applying regional income distribution to the total attractions of each zone) to the more complex (e.g. determining the zonal attraction shares based on attraction-to-production accessibility measures, for each income group). A simple income share approach was ultimately selected. Income shares were developed by purpose and area type, using the HTS, as shown as Exhibit 4-7. The exhibit indicates that the distributions of attractions by income group, for each purpose, generally do not vary dramatically on average.

Exhibit 4-5 Estimated and Observed Non-Motorized Productions and Attractions

Jurisidiction	Non-Motorized Productions			Non-Motorized Attractions		
	Observed	Estimated	Est/Obs	Observed	Estimated	Est/Obs
DC	63,419	59,794	0.94	51,013	54,482	1.07
Montgomery	16,144	24,085	1.49	15,461	14,241	0.92
Pr. George's	19,802	17,815	0.90	19,312	17,517	0.91
Arlington	12,543	12,751	1.02	10,156	10,984	1.08
Alexandria	5,180	7,676	1.48	4,588	4,537	0.99
Fairfax	16,223	22,362	1.38	16,147	14,411	0.89
Loudoun	1,820	1,578	0.87	1,668	1,527	0.92
Pr. William	5,237	4,927	0.94	4,856	4,689	0.97
Frederick	5,016	2,421	0.48	5,029	4,505	0.90
Howard	2,119	3,147	1.49	2,106	1,903	0.90
A. Arundel	16,377	8,821	0.54	16,238	14,710	0.91
Charles	1,314	1,741	1.32	1,282	1,133	0.88
Carroll	2,076	1,388	0.67	2,076	1,865	0.90
Calvert	490	875	1.79	490	440	0.90
St. Mary's	0	347	0.00	0	0	0.00
King Geo.	333	238	0.71	333	299	0.90
Fredbrg.	1,510	440	0.29	1,255	1,356	1.08
Stafford	709	1,055	1.49	766	581	0.76
Spotsyl.	238	740	3.11	422	214	0.51
Fauquier	1,574	867	0.55	1,567	1,414	0.90
Clarke	352	191	0.54	352	257	0.73
Jefferson	1,376	593	0.43	1,364	1,236	0.91
Total	173,852	173,852	1.00	156,481	152,300	0.97

Note: Observations with less than 50 Households have been deleted from file

Exhibit 4-6 Summary of Final Version 2.1 D Draft #50 Trip Attraction Models

Trip Purpose	Area Type	No. of Observations	Independent Variable(s)	Attraction Rates	t -stat.	R Sq.
HBW	All (Area Type 1-7)	253	Total Employment	1.11	54.40	0.92
HBS	Area Type 1	8	Retail Employment	0.29	3.62	0.57
	Area Type 2	32	Retail Employment	2.44	13.47	0.85
	Area Type 3-7	180	Retail Employment	3.35	27.89	0.81
HBO	All (Area Type 1-7)	266	Retail Employment Non-Retail Employment Household Population	1.30 0.30 0.77	3.79 5.51 19.98	0.86
NHB	Area Type 1	9	Non-Retail Employment	0.42	14.50	0.95
	Area Type 2-7	257	Retail Employment Non-Retail Employment Household Population	2.77 0.49 0.28	12.84 10.75 11.61	0.92

Notes:

- HBW model reflects motorized and non-motorized person travel.
  HBS, HBO, and NHB models reflect motorized person travel only.

- NHB model is based on one half of total trip-ends.

- All models were developed at district level using the 1994 HTS.
  Models have been developed without Y-intercepts.

- Independent variables are based on Round 6A (interpolated) land use.

Exhibit 4-7 Income Distribution (Percents) of Home-Based Trip Attractions

Source: 1994 HTS

Purpose	Area Type Code	Income 1	Income 2	Income 3	Income 4	Total
HBW	1	12.20	17.82	28.97	41.01	100.00
	2	15.59	17.14	30.06	37.21	100.00
	3	15.23	21.53	33.30	29.94	100.00
	4-7	20.62	25.01	32.36	22.01	100.00
HBS	1-2	17.65	17.90	30.66	33.78	100.00
	3	15.01	20.10	37.32	27.57	100.00
	4-7	14.46	20.55	30.51	34.48	100.00
HBO	1-2	15.88	16.65	30.39	37.08	100.00
	3	9.71	16.26	38.42	35.61	100.00
	4-7	13.09	21.19	34.56	31.16	100.00

4.7 Truck Model

The truck trip generation process is based on the rates currently used in the Version 1 process. The rates are based on fixed area types and land activity variables as shown in the table below:

Vehicle Type	Location	Land Use Category				
		Office	Retail	Industrial	Other	HH
Medium Truck (Single Unit 6+ Tires)	Regional. Core	0.01	0.17	0.09	0.04	0.04
	DC Non-Core	0.01	0.17	0.19	0.04	0.04
	VA 10-mi Sq.	0.01	0.17	0.14	0.04	0.04
	Other	0.01	0.17	0.11	0.04	0.04
Heavy Truck (All Combination Vehicles)	Regional. Core	-	0.04	0.03	0.03	-
	DC Non-Core	-	0.04	0.13	0.03	-
	VA 10-mi Sq.	-	0.04	0.04	0.03	-
	Other	-	0.04	0.11	0.03	-

4.8 Model Application

A FORTRAN procedure has been developed to apply the Version 2.1 D Draft #50 trip generation process. The procedure allows for the application of production and attraction rates as developed above. It also allows for the use of aggregate adjustment factors which may be applied globally, by jurisdiction, and/or at the TAZ level. One application concern is the disposition of balance between the regional productions and attractions generated by the model, particularly the balance attained in the out-years. The trip generation model ensures that balance between productions and attractions are attained while holding external trips constant (as external trip-ends are entered exogenously to the model, by purpose and are unaffected by the trip generation model).

The computation procedure is as follows:

1) Initial internal zonal attractions are computed, based on the modeled rates. Total attractions are accumulated. NHB, Medium Truck, and Heavy Truck internal productions are set equal to attractions.
2) Internal trip productions for the residential purposes are computed based on the modeled trip rates, and if used, adjustment factors. The I-X trips are extracted for the residential purposes. The HBW non-motorized trip productions are also removed from the total productions. Total internal motorized productions are accumulated.
3) Non-motorized HBW attractions are computed, and scaled to match the non-motorized production total from above.
4) External productions and attractions are read in at the external station level.
5) A scaling factor for internal attractions is computed, as follows:

SFIA = ((IP +EP) – EA) / IA

Where:

SFIA = Scaling factor applied to internal attractions
IP = Total Internal Productions
EP = Total External Productions
EA = Total External Attractions
IA = Total Internal Attractions

6) The scaling factor is applied to internal attractions.
7) Home-based attractions are disaggregated by income level.
8) Final trip-ends (Ps and As) are written out. For the home based purposes, income stratified trip-ends (internal Ps, As only) *and* total trip-ends (internal and external Ps and As) are written. Only total trip-ends (internal and external Ps and As) are written for the NHB and truck purposes.

A summary of the internal and external production/attraction totals from the Draft#50 model by year are shown on Exhibit 4-8. The exhibit shows the results both before and after the scaling of attractions.

Exhibit 4-8 Version 2.1 D Draft #50 Trip Generation P/A Balance Analysis (Iteration #6)

1994 Motorized Trips

Purpose	(a) Internal Productions	(b) External Productions	(c) External Attractions	(d) Total Trips (a)+(b)+(c)	(e) Total Internal Prod.Control ((a)+(b))- (c)	Initial Internal Attractions	(f) Initial Internal Attrs w/ NR Ftr	(g) Final Internal Attractions	(f)/(a) Ratio of Initial Attrs to Prods	(g)/(a) Ratio of Final Internal Attrs to Prods	(g)/(e) Ratio of Final Intl. & Extl Attrs to Control
HBW	3,317,418	248,148	155,551	3,721,117	3,410,015	3,589,858	3,589,858	3,410,015	1.0821	1.0279	1.0000
HBS	2,680,657	71,277	63,377	2,815,311	2,688,557	1,800,516	2,700,774	2,688,553	1.0075	1.0029	1.0000
HBO	8,198,147	177,474	246,967	8,622,588	8,128,654	5,533,129	8,299,694	8,128,664	1.0124	0.9915	1.0000
NHB	6,068,689	107,924	107,924	6,284,537	6,068,689	4,324,997	6,487,496	6,068,688	1.0690	1.0000	1.0000
Subtotal	*20,264,911*	*604,823*	*573,819*	*21,443,553*	*20,295,915*	*15,248,500*	*21,077,821*	*20,295,920*	*1.0401*	*1.0015*	*1.0000*
MedTruck	278,135	3,133	3,133	284,401	278,135	278,135	278,135	278,135	1.0000	1.0000	1.0000
HvyTruck	105,278	20,570	20,570	146,418	105,278	105,278	105,278	105,278	1.0000	1.0000	1.0000

2000 Motorized Trips

Purpose	(a) Internal Productions	(b) External Productions	(c) External Attractions	(d) Total Trips (a)+(b)+(c)	(e) Total Internal Prod.Control ((a)+(b))- (c)	Initial Internal Attractions	(f) Initial Internal Attrs w/ NR Ftr	(g) Final Internal Attractions	(f)/(a) Ratio of Initial Attrs to Prods	(g)/(a) Ratio of Final Internal Attrs to Prods	(g)/(e) Ratio of Final Intl. & Extl Attrs to Control
HBW	3,670,654	296,377	183,672	4,150,703	3,783,359	3,767,613	3,767,613	3,783,361	1.0264	1.0307	1.0000
HBS	2,967,728	81,284	74,501	3,123,513	2,974,511	1,990,193	2,985,290	2,974,510	1.0059	1.0023	1.0000
HBO	9,025,745	208,578	298,012	9,532,335	8,936,311	6,046,050	9,069,075	8,936,312	1.0048	0.9901	1.0000
NHB	6,720,823	129,014	129,016	6,978,853	6,720,821	4,704,289	7,056,434	6,720,820	1.0499	1.0000	1.0000
Subtotal	*22,384,950*	*715,253*	*685,201*	*23,785,404*	*22,415,002*	*16,508,145*	*22,878,411*	*22,415,003*	*1.0220*	*1.0013*	*1.0000*
MedTruck	297,110	3,858	3,858	304,826	297,110	297,110	297,110	297,110	1.0000	1.0000	1.0000
HvyTruck	108,780	25,280	25,280	159,340	108,780	108,780	108,780	108,780	1.0000	1.0000	1.0000

2030 Motorized Trips

Purpose	(a) Internal Productions	(b) External Productions	(c) External Attractions	(d) Total Trips (a)+(b)+(c)	(e) Total Internal Prod.Control ((a)+(b))- (c)	Initial Internal Attractions	(f) Initial Internal Attrs w/ NR Ftr	(g) Final Internal Attractions	(f)/(a) Ratio of Initial Attrs to Prods	(g)/(a) Ratio of Final Internal Attrs to Prods	(g)/(e) Ratio of Final Intl. & Extl Attrs to Control
HBW	5,004,746	719,386	445,826	6,169,958	5,278,306	5,662,813	5,662,813	5,278,306	1.1315	1.0547	1.0000
HBS	4,051,579	197,292	180,844	4,429,715	4,068,027	2,758,279	4,137,419	4,068,031	1.0212	1.0041	1.0000
HBO	12,097,030	506,269	723,354	13,326,653	11,879,945	8,447,697	12,671,546	11,879,950	1.0475	0.9821	1.0000
NHB	9,152,952	313,160	313,152	9,779,264	9,152,960	6,693,799	10,040,699	9,152,972	1.0970	1.0000	1.0000
Subtotal	*30,306,307*	*1,736,107*	*1,663,176*	*33,705,590*	*30,379,238*	*23,562,588*	*32,512,476*	*30,379,259*	*1.0728*	*1.0024*	*1.0000*
MedTruck	435,748	9,369	9,369	454,486	435,748	435,748	435,748	435,748	1.0000	1.0000	1.0000
HvyTruck	165,066	61,358	61,358	287,782	165,066	165,066	165,066	165,066	1.0000	1.0000	1.0000

Ref.: tgcheck.xls

Chapter 5 Trip Distribution

The Version 2.1 D Draft #50 trip distribution model involves a standard gravity model approach and the use of a composite (highway and transit) travel time impedance measure. The model also employs income stratification as well as special external auto and truck distribution models. The primary trip distribution update to the Version 2.1 D Draft #50 model was a thorough revisiting of K-factors used in the Version 2.1C model. Given other changes made to the model (particularly the update of Volume Delay functions in the traffic assignment process) it was clear to staff that the trip distribution model would require rigorous review. A detailed discussion of the model structure follows below along with calibration results.

5.1 Model Structure

The Version 2.1 D Draft #50 trip distribution model is used to develop zonal trip tables corresponding to the 6 basic purposes established above: HBW, HBS, HBO, and NHB motorized person trips and Medium and Heavy truck trips. The Version 2.1 D Draft #50 trip distribution process consists of several different distribution models that are developed for special travel markets within the six basic purposes. Exhibit 5-1 indicates the 25 specific trip markets that are modeled.

Exhibit 5-1 Trip distribution markets

Purpose	Internal Person Models	External Person Models
HBW	4 Income Strata	2 Facility Types (Interstate /Arterial)
HBS	4 Income Strata	2 Facility Types (Interstate /Arterial)
HBO	4 Income Strata	2 Facility Types (Interstate /Arterial)
NHB	1 (non-stratified)	2 Facility Types (Interstate /Arterial)
Medium Truck	1 (non-stratified)	1 (non-stratified)
Heavy Truck	1 (non-stratified)	1 (non-stratified)
Total Intl./Extl. Models	**15**	**10**
Total Models	**25**	

5.2 Internal Motorized Person Models

The internal trip distribution models have been developed using 1994 HTS. The Home-Based models were developed by four household income strata (1994 dollars), defined as:

- Income Level 1 $ 0 - $29,999
- Income Level 2 $30,000 - $49,999
- Income Level 3 $50,000 - $74,999
- Income Level 4 $75,000 +

It has been speculated that many of the K-factors used in previous (non-stratified) models have been needed to address the special trip patterns of particular income markets. A common bias, for example, is that lower income trips are typically over-estimated to the regional core, while higher income trips (which are relatively longer) are under-estimated. It was expected that these types of biases would be addressed using the income-stratified approach.

Another feature of the model was the use of a composite time formulation involving both highway and transit travel times. The composite time formulation is desirable since many corridors in the Washington region are well served by transit, and the consideration of highway time only (as has been used in previous model versions) has potentially understated accessibility. The definition of the composite impedance is:

Equation 5-1 Composite Impedance Equation

$$CT_i = \frac{1.0}{1.0/HT + P_i/TT}$$

Where:

CT_i = composite time for income group 'i' for a given interchange.
HT = un-weighted highway time (including terminal times)
TT = un-weighted transit time (in-vehicle and out-of-vehicle time)
P_i = regional transit share of income group 'i'

The highway and transit times used in the formulation vary by purpose. AM peak highway/transit times are used for the HBW purpose and off-peak highway/transit times are used for the remaining HBS, HBO, and NHB purposes.

The regional transit shares used in the formulation vary by purpose and income group. The transit shares, shown in Exhibit 5-2, have been taken from the HTS. The exhibit indicates the work transit shares (shown as percents) vary by income from 0.1402 to 0.2572. The transit percentages for the remaining purposes vary by income group from 0.0075 to 0.0755. Since these values are relatively small, the effect of highway times will be generally more predominant on the overall composite time function compared to the effect of transit times for most interchanges.

Some points can be made regarding the composite time function. First, for interchanges that are not served by transit, the composite time function reflects highway time. Second, transit time values will generally contribute small effects on the time function, in general, since the regional transit shares are relatively small. Nonetheless, even if transit is not particularly competitive with highway time for a given interchange, the composite time function will still reflect *some* travel time benefit compared to the 'raw' highway time compared to an interchange that is not transit-connected.

In preparation for calibration work observed productions and attractions from the HTS were summarized by purpose and income level. Travel interchanges utilized from the survey file were constrained to those within the HTS area only. The calibration also utilized highway impedances

developed from a traffic assignment. The traffic assignment utilized observed trips[1] combined with residual trip tables (such as through trips, and truck trips). The following calibration procedure was undertaken for each purpose and income level.

1) 12 superdistricts were established as a basis for establishing perceived time penalties across physical barriers or between jurisdictions. Time penalties between jursidictions where set to zero. The 12x12 time penalty file was 'expanded' to TAZ level and added to the composite impedance file.
2) Observed trip lengths were summarized.
3) The gravity model was executed using a 'beginning' set of F-curves. The trip length frequency resulting from the gravity model run was compared to the observed frequency.
4) The beginning set of F-factors was adjusted, for each time increment, as follows:

   $F_{adj} = F_{used}*(OD\%/GM\%)$

   Where: F_{adj} = Adjusted F-Factor
   F_{used} = Initial F-Factor
   OD%= Percentage of observed trips
   GM%= Percentage of estimated trips

5) The resulting F-factors were 'smoothed' using a gamma distribution fitting technique
6) Steps 3 through 5 were repeated 4 more times.
7) The estimated and observed trips were formatted at the superdistrict level and compared. For interchanges that were over estimated, time penalties of between 2 to 10 minutes were inserted. Steps 1 through 7 were repeated several times until estimated and observed movements between the superdistricts match reasonably. The use of time penalties were ultimately used minimally.

[1] Prior to the assignment observed internal non-work trips were factored by 1.50 in order to match observed VMT estimates. Underreporting in surveys is typical for non-work travel (particularly short non-work trips).

Source: 1994 COG/TPB Household Travel Survey
All trips geocoded within the HTS survey area

Purpose	Mode	Income Level				Total
		<30k	30k - 50k	50k - 75k	>75k	
HBW	Auto Driver	265,104	402,570	660,332	742,078	2,070,084
	Auto Passenger	41,854	47,055	73,652	76,477	239,038
	Auto Person Subtotal:	306,958	449,625	733,984	818,555	2,309,122
	Average Auto Occupancy	*1.2*	*1.1*	*1.1*	*1.1*	*1.12*
	Transit	106,263	78,376	116,054	133,428	434,121
	Auto Person & Transit Subtotal:	413,221	528,001	850,038	951,983	2,743,243
	Transit Percentage	*25.72%*	*14.84%*	*13.65%*	*14.02%*	*15.83%*
HBS	Auto Driver	179,240	222,468	395,854	361,316	1,158,878
	Auto Passenger	42,034	51,234	85,486	90,586	269,340
	Auto Person Subtotal:	221,274	273,702	481,340	451,902	1,428,218
	Average Auto Occupancy	*1.2*	*1.2*	*1.2*	*1.3*	*1.23*
	Transit	12,092	6,601	4,521	3,435	26,649
	Auto Person & Transit Subtotal:	233,366	280,303	485,861	455,337	1,454,867
	Transit Percentage	*5.18%*	*2.35%*	*0.93%*	*0.75%*	*1.83%*
HBO	Auto Driver	378,412	541,343	1,003,575	1,044,304	2,967,634
	Auto Passenger	158,697	210,756	465,074	478,663	1,313,190
	Auto Person Subtotal:	537,109	752,099	1,468,649	1,522,967	4,280,824
	Average Auto Occupancy	*1.4*	*1.4*	*1.5*	*1.5*	*1.44*
	Transit	43,863	24,177	27,803	38,078	133,921
	Auto Person & Transit Subtotal:	580,972	776,276	1,496,452	1,561,045	4,414,745
	Transit Percentage	*7.55%*	*3.11%*	*1.86%*	*2.44%*	*3.03%*
NHB	Auto Driver	317,239	488,048	859,926	878,859	2,544,072
	Auto Passenger	74,157	108,357	215,941	239,842	638,297
	Auto Person Subtotal:	391,396	596,405	1,075,867	1,118,701	3,182,369
	Average Auto Occupancy	*1.2*	*1.2*	*1.3*	*1.3*	*1.25*
	Transit	28,671	28,320	46,358	58,052	161,401
	Auto Person & Transit Subtotal:	420,067	624,725	1,122,225	1,176,753	3,343,770
	Transit Percentage	*6.83%*	*4.53%*	*4.13%*	*4.93%*	*4.83%*
All Purposes	Auto Driver	1,139,995	1,654,429	2,919,687	3,026,557	8,740,668
	Auto Passenger	316,742	417,402	840,153	885,568	2,459,865
	Auto Person Subtotal:	1,456,737	2,071,831	3,759,840	3,912,125	11,200,533
	Average Auto Occupancy	*1.3*	*1.3*	*1.3*	*1.3*	*1.28*
	Transit	190,889	137,474	194,736	232,993	756,092
	Auto Person & Transit Subtotal:	1,647,626	2,209,305	3,954,576	4,145,118	11,956,625
	Transit Percentage	*11.59%*	*6.22%*	*4.92%*	*5.62%*	*6.32%*

Ref: 94htstrip2.1.xls

Exhibit 5-3 shows a comparison of the estimated trip lengths (from the last iteration of the model Draft #50 model application) and observed trip lengths, as expressed by composite time. Staff also prepared graphs showing estimated and observed trip length frequencies by purpose and income level (shown in Appendix E of this report). Given the 'lumpy' nature of surveys, staff is comfortable with these comparisons. A detailed listing and discussion of K-factors and time penalties used in the model are provided in Appendix G.

Staff did take the opportunity to compare the county level 2000 CTPP worker flow distributions with the Draft # 50 HBW trip distributions. The CTPP flows do not include respondents who reportedly worked at home or who worked out-of-town. The comparison was generally deemed to be reasonable.

Exhibit 5-2 Summary of Motorized Trips by Purpose, Mode, and Income Level

Source: 1994 COG/TPB Household Travel Survey
All trips geocoded within the HTS survey area

Purpose	Mode	Income Level				Total
		<30k	30k - 50k	50k - 75k	>75k	
HBW	Auto Driver	265,104	402,570	660,332	742,078	2,070,084
	Auto Passenger	41,854	47,055	73,652	76,477	239,038
	Auto Person Subtotal:	306,958	449,625	733,984	818,555	2,309,122
	Average Auto Occupancy	*1.2*	*1.1*	*1.1*	*1.1*	*1.12*
	Transit	106,263	78,376	116,054	133,428	434,121
	Auto Person & Transit Subtotal:	413,221	528,001	850,038	951,983	2,743,243
	Transit Percentage	*25.72%*	*14.84%*	*13.65%*	*14.02%*	*15.83%*
HBS	Auto Driver	179,240	222,468	395,854	361,316	1,158,878
	Auto Passenger	42,034	51,234	85,486	90,586	269,340
	Auto Person Subtotal:	221,274	273,702	481,340	451,902	1,428,218
	Average Auto Occupancy	*1.2*	*1.2*	*1.2*	*1.3*	*1.23*
	Transit	12,092	6,601	4,521	3,435	26,649
	Auto Person & Transit Subtotal:	233,366	280,303	485,861	455,337	1,454,867
	Transit Percentage	*5.18%*	*2.35%*	*0.93%*	*0.75%*	*1.83%*
HBO	Auto Driver	378,412	541,343	1,003,575	1,044,304	2,967,634
	Auto Passenger	158,697	210,756	465,074	478,663	1,313,190
	Auto Person Subtotal:	537,109	752,099	1,468,649	1,522,967	4,280,824
	Average Auto Occupancy	*1.4*	*1.4*	*1.5*	*1.5*	*1.44*
	Transit	43,863	24,177	27,803	38,078	133,921
	Auto Person & Transit Subtotal:	580,972	776,276	1,496,452	1,561,045	4,414,745
	Transit Percentage	*7.55%*	*3.11%*	*1.86%*	*2.44%*	*3.03%*
NHB	Auto Driver	317,239	488,048	859,926	878,859	2,544,072
	Auto Passenger	74,157	108,357	215,941	239,842	638,297
	Auto Person Subtotal:	391,396	596,405	1,075,867	1,118,701	3,182,369
	Average Auto Occupancy	*1.2*	*1.2*	*1.3*	*1.3*	*1.25*
	Transit	28,671	28,320	46,358	58,052	161,401
	Auto Person & Transit Subtotal:	420,067	624,725	1,122,225	1,176,753	3,343,770
	Transit Percentage	*6.83%*	*4.53%*	*4.13%*	*4.93%*	*4.83%*
All Purposes	Auto Driver	1,139,995	1,654,429	2,919,687	3,026,557	8,740,668
	Auto Passenger	316,742	417,402	840,153	885,568	2,459,865
	Auto Person Subtotal:	1,456,737	2,071,831	3,759,840	3,912,125	11,200,533
	Average Auto Occupancy	*1.3*	*1.3*	*1.3*	*1.3*	*1.28*
	Transit	190,889	137,474	194,736	232,993	756,092
	Auto Person & Transit Subtotal:	1,647,626	2,209,305	3,954,576	4,145,118	11,956,625
	Transit Percentage	*11.59%*	*6.22%*	*4.92%*	*5.62%*	*6.32%*

Ref: 94htstrip2.1.xls

Exhibit 5-3 Version 2.1 D Draft #50 Model Trip Distribution Calibration / Internal Travel

Estimated and Observed Travel Times and Distances by Purpose & Income Strata

Purpose	Income Level	Avg. Composite Time (min.) Observed	Estimated
HBW Person	1	29.96	27.50
	2	36.10	35.15
	3	40.02	37.13
	4	40.59	39.41
HBS Person	1	13.66	15.61
	2	13.65	14.79
	3	14.91	14.40
	4	15.19	17.20
HBO Person	1	18.86	16.37
	2	17.07	14.16
	3	16.96	13.68
	4	17.53	16.01
NHB Person		21.44	23.73

Notes:
- Observed trips are from the 1994 Household Travel Survey
- Estimated trips are based on simulated productions and attractions.
- Time includes terminal time.
- Includes only trips within the 1994 Household Travel Survey area.
- Calibration subdirectory, cmptlfci.rpt.
- Last time interval is "80 or more" minutes.

* AM peak period highway distance is used for HBW. Off-peak highway distance is used for HBS, HBO, and NHB.

Ref.: TLFCHKCG.S / TLFCHKCG_v21d_50.xls

Exhibit 5-4 Difference in Row Distribution (Percentage) - 2000 Simulation - Census

		DC	MTG	PG	ARL	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL&JF	FBG&SP	KGEO	EXTL	TOTAL
1	DC	-3.6%	-2.1%	-0.1%	1.9%	0.4%	0.9%	-0.1%	-0.2%	0.0%	0.0%	0.3%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%
2	MTG	5.1%	-6.9%	-2.3%	0.8%	0.0%	1.0%	-0.1%	-0.2%	0.9%	0.0%	0.2%	-0.4%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	2.0%	0.0%
3	PG	0.8%	-5.7%	1.7%	0.7%	-0.3%	-0.2%	-0.2%	-0.2%	-0.1%	0.0%	-0.6%	2.3%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%
4	ARL	9.1%	-1.3%	-0.3%	-4.6%	0.3%	-2.6%	-0.4%	-0.6%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	0.0%	-0.1%	0.0%	0.9%	0.0%
5	ALX	5.6%	-1.5%	0.1%	2.5%	-6.9%	1.0%	-0.6%	-0.5%	0.0%	0.0%	-0.1%	0.2%	0.0%	-0.1%	0.0%	0.0%	-0.1%	0.0%	-0.1%	0.0%	0.6%	0.0%
6	FFX	0.5%	-1.3%	-0.8%	1.9%	-0.3%	-2.0%	1.9%	-0.3%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.7%	0.0%
7	LDN	-3.6%	-1.2%	-0.5%	-0.8%	-0.4%	-8.5%	10.5%	-0.6%	2.3%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.1%	-0.1%	1.6%	-0.1%	0.0%	1.4%	0.0%
8	PW	-0.7%	-0.8%	-0.6%	-2.8%	-0.9%	3.3%	0.4%	-1.8%	0.0%	0.0%	0.0%	-0.1%	0.0%	-0.1%	0.0%	1.4%	0.9%	0.0%	1.2%	0.1%	0.6%	0.0%
9	FRD	-1.9%	-11.2%	-0.5%	-0.2%	-0.1%	-0.7%	1.3%	-0.1%	9.6%	0.8%	-0.4%	-0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	1.7%	0.0%	0.0%	2.3%	0.0%
10	CAR	-0.8%	-1.8%	-1.4%	-0.2%	0.0%	-0.3%	0.2%	0.0%	8.8%	11.9%	1.6%	-2.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	-15.3%	0.0%
11	HOW	-1.3%	-3.7%	-0.8%	-0.3%	-0.2%	-0.9%	0.0%	-0.1%	1.8%	-0.2%	1.9%	1.4%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	2.6%	0.0%
12	AAR	0.3%	-1.0%	0.3%	0.2%	0.0%	-0.3%	-0.1%	-0.1%	0.0%	-0.2%	1.7%	3.3%	0.0%	-0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-4.1%	0.0%
13	CAL	-1.4%	-1.8%	-11.5%	-0.3%	-0.1%	-1.4%	-0.2%	-0.1%	0.0%	0.0%	-0.4%	5.0%	2.5%	9.8%	0.5%	-0.1%	0.0%	0.0%	0.0%	0.2%	-0.6%	0.0%
14	STM	-3.0%	-0.6%	-2.3%	-0.3%	-0.2%	-0.6%	-0.1%	-0.1%	-0.1%	0.0%	-0.2%	0.3%	0.5%	3.7%	1.2%	0.0%	0.0%	0.0%	0.0%	1.8%	-0.1%	0.0%
15	CHS	0.3%	-1.8%	1.8%	-1.4%	-0.1%	-2.1%	-0.6%	-0.2%	0.0%	-0.1%	-0.2%	1.6%	0.4%	-0.4%	0.9%	0.0%	-0.1%	0.0%	0.0%	1.8%	0.0%	0.0%
16	FAU	-4.2%	-1.0%	-0.5%	-2.4%	-1.0%	-5.4%	1.0%	-4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.0%	3.9%	0.7%	4.4%	0.2%	-0.2%	0.0%
17	STA	-5.8%	-0.7%	-0.8%	-4.3%	-1.6%	-5.8%	-0.7%	-2.8%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	1.6%	8.3%	0.0%	10.7%	-0.4%	2.3%	0.0%
18	CL&JF	-2.7%	-2.7%	-0.7%	-0.8%	-0.3%	-5.5%	0.1%	-0.4%	7.3%	0.0%	0.6%	-0.1%	0.0%	0.0%	0.0%	0.4%	-0.1%	7.8%	0.0%	0.0%	-3.1%	0.0%
19	FBG&SP	-4.5%	-0.4%	-0.7%	-1.8%	-1.1%	-4.6%	-0.3%	-2.4%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.1%	0.4%	-0.8%	0.0%	13.1%	-2.2%	5.6%	0.0%
20	KGEO	-2.9%	-0.7%	-2.2%	-1.6%	-0.5%	-2.6%	-0.2%	-0.7%	-0.1%	0.0%	-0.1%	0.1%	0.0%	0.6%	2.2%	-0.2%	-3.3%	0.0%	-7.8%	21.8%	-1.8%	0.0%
21	EXTL	-2.9%	0.1%	0.6%	-0.2%	-0.2%	-0.3%	-0.3%	-0.2%	1.0%	1.7%	-5.8%	5.0%	0.1%	0.0%	0.2%	0.1%	0.1%	0.2%	1.5%	-0.6%	0.0%	0.0%
	TOTAL	0.3%	-2.9%	-0.4%	0.3%	-0.3%	-0.4%	0.7%	-0.5%	1.1%	0.4%	-0.2%	0.7%	0.0%	0.1%	0.0%	0.2%	0.1%	0.3%	0.4%	0.0%	0.3%	0.0%

Source: SqzEstPsn21_2000.s
Ref.: 2000CensusCheck.xls

5.3 Internal Truck Model

Given that the 1996 truck survey was determined to be insufficient for model calibration work, the existing (Version 1) truck model has been adapted as is for application at the zone level. A description of the internal truck distribution process can be found in prior publications[2].

5.4 External Auto Person / Truck Models

Trip distribution models were calibrated for external auto and truck trips in a similar fashion as the internal models. The external trip distribution models were developed using highway impedances however. The calibration made use of the 1994 Auto External Survey (AES) and the 1996 External Truck Survey. The external auto trips were segmented by purpose and facility 'type', i.e., interstate (or interstate-like facilities) and arterial facilities. The rationale behind this distinction is that arterial facilities tend to serve more localized traffic associated with shorter trip lengths while interstate travel is associated with longer trip lengths. In contrast, the external truck models are simply developed by purpose (i.e., medium, heavy truck).

The modeled network contains 47 external stations, numbered consecutively from 2145 to 2191. Among these stations interstate-type facilities are defined as I-95 north and south (external stations 2149, 2182), US 301 (2146), US 15/29 (2154), I-66 (2156), I-70 east and west (2166, 2180), US 15 north (2179), US 1& I-195 (2183), MD 295 (2184), I-97 (2187), and US50/301, Bay Bridge (2191). All remaining stations are defined as arterial-type facilities.

The highway time is used as the impedance measure in the distribution of external trips. AM peak time is used for the HBW purpose and off-peak times are used for all remaining purposes. The external calibration does not make use of time penalties added into the impedance files. However, the impedances are altered in that extremely large time values were inserted into internal and through (I-I, X-X) interchanges to preclude those types of interchanges from occurring in the trip distribution process.

The Version 2.1D Draft #50 model uses the same external and truck distributions that were calibrated for the Version 2.1C model.

5.5 Model Application

A listing of the final internal and external F-factors are shown as Exhibit 5-5 and Exhibit 5-6, respectively. A comparison of estimated and observed trip tables is shown in Appendix B.

[2] See, *Version 1 Travel Model User's Guide*, MWCOG, 10/98

Exhibit 5-5 F-Factor Specifications for Internal Travel by Trip Purpose and Income Group

Comp. Time (min)	HBW				HBS				HBO				NHB
	Inc 1	Inc 2	Inc 3	Inc 4	Inc 1	Inc 2	Inc 3	Inc 4	Inc 1	Inc 2	Inc 3	Inc 4	
1	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984609
2	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984609
3	534,862	566,562	586,872	584,487	375,164	376,643	318,181	382,415	416,158	387,467	387,021	382,823	486880
4	346,225	382,193	405,901	403,096	187,206	188,666	142,136	193,948	225,057	199,164	198,868	195,320	294634
5	246,589	281,175	304,449	301,683	107,995	109,279	75,734	113,614	139,174	118,391	118,244	115,574	199021
6	186,490	218,449	240,292	237,689	68,132	69,246	45,071	72,786	93,608	77,092	77,050	75,064	144039
7	146,952	176,174	196,388	193,977	45,635	46,606	28,927	49,529	66,675	53,422	53,452	51,966	109278
8	119,294	145,983	164,616	162,394	31,883	32,735	19,608	35,182	49,498	38,721	38,800	37,680	85782
9	99,042	123,469	140,645	138,600	22,971	23,723	13,848	25,796	37,907	29,031	29,143	28,294	69089
10	83,678	106,108	121,966	120,081	16,935	17,600	10,098	19,374	29,737	22,343	22,479	21,834	56765
11	71,688	92,358	107,029	105,291	12,704	13,295	7,552	14,824	23,778	17,557	17,708	17,220	47384
12	62,115	81,228	94,831	93,226	9,658	10,183	5,764	11,509	19,307	14,030	14,190	13,823	40064
13	54,323	72,054	84,694	83,208	7,418	7,884	4,475	9,038	15,875	11,366	11,532	11,260	37148
14	47,879	64,375	76,143	74,767	5,741	6,155	3,522	7,163	13,190	9,314	9,482	9,284	37148
15	42,476	57,863	68,839	67,564	4,470	4,836	2,805	5,718	11,054	7,705	7,873	7,735	37148
16	37,892	52,279	62,533	61,349	3,495	3,819	2,256	4,590	9,331	6,424	6,591	6,501	37148
17	33,964	47,443	57,035	55,935	2,742	3,026	1,829	3,701	7,926	5,393	5,557	5,506	37148
18	30,566	43,219	52,203	51,181	2,155	2,404	1,494	2,995	6,767	4,554	4,714	4,693	37148
19	27,605	39,500	47,925	46,974	1,695	1,913	1,227	2,429	5,802	3,864	4,019	4,022	37148
20	25,006	36,206	44,112	43,228	1,334	1,524	1,014	1,974	4,994	3,292	3,442	3,465	37148
21	22,711	33,269	40,696	39,873	1,050	1,215	841	1,606	4,312	2,814	2,959	2,997	37148
22	20,674	30,638	37,618	36,852	826	968	700	1,308	3,733	2,413	2,552	2,602	37148
23	18,857	28,269	34,833	34,120	648	771	585	1,065	3,239	2,075	2,207	2,267	34232
24	17,228	26,126	32,302	31,639	508	613	490	867	2,815	1,787	1,914	1,980	29506
25	15,764	24,182	29,994	29,377	398	487	411	705	2,451	1,543	1,663	1,734	25619
26	14,442	22,410	27,882	27,309	310	386	346	573	2,136	1,333	1,447	1,522	22381
27	13,246	20,792	25,944	25,412	242	305	291	466	1,864	1,154	1,261	1,338	19656
28	12,160	19,309	24,161	23,667	187	241	246	377	1,628	999	1,101	1,179	17339
29	11,171	17,947	22,517	22,058	145	190	208	306	1,422	866	961	1,039	15355
30	10,270	16,693	20,997	20,572	112	149	175	247	1,243	751	841	918	13641
31	9,447	15,536	19,590	19,196	86	117	148	199	1,086	652	735	811	12153
32	8,693	14,467	18,284	17,919	66	91	125	160	950	565	644	718	10854
33	8,002	13,477	17,072	16,734	50	71	106	129	830	491	563	635	9713
34	7,368	12,560	15,943	15,632	38	55	90	103	725	426	493	563	8707
35	6,785	11,708	14,892	14,605	29	42	76	82	634	369	432	499	7817
36	6,249	10,916	13,913	13,648	22	33	64	66	554	320	378	442	7027
37	5,755	10,179	12,998	12,754	16	25	54	52	483	277	331	392	6323
38	5,300	9,493	12,144	11,920	12	19	46	41	422	240	290	348	5694
39	4,881	8,854	11,346	11,140	9	15	39	33	367	208	254	309	5132
40	4,494	8,258	10,599	10,411	7	11	33	26	320	180	222	274	4627
41	4,137	7,701	9,901	9,729	5	8	28	20	279	156	194	243	4174
42	3,808	7,181	9,247	9,090	4	6	23	16	242	134	169	215	3766
43	3,504	6,696	8,635	8,491	3	5	20	12	210	116	148	191	3399
44	3,223	6,242	8,061	7,931	2	3	16	10	183	100	129	169	3067
45	2,963	5,818	7,524	7,406	1	3	14	7	158	86	113	150	2768
46	2,724	5,422	7,020	6,913	1	2	12	6	137	74	98	133	2498
47	2,502	5,051	6,548	6,452	1	1	10	4	119	64	85	117	2254
48	2,298	4,704	6,106	6,019	1	1	8	3	103	55	74	104	2033
49	2,109	4,380	5,692	5,614	1	1	7	3	88	47	65	92	1833
50	1,935	4,077	5,303	5,234	1	1	6	2	76	40	56	81	1652
51	1,774	3,793	4,940	4,878	1	1	5	1	66	34	49	72	1488
52	1,626	3,528	4,599	4,544	1	1	4	1	56	29	42	63	1340
53	1,489	3,280	4,280	4,232	1	1	3	1	48	25	36	56	1206
54	1,363	3,049	3,981	3,939	1	1	3	1	42	21	31	49	1085
55	1,247	2,832	3,701	3,664	1	1	2	1	36	18	27	43	975
56	1,140	2,630	3,440	3,408	1	1	2	1	30	15	23	38	876
57	1,041	2,441	3,195	3,167	1	1	2	1	26	13	20	34	786
58	951	2,264	2,966	2,942	1	1	1	1	22	11	17	29	705
59	868	2,099	2,752	2,732	1	1	1	1	19	9	15	26	632
60	791	1,945	2,552	2,536	1	1	1	1	16	8	13	23	566
61	721	1,802	2,365	2,352	1	1	1	1	14	7	11	20	507
62	656	1,668	2,191	2,180	1	1	1	1	11	6	9	17	453
63	597	1,544	2,028	2,020	1	1	1	1	10	5	8	15	405
64	543	1,427	1,877	1,871	1	1	1	1	8	4	7	13	361
65	493	1,319	1,735	1,731	1	1	1	1	7	3	6	12	322
66	447	1,219	1,604	1,601	1	1	1	1	6	3	5	10	287
67	406	1,125	1,481	1,480	1	1	1	1	5	2	4	9	255
68	368	1,038	1,367	1,367	1	1	1	1	4	2	4	8	227
69	333	957	1,261	1,262	1	1	1	1	3	2	3	7	202
70	301	882	1,162	1,165	1	1	1	1	3	1	3	6	179

Comp. Time (min)	HBW				HBS				HBO				NHB
	Inc 1	Inc 2	Inc 3	Inc 4	Inc 1	Inc 2	Inc 3	Inc 4	Inc 1	Inc 2	Inc 3	Inc 4	
71	272	812	1,071	1,074	1	1	1	1	2	1	2	5	158
72	246	747	986	990	1	1	1	1	2	1	2	4	140
73	222	688	907	911	1	1	1	1	2	1	2	4	124
74	200	632	834	839	1	1	1	1	1	1	1	3	110
75	180	580	766	771	1	1	1	1	1	1	1	3	97
76	162	533	703	709	1	1	1	1	1	1	1	2	85
77	146	489	645	651	1	1	1	1	1	1	1	2	75
78	131	448	591	598	1	1	1	1	1	1	1	2	66
79	118	411	542	548	1	1	1	1	1	1	1	2	58
80	106	376	496	502	1	1	1	1	1	1	1	1	51
81	95	344	454	460	1	1	1	1	1	1	1	1	45
82	85	314	415	421	1	1	1	1	1	1	1	1	39
83	76	287	379	385	1	1	1	1	1	1	1	1	34
84	68	262	346	352	1	1	1	1	1	1	1	1	30
85	61	239	316	322	1	1	1	1	1	1	1	1	26
86	54	218	288	294	1	1	1	1	1	1	1	1	23
87	48	199	262	268	1	1	1	1	1	1	1	1	20
88	43	181	239	244	1	1	1	1	1	1	1	1	17
89	38	165	217	222	1	1	1	1	1	1	1	1	15
90	34	150	197	202	1	1	1	1	1	1	1	1	13
91	30	136	179	184	1	1	1	1	1	1	1	1	11
92	27	123	163	167	1	1	1	1	1	1	1	1	10
93	24	112	147	152	1	1	1	1	1	1	1	1	8
94	21	101	134	138	1	1	1	1	1	1	1	1	7
95	19	92	121	125	1	1	1	1	1	1	1	1	6
96	16	83	109	113	1	1	1	1	1	1	1	1	5
97	14	75	99	102	1	1	1	1	1	1	1	1	5
98	13	68	89	93	1	1	1	1	1	1	1	1	4
99	11	61	81	84	1	1	1	1	1	1	1	1	3
100	10	55	73	76	1	1	1	1	1	1	1	1	3
101	9	50	66	68	1	1	1	1	1	1	1	1	2
102	8	45	59	62	1	1	1	1	1	1	1	1	2
103	7	41	53	55	1	1	1	1	1	1	1	1	2
104	6	36	48	50	1	1	1	1	1	1	1	1	2
105	5	33	43	45	1	1	1	1	1	1	1	1	1
106	5	29	39	40	1	1	1	1	1	1	1	1	1
107	4	26	35	36	1	1	1	1	1	1	1	1	1
108	3	24	31	33	1	1	1	1	1	1	1	1	1
109	3	21	28	29	1	1	1	1	1	1	1	1	1
110	3	19	25	26	1	1	1	1	1	1	1	1	1
111	2	17	22	23	1	1	1	1	1	1	1	1	1
112	2	15	20	21	1	1	1	1	1	1	1	1	1
113	2	14	18	19	1	1	1	1	1	1	1	1	1
114	1	12	16	17	1	1	1	1	1	1	1	1	1
115	1	11	14	15	1	1	1	1	1	1	1	1	1
116	1	10	13	13	1	1	1	1	1	1	1	1	1
117	1	9	11	12	1	1	1	1	1	1	1	1	1
118	1	8	10	11	1	1	1	1	1	1	1	1	1
119	1	7	9	9	1	1	1	1	1	1	1	1	1
120	1	6	8	8	1	1	1	1	1	1	1	1	1
121	1	5	7	7	1	1	1	1	1	1	1	1	1
122	1	5	6	7	1	1	1	1	1	1	1	1	1
123	1	4	5	6	1	1	1	1	1	1	1	1	1
124	1	4	5	5	1	1	1	1	1	1	1	1	1
125	1	3	4	5	1	1	1	1	1	1	1	1	1
126	1	3	4	4	1	1	1	1	1	1	1	1	1
127	1	3	3	4	1	1	1	1	1	1	1	1	1
128	1	2	3	3	1	1	1	1	1	1	1	1	1
129	1	2	3	3	1	1	1	1	1	1	1	1	1
130	1	2	2	2	1	1	1	1	1	1	1	1	1
131	1	2	2	2	1	1	1	1	1	1	1	1	1
132	1	1	2	2	1	1	1	1	1	1	1	1	1
133	1	1	2	2	1	1	1	1	1	1	1	1	1
134	1	1	1	1	1	1	1	1	1	1	1	1	1
.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	.	.
200	1	1	1	1	1	1	1	1	1	1	1	1	0

Ref: v2intxff.xls

Exhibit 5-6 F-Factor Specifications for External Travel by Trip Purpose and Facility Type

HighwayTime (min)	HBW Interstate	HBS Interstate	HBO Interstate	NHB Interstate	HBW Arterial	HBS Arterial	HBO Arterial	NHB Arterial	Medium Truck External	Heavy Truck External
1	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609
2	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609
3	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609	984,609
4	554,679	777,594	615,654	570,003	984,609	984,609	984,609	984,609	539,457	723,621
5	355,325	641,659	427,667	372,910	590,136	709,738	556,119	622,434	338,371	569,788
6	246,882	543,380	317,518	263,572	388,216	539,905	348,612	427,490	231,213	468,652
7	181,418	467,715	246,809	196,487	272,306	425,824	234,823	310,836	167,614	397,234
8	138,887	406,863	198,396	152,294	200,170	344,544	166,714	235,615	126,889	344,185
9	109,702	356,371	163,619	121,600	152,496	284,052	123,206	184,340	99,294	303,267
10	88,811	313,505	137,691	99,391	119,490	237,502	93,977	147,852	79,760	270,769
11	73,343	276,499	117,780	82,787	95,778	200,729	73,538	120,982	65,442	244,351
12	61,571	244,160	102,114	70,039	78,219	171,065	58,769	100,633	54,643	222,462
13	52,404	215,648	89,538	60,031	64,886	146,728	47,805	84,862	46,305	204,035
14	45,127	190,357	79,269	52,027	54,546	126,484	39,474	72,397	39,735	188,314
15	39,254	167,832	70,762	45,522	46,379	109,454	33,020	62,377	34,470	174,746
16	34,444	147,722	63,624	40,161	39,827	94,994	27,933	54,206	30,188	162,919
17	30,457	129,747	57,568	35,689	34,498	82,624	23,864	47,458	26,659	152,520
18	27,114	113,682	52,381	31,919	30,111	71,975	20,567	41,823	23,718	143,305
19	24,284	99,334	47,898	28,709	26,461	62,763	17,863	37,070	21,242	135,084
20	21,868	86,539	43,995	25,954	23,394	54,761	15,623	33,026	19,138	127,704
21	19,787	75,154	40,573	23,571	20,795	47,789	13,749	29,558	17,336	121,043
22	17,983	65,048	37,553	21,495	18,575	41,699	12,169	26,562	15,781	115,001
23	16,410	56,104	34,873	19,675	16,667	36,370	10,826	23,959	14,430	109,495
24	15,028	48,213	32,482	18,071	15,014	31,701	9,676	21,682	13,249	104,457
25	13,808	41,278	30,339	16,650	13,576	27,607	8,686	19,681	12,211	99,829
26	12,727	35,203	28,410	15,384	12,316	24,016	7,828	17,913	11,294	95,564
27	11,763	29,905	26,666	14,252	11,208	20,866	7,080	16,344	10,479	91,619
28	10,901	25,301	25,083	13,235	10,229	18,104	6,426	14,947	9,754	87,961
29	10,126	21,318	23,642	12,319	9,359	15,684	5,850	13,697	9,104	84,558
30	9,427	17,888	22,325	11,489	8,585	13,565	5,341	12,576	8,519	81,385
31	8,795	14,946	21,119	10,736	7,892	11,712	4,890	11,566	7,993	78,419
32	8,221	12,435	20,010	10,051	7,270	10,093	4,488	10,654	7,516	75,641
33	7,699	10,301	18,989	9,425	6,710	8,681	4,129	9,828	7,083	73,032
34	7,222	8,495	18,045	8,852	6,205	7,452	3,807	9,079	6,690	70,577
35	6,785	6,976	17,172	8,326	5,747	6,383	3,517	8,396	6,330	68,264
36	6,384	5,702	16,361	7,841	5,331	5,456	3,256	7,774	6,001	66,080
37	6,016	4,641	15,607	7,395	4,953	4,653	3,019	7,206	5,699	64,014
38	5,676	3,760	14,905	6,982	4,608	3,959	2,805	6,685	5,422	62,057
39	5,362	3,032	14,249	6,600	4,292	3,361	2,610	6,207	5,166	60,201
40	5,071	2,434	13,636	6,245	4,003	2,846	2,432	5,768	4,930	58,437
41	4,802	1,945	13,062	5,916	3,738	2,404	2,270	5,364	4,712	56,759
42	4,552	1,547	12,524	5,609	3,494	2,026	2,121	4,992	4,510	55,161
43	4,319	1,225	12,017	5,323	3,269	1,703	1,985	4,648	4,322	53,636
44	4,101	965	11,541	5,055	3,061	1,428	1,860	4,330	4,147	52,181
45	3,899	757	11,092	4,805	2,869	1,194	1,745	4,037	3,984	50,789
46	3,709	591	10,669	4,571	2,692	996	1,639	3,764	3,833	49,458
47	3,531	459	10,269	4,351	2,527	829	1,540	3,512	3,691	48,182
48	3,365	355	9,890	4,145	2,374	687	1,450	3,278	3,558	46,959
49	3,209	273	9,532	3,951	2,232	569	1,365	3,060	3,434	45,786
50	3,062	209	9,192	3,768	2,100	469	1,287	2,858	3,318	44,658
51	2,924	160	8,869	3,596	1,977	386	1,215	2,670	3,209	43,574
52	2,793	121	8,563	3,434	1,862	317	1,147	2,495	3,106	42,531
53	2,671	91	8,271	3,280	1,755	259	1,084	2,332	3,009	41,526
54	2,555	69	7,994	3,135	1,655	212	1,026	2,180	2,919	40,558
55	2,445	51	7,730	2,998	1,561	172	971	2,038	2,833	39,625
56	2,342	38	7,478	2,868	1,473	140	920	1,905	2,752	38,724
57	2,243	28	7,237	2,745	1,391	113	872	1,782	2,676	37,854
58	2,150	21	7,008	2,628	1,314	91	827	1,666	2,604	37,013
59	2,062	15	6,788	2,518	1,242	73	785	1,558	2,535	36,199
60	1,979	11	6,578	2,412	1,174	59	745	1,458	2,471	35,413
61	1,899	8	6,377	2,312	1,110	47	708	1,363	2,410	34,651
62	1,824	6	6,184	2,217	1,050	38	673	1,275	2,352	33,913
63	1,752	4	5,999	2,127	993	30	641	1,193	2,297	33,198
64	1,683	3	5,822	2,040	940	24	610	1,115	2,245	32,505
65	1,618	2	5,652	1,958	890	19	580	1,043	2,195	31,832
66	1,556	2	5,489	1,880	843	15	553	976	2,148	31,179
67	1,497	1	5,332	1,805	798	12	527	912	2,104	30,544

HighwayTime (min)	HBW Interstate	HBS Interstate	HBO Interstate	NHB Interstate	HBW Arterial	HBS Arterial	HBO Arterial	NHB Arterial	Medium Truck External	Heavy Truck External
68	1440	1	5181	1733	756	9	502	853	2061	29928
69	1386	1	5035	1665	717	7	479	798	2021	29329
70	1335	1	4895	1600	679	6	457	746	1983	28747
71	1285	1	4761	1538	644	4	436	697	1946	28180
72	1238	1	4631	1478	610	3	417	651	1912	27629
73	1193	1	4506	1421	579	3	398	609	1879	27092
74	1150	1	4385	1366	549	2	380	569	1847	26569
75	1108	1	4269	1314	520	2	363	531	1817	26059
76	1069	1	4156	1264	494	1	348	496	1789	25563
77	1031	1	4047	1216	468	1	332	463	1762	25079
78	994	1	3942	1170	444	1	318	432	1736	24607
79	959	1	3841	1126	421	1	304	404	1711	24146
80	926	1	3743	1084	400	1	291	377	1688	23696
81	893	1	3648	1043	379	1	279	351	1665	23258
82	862	1	3556	1004	360	1	267	328	1644	22829
83	833	1	3467	967	342	1	256	306	1624	22410
84	804	1	3381	931	324	1	245	285	1605	22001
85	776	1	3297	896	308	1	235	266	1587	21602
86	750	1	3216	863	292	1	225	247	1569	21211
87	725	1	3138	831	277	1	216	230	1553	20829
88	700	1	3062	800	263	1	207	215	1537	20455
89	676	1	2988	771	250	1	198	200	1522	20090
90	654	1	2916	742	237	1	190	186	1508	19732
91	632	1	2846	715	225	1	183	173	1495	19382
92	611	1	2779	689	213	1	175	161	1483	19040
93	590	1	2713	664	202	1	168	150	1471	18704
94	571	1	2650	639	192	1	161	139	1460	18376
95	552	1	2588	616	182	1	155	129	1449	18054
96	534	1	2527	594	173	1	149	120	1439	17739
97	516	1	2469	572	164	1	143	112	1430	17430
98	499	1	2412	551	156	1	137	104	1421	17127
99	483	1	2357	531	148	1	132	96	1413	16831
100	467	1	2303	512	140	1	127	89	1406	16540
101	452	1	2250	493	133	1	122	83	1399	16254
102	437	1	2199	475	126	1	117	77	1392	15975
103	423	1	2150	458	120	1	112	71	1386	15701
104	409	1	2101	441	113	1	108	66	1381	15431
105	396	1	2054	425	107	1	104	61	1376	15168
106	383	1	2008	409	102	1	100	56	1372	14909
107	371	1	1964	394	97	1	96	52	1368	14654
108	359	1	1920	380	92	1	92	48	1365	14405
109	347	1	1878	366	87	1	89	45	1362	14160
110	336	1	1836	353	82	1	85	41	1359	13920
111	325	1	1796	340	78	1	82	38	1357	13684
112	315	1	1757	327	74	1	79	35	1356	13452
113	304	1	1718	315	70	1	76	33	1354	13224
114	295	1	1681	304	66	1	73	30	1354	13001
115	285	1	1644	293	63	1	70	28	1353	12781
116	276	1	1608	282	59	1	67	26	1353	12566
117	267	1	1574	272	56	1	65	24	1353	12354
118	259	1	1540	262	53	1	62	22	1353	12146
119	250	1	1507	252	50	1	60	20	1352	11941
120	242	1	1474	243	48	1	58	18	1352	11740
121	235	1	1443	234	45	1	55	17	1352	11543
122	227	1	1412	225	43	1	53	16	1352	11348
123	220	1	1381	217	41	1	51	14	1351	11158
124	213	1	1352	209	38	1	49	13	1351	10970
125	206	1	1323	201	36	1	47	12	1351	10786
126	199	1	1295	193	34	1	46	11	1350	10604
127	193	1	1268	186	32	1	44	10	1350	10426
128	187	1	1241	179	31	1	42	9	1350	10251
129	181	1	1215	173	29	1	41	9	1350	10079
130	175	1	1189	166	27	1	39	8	1349	9909
.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.
200	1	1	1	1	1	1	1	1	1	1

Ref: v2intxff.xls

Chapter 6 Mode Choice

The calibration of the COG/TPB mode choice model generally entails three steps: 1) Specification of the model form and statistical estimation of the model coefficients, typically using a specialized software package such as Alogit, LIMDEP, or BIOGEME; 2) Region-level validation, via adjustment of the alternative-specific constants in the utility equations making up the logit model; and 3) Jurisdiction-level validation, via a series of jurisdiction-level factors. This chapter covers each of these steps in turn.

Several important changes have occurred in this version of the mode choice model, compared to previous releases of the mode choice model. First, the method for generating walk-access-to-transit links has been updated, and this update necessitated re-estimation of the mode choice model. Second, all four mode choice models (HBW, HBS, HBO, and NHB) now have separate in-vehicle travel time (IVTT) and out-of-vehicle travel time (OVTT) coefficients. In the past, only the HBW model had separate coefficients for IVTT and OVTT – the three non-work models had simply "Time." Additionally, pursuant to recent Federal Transit Administration (FTA) guidance, the ratio of the OVTT coefficient to the IVTT coefficient is between 2 and 3 for all four models. For the HBW model, the IVTT and OVTT coefficients had to be constrained in the statistical estimation process. For the three non-work models, only the IVTT coefficient value was constrained to maintain the correct ratio. Third, we have updated the internal year used for costs, from 1980 to 1994. This means that the parking cost model, fares, and all other internal costs are in 1994 dollars, not 1980 dollars as was the case before. Fourth, we have made the algorithm for transit path building more robust. Specifically, we have changed the value of the PATHSTYLE parameter in TRNBUILD from 1 to 0.[1] Last, we have reduced the dampened the values of the jurisdiction-level mode choice adjustment factors. For example, in the Version 2.1C travel model, the factors ranged in value from 0.25 to 12.00, with an average value of 1.07. By contrast, in the Version 2.1D, Draft #50 travel model, the factors range in value from 0.50 to 2.00, with an average value of 1.00. More information can be found in the section entitled "Jurisdiction-Level Validation."

Regarding the generating of walk-access-to-transit links, the new methodology is more realistic than the old methodology. In the old methodology, we found some unrealistic transit paths were being generated in areas of downtown D.C. The cause was due to the way that zone centroids were connected to Metrorail stations. Each zone centroid was connected to any Metrorail station that was within *one mile* of the zone centroid. Under the new methodology each zone centroid is connected to any Metrorail station that is within the *average walking distance for the zone*. This change fixed the illogical path in the downtown area.

[1] The normal transit path building process selects paths by saving the best paths to every node for every mode that accesses the node. Pathstyle=1 saves only the single best path into a node, is considerably faster, and uses less RAM. But, Pathstyle=1 has certain problems built into it: most notably are the problems that can arise if certain mode-to-mode combinations are precluded, or restricted, due to transfer penalties. The default style of 0, does much more work by processing more combinations, but it can increase path building time by a factor of three or four. (Source: Citilabs TP+ documention)

6.1 *Model Structure*

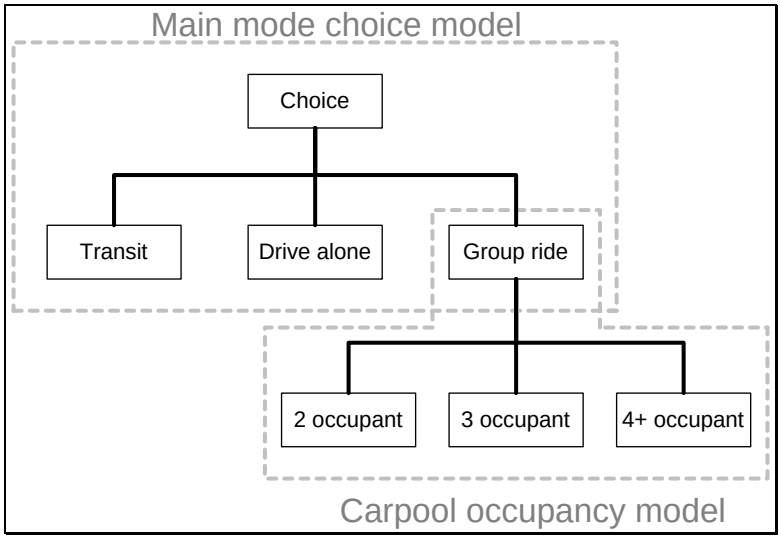
Mode choice is the third step in the four-step process. The mode choice model estimates the share of person trips made by each travel mode. Estimates are made at the zone-to-zone interchange level, but are usually presented at the jurisdiction interchange level or regional level. The following modes are represented in the Version 2.1 D Draft #50 mode choice model:

TR Transit
DA Drive alone
GR2 Group ride, two occupants
GR3 Group ride, three occupants
GR4 Group ride, four or more occupants

The "transit" mode includes local bus, commuter/express bus, commuter rail, Metrorail, and any other future transit service, such as light rail or bus rapid transit (BRT). An earlier version of the travel model, known as "Version 2, MINUTP," included two submodels that are not currently part of the Version 2.1 D Draft #50 model, due to time constraints. The first submodel, the "sub-mode choice model," was used to subdivide transit trips into Metrorail and non-Metrorail trips (bus, commuter rail, etc.). The second submodel, the "mode-of-arrival model," was used to predict the mode of arrival of Metrorail riders to Metrorail stations. Given the production zone for a Metrorail trip and the attraction-end destination station, the model computed the probability that a given production-end station is accessed by a particular mode. Four modes of arrival were considered: walk, bus, auto passenger, and auto driver. The model had a nested logit formulation and the station choice was restricted to the two "best" stations for the walk mode and the six best stations for the other three access modes. It is unlikely that we will re-incorporate these two submodels into the modeling framework, since the TRB review panel recommended in 2004 that COG/TPB move toward a nested logit mode choice model that would represent many, if not all, of these transit submodes and modes of access in the lower branches of the nest.

There are four mode choice models -- one for each trip purpose: HBW, HBS, HBO, and NHB. Each of the four models is comprised of two sub-models: a "main mode choice model" and a "carpool occupancy model." The main mode choice model allocates person trips among transit, drive alone, and group ride (carpool) modes. The carpool occupancy model allocates group-ride person trips among 2-person carpool, 3-person carpool, and 4+person carpool modes. The structure of the COG/TPB mode choice model (Versions 1, 2, 2.0, and 2.1D) is shown in Exhibit 6-1. Each sub-model is a multinomial logit model. The two sub-models are applied in a sequential manner, so the model form is referred to as a "sequential multinomial logit model." The carpool occupancy model is executed first. The resulting occupancy information is then used within the main model to determine average costs associated with each person in the carpool mode.

Exhibit 6-1 Structure of the COG/TPB mode choice model



mcstruct.vsd

Market segmentation in the Version 2.1 D Draft #50 mode choice models is by vehicle ownership, access mode to transit, and walking distance to/from transit service. Vehicle ownership is defined as the number of vehicles available to a household (0, 1, or 2+). There are three general access mode types:

Access mode	Description
Walk-access	Both ends of the trip are within walking distance of transit
Drive-access	The origin end of the trip is beyond walking distance to transit
No access	The destination end of the trip is beyond walking distance to transit, so transit cannot be used for the trip

Walking distance to/from transit is defined as being either "short" or "long," based on the following definitions:

Distance to a rail station	Distance to a bus stop	Walking distance to/from transit
0 - 0.33 miles	Any	Short
0.33 - 1.00 miles	Any	Long
> 1.00 mile	0 - 0.33 miles	Short
> 1.00 mile	0.33 - 1.00 miles	Long
> 1.00 mile	> 1.00 mile	Beyond walking distance to/from transit

Thus, each zone is made up of zero or more short-walk areas, zero or more long-walk areas, and zero or more beyond-walking-distance areas. This market segmentation by walking distance to/from transit is referred to as the "two-tier walk-access" segmentation, since there are two main types of walk access: short and long. Distances are straight-line distances ("as the crow flies").

Exhibit 6-2 shows the steps involved in developing the mode choice model. Each step is described later in this chapter.

Exhibit 6-2 Steps to develop the mode choice model

Step
Creation of eight calibration files HBW main; HBW carpool occupancy; HBS main; HBS carpool occupancy; HBO main; HBO carpool occupancy; NHB main; NHB carpool occupancy;
Specification of the model form and disaggregate estimation of the eight models using a statistical estimation procedure
Region-level validation, via adjustment of the mode-specific constants (based on an observed trip table)
Jurisdiction-level validation, via a series of jurisdiction-level factors (based on an estimated trip table)

6.2 *Model Estimation*

Creation of calibration files

Eight separate calibration files were created: one for each trip purpose (HBW, HBS, HBO, and NHB) and model type (main model and carpool occupancy model). This section provides an overview of the development of these files. A more detailed description of the development of the calibration files can be found in the technical working paper (Reference number 30). The file formats and variable definitions for the eight calibration files can be found in Appendix D. This appendix also includes the minimum and maximum values for each numeric variable in the eight calibration data sets.

Three main data sources were used for developing the calibration files: the 1994 Household Travel Survey, the 1994 highway and transit networks, and GIS-based data about walking distances to/from transit. The 1994 HTS provided information about the chosen and unchosen (but available) travel modes. It also provided information about household characteristics, such as vehicle availability. Each observation from the 1994 HTS represents an observed mode choice decision for a particular person trip. The following observations were deleted from the household travel survey data:

- Trips lacking either an origin TAZ, a destination TAZ, or both;
- Trips that leave the HTS area; and
- Intra-zonal (within-zone) trips.

The 1994 highway and transit networks were used to develop zone-to-zone skims (travel times and costs). There are three highway networks (AM peak, off peak, and PM peak) and three corresponding highway skims. On the transit side, there are two transit networks (AM peak and off peak) and two corresponding transit skims. For modeling purposes, the AM peak

information is assumed to correspond to HBW travel, while the off-peak information is used for the three other trip purposes. The PM peak highway skims are not used in the mode choice model development process.

Two types of data were generated relating to walking distance to/from transit. First, transit stop nodes were buffered in GIS to generate short-walk and long-walk areas in each TAZ. This resulted in both a geographic file showing the short- and long-walk areas and a text file containing the percent of each zone that is within the short- and long-walk area. Second, by combining the preceding information with the 1994 HTS, it was possible to determine which trips began in short-walk areas and which trips began in long-walk areas. However, since the origin of some trip records could not be geocoded to an exact X-Y coordinate, not all observations in the HTS could be categorized in this manner. In the end, it was possible to categorize 77% of the observations (3,744 out of 4,863).

Rules used to establish short-walk and long-walk times

For the purposes of calibration work, which needed to explicitly address short-walk and long-walk access/egress time, logical rules were established to identify specific walk access/egress times and path type characteristics associated with each individual trip record.

Path characteristics for the home-based purposes were established based on the GIS-based data, which described the location of the surveyed household with respect to short and long walk transit access areas (both for AM and off-peak transit service). The GIS data indicated whether the household was located in the short-walk or long-walk area, and, therefore, the average zonal short/long walk time was used, as appropriate, at the trip production end of all home-based purposes. Walk times at the attraction end of each trip record required some degree of judgment about whether a short or long walk was involved, based on the zonal walk percent information. If a given zone had any short-walk portion (i.e., Percent short-walk = 1 to 100%), it was assumed that the transit walk egress time was equal to the average short walk time. Further, for zones that were comprised of all long-walk area or a combination of long-walk and "no walk," it was assumed that the egress walk time was equal to the average zonal long-walk time.

For the non-home-based purpose, the zonal percent rules established above for the egress end were simply applied to the production end of the trip as well.

Assumptions about using walk-access vs. drive-access times

Regarding the transit path type (walk-access or drive-access), trips originating from short walk locations used walk-access path service levels exclusively. However, in the case of long-walk origins, the minimum of the walk-access and drive-access travel time service levels were used if the surveyed household had at least one vehicle available. Long-walk trip origins associated with households having no vehicles available were constrained to using walk-access service levels. A summary of the walk-access time assumptions for both home-based and non-home-based travel is shown in Exhibit 6-3.

Exhibit 6-3 Rules for transit path types and access/egress walk times used in the calibration files

Home-Based Purposes

Production type (based on HH location)	Attraction type (based on zonal short, long walk percents)	Transit path type (walk/drive access)	Assumed walk access time (short/long)	Assumed walk egress time (short/long)	Inter-change code (slflag)
HH in short walk area	Zone is all or partial short walk	walk-access path	Short	Short	1
HH in short walk area	Zone is all long walk or partial long walk / no walk	walk-access path	Short	Long	2
HH in short walk area	Zone is all no walk	N/A	N/A	N/A	3
HH in long walk area	Zone is all or partial short walk	'Best' walk- / drive- access path (drive access subject to HH with vehicles avail.)	Long	Short	4
HH in long walk area	Zone is all long walk or partial long walk / no walk	'Best' walk- / drive- access path (Drive access subject to HH with vehicles avail.)	Long	Long	5
HH in long walk area	Zone is all no walk	N/A	N/A	N/A	6
HH in no walk area	Zone is all or partial short walk	Drive-access path	N/A	Short	7
HH in no walk area	Zone is all long walk or partial long walk / no walk	Drive-access path	N/A	Long	8
HH in no walk area	Zone is all no walk	N/A	N/A	N/A	9
HH in unknown walk area	Trip Record Unused				10

Non-Home-Based Purpose

Production type (based on HH location)	Attraction type (based on zonal short, long walk percents)	Transit path type (walk/drive access)	Assumed walk access time (short/long)	Assumed walk egress time (short/long)	Inter-change code (slflag)
Zone is all or partial short walk	Zone is all or partial short walk	walk-access path	Short	Short	1
Zone is all long walk or partial long walk / no walk	Zone is all long walk or partial long walk / no walk	walk-access path	Short	Long	2
Zone is all no walk	Zone is all no walk	N/A	N/A	N/A	3
Zone is all or partial short walk	Zone is all or partial short walk	'Best' walk- / drive- access path (drive access subject to HH with vehicles avail.)	Long	Short	4
Zone is all long walk or partial long walk / no walk	Zone is all long walk or partial long walk / no walk	'Best' walk- / drive- access path (Drive access subject to HH with vehicles avail.)	Long	Long	5
Zone is all no walk	Zone is all no walk	N/A	N/A	N/A	6
Zone is all or partial short walk	Zone is all or partial short walk	Drive-access path	N/A	Short	7
Zone is all long walk or partial long walk / no walk	Zone is all long walk or partial long walk / no walk	Drive-access path	N/A	Long	8
Zone is all no walk	Zone is all no walk	N/A	N/A	N/A	9

Parking costs and highway terminal time assumptions

The current mode choice model application program has the capability to generate HBW parking costs and highway terminal times automatically, based on zonal work trip attraction density. Since HBW attraction rates have been found to be declining over time, due to increased trip chaining, the parking cost definition is arguably destabilized, or at least losing its original intended meaning. Therefore, as part of updating done to the application program, several years back, the consultant changed the program so that it uses employment density instead of attraction density as the independent variable for both submodels. The conversion of HBW attractions to employment was done by dividing the attraction values by 1.44 (COG's original regional attraction rate).

A graph of daily HBW and hourly non-HBW parking costs, as a function of zonal employment density, is shown in Exhibit 6-6. The non-HBW hourly parking cost is assumed to be one-third of the daily HBW rate, subject to a minimum employment density of 80,000 employees per sq. mile, which is about the density of downtown Bethesda, Maryland.

It is important to point out that the current mode choice model application program uses the daily parking cost, irrespective of whether it is generated by the parking cost submodel or read directly from the "A1 deck" (zonal data file), and divides it by 2 when applying it on a per-trip basis, since HBW trips are those from and to the home (i.e. they are non-directional). It is also important to recognize that assumed hourly parking rates also invoke the issue of duration. Exhibit 6-4 shows the parking cost assumptions that are now used for Version 2.1 D Draft #50 modeling.

Exhibit 6-4 Parking cost assumptions in the Version 2.1 D Draft #50 model

Trip Purpose	Parking Rate Unit	Directional Trip Factor	Assumed Duration	Parking Cost Term per Modeled Trip	Parking Cost Input (A1 deck) Unit
HBW	Daily Cost	0.5	N/A	½ Daily Cost (= Daily Cost * 0.5)	Daily Cost
HBS	Hourly Cost	0.5	1 Hour	½ Hourly Cost (= Hrly Cost * 0.5 * 1.0 Hr)	Hourly Cost
HBO	Hourly Cost	0.5	2 Hours	Hourly Cost (= Hrly Cost * 0.5 * 2.0 Hrs)	Hourly Cost * 2.0
NHB	Hourly Cost	1.0	1 Hour	Hourly Cost (= Hrly Cost * 1.0 Hr)	Hourly Cost * 2.0

In the last column of the above table, there are two factors of 2.0. The 2.0 factor for HBO trips is due to the assumed 2-hour duration at the trip destination. The 2.0 factor for NHB trips is for an entirely different reason. The issue relates to whether a destination-end parking cost is allocated to a single trip or whether it is spread over two trips. In the case of home-based trips, the parking charge is spread over two trips. So, if a person makes a home-to-work trip with an $8 parking charge and then a work-to-home trip with no parking charge, the model assumes that each trip has a $4 parking charge. This is why the mode choice application program divides parking charges in half. For non-home-based trips, however, it does not make sense to spread the parking charge over two trips – the nominal charge should be associated with only the NHB trip in question. Consequently, to override the default behavior of the model, a factor of 2.0 is

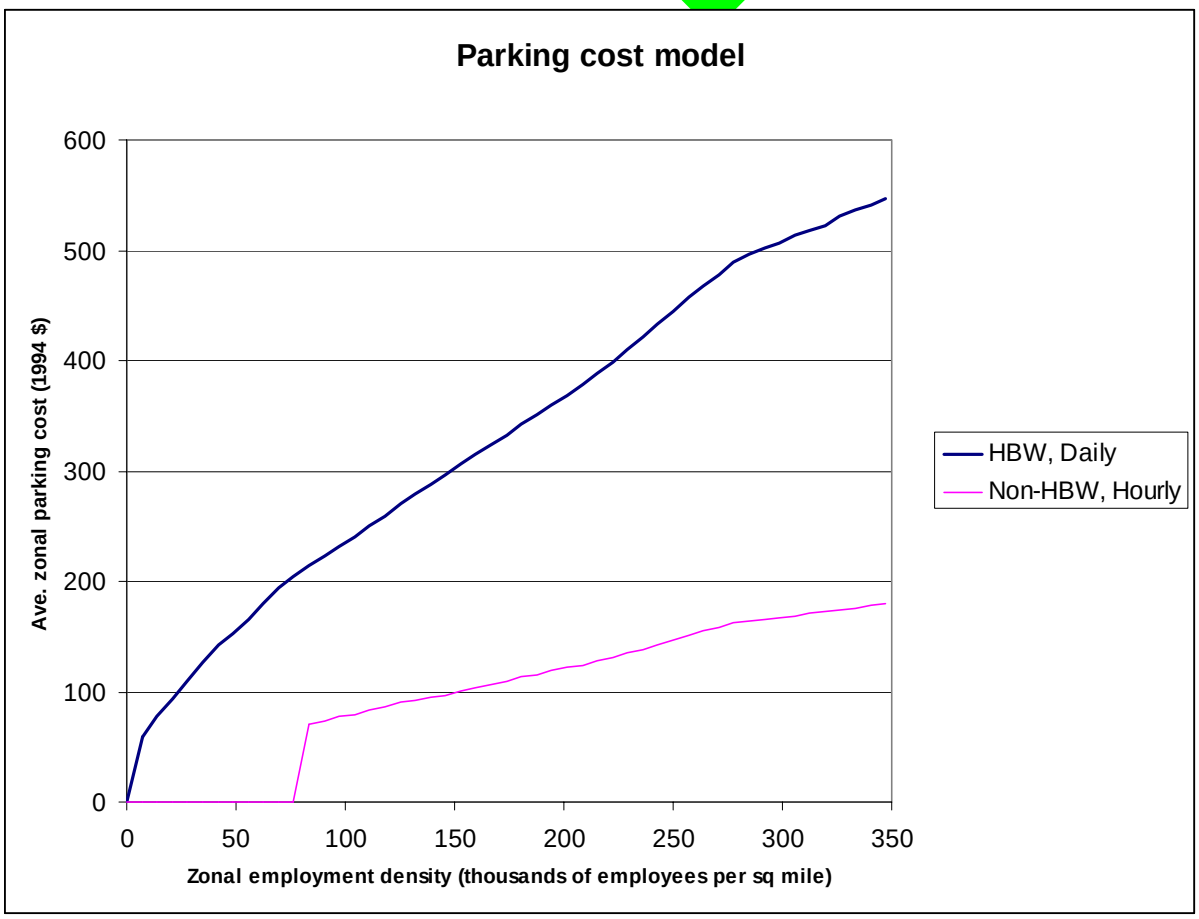
applied to NHB parking charges. The 2.0 factor cancels out the division by two, allowing the model to properly represent these NHB parking costs.

Highway terminal time is typically associated with the average time spent parking or un-parking an automobile. The current mode choice model application program considers highway terminal time only at the attraction end (i.e. highway terminal time associated with trip origins is not considered at all). Highway time is calculated as a function of employment density, as shown in Exhibit 6-5.

Exhibit 6-5 Assumed highway terminal times (minutes) as a function of employment density

Employment density range (Emp/Sq. Mi.)	Highway terminal time (minutes)
0 - 4,617	1
4,618 - 6,631	2
6,632 - 11,562	4
11,563 - 32,985	6
32,986 +	8

Exhibit 6-6 Parking cost model for the Version 2.1 D Draft #50 model set



parkingCostModelUpdate.xls

Model estimation: General discussion

Logit model estimation is typically a heuristic, trial-and-error process. First, one specifies a candidate model. This involves choosing which independent variables to include in each utility equation, what form of the variable is appropriate (e.g., X, X^2, log(X)), and whether the variable should be included as a generic variable (i.e., the variable appears in all of the utility equations) or as an alternative-specific variable (i.e., the variable appears in only one utility equation or a subset of the utility equations). Second, one performs a statistical estimation to quantify the coefficient values of the independent variables, typically with specialized logit model estimation software. We have used Alogit version 3.2F to estimate all candidate models. Alogit version 3.8, which was used the last time the work was performed at COG/TPB, is no longer supported by Hague Consulting Group or Rand Europe, and does not work properly under Windows 2000. Alogit uses the method of maximum likelihood estimation (MLE) to estimate the coefficient values. Last, one evaluates the estimated model for reasonableness. Generally, one is looking for the following:

- Logical signs on the coefficient estimates.
- T-statistics of 1.0 or greater.
- Logical ratios of certain coefficients, such as the out-of-vehicle time (OVT) coefficient and the in-vehicle time (IVT) coefficient.

Logical signs on the coefficient estimates: For example, terms that are considered a disbenefit (such as time or cost) should have a negative sign.

T-statistic values of 1.0 or greater: In linear regression, one typically requires a t-statistic of at least 2.0. In logit model estimation, a value of 1.0 or more is usually considered adequate (Horowitz et al. 1986).

Logical ratios of certain common coefficient estimates:

Ratio of out-of-vehicle time (OVT) to in-vehicle time (IVT): The rule of thumb for work models is between 2.0 to 3.0. There is less agreement on the value of this ratio for non-work mode choice models.

Calculated value of time (VOT): The rule of thumb that we have always used for work trips is that the calculated value of time should be between 25% and 50% of the prevailing wage rate, and that the value of time for non-work trips should be between 25% and 50% of the work value of time (i.e., 6.25% to 25% of the average wage rate). Recent Federal Transit Administration (FTA) guidelines recommend that the work value of time should be between 1/4 and 1/3 of the average wage rate. The average wage rate in 1989 prices was $14.86 (Ref. 14). The mode choice model now uses 1994 as the common year for all costs and prices. Using the Consumer Price Indices shown in Exhibit 6-7, we calculated the average wage rate in 1994 prices, shown in Exhibit 6-8.

Exhibit 6-7 CPI indices for 1980, 1989, and 1994

Consumer price index
All urban consumers (CPI-U), U.S. city average
(Source: US Dept. of Labor, BLS,May 2004)

	Year	CPI	Ratio
Past	1980	82.4	0.6645
Base	1989	124.0	1.0000
Future	1994	148.2	1.1952

Ref: average wage rate calc 2004.xls

Exhibit 6-8 Average hourly wage rates for 1980, 1989, and 1994

Average wage rates, hourly

		Past yr 1980	Base yr 1989	Future yr 1994
	100%	$9.88	$14.86	$17.76
Range for	25%	$2.47	$3.72	$4.44
work trips	50%	$4.94	$7.43	$8.88
Range for	6.25%	$0.62	$0.93	$1.11
non work	25%	$2.47	$3.72	$4.44

Ref: average wage rate calc 2004.xls

For work trips, one would expect the value of time to fall between $4.44 (25%) and $8.88 (50%) in 1994 dollars, or, using the FTA guidelines, between $4.44 (25%) and $5.86 (33%) in 1994 dollars. For non-work trips, one would expect the value of time to fall between $1.11 (6.25%) and $4.44 (25%) in 1994 dollars.

The average wage rate for the Washington area can be calculated using the median household income, the number of work hours per year, and the average number of workers per household. The median household income is obtained from the Census and is always one year in arrears, e.g., the 1990 Census includes the 1989 median household income. According to the 1990 Census, the 1989 median household income for the Washington MSA was $46,884 in 1989 dollars (= $56,034 in 1994 dollars). Assuming 1,850 work hours per year and 1.705 workers per household, the average wage rate is calculated to be $14.86 in 1989 dollars, or $17.76 in 1994 dollars.

The formula used to compute value of time is

$$VOT = 0.60 * (B\_IVT / B\_cost)$$

where

VOT	is the calculated value of time (units of dollars per hour)
0.60	is a conversion factor to convert cents per minute into dollars per hour
B_IVT	is the coefficient estimate for the in-vehicle time term (units of 1/minutes)
B_cost	is the coefficient estimate for travel cost (units of 1/cents)

In the case of the HBO and NHB mode choice models, trip cost was included as the natural log of trip cost. This is because, when included simply as cost, the coefficient sign was positive. By contrast, when included as ln(cost), the coefficient sign is negative, as would be expected. The San Francisco Bay Area's Metropolitan Transportation Commission also uses the ln(cost) in all of its non-work mode choice models. The formula used to compute value of time when time is included as the ln(cost) is

$$VOT = 0.60 * (\text{Average trip cost}) * (B\_IVT / B\_cost)$$

where the average trip cost is 51.06 cents for HBO trips and 64.63 cents for NHB trips (1994 prices).

Model estimation: Selected models

Eight logit models were estimated:

- mhbw Main HBW
- mhbs Main HBS
- mhbo Main HBO
- mnhb Main NHB
- chbw Carpool occupancy HBW
- chbs Carpool occupancy HBS
- chbo Carpool occupancy HBO
- cnhb Carpool occupancy NHB

In general one would specify and estimate a series of candidate models for each final model. For example, one could estimate five candidate models for each final model, resulting in forty models that get estimated. For the Version 2/MINUTP model, over 80 candidate models were estimated. In this most recent work effort, we have done this estimation work several times before with comparable estimation data sets, so, in many cases, it was not necessary to estimate a series of candidate models for each final model, since such testing occurred in prior work. The estimation work was documented in a technical report mentioned earlier (Ref. 30).

Main models

Ten candidate models were tested for the HBW main model. Exhibit 6-9 summarizes the variables in each of these candidate models and shows statistics about each model, including the goodness of fit measure (rho squared), the calculated value of time, the ratio of out-of-vehicle travel time (OVTT) to in-vehicle travel time (IVTT), and the elasticity of demand with respect to fare.

Exhibit 6-9 HBW main model: candidate models and "best" model

	Models									
Variables	hbw 18	hbw 19	hbw 20	hbw 21	hbw 22	hbw 23	hbw 24	hbw 25	hbw 22f	hbw 25f
IVTT	x	x	x	x	x	x	x	x	x	x
OVTT (transit)	x	x	x	x	x	x	x	x	x	x
Cost	x	x	x	x	x	x	x	x	x	x
Auto ownership dummy: 0-veh HH	x	x	x	x	x	x	x	x	x	x
Auto ownership dummy: 1-veh HH	x	x	x	x	x	x	x	x	x	x
Auto ownership dummy: 2+veh HH	x	x	x	x	x	x	x	x	x	x
Drive-acc transit dummy: 1-veh HH	x	x	x	x	x	x	x	x	x	x
Drive-acc transit dummy: 2+veh HH	x	x	x	x	x	x	x	x	x	x
Land-use mix index, prod end	x	x	x	x	x	x	x	x	x	x
Land-use mix index, attr end	x	x	x	x	x	x	x	x	x	x
Metrorail use dummy		x						x		x
Short walk to short walk dummy	x	x	x				x			
Short walk to long walk dummy	x	x								
Long walk to short walk dummy	x	x	x	x						
Long walk to long walk dummy	x	x	x	x						
Short walk at origin dummy						x				
Long walk at origin dummy						x				
rho squared (wrt zero)	0.3100	0.3189	0.3098	0.3096	0.3092	0.3099	0.3092	0.3188	0.3092	0.3188
Value of time = 0.6 * (IVTT/cost)	$4.67	$3.24	$4.68	$4.70	$4.71	$4.68	$4.71	$3.22	$4.23	$3.32
OVTT / IVTT	1.81	1.73	1.83	1.94	1.87	1.80	1.90	1.78	2.50	2.50
Coefficients have logical signs?	yes	yes	yes	yes	yes	yes	no	yes	yes	yes
Coefficient magnitudes logical?	no	no	no	no	yes	no	yes	no	yes	yes
T-statistics >= 1.0?	yes	no	yes*	yes	yes	yes	no	yes	yes	yes*
Elasticity of demand wrt fare	-0.455	-0.532	-0.454	-0.449	-0.455	-0.455	-0.453	-0.533	-0.454	
Variables constrained in estimation	none	none	none	none	none	none	none	none	IVTT OVTT	OVTT
									best	

Notes:	25%	to	50%	Mean wage rate
Expected range for value of time	$4.44	to	$8.88	

* Although the t-stat on one or more of the "auto ownership dummy" variables was < 1.0, the "auto ownership dummy" coefficient values will be adjusted as part of the aggregate adjustment process, so the est. value and its t-stat are of little consequence.

Ref: v21d19McEstRes.xls, sum2

The rho squared of all eight candidate models was about 0.31. Some of the models had calculated values of time that fell outside the expected ranges (#19, 25, 25f) mentioned earlier in this chapter, so these models were dropped from further consideration. A model number ending in an “f” means that one or more of the coefficients were forced or constrained in the estimation. For example, one could force or constrain the ratio of two coefficients to be a certain value. The calculated VOT for model 22f ($4.23) was at the low end of the range, but it was deemed close enough to keep the model in consideration. As stated earlier, the conventional wisdom is that the ratio of the coefficients on out-of-vehicle travel time (OVTT) and in-vehicle travel time (IVTT) should be between 2 and 3. In our case, none of the candidate models had calculated OVTT/IVTT ratios fell within this expected range, except for models 22f and 25f. In model 25f, the OVTT coefficient was constrained to the value of negative 0.06623, so that the ratio of OVTT to IVTT would equal 2.5. In model 22f, both OVTT and IVTT were constrained to values such that the ratio of OVTT to IVTT would equal 2.5.

HBW main model 22f was judged to be the “best” of the candidate models because all the coefficients had logical signs (e.g., negatives on time and cost, etc.), all coefficients had logical magnitudes, all t-statistics were greater than or equal to 1.0, the value of time was acceptable,

and the elasticity of demand with respect to fare was no worse than any of the other estimated models. The elasticity of demand with respect to fare was -0.454, which means that a 10% increase in fare would likely result in a 4.5% decrease in demand for transit. The well-known rule-of-thumb for transit fare elasticity, the Simpson-Curtin Rule, states that the fare elasticity should be about –0.333. By this measure, our fare elasticities are a bit high. However according to the report *Traveler Response to Transportation System Changes* (Ref. 2, p. 239), the average fare elasticity for U.S. case studies is –0.41. Model 22f is shown in Exhibit 6-10.

Exhibit 6-10 HBW "main" mode choice model (#mhbw22f)

Utility				Alogit		
TR	DA	GR	Variable name	coeff name	Coeff.	T-stat
x	x	x	IVTT	IVTT	-0.03000	forced
x			OVTT	OVTT	-0.07500	forced
x	x	x	Cost	Cost	-0.00425	(-12.9)
	x		0-veh HH dummy	ve0dumda	-4.02108	(-15.4)
	x		1-veh HH dummy	ve1dumda	-0.55556	(-5.2)
	x		2+veh HH dummy	ve2dumda	0.45180	(4.9)
		x	0-veh HH dummy	ve0dumgr	-3.80648	(-17.9)
		x	1-veh HH dummy	ve1dumgr	-2.10187	(-17.5)
		x	2+veh HH dummy	ve2dumgr	-1.59014	(-15.3)
x*			1-veh HH & drv acc dummy	ve1autacc	-0.86263	(-5.8)
x*			2+veh HH & drv acc dummy	ve2autacc	-0.85906	(-7.3)
x			Land-use mix index, prod end	LUmixiTR	4.449E-05	(4.0)
	x		Land-use mix index, attr end	LUmixjDA	-2.518E-05	(-4.5)
			Value of time**		$4.23	
			OVTT / IVTT		2.50	
			No. of obs.		5,780	
			LL(0)		-5,897	
			Max. LL		-4,074	
			Rho-sq wrt zero		0.3092	
			Rho-sq wrt consts		0.1757	

Notes:
* This variable relates to only drive-access transit trips.
** For the work purpose, one would expect a VOT between $4.44 and $8.88 in 1994 dollars.
VOT = 0.60 * (IVTT/Cost), where 0.60 converts cents/min to dollars/hour

Ref: v21d19McEstRes.xls.xls

The independent variables included in the selected HBW "main" mode choice model are

- IVTT (In-vehicle travel time). For drive alone and group ride, this variable includes the attraction-end highway terminal time, which is mainly the time required to park a car. For transit, this variable includes the sum of the Metrorail IVTT (if any), non-Metrorail IVTT (such as bus, if any), and drive-access time to transit (if any).
- OVTT (Out-of-vehicle travel time). For transit, this includes walk time (for access and transfers) and waiting time (initial and transfer). For drive alone and group ride, the modeling process assumes there is no out-of-vehicle travel time component.
- Cost. For drive alone and group ride, cost is the sum of the operating costs (9.1 cents, in 1994 prices, times the highway distance), the parking cost, and the toll. For transit, cost is simply the fare.

- Three vehicle ownership dummy variables.[2] These are included in the DA and GR utility equations, giving rise to six coefficient values.
  - 0-veh HH dummy = 1 if the household has zero vehicles available; = 0 otherwise.
  - 1-veh HH dummy = 1 if the household has one vehicle available; = 0 otherwise.
  - 2+veh HH dummy = 1 if the household has two or more vehicles available; = 0 otherwise.
- Two auto-access bias terms included in the TR utility equation
  - 1-veh HH & drive-access dummy = 1 if the household has one vehicle and used auto to access transit; = 0 otherwise.
  - 2+veh HH & drive-access dummy = 1 if the household has two or more vehicles and used auto to access transit; = 0 otherwise.
- Two land-use mix variables, one related to the production zone and one related to the attraction zone of a trip. These two variables are used in both the transit equation and the drive-alone equation, giving rise to four coefficients. The land-use mix variable is defined as

  $$\text{Land use mix index} = (\text{hhpopd} * \text{nempd}) / (\text{hhpopd} + \text{nempd})$$

  where hhpopd = Household population density
  nempd = Normalized employment density

  This is the same definition used in the current Portland, Oregon travel model set (Ref. 33, p. 7).

Note that HBW main model 22f does not include any of the short-walk/long-walk dummy variables. This is because the t-stats of these coefficients were less than 1.0 or the magnitudes of these coefficients were illogical, or both.

[2] In an econometric model, a dummy variable is a variable that marks or encodes a particular attribute. A dummy variable has the value zero or one for each observation, e.g. 1 if the household is a 1-vehicle household and 0 if the household is not a 1-vehicle household. These are also referred to as indicator variables or binary variables.

Six candidate models were tested for the HBS main model (See Exhibit 6-11). In HBS main model 12f, the value for the IVTT coefficient was forced to a value, so that the ratio OVTT/IVTT would be about 2.5. HBS main model 12f was estimated twice, first with a forced IVTT value of -0.01400, which yielded an OVTT/IVTT ratio of 1.63, then with a forced IVTT value of -0.00912, which yielded an OVTT/IVTT ratio of 2.67.

Exhibit 6-11 HBS main model: candidate models and "best" model

	Models					
Variables	hbs 10	hbs 11	hbs 12	hbs 13	hbs 12f	hbs 12f
Time	x	x		x		
IVTT			x		x	x
OVTT (transit)			x		x	x
Cost	x	x	x	x	x	x
Auto ownership dummy: 0-veh HH	x	x	x	x	x	x
Auto ownership dummy: 1-veh HH	x	x	x	x	x	x
Auto ownership dummy: 2+veh HH	x	x	x	x	x	x
Drive-acc transit dummy: 1-veh HH						
Drive-acc transit dummy: 2+veh HH						
Land-use mix index, prod end	x	x	x	x	x	x
Land-use mix index, attr end	x	x	x	x	x	x
Metrorail use dummy	x		x	x	x	x
Short walk to short walk dummy				x		
Short walk to long walk dummy						
Long walk to short walk dummy						
Long walk to long walk dummy						
Short walk at origin dummy						
Long walk at origin dummy						
rho squared (wrt zero)	0.2568	0.2554	0.2574	0.2569	0.2574	0.2574
Value of time = 0.6 * (IVTT/cost)	$1.28	$2.55	-$2.77	$1.23	$2.03	$1.31
OVTT / IVTT	n/a	n/a	-1.77	n/a	1.63	2.67
Coefficients have logical signs?	yes	yes	no	yes	yes	yes
Coefficient magnitudes logical?	yes	yes	yes	yes	yes	yes
T-statistics >= 1.0?	no	yes	yes	no	yes	yes
Elasticity of demand wrt fare	-0.300	-0.280	-0.315	-0.302	-0.296	-0.299
Variables constrained in estimation	none	none	none	none	IVTT	IVTT
						best
IVTT, forced					-0.0140	-0.0091

Notes:
Expected range for value of time: 12.5% to 25% Mean wage rate: $1.11 to $4.44

Ref: v21d19McEstRes.xls, sum2

The rho squared of the four candidate models was about 0.26. Although there are fewer rules of thumb for non-work trips, it is generally agreed that the value of time should be equal to about 25% to 50% of the HBW VOT (i.e., 6.25% to 25% of the average wage rate), which would come

to $1.11 to $4.44 in 1994 dollars. Model 12f (IVTT = -0.0912) was judged to be the "best" of the six candidate models because it had an acceptable VOT value, all the coefficients had logical signs, all coefficients had logical magnitudes, all t-statistics were greater than or equal to 1.0, and the ratio of OVTT to IVTT was close to 2.5. Model 12f is shown in Exhibit 6-12.

Exhibit 6-12 HBS "main" mode choice model (#mhbs12f)

Utility				Alogit		
TR	DA	GR	Variable name	coeff name	Coeff.	T-stat
x	x	x	IVTT	IVTT	-0.00912	forced
x			OVTT	OVTT	-0.02432	(-1.4)
x	x	x	Cost	Cost	-0.00416	(-3.6)
	x		0-veh HH dummy	ve0dumda	-3.03705	(-4.4)
	x		1-veh HH dummy	ve1dumda	2.27243	(4.5)
	x		2+veh HH dummy	ve2dumda	3.75073	(6.6)
		x	0-veh HH dummy	ve0dumgr	-0.88793	(-1.8)
		x	1-veh HH dummy	ve1dumgr	1.92869	(3.8)
		x	2+veh HH dummy	ve2dumgr	3.50703	(6.1)
x			Land-use mix index, attr end	LUmixjTR	4.869E-05	(1.6)
	x		Land-use mix index, prod end	LUmixiDA	2.627E-05	(1.4)
	x		Land-use mix index, attr end	LUmixjDA	2.438E-05	(1.9)
x			Metrorail use dummy	metrodum	0.84404	(2.5)
			Value of time**		$1.31	
			OVTT / IVTT		2.67	
			No. of obs.		2,755	
			LL(0)		-2,682	
			Max. LL		-1,992	
			Rho-sq wrt zero		0.2574	
			Rho-sq wrt consts		0.0702	

Notes:

** For non-work trips, one would expect a VOT between $1.11 and $4.44 in 1994 dollars.
VOT = 0.60 * (IVTT/Cost), where 0.60 converts cents/min to dollars/hour

Ref: v21d19McEstRes.xls

This model includes a Metrorail use dummy variable, which is equal to 1 in cases where Metrorail is available for 25% or more of the IVTT for available paths. The Metrorail dummy variable was included in the three non-work mode choice models (HBS, HBO, and NHB). The best HBS main model does not include any of the short-walk/long-walk dummy variables. When the "short-walk-to-short-walk" dummy variable was included in HBS model 13, its t-stat was less than 1.0.

Eight candidate models were tested for the HBO main model (See Exhibit 6-13).

Exhibit 6-13 HBO main model: candidate models and "best" model

	Models							
Variables	hbo 1	hbo 9	hbo 10	hbo 11	hbo 1f	hbo 12	hbo 11f	hbo 11f
Alternative-specific constant(s)	x				x			
Time		x	x					
IVTT	x			x	x	x	x	x
OVTT (transit)	x			x	x	x	x	x
Cost	x				x	x		
Natural log of cost		x	x	x			x	x
Auto ownership dummy: 0-veh HH		x	x	x		x	x	x
Auto ownership dummy: 1-veh HH		x	x	x		x	x	x
Auto ownership dummy: 2+veh HH		x	x	x		x	x	x
Drive-acc transit dummy: 1-veh HH								
Drive-acc transit dummy: 2+veh HH								
Land-use mix index, prod end		x	x	x		x	x	x
Land-use mix index, attr end		x	x	x		x	x	x
Metrorail use dummy		x	x	x		x	x	x
Short walk to short walk dummy		x	x	x		x	x	x
Short walk to long walk dummy								
Long walk to short walk dummy		x						
Long walk to long walk dummy								
Short walk at origin dummy								
Long walk at origin dummy								
rho squared (wrt zero)	0.1705	0.2200	0.2200	0.2218	0.2132	0.2132	0.2132	0.2132
Value of time = 0.6 * (IVTT/cost)	$6.02	$0.99	$0.99	-$0.19	-$14.08	-$0.98	$0.97	$0.74
OVTT / IVTT	-6.73	n/a	n/a	-12.54	1.90	13.66	1.93	2.62
Coefficients have logical signs?	no	yes	yes	no	no	no	yes	yes
Coefficient magnitudes logical?	no	yes	yes	no	no	no	yes	yes
T-statistics >= 1.0?	yes	no	yes	no	yes	no	yes	yes*
Elasticity of demand wrt fare	0.118				0.134	0.215		
Variables constrained in estimation	none	none	none	none	IVTT	none	IVTT	IVTT
								best
IVTT, forced							-0.0247	-0.0190
Notes:	12.5%	to	25%	Mean wage rate				
Expected range for value of time	$1.11	to	$4.44					

Notes:

* The t-stat on one or more of the "auto ownership dummy" variables was < 1.0. This can be "ignored" for the time being, since the values of the "auto ownership dummy" coefficients will be adjusted as part of the aggregate adjustment process.

For models 009, 010, and 011, "Elasticity of demand wrt Ln(fare)"

Ref: v21d19McEstRes.xls, sum2

The rho squared values ranged from 0.17 to 0.22 for the eight candidate HBO main models tested. The first model tested, mhbo01, included two alternative-specific constants, IVTT, OVTT, and cost. The coefficient on cost came out positive, which is the wrong sign. Consequently, for five of the eight HBO main candidate models estimated, we used the natural

log of cost (LnCost).[3] The best of the four candidate models was judged to be mhbo11f, which is shown in Exhibit 6-14.

Exhibit 6-14 HBO "main" mode choice model (#mhbo11f)

Utility				Alogit		
TR	DA	GR	Variable name	coeff name	Coeff.	T-stat
x	x	x	IVTT	IVTT	-0.01902	forced
x			OVTT	OVTT	-0.04991	(-6.6)
x	x	x	LnCost	LnCost	-0.78384	(-12.0)
	x		0-veh HH dummy	ve0dumda	-3.78769	(-10.0)
	x		1-veh HH dummy	ve1dumda	0.70133	(2.8)
	x		2+veh HH dummy	ve2dumda	1.15877	(4.9)
		x	0-veh HH dummy	ve0dumgr	-2.62517	(-8.0)
		x	1-veh HH dummy	ve1dumgr	0.18926	(0.7)
		x	2+veh HH dummy	ve2dumgr	0.93828	(3.5)
x			Land-use mix index, prod end	LUmixiTR	5.194E-05	(3.3)
x			Land-use mix index, attr end	LUmixjTR	2.307E-05	(2.0)
	x		Land-use mix index, prod end	LUmixiDA	2.585E-05	(2.7)
	x		Land-use mix index, attr end	LUmixjDA	2.171E-05	(3.4)
x			Metrorail use dummy	fmetdum	0.69708	(4.8)
x			Short walk to short walk dummy	SWtoSWmkt	0.41346	(3.0)
			Value of time**		$0.74	
			OVTT / IVTT		2.62	
			No. of obs.		8,511	
			LL(0)		-8,217	
			Max. LL		-6,465	
			Rho-sq wrt zero		0.2132	
			Rho-sq wrt consts		0.0591	
			Average cost, cents/trip, 1994 $		51.06	

Notes:
** For the non-work purpose, one would expect a VOT between $1.11 and $4.44 in 1994 dollars.
VOT w/ ln(cost) = 0.60 * (ave. trip cost) * (Time/Cost).
Average trip cost = 51.06 cents/trip, 1994 prices.

Ref: v21d19McEstRes.xls

This model and the NHB main model do not use the variable "cost," but instead use the natural log of cost (LnCost). This was tried because models incorporating the straight cost variable resulted in cost coefficients with the wrong sign (positive). The calculated VOT for HBO was $0.74 in 1994 dollars.

[3] In its latest model set (BAYCAST-90), The Metropolitan Transportation Commission (MTC) in Oakland, California found that it needed to use Ln(Cost) in all of the non-work mode choice models.

Five candidate models were tested for the NHB main model (See Exhibit 6-15).

Exhibit 6-15 NHB main model: candidate models and "best" model

	Models				
Variables	nhb 1	nhb 9	nhb 10	nhb 11	nhb 10f
Alternative-specific constant(s)	x	x	x	x	x
Time				x	
IVTT	x	x	x		x
OVTT (transit)	x	x	x		x
Cost	x				
Natural log of cost		x	x	x	x
Auto ownership dummy: 0-veh HH					
Auto ownership dummy: 1-veh HH					
Auto ownership dummy: 2+veh HH					
Drive-acc transit dummy: 1-veh HH					
Drive-acc transit dummy: 2+veh HH					
Land-use mix index, prod end		x (2)	x (1)	x (1)	x (1)
Land-use mix index, attr end		x (2)	x (2)	x (2)	x (2)
Metrorail use dummy		x	x	x	x
Short walk to short walk dummy		x	x	x	x
Short walk to long walk dummy					
Long walk to short walk dummy					
Long walk to long walk dummy					
Short walk at origin dummy					
Long walk at origin dummy					
rho squared (wrt zero)	0.1503	0.1794	0.1794	0.1767	0.1794
Value of time = 0.6 * (IVTT/cost)	-$1.657	$0.44	$0.44	$1.81	$1.46
OVTT / IVTT	6.32	7.86	7.88	n/a	2.07
Coefficients have logical signs?	no	yes	yes	yes	yes
Coefficient magnitudes logical?	no	no	no	yes	yes
T-statistics >= 1.0?	no	no	yes	yes	yes*
Elasticity of demand wrt fare	0.033				
Variables constrained in estimation	none	none	none	none	IVTT
					best

Notes: 12.5% to 25% Mean wage rate
Expected range for value of time $1.11 to $4.44

Model mnhb09 has four land-use mix variables (2 in transit utility equation and 2 in DA), but models 10 and 11 have three land-use mix variables (1 in transit utility equation and 2 in DA).
For models 009, 010, and 011, "Elasticity of demand wrt Ln(fare)"

Ref: v21d19McEstRes.xls, sum2

As was the case for the HBO main mode choice model, for the NHB main mode choice model, the coefficient estimated for cost had the wrong sign (positive), so ln(cost) was used for the

remaining all but one of the candidate NHB main mode choice models. Model mnhb10f was selected as the best of the four and is shown in Exhibit 6-16.

Exhibit 6-16 NHB "main" mode choice model (#mnhb10f)

Utility				Alogit		
TR	DA	GR	Variable name	coeff name	Coeff.	T-stat
	x		Constant	DAconst	1.17252	(4.2)
		x	Constant	GRconst	0.22792	(0.8)
x	x	x	IVTT	IVTT	-0.03242	forced
x			OVTT	OVTT	-0.06695	(-9.5)
x	x	x	LnCost	LnCost	-0.86043	(-12.4)
x			Land-use mix index, attr end	TRLUmixj	1.659E-05	(1.6)
	x		Land-use mix index, prod end	DALUmixi	1.369E-05	(2.3)
	x		Land-use mix index, attr end	DALUmixj	1.300E-05	(1.9)
x			Metrorail use dummy	Metrodum	1.47447	(11.5)
x			Short walk to short walk dummy	SWtoSWmkt	0.76998	(3.8)
			Value of time**		$1.46	
			OVTT / IVTT		2.07	
			No. of obs.		7,866	
			LL(0)		-7,453	
			Max. LL		-6,116	
			Rho-sq wrt zero		0.1794	
			Rho-sq wrt consts		0.0575	
			Average cost, cents/trip, 1994 $		64.63	

Notes:
** For the non-work purpose, one would expect a VOT between $1.11 and $4.44 in 1994 dollars.
VOT w/ ln(cost) = 0.60 * (ave. trip cost) * (Time/Cost).
Average trip cost = 64.63 cents/trip, 1994 prices.

Ref: v21d19McEstRes.xls

NHB model 10f has a value of time of $1.46, which is within the expected range, and has an OVTT/IVTT ratio of 2.07, which is also within the expected range of 2 to 3.

Exhibit 6-21 presents a summary of the "best" main and carpool occupancy mode choice models for the Version 2.1 D Draft #50 mode choice model.

Carpool occupancy models

The four carpool occupancy models that were picked as the best from those estimated are shown in Exhibit 6-17, Exhibit 6-18, Exhibit 6-19, and Exhibit 6-20. A summary of these four models is shown in Exhibit 6-21. The rho squared values ranged from 0.12 for the HBO carpool occupancy model to 0.29 for the HBW carpool occupancy model. The HBW carpool occupancy model has the most terms (opcost, parkcost, toll, timesaved, and four vehicle ownership dummies), but it is also the only one of the four that does not include IVTT.

Exhibit 6-17 HBW carpool occupancy model (#chbw07b)

Utility 2	Utility 3	Utility 4+	Variable name	Alogit coeff name	Coeff.	T-stat
x	x	x	Operating cost	opcost	-0.01124	(-2.5)
x	x	x	Parking cost	pkcost	-0.02318	(-7.2)
x	x	x	Toll	toll	-0.05077	(-2.4)
	x	x	Time saved by HOV3+ relat. to HOV2	timsav	0.03611	(6.7)
	x		1-vehicle HH dummy	Oc31vdum	-1.47162	(-10.2)
	x		2+vehicle HH dummy	Oc32vdum	-1.88085	(-16.3)
		x	1-vehicle HH dummy	Oc41vdum	-3.04973	(-12.3)
		x	2+vehicle HH dummy	Oc42vdum	-2.54494	(-14.7)
			No. of obs.		1,317	
			LL(0)		-1,447	
			Max. LL		-1,028	
			Rho-sq wrt zero		0.2892	
			Rho-sq wrt consts		0.0656	

Ref: v21d19McEstRes.xls

Exhibit 6-18 HBS carpool occupancy model (#chbs08)

Utility 2	Utility 3	Utility 4+	Variable name	Alogit coeff name	Coeff.	T-stat
x	x	x	IVTT	IVTT	-0.45633	(-2.1)
	x		1-vehicle HH dummy	Oc31vdum	-0.92201	(-3.5)
	x		2+vehicle HH dummy	Oc32vdum	-0.48966	(-2.1)
		x	1-vehicle HH dummy	Oc41vdum	-1.51854	(-3.1)
		x	2+vehicle HH dummy	Oc42vdum	-0.84071	(-1.9)
			No. of obs.		1,503	
			LL(0)		-1,651	
			Max. LL		-1,263	
			Rho-sq wrt zero		0.2349	
			Rho-sq wrt consts		0.0073	

Ref: v21d19McEstRes.xls

Exhibit 6-19 HBO carpool occupancy model (#chbo08)

Utility 2	Utility 3	Utility 4+	Variable name	Alogit coeff name	Coeff.	T-stat
x	x	x	IVTT	IVTT	-0.68530	(-16.4)
	x		1-vehicle HH dummy	Oc31vdum	-0.31756	(-4.1)
	x		2+vehicle HH dummy	Oc32vdum	-0.15151	(-2.8)
		x	2+vehicle HH dummy	Oc42vdum	0.21854	(2.4)
			No. of obs.		5,848	
			LL(0)		-6,425	
			Max. LL		-5,644	
			Rho-sq wrt zero		0.1214	
			Rho-sq wrt consts		0.0001	

Ref: v21d19McEstRes.xls

Exhibit 6-20 NHB carpool occupancy model (#cnhb11)

Utility 2	Utility 3	Utility 4+	Variable name	Alogit coeff name	Coeff.	T-stat
	x		Constant	Const3oc	-0.92477	(-11.5)
		x	Constant	Const4oc	-1.41003	(-17.6)
	x	x	IVTT	IVTT	-0.00709	(-2.2)
x	x		Highway distance	hwydst	-0.00187	(-2.9)
			No. of obs.		3,225	
			LL(0)		-3,543	
			Max. LL		-2,933	
			Rho-sq wrt zero		0.1723	
			Rho-sq wrt consts		0.0015	

Ref: v21d19McEstRes.xls

Exhibit 6-21 Summary of the "best" main and carpool occupancy models for the Version 2.1 D, Draft #50 travel model

Best "main" mode choice models to date

Model Name	No.	Rho squ	Est VOT	Expected VOT	Est OVT/IVT	Expected OVT/IVT	Variables								Constrained Variables	
hbw main	22f	0.3092	$4.23	$4.44 to $8.88	2.50	2 to 3	IVTT	OVTT	cost	veh own (6)	drv acc (2)	LU mx (2)			IVTT	OVTT
hbs main	12f	0.2574	$1.31	$1.11 to $4.44	2.67	2 to 3	IVTT	OVTT	cost	veh own (6)		LU mx (3)	Mrail dum		IVTT	
hbo main	11f	0.2132	$0.74	$1.11 to $4.44	2.62	2 to 3	IVTT	OVTT	ln(cost)	veh own (6)		LU mx (4)	Mrail dum	shshwlk	IVTT	
nhb main	10f	0.1794	$1.46	$1.11 to $4.44	2.07	2 to 3	IVTT	OVTT	ln(cost)	consts (2)		LU mx (3)	Mrail dum	shshwlk	IVTT	

Best "carpool occupancy" models to date

Model Name	No.	Rho squ	Variables						
hbw cpoc	07b	0.2892			opcost	parkcost	toll	timesaved	veh own (4)
hbs cpoc	08	0.2349		IVTT					veh own (4)
hbo cpoc	08	0.1214		IVTT					veh own (3)
nhb cpoc	11	0.1723	const(2)	IVTT	hwydist				

Ref: v21d19McEstRes.xls

6.3 *Region-Level and Jurisdiction-Level Validations*

The disaggregate estimation process described above results in four mode choice models, each comprised of two multinomial logit models. Each of the four models is a *disaggregate* model, based on person-trip-level data. In application, the models will be applied at an *aggregate* (zone interchange) level. Results are usually summed to the jurisdiction interchange level. The region-level and jurisdiction-level validations ensure that the model can replicate region-level and jurisdiction-level control totals.

There are two phases to the mode choice model validation process. The first phase, known as the "region-level validation," involves adjusting the alternative-specific constants, until the model matches region-level control totals. The second phase, known as the "jurisdiction-level validation," involves estimating a series of jurisdiction-level adjustment factors, known as the transit percent adjustment factors (TPAFs) and the car occupancy adjustment factors (COAFs). The region-level validation was conducted using a surveyed (observed) person trip table as the input to the mode choice process. By contrast, the jurisdiction-level validation was conducted using a simulated (estimated) person trip table.

Region-Level Validation

The region-level validation affects the four "main" models, but not the four carpool occupancy models. Specifically, the following alternative-specific constants are typically adjusted:

1) Home-based purposes:
   a) Any or all of the six "auto ownership bias constants."
      i) Drive-alone, 0-vehicle household dummy variable (UPARMS 53);
      ii) Drive-alone, 1-vehicle household dummy variable (UPARMS 54);
      iii) Drive-alone, 2+vehicle household dummy variable (UPARMS 55);
      iv) Group ride, 0-vehicle household dummy variable (UPARMS 63);
      v) Group ride, 1-vehicle household dummy variable (UPARMS 64);
      vi) Group ride, 2+vehicle household dummy variable (UPARMS 65);
   b) Any or all of the three "transit auto connect bias constants" (UPARMS 43-45 in the transit equation).
2) Non-home-based purpose:
   a) One or both of the "mode specific constants": drive-alone constant (UPARM 53) and/or group-ride constant (UPARM 63).
   b) The "transit auto connect bias constant" (UPARM 43 in the transit equation).

The final set of adjusted mode choice models is shown in Exhibit 6-22 through Exhibit 6-25. The COG mode choice model is applied using the Fortran program COGMC.EXE (Allen 1999). In order to run this program, one must develop a "setup" file, which is a text file containing key inputs, such as the coefficient values. The coefficient values are stored in the setup file using "user parameters" or UPARMS, which are numbered 1 to 100. Exhibit 6-22 through Exhibit 6-25 indicate the UPARMS number or variable where each coefficient value should be stored. For example, the estimated coefficient value for IVTT is stored in UPARMS 34, 35, 42, 47, 48, 57, and 58 for the HBW mode choice model.

The adjusted HBW mode choice model is shown in Exhibit 6-22. For this model, all six of the auto ownership bias constants were adjusted from their estimated values. Consequently, the corresponding t-stat. values have been erased from the table, since they are no longer applicable. Similarly, the two transit auto connect bias constants that were estimated have been adjusted and a third transit auto connect bias constant was added. In a similar manner, these same nine constants were adjusted in the HBS and HBO models also (see Exhibit 6-23 and Exhibit 6-24). As for the NHB mode choice model, the utility function includes fewer terms -- only three were adjusted: DA constant, GR constant, and the single transit auto connect bias constant.

Exhibit 6-22 Final adjusted HBW mode choice model (both main model and carpool occupancy model)

Utility TR	Utility DA	Utility GR	Variable name	Alogit coeff name	Coeff.	T-stat	UPARMS No.
x	x	x	IVTT	IVTT	-0.03000	forced	34,35,42,47,48,57,58
x			OVTT	OVTT	-0.07500	forced	31-33
x	x	x	Cost	Cost	-0.00425	(-12.9)	40,49-51,59-61
	x		0-veh HH dummy	ve0dumda	-4.83100		53
	x		1-veh HH dummy	ve1dumda	-0.85460		54
	x		2+veh HH dummy	ve2dumda	0.08240		55
		x	0-veh HH dummy	ve0dumgr	-4.61750		63
		x	1-veh HH dummy	ve1dumgr	-2.40710		64
		x	2+veh HH dummy	ve2dumgr	-1.89790		65
x*			0-veh HH & drv acc dummy		-2.04990		43
x*			1-veh HH & drv acc dummy	ve1autacc	-0.58760		44
x*			2+veh HH & drv acc dummy	ve2autacc	-0.35710		45
x			Land-use mix index, prod end	LUmixiTR	4.449E-05	(4.0)	46
	x		Land-use mix index, attr end	LUmixjDA	-2.518E-05	(-4.5)	37
			Value of time**		$4.23		
			OVTT / IVTT		2.50		
			No. of obs.		5,780		
			LL(0)		-5,897		
			Max. LL		-4,074		
			Rho-sq wrt zero		0.3092		
			Rho-sq wrt consts		0.1757		

Notes:

* This variable relates to only drive-access transit trips.

** For the work purpose, one would expect a VOT between $4.44 and $8.88 in 1994 dollars.
VOT = 0.60 * (IVTT/Cost), where 0.60 converts cents/min to dollars/hour

Utility 2	Utility 3	Utility 4+	Variable name	Alogit coeff name	Coeff.	T-stat	UPARMS No.
x	x	x	Operating cost	opcost	-0.01124	(-2.5)	69,75,85
x	x	x	Parking cost	pkcost	-0.02318	(-7.2)	70,76,86
x	x	x	Toll	toll	-0.05077	(-2.4)	71,77,87
	x	x	Time saved by HOV3+ relat. to HOV2	timsav	0.03611	(6.7)	98
	x		1-vehicle HH dummy	Oc31vdum	-1.47162	(-10.2)	80
	x		2+vehicle HH dummy	Oc32vdum	-1.88085	(-16.3)	81
		x	1-vehicle HH dummy	Oc41vdum	-3.04973	(-12.3)	90
		x	2+vehicle HH dummy	Oc42vdum	-2.54494	(-14.7)	91
			No. of obs.		1,317		
			LL(0)		-1,447		
			Max. LL		-1,028		
			Rho-sq wrt zero		0.2892		
			Rho-sq wrt consts		0.0656		

Ref: adj_dab_mb.xls, final

Exhibit 6-23 Final adjusted HBS mode choice model (both main model and carpool occupancy model)

Utility TR	Utility DA	Utility GR	Variable name	Alogit coeff name	Coeff.	T-stat	UPARMS No.
x	x	x	IVTT	IVTT	-0.00912	forced	34,35,42,47,48,57,58
x			OVTT	OVTT	-0.02432	(-1.4)	31-33
x	x	x	Cost	Cost	-0.00416	(-3.6)	40,49-51,59-61
	x		0-veh HH dummy	ve0dumda	-3.03700		53
	x		1-veh HH dummy	ve1dumda	2.27200		54
	x		2+veh HH dummy	ve2dumda	3.75100		55
		x	0-veh HH dummy	ve0dumgr	-0.88800		63
		x	1-veh HH dummy	ve1dumgr	1.92900		64
		x	2+veh HH dummy	ve2dumgr	3.50700		65
x*			0-veh HH & drv acc dummy		-2.90000		43
x*			1-veh HH & drv acc dummy		0.00000		44
x*			2+veh HH & drv acc dummy		2.00000		45
x			Land-use mix index, attr end	LUmixjTR	4.869E-05	(1.6)	56
	x		Land-use mix index, prod end	LUmixiDA	2.627E-05	(1.4)	36
	x		Land-use mix index, attr end	LUmixjDA	2.438E-05	(1.9)	37
x			Metrorail use dummy	metrodum	0.84404	(2.5)	99
			Value of time**		$1.31		
			OVTT / IVTT		2.67		
			No. of obs.		2,755		
			LL(0)		-2,682		
			Max. LL		-1,992		
			Rho-sq wrt zero		0.2574		
			Rho-sq wrt consts		0.0702		

Notes:

* This variable relates to only drive-access transit trips.

** For non-work trips, one would expect a VOT between $1.11 and $4.44 in 1994 dollars.
VOT = 0.60 * (IVTT/Cost), where 0.60 converts cents/min to dollars/hour

Utility 2	Utility 3	Utility 4+	Variable name	Alogit coeff name	Coeff.	T-stat	UPARMS No.
x	x	x	IVTT	IVTT	-0.45633	(-2.1)	67,68,73,74,83,84
	x		1-vehicle HH dummy	Oc31vdum	-0.92201	(-3.5)	80
	x		2+vehicle HH dummy	Oc32vdum	-0.48966	(-2.1)	81
		x	1-vehicle HH dummy	Oc41vdum	-1.51854	(-3.1)	90
		x	2+vehicle HH dummy	Oc42vdum	-0.84071	(-1.9)	91
			No. of obs.		1,503		
			LL(0)		-1,651		
			Max. LL		-1,263		
			Rho-sq wrt zero		0.2349		
			Rho-sq wrt consts		0.0073		

Ref: adj_dab_mb.xls, final

Exhibit 6-24 Final adjusted HBO mode choice model (both main model and carpool occupancy model)

Utility				Alogit			UPARMS
TR	DA	GR	Variable name	coeff name	Coeff.	T-stat	No.
x	x	x	IVTT	IVTT	-0.01902	forced	34,35,42,47,48,57,58
x			OVTT	OVTT	-0.04991	(-6.6)	31-33
x	x	x	LnCost	LnCost	-0.78384	(-12.0)	66,82
	x		0-veh HH dummy	ve0dumda	-4.35730		53
	x		1-veh HH dummy	ve1dumda	0.00470		54
	x		2+veh HH dummy	ve2dumda	0.31110		55
		x	0-veh HH dummy	ve0dumgr	-3.19380		63
		x	1-veh HH dummy	ve1dumgr	-0.50410		64
		x	2+veh HH dummy	ve2dumgr	0.04990		65
x*			0-veh HH & drv acc dummy		-2.90000		43
x*			1-veh HH & drv acc dummy		-1.10000		44
x*			2+veh HH & drv acc dummy		-0.65000		45
x			Land-use mix index, prod end	LUmixiTR	5.194E-05	(3.3)	46
x			Land-use mix index, attr end	LUmixjTR	2.307E-05	(2.0)	56
	x		Land-use mix index, prod end	LUmixiDA	2.585E-05	(2.7)	36
	x		Land-use mix index, attr end	LUmixjDA	2.171E-05	(3.4)	37
x			Metrorail use dummy	fmetdum	0.69708	(4.8)	99
x			Short walk to short walk dummy	SWtoSWmkt	0.41346	(3.0)	92
			Value of time**		$0.74		
			OVTT / IVTT		2.62		
			No. of obs.		8,511		
			LL(0)		-8,217		
			Max. LL		-6,465		
			Rho-sq wrt zero		0.2132		
			Rho-sq wrt consts		0.0591		
			Average cost, cents/trip, 1994 $		51.06		

Notes:

* This variable relates to only drive-access transit trips.

** For the non-work purpose, one would expect a VOT between $1.11 and $4.44 in 1994 dollars.
VOT w/ ln(cost) = 0.60 * (ave. trip cost) * (Time/Cost).

Utility 2	Utility 3	Utility 4+	Variable name	Alogit coeff name	Coeff.	T-stat	UPARMS No.
x	x	x	IVTT	IVTT	-0.68530	(-16.4)	67,68,73,74,83,84
	x		1-vehicle HH dummy	Oc31vdum	-0.31756	(-4.1)	80
	x		2+vehicle HH dummy	Oc32vdum	-0.15151	(-2.8)	81
		x	2+vehicle HH dummy	Oc42vdum	0.21854	(2.4)	91
			No. of obs.		5,848		
			LL(0)		-6,425		
			Max. LL		-5,644		
			Rho-sq wrt zero		0.1214		
			Rho-sq wrt consts		0.0001		

Ref: adj_dab_mb.xls, final

Exhibit 6-25 Final adjusted NHB mode choice model (both main model and carpool occupancy model)

Utility TR	Utility DA	Utility GR	Variable name	Alogit coeff name	Coeff.	T-stat	UPARMS No.
	x		Constant	DAconst	0.85410		53
		x	Constant	GRconst	-0.07600		63
x*			Drive-access transit dummy		-1.40000		43
x	x	x	IVTT	IVTT	-0.03242	forced	34,35,42,47,48,57,58
x			OVTT	OVTT	-0.06695	(-9.5)	31-33
x	x	x	LnCost	LnCost	-0.86043	(-12.4)	66,82
x			Land-use mix index, attr end	TRLUmixj	1.659E-05	(1.6)	56
	x		Land-use mix index, prod end	DALUmixi	1.369E-05	(2.3)	36
	x		Land-use mix index, attr end	DALUmixj	1.300E-05	(1.9)	37
x			Metrorail use dummy	Metrodum	1.47447	(11.5)	99
x			Short walk to short walk dummy	SWtoSWmkt	0.76998	(3.8)	92
			Value of time**		$1.46		
			OVTT / IVTT		2.07		
			No. of obs.		7,866		
			LL(0)		-7,453		
			Max. LL		-6,116		
			Rho-sq wrt zero		0.1794		
			Rho-sq wrt consts		0.0575		
			Average cost, cents/trip, 1994 $		64.63		

Notes:

* This variable relates to only drive-access transit trips.

** For the non-work purpose, one would expect a VOT between $1.11 and $4.44 in 1994 dollars.
VOT w/ ln(cost) = 0.60 * (ave. trip cost) * (Time/Cost).

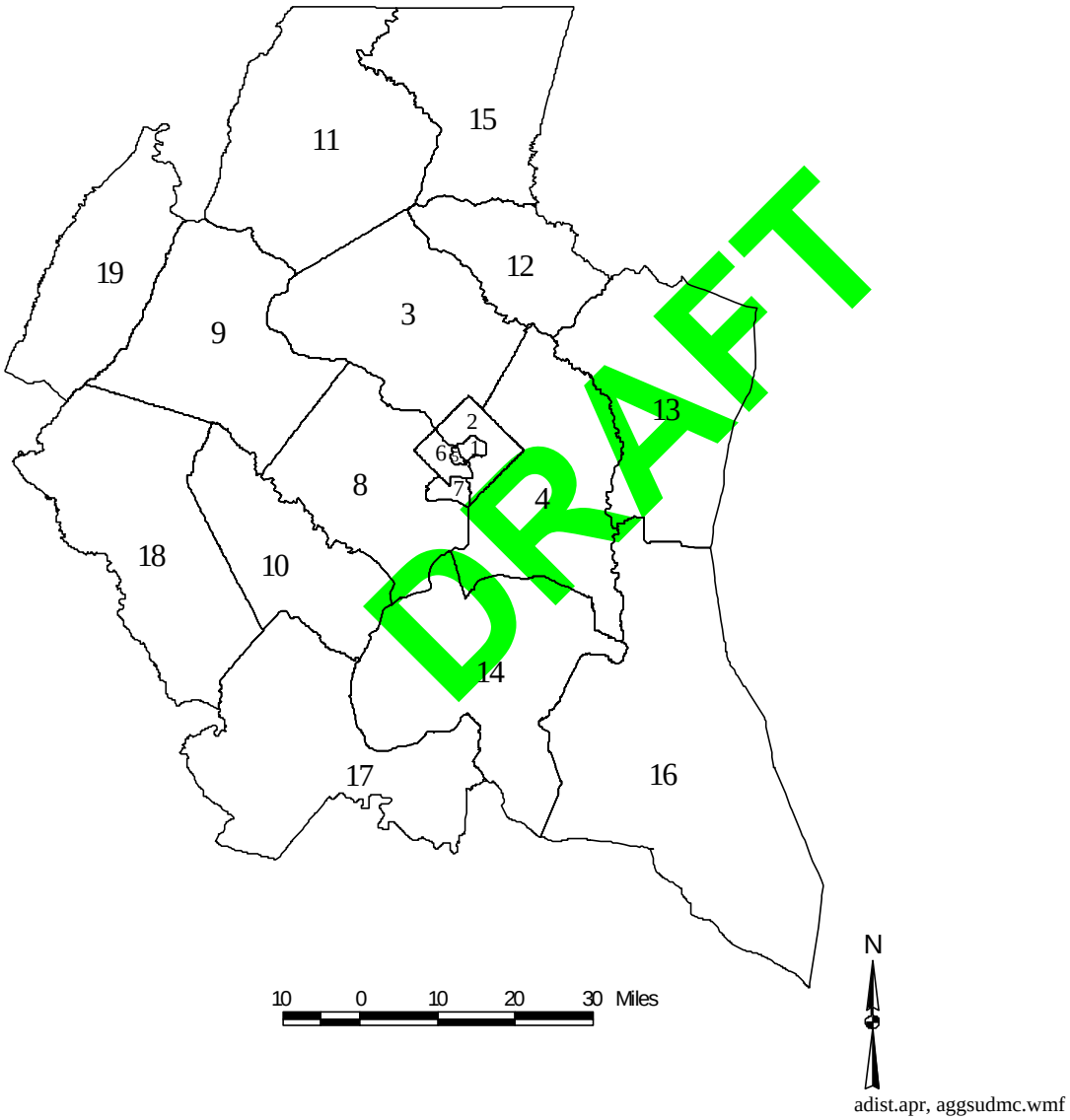
Utility 2	Utility 3	Utility 4+	Variable name	Alogit coeff name	Coeff.	T-stat	UPARMS No.
	x		Constant	Const3oc	-0.92477	(-11.5)	79
		x	Constant	Const4oc	-1.41003	(-17.6)	89
	x	x	IVTT	IVTT	-0.00709	(-2.2)	67,68,73,74,83,84
x	x		Highway distance	hwydst	-0.00187	(-2.9)	72,78
			No. of obs.		3,225		
			LL(0)		-3,543		
			Max. LL		-2,933		
			Rho-sq wrt zero		0.1723		
			Rho-sq wrt consts		0.0015		

Ref: adj_dab_mb.xls, final

Jurisdiction-Level Validation

The Fortran program used to apply the COG mode choice model, COGMC.EXE, permits the use of two sets of jurisdiction-to-jurisdiction-level adjustment factors. The first type of factors are called "transit percent adjustment factors," or TPAFs. The second type of factors are called "car occupancy adjustment factors," or COAFs. The area system used for both the factor files is the same and is shown in Exhibit 6-26.

Exhibit 6-26 Area system (superdistricts) used for transit percent adjustment factors (TPAFs) and car occupancy adjustment factors (COAFs)



The area system consists of up to 20 superdistricts covering the expanded-cordon modeled area. In the current system, only 19 of the 20 superdistricts are used. Each superdistrict corresponds roughly to a jurisdiction. For example, superdistrict number 8 corresponds to Fairfax County. In

some cases a superdistrict represents only part of a jurisdiction. For example, superdistrict number 5 covers the Arlington County core. In other cases, a superdistrict may cover two or more jurisdictions. For example, superdistricts 16 and 19 each include two jurisdictions, and superdistrict 17 includes four Virginia jurisdictions: Stafford Co., King George Co., Fredericksburg, and the northern half of Spotsylvania County which lies within the expanded cordon. [4]

These jurisdiction-level factors have been used since the mid 1980s, though their values have been re-estimated each time the mode choice model was re-estimated. The values of these factors have been reduced over time. For example, in the Version 2.1C travel model, the factors ranged in value from 0.25 to 12.00, with an average value of 1.07. By contrast, in the Version 2.1D, Draft #50 travel model, the factors range in value from 0.50 to 2.00, with an average value of 1.00 (See Exhibit 6-27).

Exhibit 6-27 Minimum, Maximum, and Average of Jurisdiction-Level Mode Choice Model Factors

		Version 2.1C			Version 2.1D, Draft 50		
		Min	Max	Ave	Min	Max	Ave
HBW	TPAF	0.25	7.00	1.26	0.50	2.00	1.03
	COAF	0.25	2.68	0.97	0.50	2.00	1.00
HBS	TPAF	0.25	12.00	1.11	0.61	2.00	1.01
	COAF	0.25	12.00	1.11	0.50	2.00	1.03
HBO	TPAF	0.26	12.00	1.05	0.50	2.00	1.00
	COAF	0.25	12.00	1.11	0.50	2.00	0.99
NHB	TPAF	0.25	7.54	0.98	0.50	2.00	1.01
	COAF	0.25	10.86	0.97	0.50	1.81	0.95
Average		0.25	9.51	1.07	0.51	1.98	1.00

Min, Max, Ave, Std Dev out of 400 factors

Ref: mcJurLevFacsV21d19.xls, summary

Initially, both the TPAF and COAF files consist of a 20 x 20 ASCII matrix of ones (1.0000). These values can then be adjusted up or down to ensure that the estimated trips by mode coming from the mode choice model match the observed trips by mode at the jurisdiction-to-jurisdiction level. It is often necessary to use an iterative process to find the right values. The final set of TPAFs and COAFs is shown in Appendix E.

6.4 *Model Application and Performance in Base Year*

Running the Model

The four mode choice models are applied using the COG mode choice model application program (COGMC.EXE). This Fortran program was written in 1986 by Barton Aschman

[4] In the past, the TPAFs and COAFs each had their own superdistrict boundaries. More recently, the boundaries were changed slightly so that both would share the same area system.

Associates (BAA) and has been updated numerous times since. Changes may be made to the program either through user-defined parameters, known as UPARMS, or by making changes to the Fortran code. The application program was updated as part of the Version 1 model development work (April 30, 1998 version). The model has also been updated again by a consultant and COG staff and the latest version is dated April 6, 2001 (Ref. 1). Note that, in this latest version of the mode choice model application program, there are no default values of the UPARMs. Consequently, the user must explicitly set all UPARM values in the control setup. The UPARM values corresponding to the four Version 2.1 D Draft #50 mode choice models are listed in the mode choice chapter of the User's Guide.

Performance Summaries

The performance results for the mode choice model are comprised of estimated and observed summaries for: 1) transit trips, 2) percent transit, and 3) auto occupancies. Results are presented at both the regional and jurisdictional levels. COG staff developed observed transit trip figures for the entire expanded cordon area using available surveys, such as the 1994 HTS and Baltimore's 1993 HTS, and boarding information from the primary operators in the region. Developing observed auto travel for the entire study area was not possible due to limitations in the information available, particularly in exurban areas. However, the observed auto data that was available for the major jurisdictions was combined with observed transit information and used to develop transit percentages and car occupancy rates to the fullest possible extent. Finally, the simulated person trips used as an input to the mode choice model include some trip generation adjustments (particularly for non-work purposes), which were deemed necessary in order to more accurately match observed total VMT targets. The observed data does not reflect any trip generation adjustments. The estimated and observed totals for transit trips, transit percentages, and automobile occupancies corresponding to the area within the expanded cordon, where 'full' observed information was available, are shown in Exhibit 6-28 and Exhibit 6-29.

Exhibit 6-28 1994 estimated and observed transit trips, percent transit, car occupancy "Unscreened"

Purpose/Mode	Est.	Obs.	Diff. (E - O)	Ratio (E / O)
HBW:	455,073	476,499	-21,426	0.96
% Transit:	12.23	15.30	-3.07	0.80
Car Occ:	1.12	1.11	0.01	1.01
HBS:	29,655	28,530	1,125	1.04
% Transit:	1.05	1.16	-0.11	0.90
Car Occ:	1.26	1.23	0.03	1.03
HBO:	155,283	141,825	13,458	1.09
% Transit:	1.80	1.89	-0.09	0.95
Car Occ.:	1.43	1.45	-0.02	0.99
NHB:	138,606	118,367	20,239	1.17
% Transit:	2.21	2.51	-0.30	0.88
Car Occ.:	1.26	1.25	0.01	1.01
ALL:	778,617	765,221	13,396	1.02
% Transit:	3.63	4.30	-0.67	0.84
Car Occ:	1.30	1.30	-0.00	1.00

Ref: COMPARE_MCEO_USC_94.TXT

Based on the "unscreened" summary (), the model is overestimating transit at the regional level by 2%. HBW transit is underestimated by 4% and the three non-work trip purposes are overestimated by between 4% and 17%. Based on the "screened" summary (), the model is underestimating transit at the regional level by 1%. HBW transit is underestimated by 5%, HBS is underestimated by 7% and the other two non-work trip purposes are overestimated by 2% (HBO) and 15% (NHB).

Exhibit 6-29 1994 estimated and observed transit trips, percent transit, car occupancy "Screened"

Purpose/Mode	Est.	Obs.	Diff. (E - O)	Ratio (E / O)
HBW:	432,732	457,306	-24,574	0.95
% Transit:	16.17	16.88	-0.71	0.96
Car Occ:	1.12	1.12	0.01	1.01
HBS:	25,792	27,825	-2,033	0.93
% Transit:	1.19	1.30	-0.10	0.92
Car Occ:	1.24	1.23	0.01	1.00
HBO:	142,610	139,367	3,243	1.02
% Transit:	2.16	2.15	0.00	1.00
Car Occ.:	1.43	1.44	-0.01	0.99
NHB:	135,460	117,963	17,497	1.15
% Transit:	2.80	2.50	0.29	1.12
Car Occ.:	1.25	1.25	0.00	1.00
ALL:	736,594	742,461	-5,867	0.99
% Transit:	4.52	4.63	-0.11	0.98
Car Occ:	1.30	1.30	0.00	1.00

Ref: COMPARE_MCEO_SCR_94.TXT

*Note about missing observed data and data "screening":

Due to limitations in survey data, it was not possible to obtain observed auto travel for some of the exurban counties in the study area. In particular, the following jurisdiction-level auto person flows were unavailable:
1. For home-based travel: a) external trips, both IX and XI; b) trips FROM the following jurisdictions: St. Mary's, Clarke, Jefferson, Spotsylvania, Fredericksburg, or King George.
2. For non-home-based travel: a) external trips, both IX and XI; b) trips FROM the following jurisdictions: Carroll, Howard, Anne Arundel, St. Mary's, Clarke, Jefferson, Spotsylvania, Fredericksburg, or King George; c) trips TO the following jurisdictions: Carroll, Howard, and Anne Arundel.

These zero-valued cells have been "grayed out" in 23-by-23 tables to indicate the absence of data. To ensure comparability across 23-by-23 trip tables, the corresponding cells in the observed transit trip table have also been set to zero and "grayed out." The process of setting the values of cells in one table to zero based on zero values of corresponding cells in another table is called "screening." Thus, the observed 23-by-23 transit trip table was "screened" by the observed 23-by-23 auto person trip table. In addition, all estimated 23-by-23 trip tables were "screened" by their corresponding observed trip tables. Note that the screening of the estimated data involved one additional level of screening: Any zero-valued cell in an observed 23-by-23 trip table triggered a screening (zeroing out) of the corresponding cell in the estimated 23-by-23 trip table. Such a screening process makes all of the tables comparable and permits valid comparisons. Data that has not undergone this screening process is called "unscreened."

The data in Exhibit 6-29 represent the control totals for the jurisdiction-to-jurisdiction level summaries that appear in Appendix C. File format descriptions of the calibration data used in the model estimation work are shown in Appendix D. The final aggregate adjustment factors used in the mode choice model are shown in Appendix H.

6.5 *Bibliography*

1. Allen, William G., Jr. (1999.01.26). User's Guide for the MWCOG Mode Choice Application Program, Microcomputer Version. Prepared for the Metropolitan Washington Council of Governments. January 26, 1999.
2. Barton-Aschman Associates, Inc. and R.H. Pratt & Co. (1981.07). *Traveler response to transportation system changes*, Second edition, July 1981, prepared for the USDOT, FHWA.
3. Ben-Akiva, Moshe, and Steven R. Lerman. 1985. *Discrete Choice Analysis: Theory and Application to Travel Demand*. Cambridge, Massachusetts: MIT Press.
4. COG/TPB (1998.02.27). Adjustments to Logit Models. Memo from Ronald Milone, MWCOG, to the files. February 27, 1998.
5. COG/TPB (1998.04.17). Derivation of the equation used to adjust logit models. Memo from Mark Moran, MWCOG, to the files. April 17, 1998.
6. COG/TPB (1999.02.25). Specifications for Applying a Utility Program for Developing Aggregate Transit, Car Occupancy Adjustment Factors per COGMC.EXE. Memo from Ron Milone documenting the COGMCFTR Fortran program. February 25, 1999.
7. COG/TPB (1999.03.22). Aggregate Calibration of the Version 2 Mode Choice Models: Some Guidance. Memo from Ronald Milone, MWCOG, to Mark Moran, MWCOG. March 22, 1999.
8. COG/TPB (1999.04.09). "Notes on Version 2 Mode Choice Model Calibration File Development," a memo from Ronald Milone to Files, February 10, 1999, revised April 9, 1999.
9. COG/TPB (2001.01.19). *Version 2 Travel Model Calibration Report*, COG/TPB, January 19, 2001.
10. COG/TPB (2001.01.19). *Version 2 Travel Model User's Guide*, COG/TPB, January 19, 2001.
11. COG/TPB (2001.01.21). The COG/TPB Version 2 Travel Model under TP+: System-wide adjustments to the four mode choice models using a surveyed person trip table. Technical working paper, by Mark Moran, MWCOG. December 21, 2001.
12. COG/TPB (2001.06.30). FY-2001 Development Program for MWCOG Travel Forecasting Models. Draft Report. Ron Milone. Metropolitan Washington Council of Governments. Washington, D.C. June 30, 2001.
13. COG/TPB (2002.03.14). *Migrating the COG/TPB Version 2 Travel Model from MINUTP to TP+: Compendium of Calibration and Validation Summaries, Analysis Years: 1994, 2000, 2025*, COG/TPB, March 14, 2002.
14. COG/TPB (2002.07.11). "Calculation of 1989 average wage rates for the Washington Metropolitan Statistical Area," a memo from Mark Moran to Ron Milone, dated July 11, 2002

15. COG/TPB (2002.07.15). "Version 2.0/TP+ Application and Flowchart," a memo from Ron Milone, COG/TPB, to the Travel Forecasting Subcommittee, dated July 15, 2002.
16. COG/TPB (2002.07.19). *Version 2.0/TP+ Travel Model Calibration Report*, COG/TPB, July 19, 2002.
17. COG/TPB (2002.08.26). *Estimation of the mode choice model for the COG/TPB Version 2.1 Travel Forecasting Model*, Technical working paper, August 26, 2002, Draft #2.
18. COG/TPB (2002.09.04). System-wide adjustments of the mode choice model for the COG/TPB Version 2.1 Travel Forecasting Model, (Adjustments of drive-access bias coefficients and mode bias constants). Technical working paper. MWCOG. September 4, 2002.
19. COG/TPB (2002.10.02). Jurisdiction-level adjustments of the mode choice model for the COG/TPB Version 2.1 Travel Forecasting Model. Technical working paper. MWCOG. October 2, 2002.
20. COG/TPB (2002.10.04). Version 2.1/TP+ Travel Model Calibration Report. Draft Report. Metropolitan Washington Council of Governments. Washington, D.C. October 4, 2002.
21. COG/TPB (2002.10.07). FY-2002 Network Documentation: Highway and Transit Network Development for Version 1 and Version 2.1/TP+ Models. Draft report. MWCOG. October 4, 2002. (And errata sheet dated November 15, 2002).
22. COG/TPB (2002.10.07). Version 2.1/TP+ Travel Model User's Guide. Draft Report. Metropolitan Washington Council of Governments. Washington, D.C. October 7, 2002. (And errata sheet dated November 15, 2002).
23. COG/TPB (2002.11.15). *Version 2.1/TP+ Travel Model Calibration Report*, COG/TPB, October 4, 2002 (revised November 15, 2002).
24. COG/TPB (2002.11.15b). *Version 2.1/TP+ Travel Model User's Guide*, COG/TPB, October 7, 2002 (revised with errata sheet on November 15, 2002).
25. COG/TPB (2002.12.09). *Estimation of the mode choice model for the COG/TPB Travel Forecasting Model, Version 2.1, Release C*, Technical working paper, December 9, 2002.
26. COG/TPB (2002.12.19). System-wide adjustments of the mode choice model for the COG/TPB Travel Forecasting Model, Version 2.1, Release C, (Adjustment of drive-access bias coefficients and mode bias constants). MWCOG. December 19, 2002.
27. COG/TPB (2002.12.20). Jurisdiction-level adjustments of the mode choice model for the COG/TPB Travel Forecasting Model, Version 2.1, Release C. MWCOG. December 20, 2002.
28. COG/TPB (2002.12.23). COG/TPB Travel Forecasting Model, Version 2.1/TP+, Release C, Calibration Report. December 23, 2002.
29. COG/TPB (2002.12.23). COG/TPB Travel Forecasting Model, Version 2.1/TP+, Release C, User's Guide. December 23, 2002.
30. COG/TPB (2004.07.28). *Estimation of the mode choice model for the COG/TPB Travel Forecasting Model, Version 2.1, Release D, Draft #19*, Technical working paper, July 28, 2004.
31. Ho, Eric (2000). Adjustment of Modal Constants of the MOA Model. Memo from Eric Ho, Gallop Corporation, to Ron Milone and Mark Moran, MWCOG. April 7, 2000.
32. Horowitz, Joel; Koppelman, Frank; and Lerman, Steven (1986). 1986. *A self-instructing course in disaggregate mode choice modeling*. Final report. Prepared for the University

Research and Training Program, Urban Mass Transportation Administration (UMTA). Washington, D.C.

33. Metro (1998.03). Technical specifications for the March 1998 travel demand model. Technical report. Metro, Transportation Department. Portland, Oregon. March 1998.

Chapter 7 Time-of-Day Model

The Version 2.1 D Draft #50 time-of-day model is identical to the process used in the 2.1/TP+, Release C model. It essentially functions to apportion daily vehicle trips among three time modeled periods, prior to the traffic assignment step. Peak-hour factors corresponding to the three time periods are also required to support the traffic assignment process. This chapter presents the details of the model and the development of the peaking factors.

7.1 Model Structure

The Time-of-Day Model addresses the temporal dimension of travel subsequent to the mode choice step. The time of day model functions to convert daily trips by purpose and mode to specific time periods, in preparation for the traffic assignment step. The modeled time periods are defined as the AM peak period (6-9AM), PM peak period (4-7PM) and the off-peak period (all remaining hours).

The conversion of daily trips for the residential trip purposes (HBW, HBS, HBO, and NHB) are made with the application of temporal factors that have been developed directly from the HTS. The factors, shown as Exhibit 7-2, have been developed from detailed trips-in-motion summaries. The factors are applied on the basis of purpose, mode, and direction of the trip, with respect to the home-end of the trip. The underlying temporal travel distributions for transit, driver alone, carpool modes are depicted on Exhibit 7-3, Exhibit 7-4, and Exhibit 7-5 respectively. The exhibits also display the trip purpose composition over the day.

The truck and various non-modeled auto driver travel markets are also converted from daily trip tables to the three time periods using a system of temporal factors. The factors are summarized in Exhibit 7-1.

Exhibit 7-1 Version 2.1 D Draft #50 Temporal Factors (Percentages) For Truck and Non-Modeled Travel Markets

Time Period	Travel Market							
	XX Truck	Medium Truck	Heavy Truck	XX Auto Dr	Taxi Auto Dr	Tourist Auto Dr	School Auto Dr	Airport Auto Dr
AM	23.00	19.50	15.40	18.00	9.00	33.00	33.00	10.00
PM	11.00	15.20	13.00	22.00	27.00	33.00	33.00	10.00
Off-Pk	66.00	63.30	71.60	60.00	64.00	34.00	34.00	80.00

The temporal medium and heavy truck factors above were derived from the most recent Federal guidance on freight modeling[1]. The through (XX) truck factors where developed from the 1996 COG Truck External Survey. The remaining temporal factors were based on professional judgement.

[1] Quick Response Freight Manual, TMIP, Sept. 1996, (pg 4-38)

In application these factors are assumed to remain *constant* over time. Although it is reasonable to expect, that congestion will encourage traffic spreading from the AM and PM periods to the off-peak, the peak spreading phenomenon is complex and not well understood in the profession. Instead of addressing this issue in the regional model, MWCOG currently expects to account for peak spreading issues in its mobile emissions post processor, where hourly volume and speed estimates are formulated.

Another important temporal parameter in the traffic assignment process is the peaking factor, which is the proportion of traffic in a given time period which occurs in the peak hour. Link speeds are a function of the Volume-to-Capacity (V/C) ratio. The peaking factor is necessary for converting hourly lane capacities into 'period lane capacities', from which V/C ratios are computed. The Version 2.1 /TP+ model requires peaking factors for the AM, PM, and Off-peak time periods. To arrive at regionally appropriate peaking factors, an analysis of total auto driver trips from the HTS was summarized to the modeled time periods. The maximum hourly volume occurring within each time period was then determined. The resulting peaking factors are shown below.

Peak Hour Factors (Percentages)	
AM Period (6:00-9:00AM):	40%
PM Period (4:00-7:00PM):	37%
Off-Peak (All Other Hours):	12%

Exhibit 7-2 Observed Travel Distributions during Peak and Non-Peak Time Periods by purpose, Mode, and Direction

(Source: 1994 COG/TPB Household Travel Survey)

		Home to Non-Home Direction				Non-Home to Home Direction			
Purpose	**Mode**	**AM Pk Prd. 6-9AM**	**PM Pk. Prd. 4-7PM**	**Non-Pk. Prd.**	**Total**	**AM Pk Prd. 6-9AM**	**PM Pk. Prd. 4-7PM**	**Non-Pk. Prd.**	**Total**
HBW	Transit	71%	5%	25%	100%	1%	72%	27%	100%
	Auto Driver	68%	3%	30%	100%	1%	63%	35%	100%
	Auto Passenger	74%	4%	23%	100%	1%	69%	30%	100%
	Auto Person	69%	3%	29%	100%	1%	64%	35%	100%
	Drive Alone	66%	3%	31%	100%	2%	61%	37%	100%
	Carpool Person	75%	3%	22%	100%	1%	72%	27%	100%
	Motorized Person	69%	3%	28%	100%	1%	66%	33%	100%
HBS	Transit	24%	15%	62%	100%	2%	35%	64%	100%
	Auto Driver	11%	21%	69%	100%	2%	32%	67%	100%
	Auto Passenger	5%	28%	68%	100%	0%	32%	67%	100%
	Auto Person	9%	22%	69%	100%	2%	32%	67%	100%
	Drive Alone	13%	18%	69%	100%	2%	32%	66%	100%
	Carpool Person	6%	27%	68%	100%	1%	31%	68%	100%
	Motorized Person	10%	22%	69%	100%	2%	31%	67%	100%
HBO	Transit	38%	13%	49%	100%	2%	35%	63%	100%
	Auto Driver	24%	21%	54%	100%	5%	29%	67%	100%
	Auto Passenger	31%	28%	41%	100%	1%	30%	69%	100%
	Auto Person	27%	23%	50%	100%	4%	29%	67%	100%
	Drive Alone	23%	19%	58%	100%	7%	26%	68%	100%
	Carpool Person	29%	27%	45%	100%	2%	32%	67%	100%
	Motorized Person	34%	21%	46%	100%	3%	28%	69%	100%
NHB	Transit	14%	31%	55%	100%	14%	31%	55%	100%
	Auto Driver	9%	27%	65%	100%	9%	27%	65%	100%
	Auto Passenger	8%	27%	65%	100%	8%	27%	65%	100%
	Auto Person	8%	27%	65%	100%	8%	27%	65%	100%
	Drive Alone	9%	26%	65%	100%	9%	26%	65%	100%
	Carpool Person	7%	28%	65%	100%	7%	28%	65%	100%
	Motorized Person	9%	25%	66%	100%	9%	25%	66%	100%

Note: The distributions shown are based on time-in-motion summaries.

Exhibit 7-3 Time-of-Day Distribution, Mode: Transit

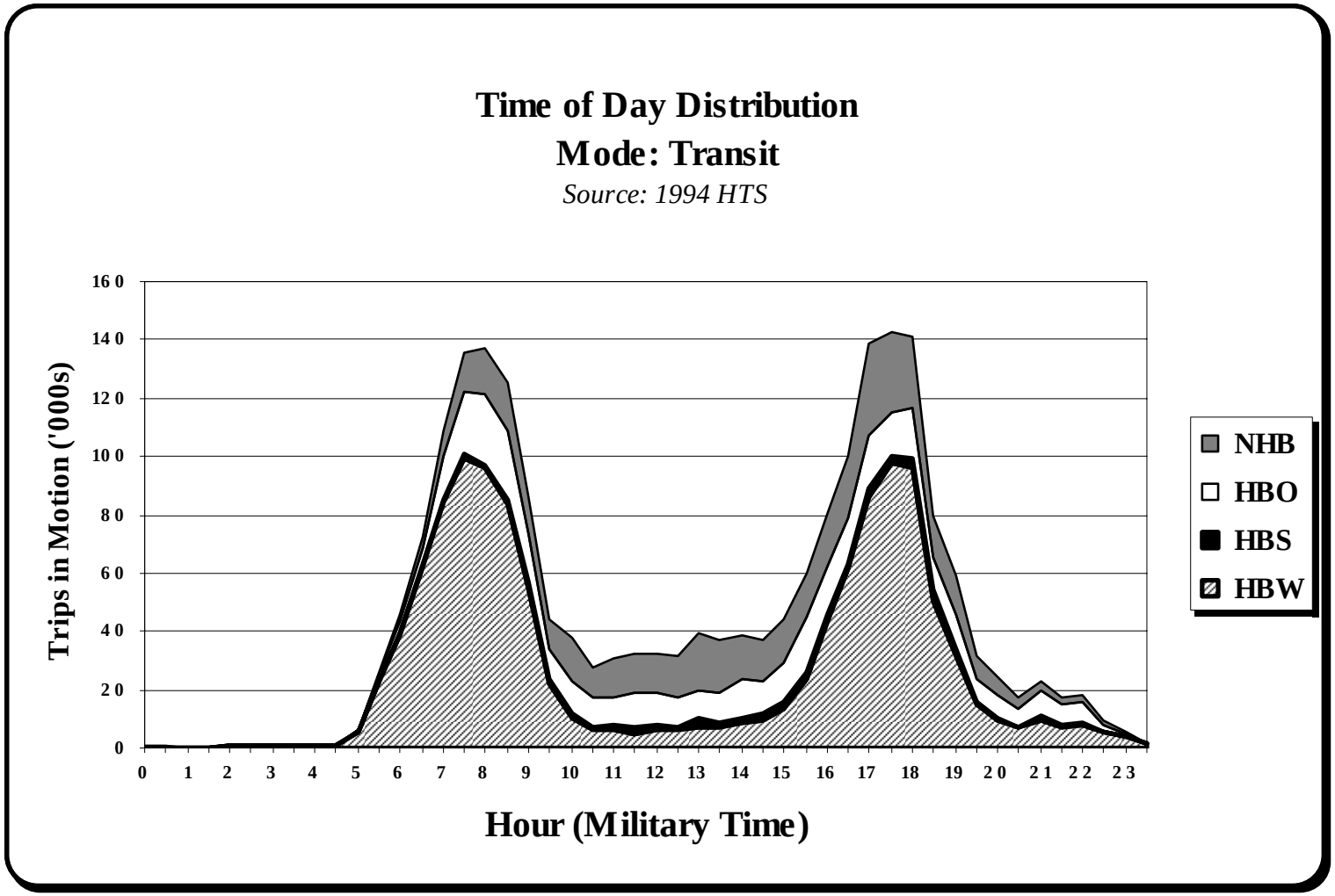


Exhibit 7-4 Time-of-Day Distribution, Mode: Drive Alone

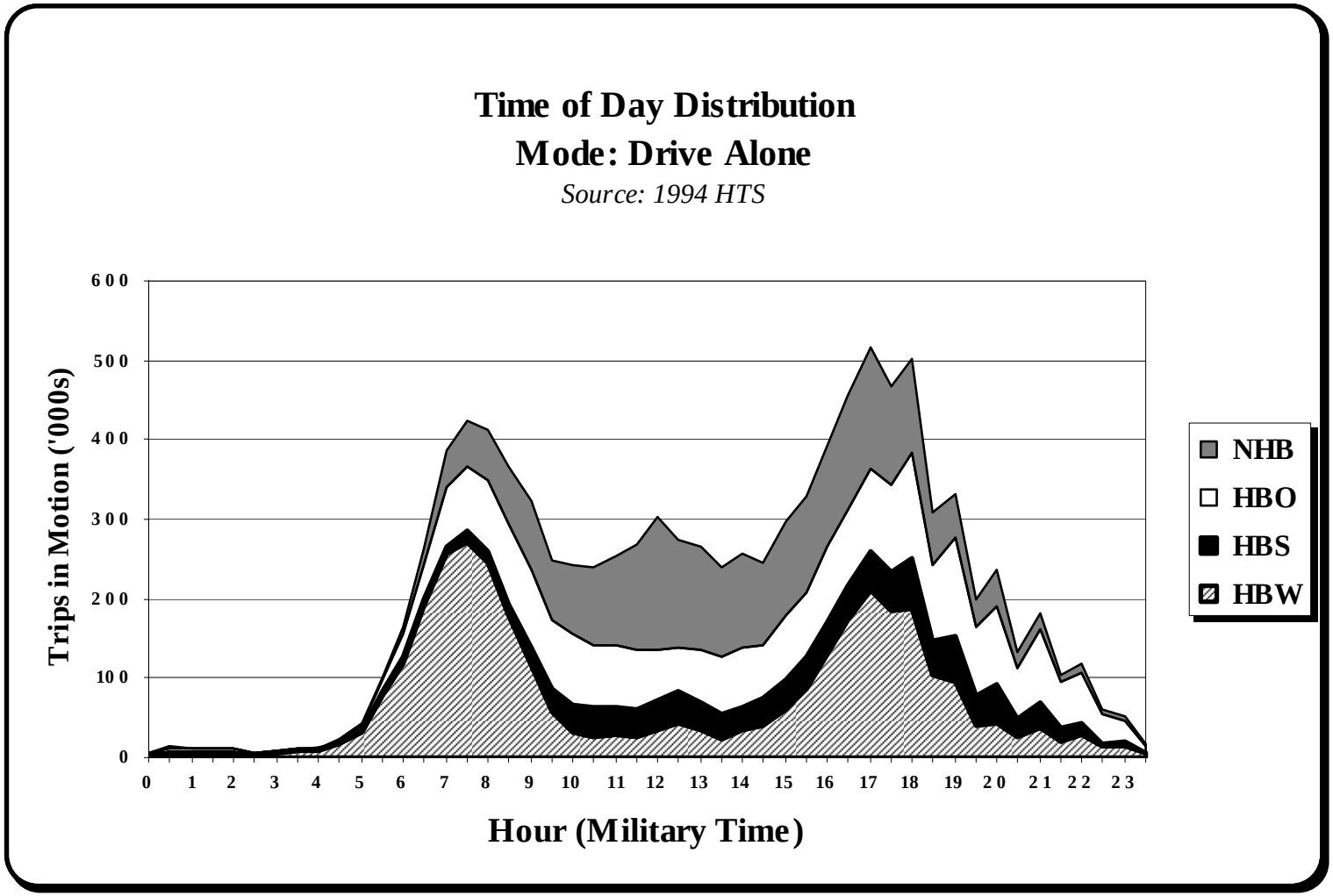
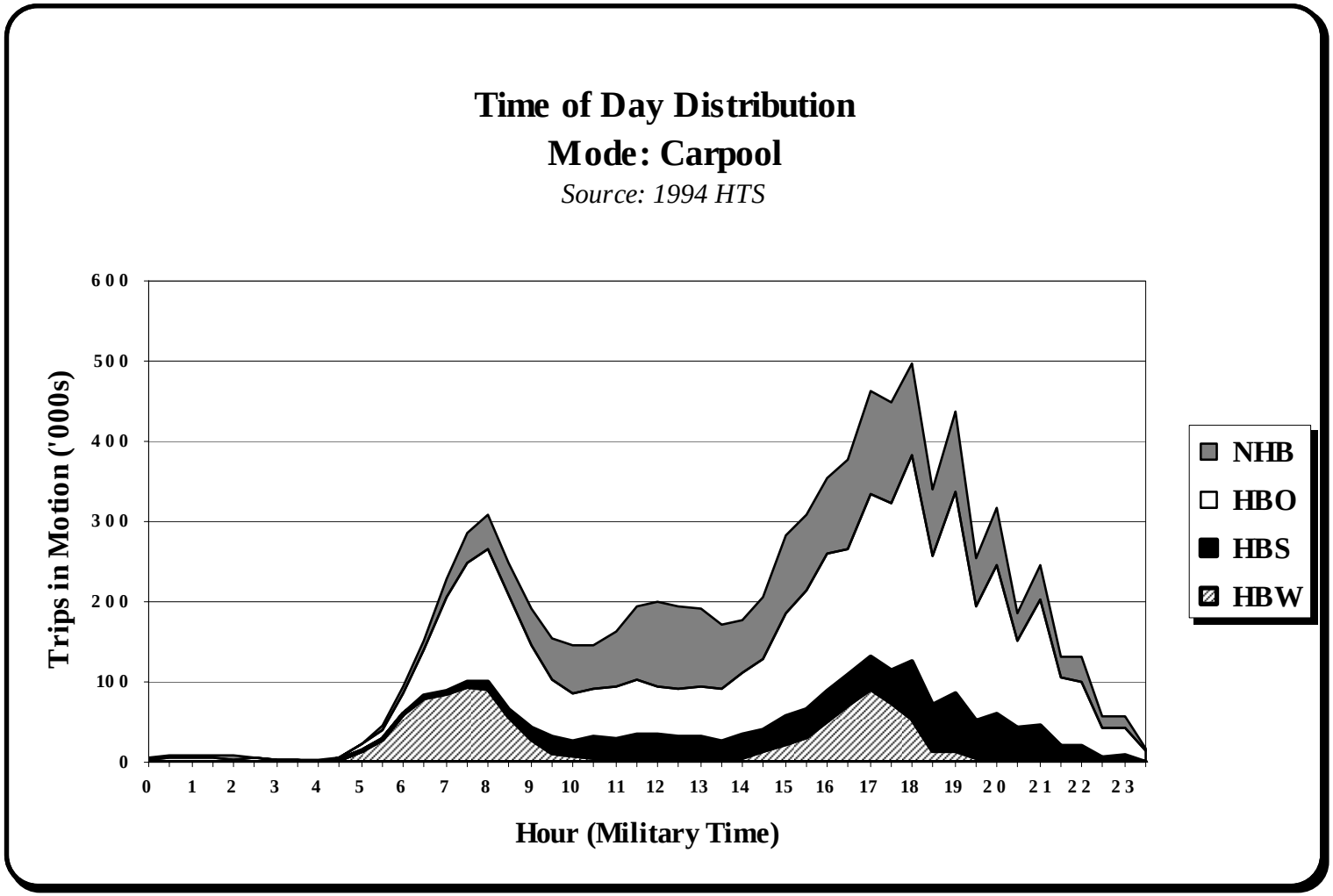


Exhibit 7-5 Time-of-Day Distribution, Mode: Carpool



Chapter 8 Traffic Assignment / Feedback

The traffic assignment step is used to load a trip table onto the highway network in order to producing network link flows and speeds. The process culminates in the estimation of network link volumes, which, in turn, enable the estimation of highway link speeds. The traffic assignment process of the Version 2.1 D Draft #50 model is detailed in this chapter.

8.1 Model Application and Structure

The traffic assignment step is executed seven times during a given model run. The first assignment is called the "pump prime" traffic assignment. The last six traffic assignments are called iteration 1, 2, 3, 4, 5, and 6. For each of the seven traffic assignments, there are actually three individual assignments, one for each of the three time-of-day periods: AM (6:00 to 9:00), PM (4:00 to 7:00), and off-peak (the remaining 18 hours of the day). The trips loaded in each time period are comprised of *all* purposes, as allocated by the time-of-day model. Each individual assignment run utilizes an equilibrium algorithm that is run for 20 iterations. The algorithm used in the equilibrium approach attempts to increasingly minimize the delay of all trips in the system with each iteration pass. An important component of the equilibrium assignment process is the volume-delay function (VDF). VDFs are used to develop link speeds at the end of each loading pass. It represents the ratio of congested travel time to the free-flow time as a function of the volume-to-capacity (V/C) ratio. The function typically varies by facility type. Another important property of the function is that the capacity definition used in the V/C ratio is that it level-of-service (LOS) 'E'. The restrained speed calculation is also subject to the assumed free flow speeds and capacity assumptions, which vary by facility type and area type. The Version 2.1 D Draft #50 capacities and free flow speeds are defined in Exhibit 8-1 and Exhibit 8-2.

The Version 2.1 D Draft #50 model essentially maintains the same family of VDF functions used in the Version 2.1C model with three modifications. First, free flow speeds have been adjusted marginally downward across all facility types. Second, capacities associated with freeways, and arterials have been adjusted marginally downward. Finally, the freeway VDF curve was adjusted so that the resulting speeds are now slightly lower, in comparison with the curve used in the Version 2.1/TP+, Release C model. The revised freeway function is also now subject to a ceiling value of '5.0', which means that the minimum speed is now one fifth of the free flow speed value. The VDF functions for both models are shown as Exhibit 8-3 and Exhibit 8-4. Speed- flow curves (and values) resulting from the Draft #50 model VDFs are shown as Exhibit 8-5 to Exhibit 8-12.

Exhibit 8-1 LOS E Capacities

		Area Type						
Facility Type		**1**	**2**	**3**	**4**	**5**	**6**	**7**
Centroids	FT = 0	3,150	3,150	3,150	3,150	3,150	3,150	3,150
Freeways	FT = 1	1,500	1,600	1,800	1,800	2,000	2,000	2,100
Major Arterials	FT = 2	800	800	960	960	1,260	1,260	1,260
Minor Arterials	FT = 3	500	600	700	840	1,000	1,000	1,000
Collectors	FT = 4	300	400	500	700	700	700	800
Expressways	FT = 5	900	1,000	1,000	1,200	1,500	1,500	1,500
Ramps	FT = 6	1,500	1,600	1,800	1,800	2,000	2,000	2,100

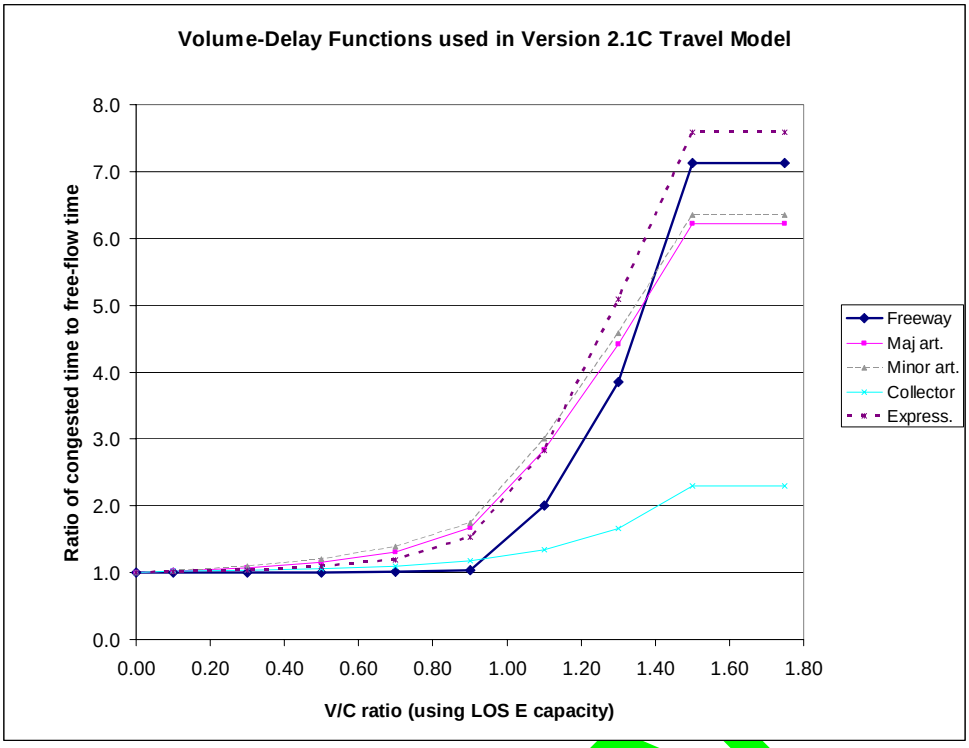
Ref: vdf_v21d.xls

Exhibit 8-2 Free-Flow Speeds

		Area Type						
Facility Type		**1**	**2**	**3**	**4**	**5**	**6**	**7**
Centroids	FT = 0	15	15	20	25	30	30	35
Freeways	FT = 1	55	55	60	60	67	67	67
Major Arterials	FT = 2	25	25	35	35	40	45	45
Minor Arterials	FT = 3	20	20	30	30	35	40	40
Collectors	FT = 4	15	15	20	20	25	30	30
Expressways	FT = 5	45	45	50	50	50	55	55
Ramps	FT = 6	55	55	60	60	67	67	67

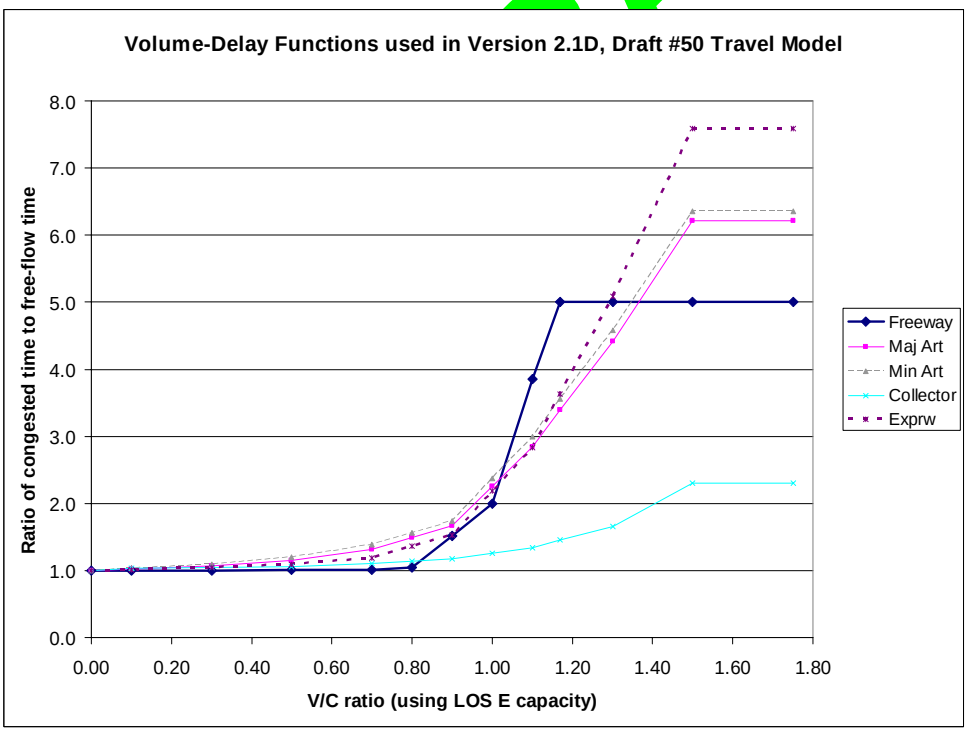
Ref: vdf_v21d.xls

Exhibit 8-3 Volume-delay functions used in the Version 2.1C travel model: Congested times



Ref: vdf_v21d.xls

Exhibit 8-4 Volume-delay functions used in the Version 2.1D, #50, travel model: Congested times



Ref: vdf_v21d.xls

Exhibit 8-5 Volume-delay functions used in the Version 2.1C travel model: Congested times, tabular format

Ratio of congested time to free flow time

V/C	Freeway T/T0	Maj Art T/T0	Min Art T/T0	Collector T/T0	Exprw T/T0
0.00	1.000	1.000	1.000	1.000	1.000
0.10	1.000	1.020	1.030	1.030	1.010
0.30	1.003	1.070	1.090	1.040	1.040
0.50	1.007	1.150	1.200	1.060	1.090
0.70	1.014	1.310	1.390	1.100	1.190
0.90	1.040	1.670	1.740	1.180	1.530
1.10	1.998	2.840	3.000	1.340	2.830
1.30	3.851	4.420	4.580	1.660	5.090
1.50	7.129	6.220	6.350	2.300	7.590
1.75	7.129	6.220	6.350	2.300	7.590

Ref: vdf_v21d.xls

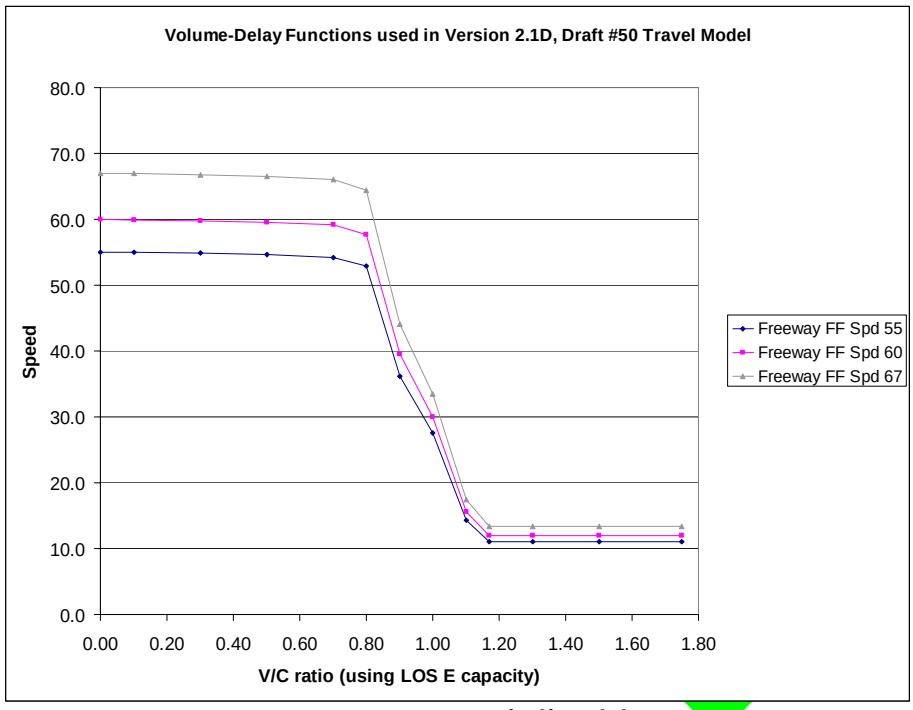
Exhibit 8-6 Volume-delay functions used in the Version 2.1D, #50, travel model: Congested times, tabular format

Ratio of congested time to free flow time

V/C	Freeway T/T0	Maj Art T/T0	Min Art T/T0	Collector T/T0	Exprw T/T0
0.00	1.000	1.000	1.000	1.000	1.000
0.10	1.001	1.020	1.030	1.030	1.010
0.30	1.003	1.070	1.090	1.040	1.040
0.50	1.007	1.150	1.200	1.060	1.090
0.70	1.014	1.310	1.390	1.100	1.190
0.80	1.040	1.490	1.565	1.140	1.360
0.90	1.519	1.670	1.740	1.180	1.530
1.00	1.998	2.255	2.370	1.260	2.180
1.10	3.851	2.840	3.000	1.340	2.830
1.17	5.000	3.394	3.555	1.453	3.630
1.30	5.000	4.420	4.580	1.660	5.090
1.50	5.000	6.220	6.350	2.300	7.590
1.75	5.000	6.220	6.350	2.300	7.590

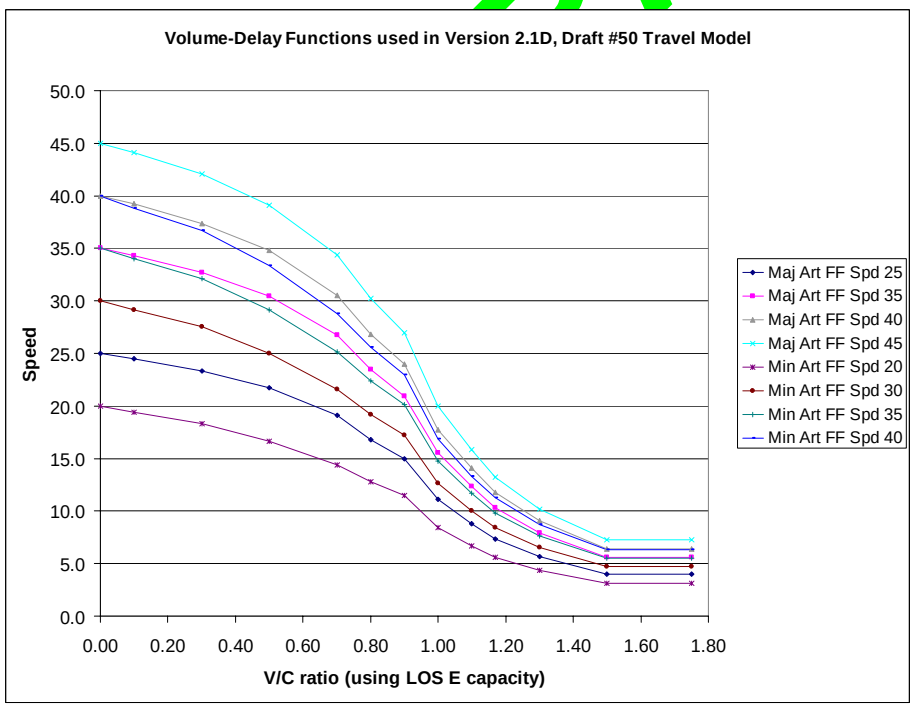
Ref: vdf_v21d.xls

Exhibit 8-7 Volume-delay functions used in the Version 2.1D, #50, travel model: Speeds for freeways



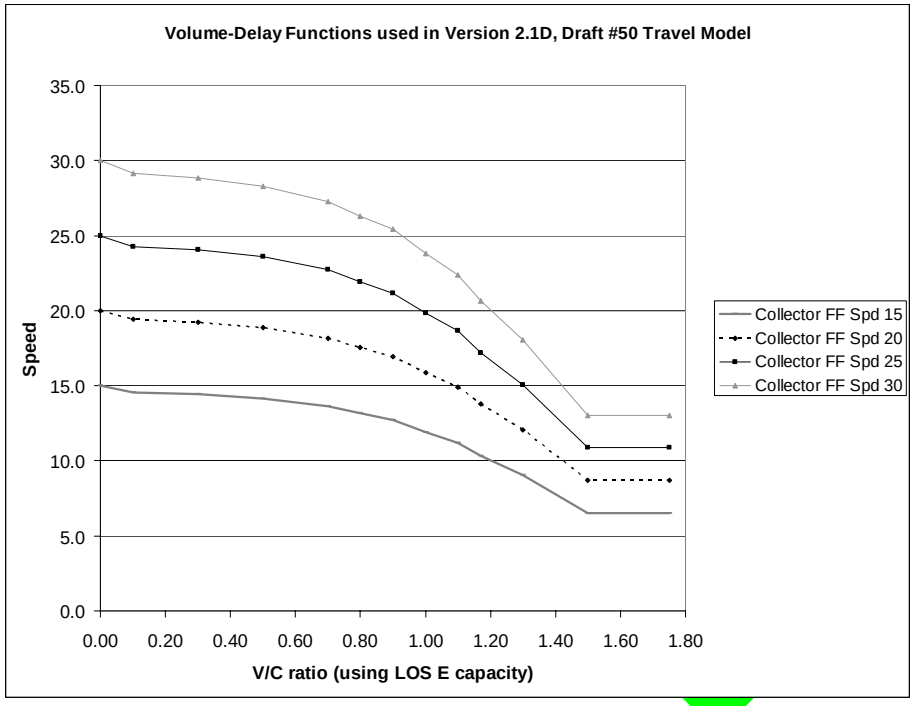
Ref: vdf_v21d.xls

Exhibit 8-8 Volume-delay functions used in the Version 2.1D, #50, travel model: Speeds for arterials



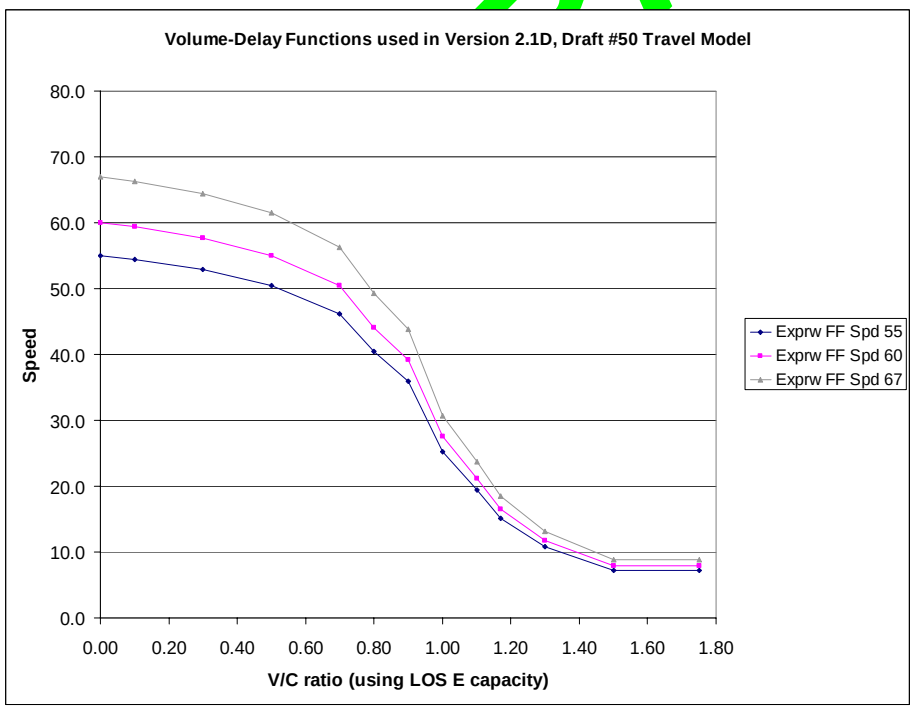
Ref: vdf_v21d.xls

Exhibit 8-9 Volume-delay functions used in the Version 2.1D, #50, travel model: Speeds for collectors



Ref: vdf_v21d.xls

Exhibit 8-10 Volume-delay functions used in the Version 2.1D, #50, travel model: Speeds for expressways



Ref: vdf_v21d.xls

Exhibit 8-11 Volume-delay functions used in the Version 2.1D, #50, travel model: Speeds, Part 1 of 2

	Freeway			Maj Art				Min Art			
	FF Spd 55	FF Spd 60	FF Spd 67	FF Spd 25	FF Spd 35	FF Spd 40	FF Spd 45	FF Spd 20	FF Spd 30	FF Spd 35	FF Spd 40
V/C	CongSpd	CongSpd	CongSpd	CongSpd	CongSpd	CongSpd	CongSpd	CongSpd	CongSpd	CongSpd	CongSpd
0.00	55.00	60.00	67.00	25.00	35.00	40.00	45.00	20.00	30.00	35.00	40.00
0.10	54.95	59.94	66.93	24.51	34.31	39.22	44.12	19.42	29.13	33.98	38.83
0.30	54.84	59.82	66.80	23.36	32.71	37.38	42.06	18.35	27.52	32.11	36.70
0.50	54.62	59.58	66.53	21.74	30.43	34.78	39.13	16.67	25.00	29.17	33.33
0.70	54.24	59.17	66.07	19.08	26.72	30.53	34.35	14.39	21.58	25.18	28.78
0.80	52.88	57.69	64.42	16.78	23.49	26.85	30.20	12.78	19.17	22.36	25.56
0.90	36.21	39.50	44.11	14.97	20.96	23.95	26.95	11.49	17.24	20.11	22.99
1.00	27.53	30.03	33.53	11.09	15.52	17.74	19.96	8.44	12.66	14.77	16.88
1.10	14.28	15.58	17.40	8.80	12.32	14.08	15.85	6.67	10.00	11.67	13.33
1.17	11.00	12.00	13.40	7.37	10.31	11.79	13.26	5.63	8.44	9.85	11.25
1.30	11.00	12.00	13.40	5.66	7.92	9.05	10.18	4.37	6.55	7.64	8.73
1.50	11.00	12.00	13.40	4.02	5.63	6.43	7.23	3.15	4.72	5.51	6.30
1.75	11.00	12.00	13.40	4.02	5.63	6.43	7.23	3.15	4.72	5.51	6.30

Ref: vdf_v21d.xls

Exhibit 8-12 Volume-delay functions used in the Version 2.1D, #50, travel model: Speeds, Part 1 of 2

	Collector				Exprw		
	FF Spd 15	FF Spd 20	FF Spd 25	FF Spd 30	FF Spd 55	FF Spd 60	FF Spd 67
V/C	CongSpd	CongSpd	CongSpd	CongSpd	CongSpd	CongSpd	CongSpd
0.00	15.00	20.00	25.00	30.00	55.00	60.00	67.00
0.10	14.56	19.42	24.27	29.13	54.46	59.41	66.34
0.30	14.42	19.23	24.04	28.85	52.88	57.69	64.42
0.50	14.15	18.87	23.58	28.30	50.46	55.05	61.47
0.70	13.64	18.18	22.73	27.27	46.22	50.42	56.30
0.80	13.16	17.54	21.93	26.32	40.44	44.12	49.26
0.90	12.71	16.95	21.19	25.42	35.95	39.22	43.79
1.00	11.90	15.87	19.84	23.81	25.23	27.52	30.73
1.10	11.19	14.93	18.66	22.39	19.43	21.20	23.67
1.17	10.32	13.76	17.21	20.65	15.15	16.53	18.46
1.30	9.04	12.05	15.06	18.07	10.81	11.79	13.16
1.50	6.52	8.70	10.87	13.04	7.25	7.91	8.83
1.75	6.52	8.70	10.87	13.04	7.25	7.91	8.83

Each time-period-specific assignment pass involves the loading of five separate trip tables: 1) SOV, 2) HOV 2-occupants, 3) HOV-3+occupants, 4) trucks, and 5) airport passenger vehicles. As explained earlier in this report, a successive volume averaging procedure occurs after the first and second iteration assignments. The averaging process occurs at the link level, for each time period. The averaging between iterations occurs individually for each of the three time periods at the link level, as follows:

- The 'final' first iteration link volumes are equal to the 'raw' assigned link volumes.
- The 'final' second iteration link volume equals the ½ of the first iteration link volume plus ½ of the second iteration assigned link volume.
- The 'final' third iteration link volume equals 2/3 of the 'final' second iteration link volume plus 1/3 of the third iteration assigned volume.

:

:

- The 'final' sixth iteration link volume equals 5/6 of the 'final' fifth iteration link volume plus 1/6 of the sixth iteration assigned volume.

In past reports, estimated and observed screenline values and RMSE summaries have been reported, but upon a more thorough review of the 1994 coded count data, staff is less confident of the quality of the data the network, and so these types of summaries are excluded from this report. A jurisdiction level summary estimated and observed VMT is shown as Exhibit 8-13. The simulation reflects the final (or sixth) iteration highway assignment iteration. Generally, the simulation performs reasonably well in the staff's view, considering the limitations of the data.

Exhibit 8-13 1994 Estimated and Observed VMT (in thousands) by Jurisdiction

Jurisdiction	Estimated	Observed	Est/Obs Ratio
District of Columbia	8,534	7,875	1.08
Montgomery	17,636	17,129	1.03
Prince George's	19,514	20,333	0.96
Arlington	3,994	4,124	0.97
Alexandria	1,970	2,072	0.95
Fairfax	21,953	22,979	0.96
Loudoun	2,565	2,902	0.88
Prince William	5,693	6,221	0.92
Frederick	6,233	4,879	1.28
COG Member Jurisdictions Subtotal:	*88,092*	*88,514*	*1.00*
Howard	7,983	6,990	1.14
Anne Arundel	8,432	8,580	0.98
Charles	1,706	2,007	0.85
1,478 Zone Cordon Subtotal	*106,213*	*106,091*	*1.00*
Carroll	2,340	2,167	1.08
Calvert	1,167	1,280	0.91
St. Mary's	1,147	1,166	0.98
King George	635	559	1.14
Fredericksburg	531	663	0.80
Stafford	3,121	2,935	1.06
Spotsylvania	1,406	1,940	0.72
Fauquier	2,025	2,104	0.96
Clarke	594	492	1.21
Jefferson	992	601	1.65
Outer Counties Subtotal	*13,958*	*13,907*	*1.00*
Expanded Cordon Total	**120,171**	**119,998**	**1.00**

	MSA Summary		
	Estimated	**Observed**	**Est/Obs Ratio**
DC	**8,534**	**7,875**	**1.08**
MD	**46,256**	**45,628**	**1.01**
VA	**39,296**	**41,233**	**0.95**
Total MSA	**94,086**	**94,736**	**0.99**

The table reflects highway links with coded ground counts.
Source: i2_highway_assignment.rpt
Ref: v2.1 D perf94.xls

Chapter 9 Validation

Model validation checks normally involve applying the calibrated model for a specific year, other than the model calibration year, and checking the model performance against all available observed data. Another important validation check is to apply the model for an out-year and then to assess the results for reasonability.

The Version 2.1 D Draft #50 model was validated using year 2000 data. In anticipation of the validation effort, staff spent several months assembling ground counts for the 2000 highway network and assembling information from area transit service providers that enabled the development of a figure for unlinked regional transit trips. Staff also executed the model for the year 2030. The year 2000 performance results, and model year 2030 forecast results, are summarized in this chapter.

A regional summary of estimated and observed year 2000 transit trips, by purpose, is shown as Exhibit 9-1. As in the previous summary for 1994, there are two estimated and observed comparison tables shown. One shows a trip comparison at the region-wide level (the unscreened summary), and the other shows transit trips for which *both* estimated and observed trips exist at the jurisdiction-level. The latter (screened) comparison is useful for checking estimated and observed figures at finer levels of geography. The unscreened summary indicates that the model is underestimating transit trips by about 3%. A possible explanation is that the fare input to the mode choice model reflects the tariff in effect for 2000 (WMATA Tariff #19), but does not reflect the effect of the emerging fare subsidy (Metrochek) program. This is an input assumption rather than a modeling issue and so it is expected that the transit estimate will tend to be lower than the observed figures.

Exhibit 9-2, Exhibit 9-3, and Exhibit 9-4 show the jurisdictional VMT, screenline, and RMSE performance summaries for the year 2000, respectively. VMT is shown to be overestimated by about 3%, screenlines estimates are high by 8% overall, and the RMSE is about 47%. Screenline location maps are shown as Exhibit 9-5 and Exhibit 9-6. These performance statistics reflect a substantial improvement over the Version 2.1/TP+, Release C results where VMT was over estimated by 8%, screenline crossings over estimated by 17%, and the RMSE was 51%. It should be added that a small number of count corrections were implemented to the year 2000 highway network.

Exhibit 9-7 and Exhibit 9-8 show estimated trip table and modal trip screenline results pertaining to the Metro Core Cordon and the Beltway Cordon, by time periods. Exhibit 9-7 shows a comparison of estimated and observed (HTS survey) *trips* in P/A format that are summarized both to and from the areas defined by the Ring 1 Cordon and the Capital Beltway cordon. Exhibit 9-8 presents a comparison observed trips crossing the Metro Core Cordon and the Beltway Cordon (from COG's travel monitoring program) with simulated highway and transit *link volumes* (resulting from highway and transit assignments). It is important to underscore that for the latter exhibit there are one-year differences between the observed and estimated screenline volumes shown. Furthermore, the simulated trip tables used in the highway and transit assignments have been processed through a *regional* time of day process, converting daily trips into AM/PM trip patterns. One would expect

that differences should be expected when comparing results of regional time of day model with observed crossings at a particular cordon location. Finally, the observed figures are based on one-day counts and are subject to variation. With these factors in mind, the results shown are quite reasonable in staff's judgment.

Observed and estimated AM, PM, and off-peak traffic volumes are shown on Exhibit 9-9, Exhibit 9-10, Exhibit 9-11, respectively. The observed volumes were obtained from Maryland permanent count station locations during the month of May, 2000. Overall the comparisons appear reasonable. Exhibit 9-12 provides a cross check of the Maryland permanent count station data against HPMS traffic counts. The exhibit indicates that substantial differences may exist between the daily counts of the permanent count station vs. the HPMS.

The final exhibits show the model changes for the years 1994, 2000, and 2030. Exhibit 9-13, Exhibit 9-14, Exhibit 9-15, and Exhibit 9-16 show trip/VMT changes, screenline changes, restrained speed changes, respectively. These results are reasonable in the staff's judgment.

Exhibit 9-1 Estimated and Observed Transit Trips, Year 2000

Transit trips
Unscreened

Purpose	Est	Obs	Diff. (Est-Obs)	Ratio (Est/Obs)
HBW	520,466	560,167	-39,701	0.93
HBS	35,481	33,313	2,168	1.07
HBO	168,113	153,197	14,916	1.10
NHB	157,791	166,534	-8,743	0.95
Total	881,851	913,211	-31,360	0.97

Transit trips
Screened

Purpose	Est	Obs	Diff. (Est-Obs)	Ratio (Est/Obs)
HBW	502,001	538,582	-36,581	0.93
Pct. Transit	*16.78%*	*17.80%*	*-1.02%*	*0.94*
HBS	34,079	33,262	817	1.02
Pct. Transit	*1.39%*	*1.36%*	*0.03%*	*1.02*
HBO	163,864	151,645	12,219	1.08
Pct. Transit	*2.24%*	*2.07%*	*0.16%*	*1.08*
NHB	156,238	166,461	-10,223	0.94
Pct. Transit	2.90%	3.09%	-0.18%	0.94
Total	856,182	889,950	-33,768	0.96
Pct. Transit	4.72%	*4.89%*	*-0.18%*	*0.96*

Ref: compare_mceo_00_uns_sc.xls,mceo_00

*Note about missing observed data and data "screening":

Due to limitations in survey data, it was not possible to obtain observed auto travel for some of the exurban counties in the study area. In particular, the following jurisdiction-level auto person flows were unavailable:
1. For home-based travel: a) external trips, both IX and XI; b) trips FROM the following jurisdictions: St. Mary's, Clarke, Jefferson, Spotsylvania, Fredericksburg, or King George.
2. For non-home-based travel: a) external trips, both IX and XI; b) trips FROM the following jurisdictions: Carroll, Howard, Anne Arundel, St. Mary's, Clarke, Jefferson, Spotsylvania, Fredericksburg, or King George; c) trips TO the following jurisdictions: Carroll, Howard, and Anne Arundel.

These zero-valued cells have been "grayed out" in 23-by-23 tables to indicate the absence of data. To ensure comparability across 23-by-23 trip tables, the corresponding cells in the observed transit trip table have also been set to zero and "grayed out." The process of setting the values of cells in one table to zero based on zero values of corresponding cells in another table is called "screening." Thus, the observed 23-by-23 transit trip table was "screened" by the observed 23-by-23 auto person trip table. In addition, all estimated 23-by-23 trip tables were "screened" by their corresponding observed trip tables. Note that the screening of the estimated data involved one additional level of screening: Any zero-valued cell in an observed 23-by-23 trip table triggered a screening (zeroing out) of the corresponding cell in the estimated 23-by-23 trip table. Such a screening process makes all of the tables comparable and permits valid comparisons. Data that has not undergone this screening process is called "unscreened."

Exhibit 9-2 2000 Estimated and Observed VMT (in thousands)
by Jurisdiction V2.1 D Draft #50 Model Performance

Jurisdiction	Estimated	Observed	Est/Obs Ratio
District of Columbia	6,650	5,781	1.15
Montgomery	14,647	14,039	1.04
Prince George's	17,984	18,667	0.96
Arlington	3,361	3,440	0.98
Alexandria	1,352	1,105	1.22
Fairfax	21,803	21,326	1.02
Loudoun	3,472	3,416	1.02
Prince William	6,261	6,063	1.03
Frederick	6,848	6,006	1.14
COG Member Jurisdictions Subtotal:	*82,378*	*79,843*	*1.03*
Howard	7,647	7,279	1.05
Anne Arundel	12,174	11,315	1.08
Charles	2,136	2,742	0.78
1,478 Zone Cordon Subtotal	*104,335*	*101,179*	*1.03*
Carroll	2,535	2,400	1.06
Calvert	1,339	1,690	0.79
St. Mary's	1,537	1,628	0.94
King George	638	567	1.13
Fredericksburg	279	485	0.58
Stafford	3,472	2,958	1.17
Spotsylvania	1,484	1,741	0.85
Fauquier	2,392	2,326	1.03
Clarke	725	579	1.25
Jefferson	994	673	1.48
Outer Counties Subtotal	*15,395*	*15,047*	*1.02*
Expanded Cordon Total	**119,730**	**116,226**	**1.03**

	MSA Summary		
	Estimated	**Observed**	**Est/Obs Ratio**
DC	**6,650**	**5,781**	**1.15**
MD	**42,954**	**43,144**	**1.00**
VA	**39,721**	**38,308**	**1.04**
Total MSA	**89,325**	**87,233**	**1.02**

The table reflects highway links with coded ground counts.
Source: i6_highway_assignment.rpt **9/13/2004**
Ref: v2.1 D perf00.xls, eovmt_jur

Exhibit 9-3 2000 Estimated and Observed Screenline Volumes (in thousands)
V2.1 D Draft #50 Model Performance

Screenline No.	Screenline Location	Estimated Volume	Observed Volume	Est./Obs.
1	Ring 1, Virginia	641	687	0.93
2	Ring 1, DC	820	680	1.21
3	Ring 3, Virginia	689	648	1.06
4	Ring 3, DC	972	870	1.12
5	Beltway, Virginia	1139	910	1.25
6	Beltway, Maryland	1513	1476	1.03
7	Ring 5, Virginia	1031	1116	0.92
8	Ring 5, Maryland	1385	1268	1.09
9	Ring 7, Virginia	786	716	1.10
10	Eastern Loudoun Co.	351	302	1.16
11	US 15, Loudoun / Pr. William Co.	177	148	1.20
12	Central Montgomery Co. Radial	386	398	0.97
13	Eastern Montgomery Co. Radial	315	314	1.00
14	NE. Pr.Geo. Co. Radial	306	308	0.99
15	Central Pr.George's Co. Radial	282	294	0.96
16	Southern Pr.George's Co. Radial	237	210	1.13
17	Southern Fairfax / Pr. Wm. Radial	404	360	1.12
18	Central Fairfax Co. Radial	698	658	1.06
19	VA Route 7 Radial	525	466	1.13
20	Beltway & 'Inner' Potomac River Crossings	1042	972	1.07
22	Central Mtg./P.G. Radial	1252	1158	1.08
23	NE Montgomery Co. Radial	180	144	1.25
24	Montgomery / Pr.Geo. Co. border	379	392	0.97
25	Montgomery/ Frederick Co. border	107	92	1.16
26	Montgomery / Howard Co. border	379	342	1.11
27	Pr.Geo. / Anne Arundel Co. Border	330	312	1.06
28	Charles / Pr.Geo. Co. Border	147	164	0.90
	Inner Screenline Subtotal	*16,473*	*15,405*	*1.07*
31	Frederick / Carroll Co. Border	134	82	1.63
32	Western Loudoun Co. Border	114	64	1.78
33	'Outer' Southwestern Circumferential	315	226	1.39
34	'Outer' Southeastern Circumferential	109	100	1.09
35	South of Baltimore City	910	886	1.03
36	'Outer' Northwestern Radial	93	42	2.21
37	'Outer' Western Circumferential	38	32	1.19
38	'Outer' I-95 (South) Radial	178	174	1.02
	Outer Screenline Subtotal	*1,891*	*1,606*	*1.18*
	Grand Total	**18,364**	**17,011**	**1.08**

Notes:
- The estimated figures reflect highway links with coded ground counts only.
- The estimated link volumes that have been rounded to thousands as the observed volumes are coded in thousands.
- Source: i6_highway_assignment.rpt **9/13/2004**

Ref: v2.1 D perf00.xls, eoscreen_jur

Exhibit 9-4 2000 Version 2.1 D Draft #50 RMSE Summary by Facility Type and Volume Range

Facility Type	Volume Range	Links Count	Ave Obs Volume	Ave Est Volume	Diff. (Obs-Est)	Pct Diff.	RMSE	Pct RMSE
Freeways	1.00-9.99K	23	8.04	18.65	-10.61	-131.89	14.00	174.05
	10.00-19.99K	94	14.65	27.80	-13.15	-89.76	17.38	118.66
	20.00-29.99K	63	24.81	40.00	-15.19	-61.23	18.26	73.62
	30.00-39.99K	159	35.33	41.85	-6.52	-18.44	12.57	35.57
	40.00-49.99K	136	43.79	52.43	-8.64	-19.73	17.24	39.37
	50.00-59.99K	90	54.20	65.33	-11.13	-20.54	15.57	28.74
	60.00-69.00K	113	64.68	65.88	-1.19	-1.85	14.96	23.13
	70.00-79.00K	84	73.62	76.55	-2.93	-3.98	17.10	23.23
	80.00-89.99K	78	84.62	81.81	2.81	3.32	15.41	18.21
	90.00-99.99K	90	94.89	90.64	4.24	4.47	15.23	16.05
	100.00-109.99K	67	104.63	101.93	2.70	2.58	13.30	12.71
	110.00-119.99K	35	115.66	110.71	4.94	4.27	18.58	16.06
	120.00-129.99K	20	125.70	111.05	14.65	11.65	21.60	17.19
	130.00-139.99K	20	139.90	104.05	35.85	25.63	39.51	28.24
	Subtotal:	***1,072***	***60.24***	***64.03***	***-3.79***	***-6.30***	***16.59***	***27.54***
Maj Arterials	1.00-9.99K	1,314	6.53	10.64	-4.11	-62.99	7.11	108.99
	10.00-19.99K	2,615	14.32	17.17	-2.86	-19.95	7.14	49.91
	20.00-29.99K	1,289	23.67	23.02	0.65	2.74	6.93	29.29
	30.00-39.99K	312	32.30	26.25	6.04	18.72	9.66	29.92
	40.00-49.99K	24	42.75	34.75	8.00	18.71	18.17	42.49
	50.00-59.99K	10	52.80	31.30	21.50	40.72	24.23	45.90
	Subtotal:	***5,564***	***15.84***	***17.60***	***-1.75***	***-11.05***	***7.40***	***46.72***
Minor Arterials	1.00-9.99K	1,740	4.91	5.97	-1.06	-21.68	3.53	71.83
	10.00-19.99K	398	12.74	10.13	2.61	20.51	5.60	43.96
	20.00-29.99K	37	22.70	12.51	10.19	44.88	12.99	57.23
	30.00-39.99K	8	35.00	20.75	14.25	40.71	17.56	50.18
	Subtotal:	***2,183***	***6.75***	***6.90***	***-0.15***	***-2.18***	***4.43***	***65.64***
Collectors	1.00-9.99K	1,571	3.77	3.77	0.00	-0.05	2.71	71.96
	10.00-19.99K	201	12.33	7.42	4.91	39.81	6.91	56.07
	20.00-29.99K	32	21.69	13.47	8.22	37.90	12.32	56.81
	Subtotal:	***1,804***	***5.04***	***4.35***	***0.69***	***13.71***	***3.80***	***75.34***
Expressways	1.00-9.99K	26	6.85	11.35	-4.50	-65.73	5.80	84.74
	10.00-19.99K	90	15.44	19.13	-3.69	-23.88	7.43	48.11
	20.00-29.99K	128	24.50	29.82	-5.32	-21.72	9.64	39.34
	30.00-39.99K	80	34.15	34.19	-0.04	-0.11	7.92	23.18
	40.00-49.99K	34	44.88	34.35	10.53	23.46	12.45	27.73
	50.00-59.99K	23	54.04	36.13	17.91	33.15	20.59	38.10
	Subtotal:	***381***	***26.78***	***27.74***	***-0.95***	***-3.56***	***9.96***	***37.17***
Grand Total		***11,004***	***16.97***	***18.18***	***-1.20***	***-7.09***	***8.01***	***47.21***

Note:

$$RMSE = \sqrt{\frac{\sum (Obs.Count - Sim.Count)^2}{n}}$$

where n= the number of observations in each facility type / volume range group

Source: rmse_vol_00.s

Ref: v2.1D_ rmse_vol_00.xls

Exhibit 9-5 Screenline Locations Map 1 of 2

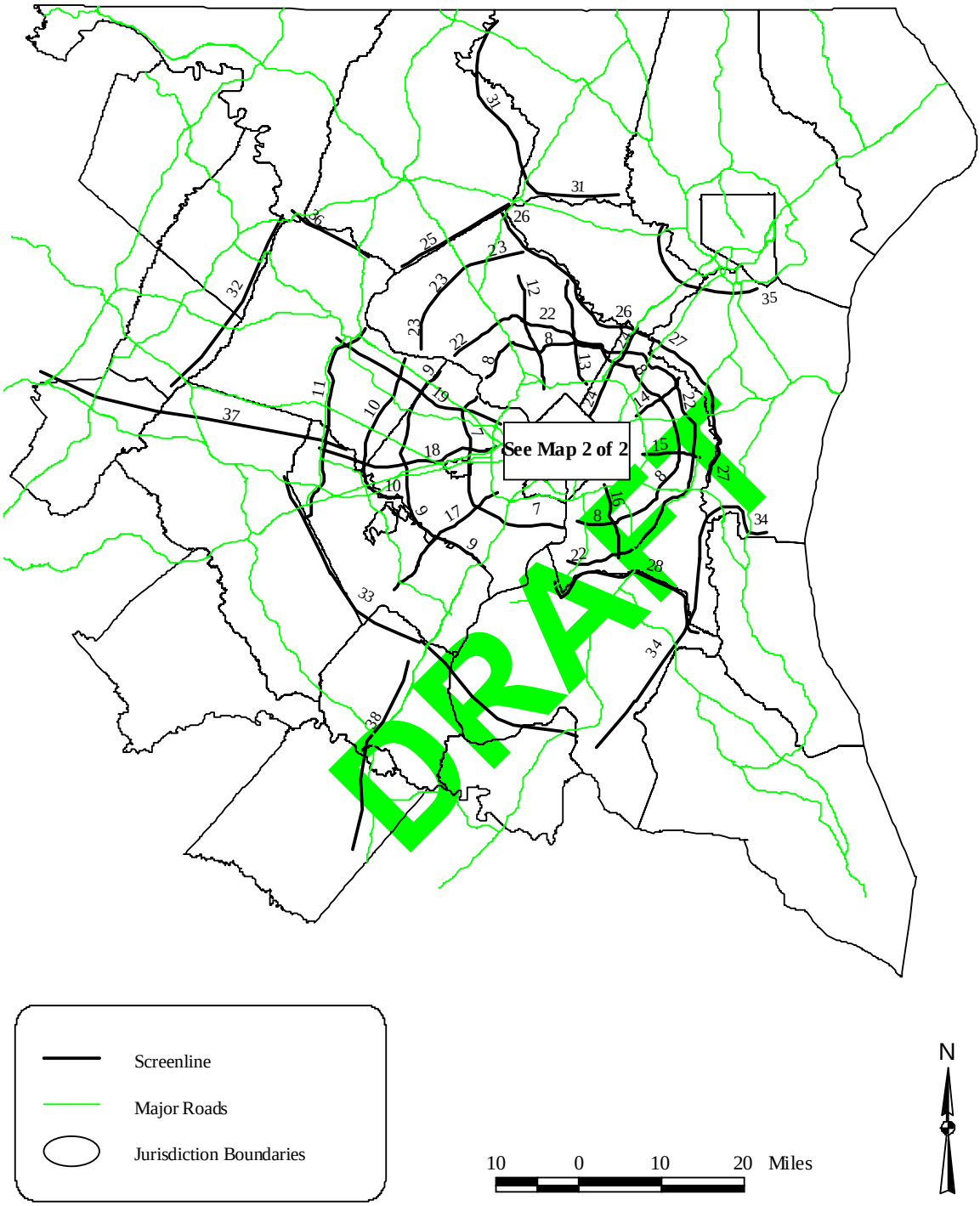


Exhibit 9-6 Screenline Locations Map 2 of 2

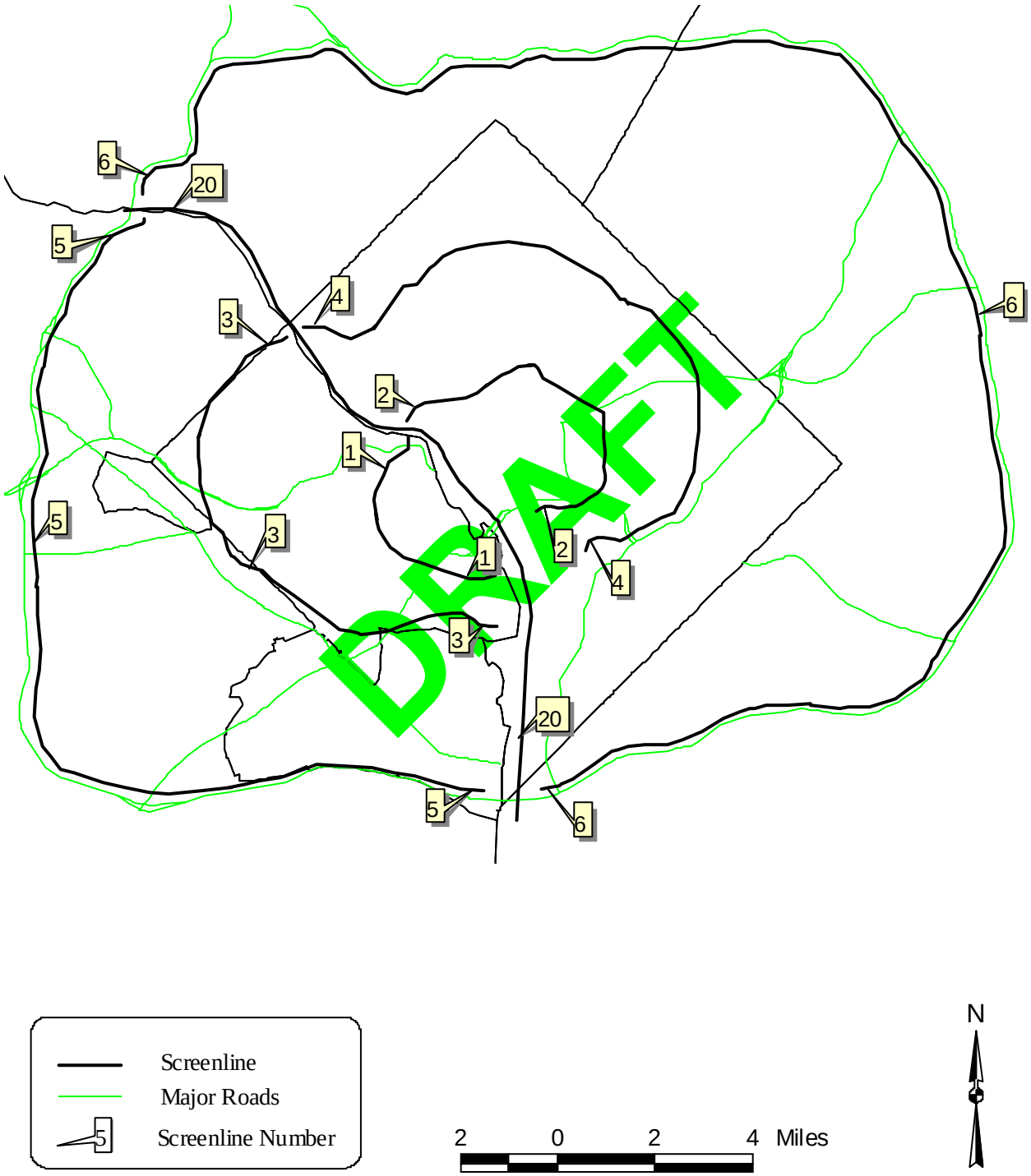


Exhibit 9-7 Estimated and Observed Ring 1 Trips Summary, Year 1994

Metro Core Cordon Location

		Est	Obs	E/O Ratio
From Metro Core to Non-Metro Core				
	Transit	9,102	10,154	0.90
	Auto Driver	10,241	13,468	0.76
	Auto Person	11,561	14,205	0.81
	Auto Occ.	1.13	1.05	1.07
	Transit Pct.	44.0%	41.7%	1.06
From Non-Metro Core to Metro Core				
	Transit	277,828	282,582	0.98
	Auto Driver	284,529	272,449	1.04
	Auto Person	365,094	352,604	1.04
	Auto Occ.	1.28	1.29	0.99
	Transit Pct.	43.2%	44.5%	0.97
Total Metro Core Cordon Crossings				
	Transit	286,930	292,736	0.98
	Auto Driver	294,770	285,917	1.03
	Auto Person	376,655	366,809	1.03
	Auto Occ.	1.28	1.28	1.00
	Transit Pct.	43.2%	44.4%	0.97

Sources: Observed Data- 1994 COG HTS/1994 Auto External Survey
Simulated Data- Version 2.1 D (Draft #50) Model / 6th Iteration HBW Trips (09/13/04) sqzchksx.s

Beltway Cordon Location

		Est	Obs	E/O Ratio
From Inside Beltway to Outside				
	Transit	9,862	14,888	0.66
	Auto Driver	133,747	140,253	0.95
	Auto Person	147,698	155,160	0.95
	Auto Occ.	1.10	1.11	1.00
	Transit Pct.	6.3%	8.8%	0.71
From Outside the Beltway to Inside				
	Transit	139,769	149,749	0.93
	Auto Driver	493,204	527,478	0.94
	Auto Person	578,807	607,372	0.95
	Auto Occ.	1.17	1.15	1.02
	Transit Pct.	19.5%	19.8%	0.98
Total Beltway Cordon Crossings				
	Transit	149,631	164,637	0.91
	Auto Driver	626,951	667,731	0.94
	Auto Person	726,505	762,532	0.95
	Auto Occ.	1.16	1.14	1.01
	Transit Pct.	17.1%	17.8%	0.96

Sources: Observed Data- 1994 COG HTS/1994 Auto External Survey
Simulated Data- Version 2.1 D (Draft #50) Model / 6th Iteration HBW Trips (09/13/04) sqzchksx.s

Ref: sqzchksx_v21d_50.xls, trip_cmp

Exhibit 9-8 Estimated and Observed Metro Core and Beltway Cordon Trip Crossings by Time Period

Metro Core Cordon

	Inbound / 6:00 AM to 9:00 AM			Outbound / 4:00 PM - 7:00 PM		
	Estimated (1994)	Observed (1993)	Est/Obs Ratio	Estimated (1994)	Observed (1993)	Est/Obs Ratio
Total Vehicles	219,200	212,000	1.03	273,586	206,800	1.32
Transit Pass.	138,200	166,700	0.83	N/A	175,700	N/A

	Estimated (2000)	Observed (1999)	Est/Obs Ratio	Estimated (2000)	Observed (1999)	Est/Obs Ratio
Total Vehicles	221,500	225,800	0.98	282,500	222,300	1.27
Transit Pass.	150,200	166,000	0.90	N/A	153,900	N/A

Notes:
- Simulated figures from MWCOG Version 2.1 D (Draft #50) model (09/13/04).
- Observed figures from available MWCOG Metro Core Cordon Reports.
  The 1999 figures are currently in draft and unpublished.
- Transit trips include Metrorail, Metrobus, commuter rail, and commuter bus service
- Vehicle trips include autos, buses, trucks and motorcycles
- All figures have been rounded to the nearest hundred
- The 1999 and 2001 figures are currently in draft and unpublished.

Beltway Cordon

	Inbound / 6:00 AM to 9:00 AM			Outbound / 4:00 PM - 7:00 PM		
	Estimated (1994)	Observed (1995)	Est/Obs Ratio	Estimated (1994)	Observed (1995)	Est/Obs Ratio
Total Vehicles	325,000	374,800	0.87	436,700	399,000	1.09
Transit Pass.	54,900	63,600	0.86	N/A	61,800	N/A

	Estimated (2000)	Observed (2001)	Est/Obs Ratio	Estimated (2000)	Observed (2001)	Est/Obs Ratio
Total Vehicles	311,100	376,700	0.83	485,900	400,700	1.21
Transit Pass.	62,800	75,400	0.83	N/A	75,200	N/A

Notes:
- Simulated figures from MWCOG Version 2.1 D (Draft #50) model (09/13/04).
- Observed figures from available MWCOG Beltway Cordon Reports.
  The 2001 figures are currently in draft and unpublished.
- Transit trips include Metrorail, Metrobus, commuter rail, and commuter bus service
- Vehicle trips include autos, buses, trucks and motorcycles
- All figures have been rounded to the nearest hundred

Ref.: sqzchksx_v21d_50.xls

Ref: sqzchksx_v21d_50.xls, crdn_modelTP

Exhibit 9-9 Observed and Estimated AM Peak Period Volumes, Year 2000

	AM Peak Period Volumes		
Location	Model Est	Maryland Obs Count	Est/obs
Beltway Inner Loop EB - near Clara Barton Pkwy (Montgomery)	16,803	22,923	0.73
Beltway Inner Loop SB - Central Ave to Ritchie Hwy (PG)	16,670	19,455	0.86
Beltway Outer Loop NB - St Barnabas Rd. to Branch Ave (PG)	12,627	10,709	1.18
Indian Headway NB - near Ft. Washington Rd. (PG)	8,310	10,576	0.79
John Hanson Hwy WB - Landover Rd. to Cheverly CL (PG)	8,749	9,159	0.96
BW Pkwy NB - MD 175 to MD 176 (Anne Arund.)	4,824	7,487	0.64
John Hanson Hwy EB - PG CL to MD 424 (Anne Arund.)	10,200	4,887	2.09
MD 15 Catoctin Mountain Hwy NB - MD 26 to Old Frederick Rd. (Frederick)	2,497	2,315	1.08
I-70 D.Eisenhower Hwy EB - MD 17 to US 40 (Frederick)	8,420	5,682	1.48
MD 15 Catoctin Mountain Hwy NB - Mountville Rd to MD 464 pt of Rock (Frederick)	1,534	869	1.77
Patuxent Pkwy NB - 195 SB to Guilford Rd (Howard)	10,239	14,371	0.71
Columbia Pike NB - Broken Land Pkwy to MD 175 (Howard)	4,267	5,715	0.75
Baltimore National Pike WB - Near Marriottsville RD (Howard)	3,112	934	3.33
I95 NB - MD 175 to MD 100 (Howard)	19,459	15,931	1.22
Baltimore National Pike EB - MD 97 to MD 32 (Howard)	12,532	8,949	1.40
Gov Ritchie Hwy NB - Aquahart Rd. to MD 100 (Anne Arund.)	365	1,478	0.25
Paul Pitcher Memorial Hwy EB - Crain Hwy to MD 2 (Anne Arund.)	3,562	11,947	0.30
Pennsylvania Ave NB - Near Robert Crain Hwy (PG)	2,016	4,222	0.48
Total AM Peak Period (18 Links)	146,186	157,609	0.93

Note: Observed Maryland Counts are averages of 5 weekdays during the Month of May, 2000 at selected Maryland locations.

Ref: obsspdu.xls

Exhibit 9-10 Observed and Estimated PM Peak Period Volumes, Year 2000

Location	PM Peak Period Volumes		
	Model Est	Maryland Obs Count	Est/obs
Beltway Inner Loop EB - near Clara Barton Pkwy (Montgomery)	20,599	20,040	1.03
Beltway Inner Loop SB - Central Ave to Ritchie Hwy (PG)	20,030	17,448	1.15
Beltway Outer Loop NB - St Barnabas Rd. to Branch Ave (PG)	18,306	13,729	1.33
Indian Headway NB - near Ft. Washington Rd. (PG)	6,865	3,957	1.73
John Hanson Hwy WB - Landover Rd. to Cheverly CL (PG)	7,893	5,282	1.49
BW Pkwy NB - MD 175 to MD 176 (Anne Arund.)	6,197	10,851	0.57
John Hanson Hwy EB - PG CL to MD 424 (Anne Arund.)	16,202	12,071	1.34
MD 15 Catoctin Mountain Hwy NB - MD 26 to Old Frederick Rd. (Frederick)	4,918	6,300	0.78
I-70 D.Eisenhower Hwy EB - MD 17 to US 40 (Frederick)	5,511	6,051	0.91
MD 15 Catoctin Mountain Hwy NB - Mountville Rd to MD 464 pt of Rock (Frederick)	2,584	2,561	1.01
Patuxent Pkwy NB - 195 SB to Guilford Rd (Howard)	15,236	10,525	1.45
Columbia Pike NB - Broken Land Pkwy to MD 175 (Howard)	5,355	11,308	0.47
Baltimore National Pike WB - Near Marriottsville RD (Howard)	5,432	2,220	2.45
I95 NB - MD 175 to MD 100 (Howard)	25,421	23,095	1.10
Baltimore National Pike EB - MD 97 to MD 32 (Howard)	13,328	5,527	2.41
Gov Ritchie Hwy NB - Aquahart Rd. to MD 100 (Anne Arund.)	3,905	2,504	1.56
Paul Pitcher Memorial Hwy EB - Crain Hwy to MD 2 (Anne Arund.)	10,156	6,052	1.68
Pennsylvania Ave NB - Near Robert Crain Hwy (PG)	2,904	3,927	0.74
Total PM Peak Period (18 Links)	190,842	163,448	1.17

Note: Observed Maryland Counts are averages of 5 weekdays during the Month of May, 2000 at selected Maryland locations.

Ref: pk0050.xls

Exhibit 9-11 Observed and Estimated Off-Peak Volumes, Year 2000

Location	Off-Peak Period Volumes		
	Model Est	Maryland Obs Count	Est/obs
Beltway Inner Loop EB - near Clara Barton Pkwy (Montgomery)	54,009	73,102	0.74
Beltway Inner Loop SB - Central Ave to Ritchie Hwy (PG)	53,559	55,145	0.97
Beltway Outer Loop NB - St Barnabas Rd. to Branch Ave (PG)	43,204	43,027	1.00
Indian Headway NB - near Ft. Washington Rd. (PG)	19,562	17,923	1.09
John Hanson Hwy WB - Landover Rd. to Cheverly CL (PG)	24,977	22,884	1.09
BW Pkwy NB - MD 175 to MD 176 (Anne Arund.)	15,193	26,626	0.57
John Hanson Hwy EB - PG CL to MD 424 (Anne Arund.)	31,900	24,051	1.33
MD 15 Catoctin Mountain Hwy NB - MD 26 to Old Frederick Rd. (Frederick)	10,932	11,816	0.93
I-70 D.Eisenhower Hwy EB - MD 17 to US 40 (Frederick)	16,398	15,362	1.07
MD 15 Catoctin Mountain Hwy NB - Mountville Rd to MD 464 pt of Rock (Frederick)	5,231	3,822	1.37
Patuxent Pkwy NB - 195 SB to Guilford Rd (Howard)	35,407	25,522	1.39
Columbia Pike NB - Broken Land Pkwy to MD 175 (Howard)	14,096	19,879	0.71
Baltimore National Pike WB - Near Marriottsville RD (Howard)	8,999	4,336	2.08
I95 NB - MD 175 to MD 100 (Howard)	60,813	59,894	1.02
Baltimore National Pike EB - MD 97 to MD 32 (Howard)	27,638	16,501	1.67
Gov Ritchie Hwy NB - Aquahart Rd. to MD 100 (Anne Arund.)	1,457	7,781	0.19
Paul Pitcher Memorial Hwy EB - Crain Hwy to MD 2 (Anne Arund.)	20,207	20,394	0.99
Pennsylvania Ave NB - Near Robert Crain Hwy (PG)	5,293	12,935	0.41
Total Off-Peak Period (18 Links)	448,875	461,000	0.97

Note: Observed Maryland Counts are averages of 5 weekdays during the Month of May, 2000 at selected Maryland locations.

Ref: pk0050.xls

Exhibit 9-12 Observed and Estimated Total Daily Volumes, Year 2000

Location	Total Daily Volumes					
	A	B	C	Ratio		
	Model Est	Maryland Obs Count	HPMS Obs Count	A / B	A / C	B / C
Beltway Inner Loop EB - near Clara Barton Pkwy (Montgomery)	91,411	116,065	112,000	0.79	0.82	1.04
Beltway Inner Loop SB - Central Ave to Ritchie Hwy (PG)	90,259	92,048	96,000	0.98	0.94	0.96
Beltway Outer Loop NB - St Barnabas Rd. to Branch Ave (PG)	74,137	67,465	74,000	1.10	1.00	0.91
Indian Headway NB - near Ft. Washington Rd. (PG)	34,737	32,456	32,000	1.07	1.09	1.01
John Hanson Hwy WB - Landover Rd. to Cheverly CL (PG)	41,619	37,325	39,000	1.12	1.07	0.96
BW Pkwy NB - MD 175 to MD 176 (Anne Arund.)	26,214	44,964	45,000	0.58	0.58	1.00
John Hanson Hwy EB - PG CL to MD 424 (Anne Arund.)	58,302	41,009	42,000	1.42	1.39	0.98
MD 15 Catoctin Mountain Hwy NB - MD 26 to Old Frederick Rd. (Frederick)	18,347	20,431	20,000	0.90	0.92	1.02
I-70 D.Eisenhower Hwy EB - MD 17 to US 40 (Frederick)	30,329	27,095	32,000	1.12	0.95	0.85
MD 15 Catoctin Mountain Hwy NB - Mountville Rd to MD 464 pt of Rock (Frederick)	9,349	7,252	7,000	1.29	1.34	1.04
Patuxent Pkwy NB - 195 SB to Guilford Rd (Howard)	60,882	50,418	47,000	1.21	1.30	1.07
Columbia Pike NB - Broken Land Pkwy to MD 175 (Howard)	23,718	36,902	31,000	0.64	0.77	1.19
Baltimore National Pike WB - Near Marriottsville RD (Howard)	17,543	7,490	8,000	2.34	2.19	0.94
I95 NB - MD 175 to MD 100 (Howard)	105,693	98,920	104,000	1.07	1.02	0.95
Baltimore National Pike EB - MD 97 to MD 32 (Howard)	53,498	30,977	34,000	1.73	1.57	0.91
Gov Ritchie Hwy NB - Aquahart Rd. to MD 100 (Anne Arund.)	5,727	11,763	13,000	0.49	0.44	0.90
Paul Pitcher Memorial Hwy EB - Crain Hwy to MD 2 (Anne Arund.)	33,925	38,393	34,000	0.88	1.00	1.13
Pennsylvania Ave NB - Near Robert Crain Hwy (PG)	10,213	21,084	21,000	0.48	0.49	1.00
Total Daily (18 Links)	785,903	782,057	791,000	1.00	0.99	0.99

Note: Observed Maryland Counts are averages of 5 weekdays during the Month of May, 2000 at selected Maryland locations.

Ref: pk0050.xls

Exhibit 9-13 Comparison of Regional Demographic and Travel Trends Over Time

		1994	2000	2030	pct change '94-'00	pct change '94-'30
Land Use	Households	1,940,449	2,144,177	3,012,414	10.5%	55.2%
	Employment	3,273,042	3,441,356	5,138,239	5.1%	57.0%
	Population	5,245,630	5,746,025	7,783,770	9.5%	48.4%
Motorized Trips / Trip Rates	HBW	3,721,105	4,150,780	6,170,067	11.5%	65.8%
Motorized Person Travel	HBS	2,815,309	3,123,566	4,430,329	10.9%	57.4%
(Internal & External)	HBO	8,622,547	9,532,128	13,326,669	10.5%	54.6%
	NHB	6,284,487	6,978,792	9,779,389	11.0%	55.6%
	Total Person Trips	21,443,448	23,785,266	33,706,454	10.9%	57.2%
Motorized Person Trips per HH		11.05	11.09	11.19	0.4%	1.3%
Motorized Person Trips per Capita		4.09	4.14	4.33	1.3%	5.9%
Non-Motorized HBW Trips		167,136	180,539	282,383	8.0%	69.0%
Auto Driver Travel	HBW	2,905,084	3,239,766	4,807,074	11.5%	65.5%
(Internal & External)	HBS	2,208,731	2,434,930	3,454,992	10.2%	56.4%
	HBO	5,914,963	6,507,221	9,155,120	10.0%	54.8%
	NHB	4,877,164	5,417,325	7,578,656	11.1%	55.4%
	Total Auto Dr.	15,905,942	17,599,242	24,995,842	10.6%	57.1%
Auto Passenger Travel	HBW	360,948	390,548	600,000	8.2%	66.2%
(Internal & External)	HBS	576,923	653,155	919,801	13.2%	59.4%
	HBO	2,552,301	2,856,794	3,930,473	11.9%	54.0%
	NHB	1,268,717	1,403,676	1,974,318	10.6%	55.6%
	Total Auto Pass.	4,758,889	5,304,173	7,424,592	11.5%	56.0%
Auto Occupancies	HBW	1.12	1.12	1.12	-0.3%	0.1%
(Internal & External)	HBS	1.26	1.27	1.27	0.6%	0.4%
	HBO	1.43	1.44	1.43	0.5%	-0.2%
	NHB	1.26	1.26	1.26	-0.1%	0.0%
	Total Auto Occ.	1.30	1.30	1.30	0.2%	-0.2%
Transit Travel	HBW	455,073	520,466	762,993	14.4%	67.7%
(Internal Only)	HBS	29,655	35,481	55,536	19.6%	87.3%
	HBO	155,283	168,113	241,076	8.3%	55.2%
	NHB	138,606	157,791	226,415	13.8%	63.4%
	Total Int'l Transit	778,617	881,851	1,286,020	13.3%	65.2%
Transit Percentage	HBW	12.23%	12.54%	12.37%	2.5%	1.1%
	HBS	1.05%	1.14%	1.25%	7.8%	19.0%
	HBO	1.80%	1.76%	1.81%	-2.1%	0.4%
	NHB	2.21%	2.26%	2.32%	2.5%	5.0%
	Total Transit Pct.	3.63%	3.71%	3.82%	2.1%	5.1%
Truck Travel	Medium Wgt.	284,426	304,799	454,443	7.2%	59.8%
	Heavy Wgt.	145,957	159,097	286,582	9.0%	96.3%
Miscellaneous & Through	Misc. Auto Dr.	483,232	583,921	847,389	20.8%	75.4%
	Through Auto Dr.	31,816	40,706	98,796	27.9%	210.5%
	Through Trucks	26,190	32,752	79,469	25.1%	203.4%
	Airport Auto Drs.	n/a	22,612	56,694		
Total Vehicle Trips		16,877,563	18,743,129	26,819,215	11.1%	58.9%
Vehicle-Miles-Traveled						
Regional VMT		127,859,959	143,644,783	209,151,179	12.3%	63.6%
VMT per Capita		24.37	25.00	26.87	2.6%	10.2%
VMT per HH		65.89	66.99	69.43	1.7%	5.4%

Notes: Transit constraint is assumed for modeled years after 2005.
2030 network does not include the Inter-County Connector

Ref: vfs_v21d_50_yrs94_00_30.xls, modsum 09/13/2004

Exhibit 9-14 Estimated Volumes Across Regional Screenlines Over Time: 1994, 2000, and 2030 (in thousands)

No.	Screenline Location	1994 Volume	1994 Link Count	2000 Volume	2000 Link Count	2030 Volume	2030 Link Count	% Change 94-'00	% Change 94-'30
1	Ring 1, Virginia	748	40	641	40	889	42	*-14.3%*	*18.9%*
2	Ring 1, DC	978	74	820	74	1,101	74	*-16.2%*	*12.6%*
3	Ring 3, Virginia	941	56	689	56	1,050	56	*-26.8%*	*11.6%*
4	Ring 3, DC	1,012	68	972	68	1,142	68	*-4.0%*	*12.8%*
5	Beltway, Virginia	1,106	52	1,139	54	1,271	54	*3.0%*	*14.9%*
6	Beltway, Maryland	1,634	98	1,513	100	2,052	102	*-7.4%*	*25.6%*
7	Ring 5, Virginia	1,118	60	1,031	62	1,424	66	*-7.8%*	*27.4%*
8	Ring 5, Maryland	1,459	94	1,385	96	2,001	102	*-5.1%*	*37.1%*
9	Ring 7, Virginia	636	40	786	44	1,287	53	*23.6%*	*102.4%*
10	Eastern Loudoun Co.	244	14	351	20	479	24	*43.9%*	*96.3%*
11	US 15, Loudoun / Pr. William Co.	155	16	177	16	392	16	*14.2%*	*152.9%*
12	Central Montgomery Co. Radial	502	30	386	30	576	30	*-23.1%*	*14.7%*
13	Eastern Montgomery Co. Radial	374	16	315	16	484	18	*-15.8%*	*29.4%*
14	NE. Pr.Geo. Co. Radial	298	16	306	16	351	16	*2.7%*	*17.8%*
15	Central Pr.George's Co. Radial	263	10	282	12	311	12	*7.2%*	*18.3%*
16	Southern Pr.George's Co. Radial	234	16	237	16	305	16	*1.3%*	*30.3%*
17	Southern Fairfax / Pr. Wm. Radial	390	26	404	28	519	30	*3.6%*	*33.1%*
18	Central Fairfax Co. Radial	571	36	698	36	821	44	*22.2%*	*43.8%*
19	VA Route 7 Radial	449	34	525	38	574	40	*16.9%*	*27.8%*
20	Beltway & 'Inner' Potomac Riv. Crossings	1,011	14	1,042	14	1,126	18	*3.1%*	*11.4%*
22	Central Mtg./P.G. Radial	1,351	108	1,252	114	1,767	114	*-7.3%*	*30.8%*
23	NE Montgomery Co. Radial	156	24	180	24	268	26	*15.4%*	*71.8%*
24	Montgomery / Pr.Geo. Co. border	436	26	379	26	560	26	*-13.1%*	*28.4%*
25	Montgomery/ Frederick Co. border	83	8	107	8	263	12	*28.9%*	*216.9%*
26	Montgomery / Howard Co. border	359	20	379	20	620	22	*5.6%*	*72.7%*
27	Pr.Geo. / Anne Arundel Co. Border	291	14	330	14	444	14	*13.4%*	*52.6%*
28	Charles / Pr.Geo. Co. Border	106	10	147	10	214	10	*38.7%*	*101.9%*
	Inner Screenline Subtotal	**16,905**	***1,020***	**16,473**	***1,052***	**22,291**	***1,105***	*-2.6%*	*31.9%*
31	Frederick / Carroll Co. Border	117	20	134	20	220	20	*14.5%*	*88.0%*
32	Western Loudoun Co. Border	92	8	114	8	190	8	*23.9%*	*106.5%*
33	'Outer' Southwestern Circumferential	285	14	315	14	539	16	*10.5%*	*89.1%*
34	'Outer' Southeastern Circumferential	92	12	109	12	150	12	*18.5%*	*63.0%*
35	South of Baltimore City	814	38	910	42	1,270	40	*11.8%*	*56.0%*
36	'Outer' Northwestern Radial	79	6	93	6	140	6	*17.7%*	*77.2%*
37	'Outer' Western Circumferential	30	10	38	10	68	10	*26.7%*	*126.7%*
38	'Outer' I-95 (South) Radial	148	20	178	20	252	22	*20.3%*	*70.3%*
	Outer Screenline Subtotal	1,657	128	1,891	132	2,829	134	*14.1%*	*70.7%*
	Grand Total	***18,562***	***1,148***	***18,364***	***1,184***	***25,120***	***1,239***	***-1.1%***	***35.3%***

Source: scrnsum.s, scrnsum.rpt (09/15/04)

Ref: scrnsum_v21d_50.xls, screen

Exhibit 9-15 Estimated VMT by Jurisdiction :1994, 2000, and 2025
(in thousands)

	VMT			Percent change	
Jurisdiction	1994	2000	2030	94 to 00	94 to 30
0 Washington DC	8,784	8,883	9,868	1.1%	12.3%
1 Montgomery Co.	18,455	19,636	24,331	6.4%	31.8%
2 Prince George's Co.	20,256	21,321	26,981	5.3%	33.2%
3 Arlington Co.	4,147	4,312	4,709	4.0%	13.6%
4 Alexandria	2,040	2,170	2,584	6.4%	26.7%
5 Fairfax Co.	23,190	25,747	33,468	11.0%	44.3%
6 Loudoun Co.	2,967	4,438	10,414	49.6%	251.0%
7 Prince William Co.	5,993	7,109	12,086	18.6%	101.7%
9 Frederick Co.	6,704	7,893	13,511	17.7%	101.5%
10 Howard Co.	8,347	9,991	17,533	19.7%	110.0%
11 Anne Arundel Co.	10,315	13,188	19,397	27.9%	88.0%
12 Charles Co.	1,988	2,308	3,688	16.1%	85.5%
14 Carroll Co.	2,491	2,868	5,495	15.2%	120.6%
15 Calvert Co.	1,189	1,337	1,790	12.5%	50.6%
16 St Mary's Co.	1,363	1,585	2,217	16.2%	62.6%
17 King George Co.	657	654	1,419	-0.4%	116.0%
18 Fredericksburg	547	336	547	-38.6%	0.0%
19 Stafford Co.	3,250	3,752	6,407	15.5%	97.2%
20 Spotsylvania Co.	1,443	1,724	3,683	19.5%	155.3%
21 Fauquier Co.	2,101	2,450	5,307	16.6%	152.6%
22 Clarke Co.	583	741	1,574	27.2%	170.1%
23 Jefferson Co.	1,054	1,204	2,143	14.2%	103.4%
Total	127,860	143,645	209,151	12.3%	63.6%

Source: scrnsum.s, scrnsum.rpt (09/15/04)

Ref: scrnsum_v21d_50.xls, juris

Exhibit 9-16 Average Link Speeds by Jurisdiction for the Final (Iteration #6) Traffic Assignment (in mph)

					Change	
		1994	2000	2030	94 to 30	00 to 30
AM	DC	22	22	21	-1	-1
	Mtg	30	30	26	-4	-4
	Pg	33	32	25	-8	-7
	Arl	29	28	26	-3	-2
	Alx	23	24	21	-2	-3
	Ffx	30	30	27	-3	-3
	Ldn	33	38	31	-2	-7
	Pw	38	37	32	-6	-5
	Frd	50	47	32	-18	-15
	How	37	38	25	-12	-13
	AA	36	37	23	-13	-14
	Chs	36	36	31	-5	-5
	Car	36	36	29	-7	-7
	Cal	41	40	37	-4	-3
	St M	37	36	33	-4	-3
	KG	38	38	31	-7	-7
	Fbg	52	43	24	-28	-19
	Staf	49	47	29	-20	-18
	Spots	54	49	30	-24	-19
	Fau	47	47	39	-8	-8
	Clk	38	38	26	-12	-12
	Jef	40	40	34	-6	-6
	TOTAL	34	34	27	-7	-7
PM	DC	19	19	17	-2	-2
	Mtg	23	22	19	-4	-3
	Pg	26	25	20	-6	-5
	Arl	19	18	17	-2	-1
	Alx	17	16	15	-2	-1
	Ffx	22	22	20	-2	-2
	Ldn	30	35	26	-4	-9
	Pw	32	32	26	-6	-6
	Frd	45	42	26	-19	-16
	How	30	31	19	-11	-12
	AA	26	27	17	-9	-10
	Chs	35	34	28	-7	-6
	Car	34	33	24	-10	-9
	Cal	40	38	34	-6	-4
	St M	36	33	29	-7	-4
	KG	36	35	24	-12	-11
	Fbg	46	38	19	-27	-19
	Staf	41	38	22	-19	-16
	Spots	51	47	24	-27	-23
	Fau	45	44	35	-10	-9
	Clk	38	37	22	-16	-15
	Jef	38	37	29	-9	-8
	TOTAL	27	27	21	-6	-6
Off-Pk	DC	28	27	25	-3	-2
	Mtg	35	34	30	-5	-4
	Pg	38	37	30	-8	-7
	Arl	32	31	28	-4	-3
	Alx	27	27	26	-1	-1
	Ffx	35	35	32	-3	-3
	Ldn	36	39	37	1	-2
	Pw	43	43	38	-5	-5
	Frd	53	53	41	-12	-12
	How	44	44	35	-9	-9
	AA	42	45	30	-12	-15
	Chs	37	37	35	-2	-2
	Car	39	38	33	-6	-5
	Cal	42	42	39	-3	-3
	St M	39	38	37	-2	-1
	KG	38	38	33	-5	-5
	Fbg	53	44	27	-26	-17
	Staf	52	46	31	-21	-15
	Spots	55	51	35	-20	-16
	Fau	48	48	44	-4	-4
	Clk	40	40	33	-7	-7
	Jef	42	41	37	-5	-4
	TOTAL	38	39	33	-5	-6

Source: Itersum.s

Ref: spditr_v21d_50.xls

Appendix A
Demographic Model Performance Summaries

Estimated / Observed Vehicle Availability Level Distributions, by Jurisdiction

	Estimated number of households					Estimated distribution of households					Observed distribution of households				
Jurisdiction	**0 Veh**	**1 Veh**	**2 Veh**	**3+ Veh**	**Total**	**0 Veh**	**1 Veh**	**2 Veh**	**3+ Veh**	**Total**	**0 Veh**	**1 Veh**	**2 Veh**	**3+ Veh**	**Total**
District of Columbia	70,154	109,297	59,332	10,292	249,075	28.2%	43.9%	23.8%	4.1%	100.0%	27.6%	43.7%	24.8%	3.9%	100.0%
Montgomery Co., MD	11,970	93,061	133,615	58,101	296,747	4.0%	31.4%	45.0%	19.6%	100.0%	3.1%	31.8%	46.9%	18.2%	100.0%
Prince George's Co.	13,216	89,933	116,516	51,545	271,210	4.9%	33.2%	43.0%	19.0%	100.0%	5.7%	35.1%	40.0%	19.2%	100.0%
Arlington Co., VA	7,783	40,170	26,084	7,829	81,866	9.5%	49.1%	31.9%	9.6%	100.0%	8.5%	48.1%	30.9%	12.5%	100.0%
Alexandria, city of	3,871	27,784	19,397	5,681	56,733	6.8%	49.0%	34.2%	10.0%	100.0%	9.3%	51.7%	31.2%	7.8%	100.0%
Fairfax Co., VA	9,837	94,841	152,503	70,440	327,621	3.0%	28.9%	46.5%	21.5%	100.0%	3.3%	29.2%	47.8%	19.7%	100.0%
Loudoun Co., VA	779	9,675	20,743	11,140	42,337	1.8%	22.9%	49.0%	26.3%	100.0%	1.9%	20.1%	53.9%	24.2%	100.0%
Prince William Co., VA	2,144	22,863	44,504	23,126	92,637	2.3%	24.7%	48.0%	25.0%	100.0%	0.4%	18.5%	54.7%	26.4%	100.0%
Frederick Co., MD	1,560	15,845	27,464	14,700	59,569	2.6%	26.6%	46.1%	24.7%	100.0%	2.4%	20.1%	46.7%	30.8%	100.0%
Howard Co., MD	1,545	19,339	37,375	19,129	77,388	2.0%	25.0%	48.3%	24.7%	100.0%	n/a	n/a	n/a	n/a	n/a
Anne Arundel Co., MD	3,902	41,819	76,194	39,013	160,928	2.4%	26.0%	47.3%	24.2%	100.0%	n/a	n/a	n/a	n/a	n/a
Charles Co., MD	739	8,384	18,092	10,138	37,353	2.0%	22.4%	48.4%	27.1%	100.0%	3.9%	19.3%	48.9%	27.9%	100.0%
Carroll Co., Md	856	9,624	22,460	13,408	46,348	1.8%	20.8%	48.5%	28.9%	100.0%	n/a	n/a	n/a	n/a	n/a
Calvert Co., MD	375	4,310	9,917	5,823	20,425	1.8%	21.1%	48.6%	28.5%	100.0%	2.7%	17.7%	45.5%	34.1%	100.0%
St. Mary's Co., MD	676	6,788	12,861	7,228	27,553	2.5%	24.6%	46.7%	26.2%	100.0%	n/a	n/a	n/a	n/a	n/a
King George Co., VA	132	1,315	2,492	1,381	5,320	2.5%	24.7%	46.8%	26.0%	100.0%	n/a	n/a	n/a	n/a	n/a
Fredericksburg, city of	440	3,365	2,888	1,016	7,709	5.7%	43.7%	37.5%	13.2%	100.0%	n/a	n/a	n/a	n/a	n/a
Stafford Co., VA	414	4,770	11,769	6,982	23,935	1.7%	19.9%	49.2%	29.2%	100.0%	2.1%	14.5%	54.3%	29.1%	100.0%
Spotsylvania Co., VA	379	4,188	9,129	5,110	18,806	2.0%	22.3%	48.5%	27.2%	100.0%	n/a	n/a	n/a	n/a	n/a
Fauquier Co., VA	311	3,702	8,741	5,231	17,985	1.7%	20.6%	48.6%	29.1%	100.0%	3.0%	19.4%	47.0%	30.6%	100.0%
Clarke Co., VA	111	1,129	2,105	1,175	4,520	2.5%	25.0%	46.6%	26.0%	100.0%	n/a	n/a	n/a	n/a	n/a
Jefferson Co., WV	413	3,958	6,461	3,385	14,217	2.9%	27.8%	45.4%	23.8%	100.0%	n/a	n/a	n/a	n/a	n/a
Total	131,607	616,160	820,642	371,873	1,940,282	6.8%	31.8%	42.3%	19.2%	100.0%	8.6%	31.6%	41.0%	18.8%	100.0%

Note: The observed data shown is from 1994 HTS.

Ref: v2tpp estobs demogRV.xls, vehav

Estimated / Observed Household Size Level Distributions, by Jurisdiction

		Estimated number of households					Estimated distribution of households					Observed distribution of households				
Jurisdiction	**Jur cd**	**1 Psn**	**2 Psn**	**3 Psn**	**4+Psn**	**Total**	**1 Psn**	**2 Psn**	**3 Psn**	**4+Psn**	**Total**	**1 Psn**	**2 Psn**	**3 Psn**	**4+Psn**	**Total**
District of Columbia	0	91,583	81,006	36,493	40,029	249,111	36.8%	32.5%	14.6%	16.1%	100.0%	36.8%	35.1%	13.2%	14.9%	100.0%
Montgomery Co., MD	1	59,361	97,493	61,183	78,764	296,801	20.0%	32.8%	20.6%	26.5%	100.0%	17.6%	33.9%	17.6%	30.9%	100.0%
Prince George's Co.	2	53,293	87,071	55,331	75,559	271,254	19.6%	32.1%	20.4%	27.9%	100.0%	20.5%	32.6%	20.3%	26.6%	100.0%
Arlington Co., VA	3	31,269	26,982	11,632	11,989	81,872	38.2%	33.0%	14.2%	14.6%	100.0%	39.6%	31.9%	16.8%	11.8%	100.0%
Alexandria, city of	4	23,421	18,513	7,448	7,342	56,724	41.3%	32.6%	13.1%	12.9%	100.0%	42.0%	33.6%	10.6%	13.8%	100.0%
Fairfax Co., VA	5	65,292	103,132	66,317	92,879	327,620	19.9%	31.5%	20.2%	28.3%	100.0%	16.7%	33.7%	21.2%	28.4%	100.0%
Loudoun Co., VA	6	7,423	13,411	8,965	12,539	42,338	17.5%	31.7%	21.2%	29.6%	100.0%	16.4%	30.1%	20.3%	33.3%	100.0%
Prince William Co., VA	7	13,378	27,376	19,901	32,004	92,659	14.4%	29.5%	21.5%	34.5%	100.0%	10.5%	30.4%	22.4%	36.7%	100.0%
Frederick Co., MD	9	11,793	18,934	12,056	16,781	59,564	19.8%	31.8%	20.2%	28.2%	100.0%	15.5%	33.8%	21.0%	29.7%	100.0%
Howard Co., MD	10	14,638	24,561	15,960	22,224	77,383	18.9%	31.7%	20.6%	28.7%	100.0%	n/a	n/a	n/a	n/a	n/a
Anne Arundel Co., MD	11	29,731	50,630	32,987	47,588	160,936	18.5%	31.5%	20.5%	29.6%	100.0%	n/a	n/a	n/a	n/a	n/a
Charles Co., MD	12	6,216	11,549	7,903	11,694	37,362	16.6%	30.9%	21.2%	31.3%	100.0%	9.3%	34.7%	18.7%	37.4%	100.0%
Carroll Co., Md	14	7,160	14,471	10,034	14,685	46,350	15.4%	31.2%	21.6%	31.7%	100.0%	n/a	n/a	n/a	n/a	n/a
Calvert Co., MD	15	3,168	6,062	4,320	6,878	20,428	15.5%	29.7%	21.1%	33.7%	100.0%	8.0%	32.1%	26.8%	33.1%	100.0%
St. Mary's Co., MD	16	5,222	8,697	5,605	8,028	27,552	19.0%	31.6%	20.3%	29.1%	100.0%	n/a	n/a	n/a	n/a	n/a
King George Co., VA	17	956	1,718	1,119	1,526	5,319	18.0%	32.3%	21.0%	28.7%	100.0%	n/a	n/a	n/a	n/a	n/a
Fredericksburg, city of	18	2,375	2,666	1,326	1,344	7,711	30.8%	34.6%	17.2%	17.4%	100.0%	n/a	n/a	n/a	n/a	n/a
Stafford Co., VA	19	3,068	7,039	5,237	8,589	23,933	12.8%	29.4%	21.9%	35.9%	100.0%	9.2%	33.0%	13.8%	44.0%	100.0%
Spotsylvania Co., VA	20	2,694	5,769	4,101	6,244	18,808	14.3%	30.7%	21.8%	33.2%	100.0%	n/a	n/a	n/a	n/a	n/a
Fauquier Co., VA	21	3,098	5,673	3,805	5,413	17,989	17.2%	31.5%	21.2%	30.1%	100.0%	14.2%	38.1%	16.0%	31.7%	100.0%
Clarke Co., VA	22	1,003	1,519	894	1,104	4,520	22.2%	33.6%	19.8%	24.4%	100.0%	n/a	n/a	n/a	n/a	n/a
Jefferson Co., WV	23	3,345	4,798	2,756	3,315	14,214	23.5%	33.8%	19.4%	23.3%	100.0%	n/a	n/a	n/a	n/a	n/a
Total		439,487	619,070	375,373	506,518	1,940,448	22.6%	31.9%	19.3%	26.1%	100.0%	22.0%	33.4%	18.4%	26.2%	100.0%

Ref: v2tpp estobs demogRV.xls, hhsiz

Estimated / Observed Income Level Distributions, by Jurisdiction

		Estimated number of households					Estimated distribution of households					Observed distribution of households				
Jurisdiction	**Jur cd**	**Inc 1**	**Inc 2**	**Inc 3**	**Inc 4**	**Total**	**Inc 1**	**Inc 2**	**Inc 3**	**Inc 4**	**Total**	**Inc 1**	**Inc 2**	**Inc 3**	**Inc 4**	**Total**
District of Columbia	0	112,609	64,192	43,160	29,149	249,110	45.2%	25.8%	17.3%	11.7%	100.0%	36.9%	19.6%	19.4%	24.2%	100.0%
Montgomery Co., MD	1	58,061	71,825	76,812	90,103	296,801	19.6%	24.2%	25.9%	30.4%	100.0%	18.8%	19.7%	27.9%	33.6%	100.0%
Prince George's Co.	2	79,505	78,368	65,802	47,580	271,255	29.3%	28.9%	24.3%	17.5%	100.0%	23.5%	29.4%	32.0%	15.0%	100.0%
Arlington Co., VA	3	22,184	23,898	20,202	15,588	81,872	27.1%	29.2%	24.7%	19.0%	100.0%	23.9%	22.3%	24.5%	29.3%	100.0%
Alexandria, city of	4	16,933	17,365	13,309	9,118	56,725	29.9%	30.6%	23.5%	16.1%	100.0%	26.6%	19.7%	25.8%	27.9%	100.0%
Fairfax Co., VA	5	52,984	74,974	92,409	107,252	327,619	16.2%	22.9%	28.2%	32.7%	100.0%	12.6%	17.0%	31.7%	38.7%	100.0%
Loudoun Co., VA	6	7,760	10,997	12,778	10,804	42,339	18.3%	26.0%	30.2%	25.5%	100.0%	19.5%	18.6%	28.3%	33.6%	100.0%
Prince William Co., VA	7	21,257	26,260	25,785	19,357	92,659	22.9%	28.3%	27.8%	20.9%	100.0%	16.6%	26.8%	29.2%	27.4%	100.0%
Frederick Co., MD	9	17,793	19,005	14,390	8,376	59,564	29.9%	31.9%	24.2%	14.1%	100.0%	25.7%	26.6%	31.0%	16.6%	100.0%
Howard Co., MD	10	12,558	19,564	24,159	21,102	77,383	16.2%	25.3%	31.2%	27.3%	100.0%	n/a	n/a	n/a	n/a	n/a
Anne Arundel Co., MD	11	39,864	48,247	43,623	29,202	160,936	24.8%	30.0%	27.1%	18.1%	100.0%	n/a	n/a	n/a	n/a	n/a
Charles Co., MD	12	9,340	11,122	10,143	6,756	37,361	25.0%	29.8%	27.1%	18.1%	100.0%	26.0%	22.5%	30.3%	21.2%	100.0%
Carroll Co., Md	14	13,277	15,181	11,433	6,460	46,351	28.6%	32.8%	24.7%	13.9%	100.0%	n/a	n/a	n/a	n/a	n/a
Calvert Co., MD	15	4,958	6,226	5,565	3,680	20,429	24.3%	30.5%	27.2%	18.0%	100.0%	23.4%	22.7%	36.8%	17.1%	100.0%
St. Mary's Co., MD	16	10,127	8,649	5,712	3,063	27,551	36.8%	31.4%	20.7%	11.1%	100.0%	n/a	n/a	n/a	n/a	n/a
King George Co., VA	17	2,089	1,761	995	474	5,319	39.3%	33.1%	18.7%	8.9%	100.0%	n/a	n/a	n/a	n/a	n/a
Fredericksburg, city of	18	4,333	1,948	997	433	7,711	56.2%	25.3%	12.9%	5.6%	100.0%	n/a	n/a	n/a	n/a	n/a
Stafford Co., VA	19	5,860	7,678	6,515	3,880	23,933	24.5%	32.1%	27.2%	16.2%	100.0%	19.2%	28.7%	30.9%	21.3%	100.0%
Spotsylvania Co., VA	20	4,998	6,145	4,861	2,804	18,808	26.6%	32.7%	25.8%	14.9%	100.0%	n/a	n/a	n/a	n/a	n/a
Fauquier Co., VA	21	4,448	5,577	4,890	3,076	17,991	24.7%	31.0%	27.2%	17.1%	100.0%	27.2%	22.4%	29.1%	21.3%	100.0%
Clarke Co., VA	22	1,961	1,448	760	351	4,520	43.4%	32.0%	16.8%	7.8%	100.0%	n/a	n/a	n/a	n/a	n/a
Jefferson Co., WV	23	6,638	4,304	2,247	1,025	14,214	46.7%	30.3%	15.8%	7.2%	100.0%	n/a	n/a	n/a	n/a	n/a
Total		509,537	524,734	486,547	419,633	1,940,451	26.3%	27.0%	25.1%	21.6%	100.0%	23.7%	21.9%	27.4%	27.0%	100.0%

Ref: v2tpp estobs demogRV.xls, hhinc

Appendix B
Trip Distribution Model Performance Summaries

Estimated 1994 HBW Motorized Person Trips -- Some trips were removed for IJs with no observed data

ORIGIN \ DESTINATION	DCCR	DCNCR	MTG	PG	ARLCR	ARLNCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CLK&JF	FBG&SP	KGEO	EXT	TOTAL
1DCCR	22504	10523	994	1052	1250	1694	672	1907	29	14	3	0	71	160	6	0	5	1	0	0	0	0	810	41695
2DCNCR	134910	58980	15738	16413	8065	10936	5668	15416	295	75	94	5	1150	2993	28	2	86	5	4	3	4	2	7461	278333
3MTG	107770	62346	265528	21850	8250	10565	3469	28894	1167	98	7075	533	6980	1400	15	0	31	16	2	292	1	0	18056	544338
4PG	100235	72445	23067	202949	9727	14811	8181	23139	232	166	144	23	5546	23405	781	271	3731	6	6	1	16	102	16647	505631
5ARLCR	3299	939	162	109	650	716	215	685	15	4	3	0	3	13	1	0	0	0	0	0	0	0	106	6920
6ARLNCR	55332	9608	3743	1995	8689	20529	6670	22296	541	147	48	1	101	274	0	0	10	26	12	1	8	1	2153	132185
7ALX	30587	6803	1714	2312	5390	11317	15151	19783	191	225	14	0	54	231	5	1	42	4	12	0	19	0	1293	95148
8FFX	110929	30673	14841	7817	22511	59698	38081	337365	25332	7830	253	3	354	593	24	2	130	1131	366	94	419	11	8488	666945
9LDN	2304	1087	2220	241	741	1456	468	28762	39776	772	2978	48	238	27	0	0	1	677	5	1790	2	0	1514	85107
10PW	15818	2689	978	940	2333	4970	6670	63790	4739	67127	49	0	15	29	1	0	5	3921	3142	91	3387	122	2139	182955
11FRD	1008	1004	17423	940	231	326	60	1154	2661	21	78552	3563	1794	194	0	0	0	10	0	2513	0	0	8931	120385
12CAR	48	89	3032	665	2	11	3	97	188	1	10366	44463	9676	1018	0	0	0	1	0	222	0	0	12672	82554
13HOW	4842	3576	10595	15605	423	504	209	1115	114	3	3181	921	49932	14463	7	0	6	0	0	155	0	0	30855	136506
14AAR	10592	7559	4164	32354	1202	1914	724	1822	8	9	30	9	13588	162652	1128	100	445	0	0	1	0	5	29975	268281
15CAL	2285	1956	290	5209	268	431	420	474	0	5	0	0	82	4310	15109	6582	1198	0	0	0	0	75	240	38934
16STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	194	194
17CHS	7424	3181	282	18003	405	749	1123	1230	3	12	1	0	60	1367	1170	2396	30066	1	18	0	45	1928	463	69927
18FAU	18	15	17	6	8	34	31	4265	1680	3946	27	0	0	0	0	0	0	15866	1218	257	1066	42	1024	29520
19STA	667	280	84	98	241	541	826	5605	25	8113	0	0	0	0	0	9	27	894	14565	0	11904	917	2104	46900
20CL&JEF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4369	4369
21FBG&SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5702	5702
22KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	283	283
23EXTL	5756	5307	15550	17886	989	1916	1413	14825	4420	6621	20450	16719	26911	76990	446	439	1139	6774	2523	9948	9812	1295	0	248129
TOTAL	616328	279060	380422	346444	71375	143118	90054	572624	81416	95189	123268	66288	116555	290119	18721	9802	36922	29333	21873	15368	26683	4500	155479	3590941

Observed - COG HTS, COG AES, Baltimore HTS1994 HBW Motorized Person Trips NOTE: Non-Wk Obs Trips Ftrd by 1.50 to Account for Under-Reporting

ORIGIN \ DESTINATION	DCCR	DCNCR	MTG	PG	ARLCR	ARLNCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CLK&JF	FBG&SP	KGEO	EXT	TOTAL
1DCCR	20769	8122	1870	1541	0	1182	1468	6179	0	0	0	0	0	0	0	0	0	0	0	0	0	0	918	42049
2DCNCR	128982	70048	28579	12144	6205	6974	2630	9712	0	632	0	0	562	562	0	0	0	0	0	0	0	0	624	267654
3MTG	110067	49962	263802	25834	8186	11825	7286	29623	0	0	4035	607	5754	1803	0	0	0	1190	0	0	0	0	10740	530714
4PG	101269	62380	42840	202304	7135	17651	924	19490	0	0	0	604	6499	15273	0	2260	10386	0	0	0	1408	0	6110	496533
5ARLCR	4128	367	684	0	652	1408	310	310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7859
6ARLNCR	48271	13132	6320	3031	7730	30255	5021	20197	679	0	0	0	0	0	0	0	0	0	0	0	0	0	408	135044
7ALX	26684	6443	3588	1690	5129	9695	19678	17255	205	426	207	0	213	0	0	0	0	0	0	0	0	0	1451	92664
8FFX	103655	26554	21364	6079	27373	62495	46336	309728	25482	11041	0	0	0	1282	0	646	0	0	0	0	0	0	4767	646802
9LDN	4215	709	1877	355	2143	2957	154	28494	34180	2002	564	0	0	0	0	0	282	1676	0	0	0	0	1447	81055
10PW	16368	6190	3320	1348	4560	7171	5819	58744	4867	58322	0	0	0	957	0	0	0	2307	2022	0	0	638	2759	175392
11FRD	2092	240	25532	1374	448	1790	0	3056	337	0	71995	1113	676	224	0	0	0	0	0	0	0	0	8809	117686
12CAR	500	278	3377	6209	0	0	0	0	0	0	0	36272	3050	8714	0	0	0	0	0	0	0	0	25915	84315
13HOW	8251	3394	8062	14066	0	0	0	2316	0	0	0	1372	50688	19555	0	0	0	0	0	0	0	0	35324	143028
14AAR	13800	4820	3586	38253	0	0	0	4284	0	0	0	1594	14544	150621	0	0	498	0	0	0	0	0	39355	271355
15CAL	3016	2081	1238	7673	0	1112	352	176	0	0	0	0	0	1345	15452	1568	468	0	0	0	0	298	133	34912
16STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	293	293
17CHS	7591	3262	500	15099	2690	2466	1404	2875	0	0	0	0	556	850	568	1606	30177	0	0	0	0	1752	780	72176
18FAU	1163	445	314	140	143	552	0	6975	1396	2952	0	0	0	0	0	0	0	15048	256	0	0	132	1885	31401
19STA	1203	710	168	0	1241	2676	1040	9390	0	12771	0	0	0	179	0	0	0	346	13328	0	8219	862	1532	53665
20CL&JEF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7517	7517
21FBG&SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4286	4286
22KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	498	498
23EXTL	6370	5049	15904	16109	1257	3434	1056	16487	4507	5361	14695	14988	36359	80534	42	263	656	5372	2370	8691	6202	2442	0	248148
TOTAL	608394	264186	432925	353249	74892	163643	93478	545291	71653	93507	91496	56550	118901	281899	16062	6343	42467	25939	17976	8691	15829	6124	155551	3545046

Difference (Estimated - Observed) 1994 HBW Motorized Person Trips

ORIGIN \ DESTINATION	DCCR	DCNCR	MTG	PG	ARLCR	ARLNCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CLK&JF	FBG&SP	KGEO	EXT	TOTAL
1DCCR	1735	2401	-876	-489	1250	512	-796	-4272	29	14	3	0	71	160	6	0	5	1	0	0	0	0	-108	-354
2DCNCR	5928	-11068	-12841	4269	1860	3962	3038	5704	295	-557	94	5	588	2431	28	2	86	5	4	3	4	2	6837	10679
3MTG	-2297	12384	1726	-3984	64	-1260	-3817	-729	1167	98	3040	-74	1226	-403	15	0	31	-1174	2	292	1	0	7316	13624
4PG	-1034	10065	-19773	645	2592	-2840	7257	3649	232	166	144	-581	-953	8132	781	-1989	-6655	6	6	1	-1392	102	10537	9098
5ARLCR	-829	572	-522	109	-2	-692	-95	375	15	4	3	0	3	13	1	0	0	0	0	0	0	0	106	-939
6ARLNCR	7061	-3524	-2577	-1036	959	-9726	1649	2099	-138	147	48	1	101	274	0	0	10	26	12	1	8	1	1745	-2859
7ALX	3903	360	-1874	622	261	1622	-4527	2528	-14	-201	-193	0	-159	231	5	1	42	4	12	0	19	0	-158	2484
8FFX	7274	4119	-6523	1738	-4862	-2797	-8255	27637	-150	-3211	253	3	354	-689	24	-644	130	1131	366	94	419	11	3721	20143
9LDN	-1911	378	343	-114	-1402	-1501	314	268	5596	-1230	2414	48	238	27	0	0	-281	-999	5	1790	2	0	67	4052
10PW	-550	-3501	-2342	-408	-2227	-2201	851	5046	-128	8805	49	0	15	-928	1	0	5	1614	1120	91	3387	-516	-620	7563
11FRD	-1084	764	-8109	-434	-217	-1464	60	-1902	2324	21	6557	2450	1118	-30	0	0	0	10	0	2513	0	0	122	2699
12CAR	-452	-189	-345	-5544	2	11	3	97	188	1	10366	8191	6626	-7696	0	0	0	1	0	222	0	0	-13243	-1761
13HOW	-3409	182	2533	1539	423	504	209	-1201	114	3	3181	-451	-756	-5092	7	0	6	0	0	155	0	0	-4469	-6522
14AAR	-3208	2739	578	-5899	1202	1914	724	-2462	8	9	30	-1585	-956	12031	1128	100	-53	0	0	1	0	5	-9380	-3074
15CAL	-731	-125	-948	-2464	268	-681	68	298	0	5	0	0	82	2965	-343	5014	730	0	0	0	0	-223	107	4022
16STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-99	-99
17CHS	-167	-81	-218	2904	-2285	-1717	-281	-1645	3	12	1	0	-496	517	602	790	-111	1	18	0	45	176	-317	-2249
18FAU	-1145	-430	-297	-134	-135	-518	31	-2710	284	994	27	0	0	0	0	0	0	818	962	257	1066	-90	-861	-1881
19STA	-536	-430	-84	98	-1000	-2135	-214	-3785	25	-4658	0	0	0	-179	0	9	27	548	1237	0	3685	55	572	-6765
20CL&JEF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-3148	-3148
21FBG&SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1416	1416
22KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-215	-215
23EXTL	-614	258	-354	1777	-268	-1518	357	-1662	-87	1260	5755	1731	-9448	-3544	404	176	483	1402	153	1257	3610	-1147	0	-19
TOTAL	7934	14874	-52503	-6805	-3517	-20525	-3424	27333	9763	1682	31772	9738	-2346	8220	2659	3459	-5545	3394	3897	6677	10854	-1624	-72	45895

Ratio (Estimated / Observed) 1994 HBW Motorized Person Trips

ORIGIN \ DESTINATION	DCCR	DCNCR	MTG	PG	ARLCR	ARLNCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CLK&JF	FBG&SP	KGEO	EXT	TOTAL
1DCCR	1.08	1.30	0.53	0.68	0.00	1.43	0.46	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.99
2DCNCR	1.05	0.84	0.55	1.35	1.30	1.57	2.16	1.59	0.00	0.12	0.00	0.00	2.05	5.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.96	1.04
3MTG	0.98	1.25	1.01	0.85	1.01	0.89	0.48	0.98	0.00	0.00	1.75	0.88	1.21	0.78	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	1.68	1.03
4PG	0.99	1.16	0.54	1.00	1.36	0.84	8.85	1.19	0.00	0.00	0.00	0.04	0.85	1.53	0.00	0.12	0.36	0.00	0.00	0.00	0.01	0.00	2.72	1.02
5ARLCR	0.80	2.56	0.24	0.00	1.00	0.51	0.69	2.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88
6ARLNCR	1.15	0.73	0.59	0.66	1.12	0.68	1.33	1.10	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.28	0.98
7ALX	1.15	1.06	0.48	1.37	1.05	1.17	0.77	1.15	0.93	0.53	0.07	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	1.03
8FFX	1.07	1.16	0.69	1.29	0.82	0.96	0.82	1.09	0.99	0.71	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.78	1.03
9LDN	0.55	1.53	1.18	0.68	0.35	0.49	3.04	1.01	1.16	0.39	5.28	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	1.05	1.05
10PW	0.97	0.43	0.29	0.70	0.51	0.69	1.15	1.09	0.97	1.15	0.00	0.00	0.00	0.03	0.00	0.00	0.00	1.70	1.55	0.00	0.00	0.19	0.78	1.04
11FRD	0.48	4.18	0.68	0.68	0.52	0.18	0.00	0.38	7.90	0.00	1.09	3.20	2.65	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01	1.02
12CAR	0.10	0.32	0.90	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23	3.17	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.98
13HOW	0.59	1.05	1.31	1.11	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.67	0.99	0.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.95
14AAR	0.77	1.57	1.16	0.85	0.00	0.00	0.00	0.43	0.00	0.00	0.00	0.01	0.93	1.08	0.00	0.00	0.89	0.00	0.00	0.00	0.00	0.00	0.76	0.99
15CAL	0.76	0.94	0.23	0.68	0.00	0.39	1.19	2.69	0.00	0.00	0.00	0.00	0.00	3.20	0.98	4.20	2.56	0.00	0.00	0.00	0.00	0.25	1.80	1.12
16STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.66
17CHS	0.98	0.98	0.56	1.19	0.15	0.30	0.80	0.43	0.00	0.00	0.00	0.00	0.11	1.61	2.06	1.49	1.00	0.00	0.00	0.00	0.00	1.10	0.59	0.97
18FAU	0.02	0.03	0.05	0.04	0.06	0.06	0.00	0.61	1.20	1.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05	4.76	0.00	0.00	0.32	0.54	0.94
19STA	0.55	0.39	0.50	0.00	0.19	0.20	0.79	0.60	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.58	1.09	0.00	1.45	1.06	1.37	0.87
20CL&JEF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.58
21FBG&SP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33	1.33
22KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.57
23EXTL	0.90	1.05	0.98	1.11	0.79	0.56	1.34	0.90	0.98	1.24	1.39	1.12	0.74	0.96	10.62	1.67	1.74	1.26	1.06	1.14	1.58	0.53	0.00	1.00
TOTAL	1.01	1.06	0.88	0.98	0.95	0.87	0.96	1.05	1.14	1.02	1.35	1.17	0.98	1.03	1.17	1.55	0.87	1.13	1.22	1.77	1.69	0.73	1.00	1.01

Estimated 1994 HBS Motorized Person Trips -- Some trips were removed for IJs with no observed data

ORIGIN \ DESTINATION	DCCR	DCNCR	MTG	PG	ARLCR	ARLNCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CLK&JF	FBG&SP	KGEO	EXT	TOTAL
1DCCR	5144	4207	344	1244	400	2730	817	1495	19	35	45	7	18	61	3	80	19	12	96	40	200	4	4	17024
2DCNCR	14091	99924	20251	34753	1697	8961	4052	8227	111	147	274	36	207	545	32	479	93	69	648	251	1207	22	57	196134
3MTG	533	8479	458694	18370	166	1816	253	4559	97	91	578	44	2408	777	30	397	63	47	647	306	1412	23	1177	500967
4PG	693	3337	4411	334925	74	706	1789	3141	97	139	560	68	1621	10472	217	1000	8568	81	1154	517	2506	57	1530	377663
5ARLCR	342	310	41	52	1530	2005	324	1218	2	12	1	1	1	9	0	2	1	1	9	2	17	0	0	5880
6ARLNCR	745	749	216	178	785	64222	3541	18135	20	74	16	3	3	25	1	24	8	1	37	11	79	0	9	88882
7ALX	282	274	34	207	227	7138	46253	18282	7	163	20	1	6	30	2	25	7	3	42	17	84	2	10	73116
8FFX	274	640	1476	676	400	9087	11787	510855	20570	9679	758	115	102	824	80	619	149	305	1614	749	3309	62	135	574265
9LDN	17	20	178	165	6	48	38	4391	48104	194	886	26	65	205	9	0	21	104	365	1280	720	7	326	57175
10PW	9	19	145	138	6	69	125	6278	462	127539	279	26	44	317	27	81	59	2185	4747	261	3800	17	146	146779
11FRD	23	46	463	301	8	39	57	887	247	124	70221	328	188	214	5	0	46	48	251	106	259	0	4408	78269
12CAR	88	144	772	1125	17	128	145	2436	572	323	1255	32950	603	575	7	0	42	92	149	73	143	0	20789	62428
13HOW	7	19	2058	5241	1	29	24	201	40	41	644	167	64840	3970	24	130	35	28	446	223	915	6	10719	89808
14AAR	35	87	394	10980	6	57	67	879	185	142	210	19	2669	193252	410	307	114	49	554	144	1120	15	12815	224510
15CAL	37	58	297	1133	4	54	61	898	124	105	119	15	135	522	22060	1807	84	24	410	37	757	8	4	28753
16STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
17CHS	39	68	265	1205	7	47	55	1030	168	96	42	4	103	207	287	358	46889	24	405	0	462	23	18	51802
18FAU	14	25	129	171	1	28	24	430	617	1023	60	3	47	110	0	2	18	18178	2474	64	689	4	944	25055
19STA	2	1	3	4	0	0	1	22	6	304	5	0	2	5	0	6	1	7	25658	1	10595	1	139	36763
20CL&JEF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9083	9083
21FBG&SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	562	562
22KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	597	597
23EXTL	0	13	766	2611	0	2	2	69	44	251	2605	10744	9113	33293	2	1	13	2051	1054	2004	6157	460	0	71255
TOTAL	22375	118420	490937	413479	5335	97166	69415	583433	71492	140482	78578	44557	82175	245413	23196	5318	56230	23309	40760	6086	34431	711	63474	2716772

Observed - COG HTS, COG AES, Baltimore HTS1994 HBS Motorized Person Trips NOTE: Non-Wk Obs Trips Ftrd by 1.50 to Account for Under-Reporting

	DESTINATION																						
ORIGIN	DCCR	DCNCR	MTG	PG	ARLCR	ARLNCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CLK&JF	FBG&SP	KGEO	EXT	TOTAL
1DCCR	2758	4806	2056	1056	780	394	0	612	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	12484
2DCNCR	12003	92774	27993	29780	0	3994	897	3586	0	0	0	0	390	597	0	0	0	0	0	0	0	0	710	172724
3MTG	0	6478	466383	13462	1776	2118	0	926	0	0	870	0	0	0	0	0	0	0	0	0	0	0	1952	493966
4PG	1772	0	12861	325604	0	2079	0	8361	0	2732	0	0	1316	6765	0	0	16684	0	0	0	0	0	1099	379272
5ARLCR	465	0	0	0	1491	465	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2421
6ARLNCR	489	465	1443	0	2878	58330	6405	24057	465	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94533
7ALX	164	154	0	320	0	4480	45852	17052	0	1010	0	0	0	0	0	0	0	0	0	0	0	0	0	69032
8FFX	2894	0	3896	0	2769	8558	19077	500487	10676	6519	0	0	0	0	0	0	0	0	0	0	0	0	269	555143
9LDN	0	0	208	0	0	0	0	6016	42236	208	1713	0	0	0	212	0	0	0	0	0	0	0	719	51312
10PW	0	0	0	0	0	0	0	7911	234	130164	0	0	0	0	0	0	0	1173	0	0	0	0	0	139482
11FRD	0	0	6316	0	0	0	0	0	0	0	69753	1328	0	0	0	0	0	0	0	0	0	0	2340	79737
12CAR	0	0	705	1017	0	0	0	0	0	0	0	24417	0	861	0	0	0	0	0	0	0	0	22107	49107
13HOW	0	0	1064	1064	0	0	0	0	0	0	0	531	70172	3722	0	0	399	0	0	0	0	0	12481	89431
14AAR	0	0	441	7341	0	0	0	0	0	0	0	0	2055	188355	0	0	1908	0	0	0	0	0	10769	210869
15CAL	0	114	0	552	0	0	0	0	0	0	0	0	0	897	21638	843	420	264	0	0	0	0	0	24728
16STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	84	84
17CHS	0	208	0	2444	0	0	0	417	0	0	0	0	0	0	0	104	54202	0	0	0	0	206	0	57580
18FAU	192	0	0	210	0	0	0	644	0	2112	0	0	0	0	0	0	0	18201	0	0	384	0	1354	23096
19STA	252	0	0	0	0	520	0	756	0	1600	0	0	0	0	0	0	0	0	22092	0	9496	537	0	35254
20CL&JEF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8163	8163
21FBG&SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	802	802
22KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	507	507
23EXTL	0	375	776	1088	0	148	0	1108	58	1119	2931	10777	8081	35334	0	0	0	1196	156	1560	6570	0	0	71277
TOTAL	20988	105375	524142	383936	9694	81088	72231	571933	53668	145464	75267	37052	82013	236530	21849	946	73614	20834	22248	1560	16450	742	63377	2621004

Difference (Estimated - Observed) 1994 HBS Motorized Person Trips

ORIGIN \ DESTINATION	DCCR	DCNCR	MTG	PG	ARLCR	ARLNCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CLK&JF	FBG&SP	KGEO	EXT	TOTAL
1DCCR	2386	-599	-1712	188	-380	2336	817	883	19	35	45	7	18	61	3	80	19	12	96	40	200	4	-17	4540
2DCNCR	2088	7150	-7742	4974	1697	4966	3155	4640	111	147	274	36	-183	-52	32	479	93	69	648	251	1207	22	-653	23410
3MTG	533	2000	-7689	4908	-1610	-302	253	3634	97	91	-292	44	2408	777	30	397	63	47	647	306	1412	23	-775	7002
4PG	-1078	3337	-8450	9322	74	-1373	1789	-5220	97	-2592	560	68	306	3707	217	1000	-8116	81	1154	517	2506	57	431	-1608
5ARLCR	-123	310	41	52	39	1540	324	1218	2	12	1	1	1	9	0	2	1	1	9	2	17	0	0	3459
6ARLNCR	256	284	-1227	178	-2094	5892	-2864	-5922	-445	74	16	3	3	25	1	24	8	1	37	11	79	0	9	-5651
7ALX	118	120	34	-112	227	2658	401	1230	7	-846	20	1	6	30	2	25	7	3	42	17	84	2	10	4084
8FFX	-2620	640	-2420	676	-2369	530	-7290	10368	9894	3160	758	115	102	824	80	619	149	305	1614	749	3309	62	-134	19122
9LDN	17	20	-30	165	6	48	38	-1626	5868	-14	-827	26	65	205	-202	0	21	104	365	1280	720	7	-393	5862
10PW	9	19	145	138	6	69	125	-1633	228	-2625	279	26	44	317	27	81	59	1012	4747	261	3800	17	146	7297
11FRD	23	46	-5854	301	8	39	57	887	247	124	468	-1000	188	214	5	0	46	48	251	106	259	0	2068	-1468
12CAR	88	144	67	108	17	128	145	2436	572	323	1255	8533	603	-286	7	0	42	92	149	73	143	0	-1318	13321
13HOW	7	19	994	4178	1	29	24	201	40	41	644	-364	-5332	248	24	130	-364	28	446	223	915	6	-1762	377
14AAR	35	87	-47	3639	6	57	67	879	185	142	210	19	614	4897	410	307	-1794	49	554	144	1120	15	2046	13641
15CAL	37	-56	297	581	4	54	61	898	124	105	119	15	135	-375	422	964	-336	-240	410	37	757	8	4	4026
16STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-82	-82
17CHS	39	-140	265	-1238	7	47	55	613	168	96	42	4	103	207	287	254	-7314	24	405	0	462	-182	18	-5778
18FAU	-178	25	129	-39	1	28	24	-214	617	-1089	60	3	47	110	0	2	18	-23	2474	64	305	4	-410	1958
19STA	-250	1	3	4	0	-520	1	-734	6	-1296	5	0	2	5	0	6	1	7	3566	1	1098	-536	139	1508
20CL&JEF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	920	920
21FBG&SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-240	-240
22KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	90	90
23EXTL	0	-362	-10	1523	0	-146	2	-1039	-14	-868	-326	-33	1032	-2041	2	1	13	855	898	444	-413	460	0	-22
TOTAL	1387	13045	-33206	29543	-4360	16078	-2816	11500	17824	-4982	3311	7504	162	8882	1347	4372	-17384	2475	18512	4526	17980	-32	97	95768

Ratio (Estimated / Observed) 1994 HBS Motorized Person Trips

ORIGIN \ DESTINATION	DCCR	DCNCR	MTG	PG	ARLCR	ARLNCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CLK&JF	FBG&SP	KGEO	EXT	TOTAL
1DCCR	1.86	0.88	0.17	1.18	0.51	6.92	0.00	2.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	1.36
2DCNCR	1.17	1.08	0.72	1.17	0.00	2.24	4.52	2.29	0.00	0.00	0.00	0.00	0.53	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	1.14
3MTG	0.00	1.31	0.98	1.36	0.09	0.86	0.00	4.93	0.00	0.00	0.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	1.01
4PG	0.39	0.00	0.34	1.03	0.00	0.34	0.00	0.38	0.00	0.05	0.00	0.00	1.23	1.55	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	1.39	1.00
5ARLCR	0.74	0.00	0.00	0.00	1.03	4.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.43
6ARLNCR	1.52	1.61	0.15	0.00	0.27	1.10	0.55	0.75	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94
7ALX	1.72	1.77	0.00	0.65	0.00	1.59	1.01	1.07	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06
8FFX	0.09	0.00	0.38	0.00	0.14	1.06	0.62	1.02	1.93	1.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.03
9LDN	0.00	0.00	0.85	0.00	0.00	0.00	0.00	0.73	1.14	0.93	0.52	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	1.11
10PW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	1.97	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.86	0.00	0.00	0.00	0.00	0.00	1.05
11FRD	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.88	0.98
12CAR	0.00	0.00	1.10	1.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.35	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	1.27
13HOW	0.00	0.00	1.94	4.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.92	1.07	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.86	1.00
14AAR	0.00	0.00	0.89	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30	1.03	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	1.19	1.06
15CAL	0.00	0.51	0.00	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	1.02	2.14	0.20	0.09	0.00	0.00	0.00	0.00	0.00	1.16
16STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02
17CHS	0.00	0.33	0.00	0.49	0.00	0.00	0.00	2.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.46	0.87	0.00	0.00	0.00	0.00	0.11	0.00	0.90
18FAU	0.07	0.00	0.00	0.81	0.00	0.00	0.00	0.67	0.00	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.79	0.00	0.70	1.08
19STA	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16	0.00	1.12	0.00	0.00	1.04
20CL&JEF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11	1.11
21FBG&SP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.70
22KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.18	1.18
23EXTL	0.00	0.03	0.99	2.40	0.00	0.01	0.00	0.06	0.76	0.22	0.89	1.00	1.13	0.94	0.00	0.00	0.00	1.71	6.76	1.28	0.94	0.00	0.00	1.00
TOTAL	1.07	1.12	0.94	1.08	0.55	1.20	0.96	1.02	1.33	0.97	1.04	1.20	1.00	1.04	1.06	5.62	0.76	1.12	1.83	3.90	2.09	0.96	1.00	1.04

Estimated 1994 HBO Motorized Person Trips -- Some trips were removed for IJs with no observed data

ORIGIN \ DESTINATION	DCCR	DCNCR	MTG	PG	ARLCR	ARLNCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CLK&JF	FBG&SP	KGEO	EXT	TOTAL
1DCCR	22145	18055	1808	3035	735	3012	823	1669	12	20	0	1	17	54	1	2	1	2	1	2	1	0	829	52225
2DCNCR	110124	447320	66611	35776	6197	16938	10093	13478	270	171	24	26	1002	798	30	31	69	13	21	57	22	22	13499	722592
3MTG	32021	628791	299676	47570	1784	7054	2994	13532	1340	105	1431	211	14666	3730	23	40	31	18	41	688	62	43	30990	1520929
4PG	28957	98390	39613	900168	1834	3710	5300	6354	69	180	39	40	10892	26876	665	275	7311	17	55	113	66	65	23950	1154939
5ARLCR	2472	2358	462	260	3198	3726	822	1681	8	14	0	1	1	5	0	1	0	0	0	2	1	1	234	15247
6ARLNCR	25227	15548	5798	3126	10440	191181	16422	49482	561	448	11	8	23	86	3	18	11	12	39	21	30	7	5181	323683
7ALX	8470	7003	1562	2060	2497	14827	86981	33051	41	496	3	4	15	29	0	4	9	6	34	10	21	2	2424	159549
8FFX	41843	10043	11728	5526	5987	51815	512371	321623	31799	12722	49	64	142	251	34	88	61	685	569	226	357	87	25666	1572602
9LDN	252	345	988	162	49	494	149	17109	158375	1269	2140	27	118	56	2	0	31	917	19	4468	24	6	3127	190127
10PW	1975	1259	615	536	395	3473	5757	47330	5901	349647	29	69	102	264	33	30	52	2300	8685	508	6668	114	8874	444616
11FRD	116	254	3125	161	10	101	42	420	1714	38	247548	4219	928	119	5	0	20	20	25	4930	34	0	11543	275372
12CAR	381	654	1113	532	63	246	193	820	102	146	8035	143608	3834	172	2	0	61	58	10	106	4	0	21085	181225
13HOW	270	1491	14169	12809	15	57	31	181	82	18	481	966	204374	14027	8	17	17	5	18	263	28	8	19629	268964
14AAR	1110	7490	3903	30774	112	273	277	739	72	115	56	31	17569	656810	1537	115	363	21	52	67	59	30	50556	772131
15CAL	406	931	369	5713	33	152	149	470	38	76	30	12	119	3619	78965	8418	1587	8	36	14	35	27	884	102091
16STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	821	821
17CHS	324	554	232	7161	16	105	144	387	30	29	16	9	62	297	733	3091	155027	17	18	6	44	1965	1919	172186
18FAU	263	349	384	239	40	228	136	3730	2114	7138	44	36	83	154	4	8	74	47109	3368	1012	1094	63	3289	70959
19STA	57	74	77	70	12	81	141	829	18	5078	9	1	29	35	4	13	7	1030	72946	10	16215	209	3976	100921
20CL&JEF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6645	6645
21FBG&SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10898	10898
22KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	866	866
23EXTL	2026	8573	21396	15866	330	3200	1791	16822	2506	4745	8773	11780	16948	41173	440	473	1116	1790	2660	6359	8175	505	0	177447
TOTAL	278439	683570	1473629	1071544	33747	300673	183482	1529707	205052	382455	268718	161113	270924	748555	82480	12624	165848	54028	88597	18862	32940	3154	246885	8297035

Observed - COG HTS, COG AES, Baltimore HTS1994 HBO Motorized Person Trips NOTE: Non-Wk Obs Trips Ftrd by 1.50 to Account for Under-Reporting

	DESTINATION																						
ORIGIN	DCCR	DCNCR	MTG	PG	ARLCR	ARLNCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CLK&JF	FBG&SP	KGEO	EXT	TOTAL
1DCCR	16940	18183	2968	2506	0	2928	4916	1680	0	390	0	0	933	1632	0	0	0	0	0	0	0	0	677	53753
2DCNCR	113766	385101	70356	48592	4090	19272	4546	17787	1224	0	474	0	780	1722	780	0	0	0	0	0	0	0	6354	674846
3MTG	33504	75734	1273918	54070	926	7994	2608	11030	422	447	4200	0	0	7170	944	0	870	0	0	0	842	0	30360	1505037
4PG	26268	85262	65619	879488	813	3490	8610	9312	2802	4646	0	0	5246	22958	1719	848	28132	0	0	0	0	0	16011	1161222
5ARLCR	1467	1026	0	0	0	1989	1101	930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	6536
6ARLNCR	19671	18236	4803	1449	11464	195932	12933	47358	2523	465	0	0	1086	513	0	0	930	0	0	0	0	0	4940	322302
7ALX	4742	5607	3986	1947	4562	11078	89050	35900	310	0	926	0	0	0	0	0	0	0	0	310	0	0	1143	159560
8FFX	39261	7983	15898	6084	5344	56828	536071	274862	21686	8056	0	0	914	0	0	0	0	0	2344	0	1920	914	28480	1524181
9LDN	208	208	1089	219	0	654	417	22413	142890	537	434	0	212	0	0	0	0	524	0	417	0	0	1688	171910
10PW	1944	2922	1982	957	0	3968	10095	44538	9606	336105	0	0	0	933	0	0	0	2240	4437	933	0	0	5896	426554
11FRD	849	0	11518	1011	0	0	0	328	1726	0	244560	1328	3366	328	684	0	0	0	0	0	0	0	8935	274634
12CAR	0	0	1662	9930	0	0	0	0	0	0	0	131842	2896	828	0	0	0	0	0	0	0	0	31069	178228
13HOW	0	0	10122	16448	0	0	0	474	0	0	0	1581	197998	11703	0	0	474	0	0	0	0	0	27052	265852
14AAR	0	0	2853	27326	0	0	0	2853	0	0	0	0	7508	615862	0	0	0	0	0	0	0	0	53255	709656
15CAL	1470	228	1227	4821	0	228	0	1402	420	0	0	0	0	3272	81778	3141	2152	0	0	0	426	0	1749	102315
16STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2272	2272
17CHS	1028	424	212	13690	411	1320	426	444	0	0	0	0	225	219	2182	3246	148114	0	0	0	0	738	1641	174321
18FAU	0	0	0	0	384	214	0	4254	2994	6735	0	0	0	0	0	0	0	45958	897	0	216	0	4350	66003
19STA	0	0	0	268	0	268	0	1293	0	13408	0	0	0	0	0	0	0	2301	66422	0	25308	1922	2671	113862
20CL&JEF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7430	7430
21FBG&SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9285	9285
22KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1686	1686
23EXTL	3611	3492	11060	5361	756	4567	925	9864	2371	2678	9672	15485	21258	59063	777	610	157	3354	1139	9978	10288	1008	0	177474
TOTAL	264728	604406	1479274	1074168	28750	310729	189235	1486722	188974	373468	260065	150236	242421	726203	88864	7844	180830	54376	75239	11638	39000	4581	246967	8088919

Difference (Estimated - Observed) 1994 HBO Motorized Person Trips

ORIGIN \ DESTINATION	DCCR	DCNCR	MTG	PG	ARLCR	ARLNCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CLK&JF	FBG&SP	KGEO	EXT	TOTAL
1DCCR	5206	-128	-1160	528	735	84	-4092	-11	12	-370	0	1	-916	-1578	1	2	1	2	1	2	1	0	152	-1528
2DCNCR	-3642	62219	-3745	-12816	2106	-2334	5546	-4309	-954	171	-450	26	222	-924	-750	31	69	13	21	57	22	22	7145	47746
3MTG	-1483	-12854	25758	-6500	858	-940	386	2502	918	-342	-2769	211	14666	-3440	-920	40	-839	18	41	688	-780	43	630	15892
4PG	2689	13128	-26006	20680	1021	220	-3310	-2958	-2733	-4466	39	40	5646	3918	-1054	-572	-20822	17	55	113	66	65	7939	-6283
5ARLCR	1005	1332	462	260	3198	1737	-279	751	8	14	0	1	1	5	0	1	0	0	0	2	1	1	211	8711
6ARLNCR	5556	-2688	995	1677	-1024	-4750	3489	2124	-1962	-17	11	8	-1063	-427	3	18	-919	12	39	21	30	7	241	1380
7ALX	3728	1396	-2424	113	-2064	3750	-2070	-2848	-270	496	-922	4	15	29	0	4	9	6	34	-300	21	2	1281	-10
8FFX	2582	2060	-4170	-558	642	-5012	-2370	46761	10114	4666	49	64	-772	251	34	88	61	685	-1776	226	-1563	-826	-2814	48421
9LDN	44	136	-101	-57	49	-160	-268	-5304	15485	732	1706	27	-94	56	2	0	31	394	19	4051	24	6	1439	18218
10PW	31	-1663	-1366	-421	395	-494	-4338	2792	-3705	13542	29	69	102	-669	33	30	52	60	4248	-425	6668	114	2978	18062
11FRD	-733	254	-8394	-850	10	101	42	92	-12	38	2988	2892	-2438	-210	-679	0	20	20	25	4930	34	0	2608	738
12CAR	381	654	-549	-9398	63	246	193	820	102	146	8035	11766	938	-656	2	0	61	58	10	106	4	0	-9984	2997
13HOW	270	1491	4047	-3638	15	57	31	-293	82	18	481	-615	6376	2324	8	17	-457	5	18	263	28	8	-7423	3112
14AAR	1110	7490	1050	3448	112	273	277	-2114	72	115	56	31	10062	40948	1537	115	363	21	52	67	59	30	-2699	62474
15CAL	-1064	703	-858	892	33	-76	149	-932	-382	76	30	12	119	348	-2814	5277	-566	8	36	14	-391	27	-865	-224
16STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1451	-1451
17CHS	-704	130	20	-6530	-395	-1215	-282	-57	30	29	16	9	-163	78	-1450	-155	6912	17	18	6	44	1227	278	-2135
18FAU	263	349	384	239	-344	14	136	-524	-880	403	44	36	83	154	4	8	74	1150	2471	1012	878	63	-1061	4956
19STA	57	74	77	-198	12	-188	141	-464	18	-8330	9	1	29	35	4	13	7	-1271	6524	10	-9093	-1712	1305	-12940
20CL&JEF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-785	-785
21FBG&SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1613	1613
22KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-820	-820
23EXTL	-1585	5081	10336	10505	-426	-1367	866	6958	135	2067	-899	-3705	-4310	-17890	-337	-137	959	-1564	1521	-3619	-2113	-503	0	-27
TOTAL	13711	79164	-5644	-2624	4996	-10056	-5753	42985	16078	8988	8453	10877	28503	22352	-6376	4780	-14982	-348	13358	7224	-6060	-1427	-82	208116

Ratio (Estimated / Observed) 1994 HBO Motorized Person Trips

ORIGIN \ DESTINATION	DCCR	DCNCR	MTG	PG	ARLCR	ARLNCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CLK&JF	FBG&SP	KGEO	EXT	TOTAL
1DCCR	1.31	0.99	0.61	1.21	0.00	1.03	0.17	0.99	0.00	0.05	0.00	0.00	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22	0.97
2DCNCR	0.97	1.16	0.95	0.74	1.51	0.88	2.22	0.76	0.22	0.00	0.05	0.00	1.28	0.46	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.12	1.07
3MTG	0.96	0.83	1.02	0.88	1.93	0.88	1.15	1.23	3.18	0.23	0.34	0.00	0.00	0.52	0.02	0.00	0.04	0.00	0.00	0.00	0.07	0.00	1.02	1.01
4PG	1.10	1.15	0.60	1.02	2.26	1.06	0.62	0.68	0.02	0.04	0.00	0.00	2.08	1.17	0.39	0.32	0.26	0.00	0.00	0.00	0.00	0.00	1.50	0.99
5ARLCR	1.69	2.30	0.00	0.00	0.00	1.87	0.75	1.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.17	2.33
6ARLNCR	1.28	0.85	1.21	2.16	0.91	0.98	1.27	1.04	0.22	0.96	0.00	0.00	0.02	0.17	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	1.05	1.00
7ALX	1.79	1.25	0.39	1.06	0.55	1.34	0.98	0.92	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	2.12	1.00
8FFX	1.07	1.26	0.74	0.91	1.12	0.91	0.96	1.04	1.47	1.58	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.19	0.10	0.90	1.03
9LDN	1.21	1.65	0.91	0.74	0.00	0.76	0.36	0.76	1.11	2.36	4.94	0.00	0.56	0.00	0.00	0.00	0.00	1.75	0.00	10.71	0.00	0.00	1.85	1.11
10PW	1.02	0.43	0.31	0.56	0.00	0.88	0.57	1.06	0.61	1.04	0.00	0.00	0.00	0.28	0.00	0.00	0.00	1.03	1.96	0.54	0.00	0.00	1.51	1.04
11FRD	0.14	0.00	0.27	0.16	0.00	0.00	0.00	1.28	0.99	0.00	1.01	3.18	0.28	0.36	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.29	1.00
12CAR	0.00	0.00	0.67	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09	1.32	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	1.02
13HOW	0.00	0.00	1.40	0.78	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.61	1.03	1.20	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.73	1.01
14AAR	0.00	0.00	1.37	1.13	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.00	2.34	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95	1.09
15CAL	0.28	4.08	0.30	1.19	0.00	0.67	0.00	0.34	0.09	0.00	0.00	0.00	0.00	1.11	0.97	2.68	0.74	0.00	0.00	0.00	0.08	0.00	0.51	1.00
16STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.36
17CHS	0.32	1.31	1.10	0.52	0.04	0.08	0.34	0.87	0.00	0.00	0.00	0.00	0.28	1.36	0.34	0.95	1.05	0.00	0.00	0.00	0.00	2.66	1.17	0.99
18FAU	0.00	0.00	0.00	0.00	0.10	1.06	0.00	0.88	0.71	1.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.03	3.75	0.00	5.06	0.00	0.76	1.08
19STA	0.00	0.00	0.00	0.26	0.00	0.30	0.00	0.64	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	1.10	0.00	0.64	0.11	1.49	0.89
20CL&JEF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	0.89
21FBG&SP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17	1.17
22KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.51
23EXTL	0.56	2.46	1.93	2.96	0.44	0.70	1.94	1.71	1.06	1.77	0.91	0.76	0.80	0.70	0.57	0.78	7.11	0.53	2.34	0.64	0.79	0.50	0.00	1.00
TOTAL	1.05	1.13	1.00	1.00	1.17	0.97	0.97	1.03	1.09	1.02	1.03	1.07	1.12	1.03	0.93	1.61	0.92	0.99	1.18	1.62	0.84	0.69	1.00	1.03

Estimated 1994 NHB Motorized Person Trips -- Some trips were removed for IJs with no observed data

ORIGIN \ DESTINATION	DCCR	DCNCR	MTG	PG	ARLCR	ARLNCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CLK&JF	FBG&SP	KGEO	EXT	TOTAL
1DCCR	108734	81477	16259	28789	5594	32372	14319	30338	329	1510	51	3	673	2611	89	0	193	6	60	3	27	1	1594	325032
2DCNCR	85448	173301	36573	45450	3701	14294	6837	15919	702	1881	330	20	2040	4579	264	6	581	10	63	4	34	2	2898	394937
3MTG	17882	39446	865573	33365	1631	5969	2470	18953	2340	946	4295	381	7270	5653	56	4	64	29	13	328	14	0	10175	1016857
4PG	28367	47152	39625	577770	2282	4954	4911	11479	237	1274	330	146	19608	24286	3033	254	10710	7	52	8	21	7	10011	786524
5ARLCR	8512	4282	1778	1669	1492	6652	3230	7613	77	361	16	0	29	138	4	1	12	2	16	0	7	0	162	36053
6ARLNCR	27218	16306	5929	4475	7999	74142	18922	51360	1387	3594	143	6	86	308	41	1	89	56	141	2	70	0	1040	213315
7ALX	12330	9189	2903	3628	3784	18982	64575	58132	353	4497	32	0	61	187	45	1	166	10	230	2	115	0	748	179970
8FFX	33125	17304	17887	9678	9137	51194	59050	913333	40499	31665	568	15	264	493	108	6	346	1101	838	59	454	2	6521	1193647
9LDN	607	619	1787	153	90	1196	297	46071	77044	4182	2386	46	149	17	1	0	2	954	3	2355	2	0	955	138916
10PW	2650	2063	1146	917	413	4129	5532	36079	5537	204805	15	4	13	33	8	1	15	6883	6752	71	3698	25	2311	283100
11FRD	320	933	7757	644	48	367	82	1431	2850	33	169118	8689	2771	271	1	1	4	4	2	2539	1	0	4814	202680
12CAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5504	5504
13HOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14675	14675
14AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35686	35686
15CAL	216	438	96	3782	9	54	76	129	3	7	2	0	30	5074	35415	5440	2016	1	0	0	1	5	121	52915
16STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	130	130
17CHS	575	1119	121	14397	21	155	349	577	7	22	2	2	31	1207	1808	3584	84955	1	3	1	4	488	422	109851
18FAU	23	20	33	5	3	78	26	1350	1095	7932	4	1	2	5	0	0	3	19880	866	157	370	1	990	32844
19STA	105	81	21	39	20	178	337	1178	5	9036	2	1	2	5	0	0	5	1084	22979	0	17019	302	953	53352
20CL&JEF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3389	3389
21FBG&SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4415	4415
22KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	395	395
23EXTL	1558	2819	9636	8896	154	1008	745	6434	927	2257	4682	5419	16343	36032	115	128	413	949	952	3331	4713	394	0	107905
TOTAL	327670	396549	1007124	733657	36378	215724	181758	1200376	133392	274002	181976	14733	49372	80899	40988	9427	99574	30977	32970	8860	26550	1227	107909	5192092

Observed - COG HTS, COG AES, Baltimore HTS1994 NHB Motorized Person Trips NOTE: Non-Wk Obs Trips Ftrd by 1.50 to Account for Under-Reporting

ORIGIN \ DESTINATION	DCCR	DCNCR	MTG	PG	ARLCR	ARLNCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CLK&JF	FBG&SP	KGEO	EXT	TOTAL
1DCCR	105312	65500	25930	30874	7324	20907	8996	38097	1042	3669	592	0	0	696	1200	0	2289	294	950	0	0	0	2977	316651
2DCNCR	65494	174284	44656	40834	2049	13640	7118	13551	1008	1251	734	0	402	1176	116	484	1604	118	0	0	0	0	2000	370518
3MTG	25926	44652	896373	50446	966	4540	3014	18924	2472	506	13155	0	1479	3566	387	0	764	0	0	456	422	208	6452	1074707
4PG	30878	40832	50456	574821	2248	4060	4280	13950	516	0	836	0	3040	12846	5928	0	12764	0	0	0	0	105	7153	764712
5ARLCR	7326	2048	966	2250	4706	8702	1720	8187	112	1550	0	0	0	0	0	0	212	0	0	0	0	0	265	38042
6ARLNCR	20907	13641	4539	4060	8702	103370	16038	40545	897	1858	502	0	0	441	621	0	531	0	0	0	0	0	1317	217970
7ALX	8997	7112	3014	4286	1724	16038	87015	50822	153	4425	504	0	0	0	0	0	362	236	126	0	0	0	1059	185870
8FFX	38102	13550	18920	13952	8186	40544	50818	893564	23526	19794	328	0	105	1988	0	0	1167	1472	1304	0	250	0	7685	1135252
9LDN	1040	1010	2472	518	112	897	153	23536	71488	2164	292	0	0	0	0	0	0	942	0	0	0	0	909	105534
10PW	3670	1251	504	0	1552	1858	4424	19790	2164	226884	0	0	0	159	0	0	0	2636	3472	0	2262	0	2048	272675
11FRD	592	734	13155	837	0	504	502	327	291	0	164356	165	1647	168	0	0	0	0	0	165	0	0	4950	188394
12CAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7514	7514
13HOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16022	16022
14AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36219	36219
15CAL	1200	117	388	5925	0	621	0	0	0	0	0	0	320	1989	39426	1263	939	132	0	0	0	0	748	53068
16STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	296	296
17CHS	2286	1604	765	12771	213	532	360	1166	0	0	0	0	453	642	939	922	105366	0	0	0	0	310	438	128768
18FAU	294	117	0	0	0	0	236	1472	944	2637	0	0	0	0	132	0	0	22578	0	0	300	0	1621	30330
19STA	950	0	0	0	0	0	126	1304	0	3472	0	0	0	134	0	0	0	0	29304	0	9130	440	743	45602
20CL&JEF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4150	4150
21FBG&SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2823	2823
22KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	531	531
23EXTL	2975	2001	6455	7148	265	1316	1060	7684	909	2047	4950	7520	16022	36217	745	296	441	1618	742	4151	2829	533	0	107924
TOTAL	315948	368450	1068593	748722	38047	217529	185858	1132916	105524	270258	186250	7685	23468	60020	49494	2966	126436	30025	35898	4772	15194	1596	107920	5103570

Difference (Estimated - Observed) 1994 NHB Motorized Person Trips

ORIGIN \ DESTINATION	DCCR	DCNCR	MTG	PG	ARLCR	ARLNCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CLK&JF	FBG&SP	KGEO	EXT	TOTAL
1DCCR	3422	15976	-9672	-2086	-1730	11465	5324	-7759	-714	-2159	-542	3	673	1915	-1111	0	-2096	-288	-890	3	27	1	-1383	8381
2DCNCR	19954	-982	-8084	4616	1652	654	-280	2368	-306	630	-404	20	1638	3403	148	-478	-1022	-108	63	4	34	2	898	24418
3MTG	-8044	-5206	-30800	-17082	665	1428	-544	29	-132	440	-8860	381	5791	2088	-331	4	-700	29	13	-128	-408	-208	3723	-57850
4PG	-2510	6320	-10830	2949	34	894	632	-2471	-279	1274	-506	146	16568	11440	-2895	254	-2054	7	52	8	21	-98	2858	21812
5ARLCR	1186	2234	812	-581	-3214	-2050	1510	-574	-36	-1188	16	0	29	138	4	1	-200	2	16	0	7	0	-103	-1990
6ARLNCR	6311	2665	1390	414	-702	-29228	2884	10815	490	1736	-360	6	86	-133	-580	1	-442	56	141	2	70	0	-277	-4654
7ALX	3333	2078	-110	-658	2060	2944	-22440	7310	200	72	-472	0	61	187	45	1	-196	-226	104	2	115	0	-311	-5900
8FFX	-4976	3754	-1032	-4274	952	10650	8232	19770	16973	11871	240	15	159	-1494	108	6	-821	-370	-466	59	204	2	-1164	58396
9LDN	-432	-390	-685	-364	-22	299	144	22534	5556	2018	2094	46	149	17	1	0	2	12	3	2355	2	0	46	33382
10PW	-1020	812	642	917	-1140	2270	1108	16290	3372	-22079	15	4	13	-126	8	1	15	4248	3280	71	1436	25	263	10425
11FRD	-272	200	-5398	-193	48	-137	-420	1104	2559	33	4762	8524	1124	103	1	1	4	4	2	2374	1	0	-136	14286
12CAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2010	-2010
13HOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1347	-1347
14AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-533	-533
15CAL	-984	321	-292	-2143	9	-567	76	129	3	7	2	0	-290	3085	-4011	4177	1077	-131	0	0	1	5	-627	-153
16STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-166	-166
17CHS	-1711	-484	-644	1626	-192	-378	-11	-588	7	22	2	2	-422	565	869	2662	-20411	1	3	1	4	178	-16	-18916
18FAU	-271	-97	33	5	3	78	-210	-122	152	5295	4	1	2	5	-132	0	3	-2698	866	157	70	1	-631	2514
19STA	-844	81	21	39	20	178	211	-126	5	5564	2	1	2	-128	0	0	5	1084	-6325	0	7888	-138	210	7750
20CL&JEF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-761	-761
21FBG&SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1592	1592
22KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-136	-136
23EXTL	-1417	818	3181	1748	-111	-308	-315	-1250	18	210	-268	-2101	321	-185	-630	-168	-28	-669	210	-820	1884	-139	0	-19
TOTAL	11722	28100	-61469	-15066	-1669	-1805	-4100	67460	27868	3744	-4274	7048	25904	20878	-8506	6461	-26862	952	-2928	4088	11356	-370	-11	88522

Ratio (Estimated / Observed) 1994 NHB Motorized Person Trips

ORIGIN	DESTINATION DCCR	DCNCR	MTG	PG	ARLCR	ARLNCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CLK&JF	FBG&SP	KGEO	EXT	TOTAL
1DCCR	1.03	1.24	0.63	0.93	0.76	1.55	1.59	0.80	0.32	0.41	0.09	0.00	0.00	3.75	0.07	0.00	0.08	0.02	0.06	0.00	0.00	0.00	0.54	1.03
2DCNCR	1.30	0.99	0.82	1.11	1.81	1.05	0.96	1.17	0.70	1.50	0.45	0.00	5.07	3.89	2.29	0.01	0.36	0.08	0.00	0.00	0.00	0.00	1.45	1.07
3MTG	0.69	0.88	0.97	0.66	1.69	1.31	0.82	1.00	0.95	1.87	0.33	0.00	4.92	1.59	0.14	0.00	0.08	0.00	0.00	0.72	0.03	0.00	1.58	0.95
4PG	0.92	1.15	0.79	1.01	1.01	1.22	1.15	0.82	0.46	0.00	0.39	0.00	6.45	1.89	0.51	0.00	0.84	0.00	0.00	0.00	0.00	0.07	1.40	1.03
5ARLCR	1.16	2.09	1.84	0.74	0.32	0.76	1.88	0.93	0.68	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.61	0.95
6ARLNCR	1.30	1.20	1.31	1.10	0.92	0.72	1.18	1.27	1.55	1.93	0.28	0.00	0.00	0.70	0.07	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.79	0.98
7ALX	1.37	1.29	0.96	0.85	2.20	1.18	0.74	1.14	2.31	1.02	0.06	0.00	0.00	0.00	0.00	0.00	0.46	0.04	1.83	0.00	0.00	0.00	0.71	0.97
8FFX	0.87	1.28	0.95	0.69	1.12	1.26	1.16	1.02	1.72	1.60	1.73	0.00	2.51	0.25	0.00	0.00	0.30	0.75	0.64	0.00	1.81	0.00	0.85	1.05
9LDN	0.58	0.61	0.72	0.30	0.80	1.33	1.94	1.96	1.08	1.93	8.16	0.00	0.00	0.00	0.00	0.00	0.00	1.01	0.00	0.00	0.00	0.00	1.05	1.32
10PW	0.72	1.65	2.27	0.00	0.27	2.22	1.25	1.82	2.56	0.90	0.00	0.00	0.00	0.21	0.00	0.00	0.00	2.61	1.94	0.00	1.63	0.00	1.13	1.04
11FRD	0.54	1.27	0.59	0.77	0.00	0.73	0.16	4.38	9.79	0.00	1.03	52.66	1.68	1.61	0.00	0.00	0.00	0.00	0.00	15.39	0.00	0.00	0.97	1.08
12CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.73	0.73
13HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.92
14AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.99
15CAL	0.18	3.74	0.25	0.64	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.09	2.55	0.90	4.31	2.15	0.01	0.00	0.00	0.00	0.00	0.16	1.00
16STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.44
17CHS	0.25	0.70	0.16	1.13	0.10	0.29	0.97	0.50	0.00	0.00	0.00	0.00	0.07	1.88	1.93	3.89	0.81	0.00	0.00	0.00	0.00	1.57	0.96	0.85
18FAU	0.08	0.17	0.00	0.00	0.00	0.00	0.11	0.92	1.16	3.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.00	0.00	1.23	0.00	0.61	1.08
19STA	0.11	0.00	0.00	0.00	0.00	0.00	2.67	0.90	0.00	2.60	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.78	0.00	1.86	0.69	1.28	1.17
20CL&JEF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.82
21FBG&SP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.56	1.56
22KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.74
23EXTL	0.52	1.41	1.49	1.24	0.58	0.77	0.70	0.84	1.02	1.10	0.95	0.72	1.02	0.99	0.15	0.43	0.94	0.59	1.28	0.80	1.67	0.74	0.00	1.00
TOTAL	1.04	1.08	0.94	0.98	0.96	0.99	0.98	1.06	1.26	1.01	0.98	1.92	2.10	1.35	0.83	3.18	0.79	1.03	0.92	1.86	1.75	0.77	1.00	1.02

Appendix C
Mode Choice Model Performance Summaries, 1994

Ref: COMPARE_MCEO_94_rpt2.TAB

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBW Table: Estimated Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	14220	5220	729	0	0	861	259	880	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22169
2 DC NC	74304	15042	5891	1976	3132	2134	1184	1889	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105552
3 MTG	46115	7606	19386	0	3027	3320	0	1549	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	81003
4 PG	35481	5044	4162	5095	2756	1945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54483
5 ARLCR	2660	308	0	0	156	269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3393
6 ARNCR	29524	3346	1014	0	1879	2820	0	2777	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41360
7 ALX	13003	2150	0	0	2261	1440	2599	1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23083
8 FFX	44680	3218	0	0	10020	15773	1508	9804	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85003
9 LDN	1130	66	90	0	126	161	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1573
10 PW	7475	543	65	0	369	1242	773	1361	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11828
11 FRD	153	50	0	0	14	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	228
12 CAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 HOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CAL	777	180	0	0	44	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1047
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 CHS	1284	200	0	0	52	59	0	0	0	0	0	0	0	0	0	0	0	22	0	0	0	0	0	0	1617
18 FAU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 STA	173	29	6	0	49	75	61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	393
20 CL/JF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 SP/FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 EXTL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	270979		31343		23885		6384			0		0		0		0		22		0		0		0	
		43002		7071		30156		19890			0		0		0		0		0		0		0			432732

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBW Table: Observed Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	14974	4565	1027	0	0	620	1249	2331	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24766
2 DC NC	77130	20923	5829	1728	3055	1971	283	1526	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	112445
3 MTG	53417	6461	11016	0	2993	7140	0	1594	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	82621
4 PG	36996	4791	4374	5117	2950	2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56252
5 ARLCR	2824	367	0	0	652	337	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4180
6 ARNCR	30107	3403	1358	0	2041	3027	0	310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40246
7 ALX	13457	2189	0	0	2545	1640	913	1791	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22535
8 FFX	42263	2874	0	0	12907	15997	1197	9990	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85228
9 LDN	3616	418	366	10	355	419	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5184
10 PW	8816	1135	896	0	966	1686	330	1428	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15257
11 FRD	936	273	0	0	8	31	20	0	0	0	956	0	0	0	0	0	0	0	0	0	0	0	0	0	2224
12 CAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 HOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CAL	234	10	0	0	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	252
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 CHS	1437	69	0	0	162	32	0	0	0	0	0	0	0	0	0	0	0	673	0	0	0	0	0	0	2373
18 FAU	187	25	19	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	252
19 STA	1788	232	183	0	197	713	378	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3491
20 CL/JF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 SP/FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 EXTL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	288182		25068		28855		4370			0		956		0		0		673		0		0		0	
		47735		6855		35642		18970			0		0		0		0		0		0		0			457306

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBW Table: Estimated Pct Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	63.2	49.6	72.7	0.0	0.0	50.9	38.6	46.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.3
2 DC NC	55.1	25.5	37.4	12.1	38.8	19.5	20.9	12.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.7
3 MTG	42.8	12.2	7.3	0.0	36.7	31.4	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.7
4 PG	35.4	7.0	18.1	2.5	28.3	13.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.9
5 ARLCR	80.6	32.9	0.0	0.0	23.9	37.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.9
6 ARNCR	53.4	34.8	27.1	0.0	21.6	13.7	0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0
7 ALX	42.5	31.6	0.0	0.0	41.9	12.7	17.2	8.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.7
8 FFX	40.3	10.5	0.0	0.0	44.5	26.4	4.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0
9 LDN	49.1	6.1	4.1	0.0	16.9	11.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9
10 PW	47.3	20.3	6.6	0.0	15.8	25.0	11.6	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7
11 FRD	15.2	5.0	0.0	0.0	6.1	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
12 CAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 HOW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 AAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 CAL	34.0	9.2	0.0	0.0	16.4	10.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8
16 STM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 CHS	17.3	6.3	0.0	0.0	12.9	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	2.5
18 FAU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19 STA	26.0	10.3	7.2	0.0	20.3	13.8	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2
20 CL/JF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21 SP/FB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22 KGEO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23 EXTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	45.5		9.0		35.4		7.3		0.0		0.0		0.0		0.0		0.1		0.0		0.0		0.0	
		16.4		2.5		21.7		3.6		0.0		0.0		0.0		0.0		0.0		0.0		0.0		16.2

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBW Table: Observed Pct Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	70.8	54.3	54.9	0.0	0.0	52.5	81.9	37.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.2
2 DC NC	58.3	29.4	20.4	14.1	49.2	28.3	10.8	15.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.5
3 MTG	48.3	12.9	4.2	0.0	36.6	60.4	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.1
4 PG	36.2	7.7	10.2	2.5	41.0	11.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.1
5 ARLCR	68.4	100.0	0.0	0.0	100.0	23.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.2
6 ARNCR	62.2	25.8	21.5	0.0	26.2	10.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.8
7 ALX	49.9	33.9	0.0	0.0	48.6	16.8	4.6	10.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.6
8 FFX	40.7	10.8	0.0	0.0	46.1	25.6	2.6	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.3
9 LDN	56.8	37.1	16.3	2.7	14.2	14.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3
10 PW	41.5	17.6	25.4	0.0	18.6	23.2	5.7	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6
11 FRD	44.2	53.2	0.0	0.0	1.8	1.7	100.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1
12 CAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 HOW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 AAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 CAL	7.9	0.5	0.0	0.0	100.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
16 STM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 CHS	16.4	2.1	0.0	0.0	6.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	3.5
18 FAU	17.6	5.3	5.7	0.0	12.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
19 STA	84.2	24.6	52.1	0.0	19.2	26.3	35.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9
20 CL/JF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21 SP/FB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22 KGEO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23 EXTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	48.5		6.2		38.3		4.7		0.0		1.2		0.0		0.0		1.6		0.0		0.0		0.0	
		18.8		2.5		22.2		3.6		0.0		0.0		0.0		0.0		0.0		0.0		0.0		16.9

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBW Table: Estimated Car Occupancy

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	1.30	1.12	1.16	1.12	0.00	1.17	1.14	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21
2 DC NC	1.29	1.14	1.26	1.18	1.31	1.30	1.14	1.08	0.00	1.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21
3 MTG	1.20	1.07	1.12	1.05	1.11	1.12	1.36	1.12	0.00	0.00	1.12	0.00	0.00	0.00	0.00	0.00	0.00	1.07	0.00	0.00	0.00	0.00	0.00	1.12
4 PG	1.38	1.12	1.07	1.08	1.15	1.10	1.13	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.24	0.00	0.00	0.00	0.00	0.00	0.00	1.13
5 ARLCR	1.12	0.00	1.15	0.00	0.00	1.14	1.11	1.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13
6 ARNCR	1.11	1.05	1.12	1.13	1.14	1.07	1.14	1.05	1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09
7 ALX	1.25	1.24	1.13	1.31	1.08	1.09	1.11	1.05	1.21	0.00	1.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14
8 FFX	1.39	1.09	1.08	1.07	1.40	1.09	1.10	1.06	1.11	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11
9 LDN	1.37	1.23	1.12	1.20	1.31	1.15	1.22	1.06	1.11	1.14	1.13	0.00	0.00	0.00	0.00	0.00	1.00	1.13	0.00	0.00	0.00	0.00	0.00	1.10
10 PW	1.63	1.21	1.20	1.41	1.25	2.01	1.22	1.12	1.12	1.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12	1.10	0.00	0.00	0.00	0.00	1.17
11 FRD	1.44	1.25	1.08	1.24	1.32	1.29	0.00	1.48	1.16	0.00	1.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.08
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	1.13	1.12	1.24	1.07	0.00	1.28	1.22	1.22	0.00	0.00	0.00	0.00	0.00	0.00	1.11	0.00	1.16	0.00	0.00	0.00	0.00	0.00	0.00	1.11
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	1.21	1.25	1.27	1.06	1.21	1.26	1.10	1.12	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.00	1.04	0.00	0.00	0.00	0.00	0.00	0.00	1.08
18 FAU	2.25	1.88	1.21	1.20	1.60	1.62	0.00	1.08	1.24	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06	1.12	0.00	0.00	0.00	0.00	1.09
19 STA	2.46	1.87	1.79	0.00	0.00	1.96	1.46	1.11	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14	1.11	0.00	0.00	0.00	0.00	1.15
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1.29		1.11		1.23		1.13		1.12		1.07		0.00		1.11		1.07		1.11		0.00		0.00	
		1.11		1.08		1.13		1.07		1.14		0.00		0.00		0.00		1.08		0.00		0.00		1.12

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBW Table: Observed Car Occupancy

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	1.30	1.00	1.50	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11
2 DC NC	1.29	1.14	1.26	1.18	1.35	1.30	1.14	1.04	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21
3 MTG	1.20	1.07	1.12	1.03	1.00	1.00	1.50	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	1.11
4 PG	1.38	1.12	1.05	1.08	1.15	1.10	1.00	1.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33	0.00	0.00	0.00	0.00	0.00	0.00	1.12
5 ARLCR	1.00	0.00	1.00	0.00	0.00	1.46	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10
6 ARNCR	1.11	1.03	1.00	1.00	1.14	1.07	1.14	1.05	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.07
7 ALX	1.25	1.24	1.13	1.32	1.08	1.09	1.11	1.01	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13
8 FFX	1.38	1.09	1.08	1.06	1.40	1.07	1.10	1.06	1.11	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10
9 LDN	1.37	1.00	1.00	1.00	1.07	1.16	1.00	1.04	1.11	1.08	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.50	0.00	0.00	0.00	0.00	0.00	1.09
10 PW	1.58	1.14	1.00	1.00	1.18	1.89	1.21	1.12	1.00	1.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.16
11 FRD	1.64	1.00	1.08	1.50	1.00	1.32	0.00	1.47	1.00	0.00	1.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	1.13	1.00	1.00	1.02	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.08
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	1.24	1.28	1.00	1.04	1.29	1.30	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.04	0.00	0.00	0.00	0.00	0.00	0.00	1.08
18 FAU	1.00	1.48	1.00	1.00	1.00	1.00	0.00	1.08	1.24	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06	1.00	0.00	0.00	0.00	0.00	1.07
19 STA	2.00	1.00	1.00	0.00	0.00	1.21	1.00	1.09	0.00	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.19	0.00	0.00	0.00	0.00	1.16
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1.30		1.11		1.23		1.13		1.10		1.06		0.00		1.14		1.10		1.16		0.00		0.00	
		1.11		1.07		1.12		1.06		1.12		0.00		0.00		0.00		1.11		0.00		0.00		1.12

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBW Table: Difference (Est-Obs) Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	-754	655	-298	0	0	241		-990	-1451	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2597
2 DC NC	-2826	-5881	62	248	77	163		901	363	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-6893
3 MTG	-7302	1145	8370	0	34	-3820		0	-45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1618
4 PG	-1515	253	-212	-22	-194	-79		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1769
5 ARLCR	-164	-59	0	0	-496	-68		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-787
6 ARNCR	-583	-57	-344	0	-162	-207		0	2467	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1114
7 ALX	-454	-39	0	0	-284	-200		1686	-161	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	548
8 FFX	2417	344	0	0	-2887	-224		311	-186	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-225
9 LDN	-2486	-352	-276	-10	-229	-258		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-3611
10 PW	-1341	-592	-831	0	-597	-444		443	-67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-3429
11 FRD	-783	-223	0	0	6	-20		-20	0	0	0	-956	0	0	0	0	0	0	0	0	0	0	0	0	-1996
12 CAR	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 HOW	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 AAR	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CAL	543	170	0	0	41	41		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	795
16 STM	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 CHS	-153	131	0	0	-110	27		0	0	0	0	0	0	0	0	0	0	-651	0	0	0	0	0	0	-756
18 FAU	-187	-25	-19	0	-21	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-252
19 STA	-1615	-203	-177	0	-148	-638		-317	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-3098
20 CL/JF	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 SP/FB	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 KGEO	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 EXTL	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	-17203		6275		-4970			2014		0		-956		0		0		-651		0		0		0	
		-4733		216		-5486			920		0		0		0		0		0		0		0		-24574

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBW Table: Ratio (Est-to-Obs) Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	0.95	1.14	0.71	0.00	0.00	1.39		0.21	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90
2 DC NC	0.96	0.72	1.01	1.14	1.03	1.08		4.18	1.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94
3 MTG	0.86	1.18	1.76	0.00	1.01	0.46		0.00	0.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98
4 PG	0.96	1.05	0.95	1.00	0.93	0.96		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97
5 ARLCR	0.94	0.84	0.00	0.00	0.24	0.80		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81
6 ARNCR	0.98	0.98	0.75	0.00	0.92	0.93		0.00	8.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.03
7 ALX	0.97	0.98	0.00	0.00	0.89	0.88		2.85	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02
8 FFX	1.06	1.12	0.00	0.00	0.78	0.99		1.26	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
9 LDN	0.31	0.16	0.25	0.00	0.35	0.38		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30
10 PW	0.85	0.48	0.07	0.00	0.38	0.74		2.34	0.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78
11 FRD	0.16	0.18	0.00	0.00	1.75	0.35		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	3.32	18.00	0.00	0.00	14.67	9.20		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.15
16 STM	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	0.89	2.90	0.00	0.00	0.32	1.84		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.68
18 FAU	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19 STA	0.10	0.12	0.03	0.00	0.25	0.11		0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.94		1.25		0.83			1.46		0.00		0.00		0.00		0.00		0.03		0.00		0.00		0.00	
		0.90		1.03		0.85			1.05		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.95

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBW Table: Difference (Est-Obs) Pct Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	-7.6	-4.7	17.8	0.0	0.0	-1.6	-43.3	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.8
2 DC NC	-3.2	-3.9	17.0	-2.0	-10.4	-8.8	10.2	-3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9
3 MTG	-5.6	-0.7	3.1	0.0	0.2	-29.0	0.0	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.4
4 PG	-0.8	-0.7	7.9	-0.0	-12.8	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2
5 ARLCR	12.2	-67.1	0.0	0.0	-76.1	13.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.3
6 ARNCR	-8.9	9.0	5.6	0.0	-4.6	3.8	0.0	10.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2
7 ALX	-7.4	-2.3	0.0	0.0	-6.7	-4.0	12.5	-2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
8 FFX	-0.4	-0.3	0.0	0.0	-1.6	0.8	1.4	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3
9 LDN	-7.7	-31.0	-12.3	-2.7	2.7	-3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4.3
10 PW	5.8	2.7	-18.7	0.0	-2.8	1.8	5.9	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9
11 FRD	-29.0	-48.2	0.0	0.0	4.3	1.7	-100.0	0.0	0.0	0.0	-1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9
12 CAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 HOW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 AAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 CAL	26.1	8.7	0.0	0.0	-83.6	10.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
16 STM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 CHS	0.9	4.2	0.0	0.0	6.9	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.2	0.0	0.0	0.0	0.0	0.0	0.0	-1.0
18 FAU	-17.6	-5.3	-5.7	0.0	-12.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.9
19 STA	-58.2	-14.3	-44.9	0.0	1.1	-12.5	-27.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-6.7
20 CL/JF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21 SP/FB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22 KGEO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23 EXTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	-3.0		2.8		-2.9		2.6		0.0		-1.2		0.0		0.0		-1.6		0.0		0.0		0.0		
		-2.4		0.1		-0.4		-0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	-0.7

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBW Table: Ratio (Est-to-Obs) Pct Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	0.89	0.91	1.32	0.00	0.00	0.97	0.47	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95
2 DC NC	0.95	0.87	1.84	0.85	0.79	0.69	1.95	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95
3 MTG	0.89	0.95	1.75	0.00	1.00	0.52	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98
4 PG	0.98	0.91	1.77	0.99	0.69	1.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99
5 ARLCR	1.18	0.33	0.00	0.00	0.24	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96
6 ARNCR	0.86	1.35	1.26	0.00	0.83	1.38	0.00	8.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.07
7 ALX	0.85	0.93	0.00	0.00	0.86	0.76	3.71	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
8 FFX	0.99	0.97	0.00	0.00	0.97	1.03	1.53	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98
9 LDN	0.86	0.16	0.25	0.00	1.19	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31
10 PW	1.14	1.15	0.26	0.00	0.85	1.08	2.04	0.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78
11 FRD	0.34	0.09	0.00	0.00	3.45	1.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	4.30	19.24	0.00	0.00	0.16	23.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.74
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	1.05	3.04	0.00	0.00	2.15	6.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.73
18 FAU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19 STA	0.31	0.42	0.14	0.00	1.06	0.53	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.94		1.45		0.92		1.54		0.00		0.00		0.00		0.00		0.04		0.00		0.00		0.00		
		0.87		1.03		0.98		0.99		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	0.96

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBW Table: Difference (Est-Obs) Car Occupancy

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	0.00	0.12	-0.34	0.12	0.00	0.17	0.14	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
2 DC NC	0.00	0.00	-0.00	0.00	-0.04	0.00	-0.00	0.04	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3 MTG	-0.00	0.00	0.00	0.02	0.11	0.12	-0.13	0.12	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.93	0.00	0.00	0.00	0.00	0.00	0.01
4 PG	-0.00	-0.00	0.02	0.00	-0.00	-0.00	0.13	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5 ARLCR	0.12	0.00	0.15	0.00	0.00	-0.32	0.11	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
6 ARNCR	-0.00	0.02	0.12	0.13	-0.00	-0.00	-0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
7 ALX	-0.01	-0.00	0.00	-0.01	0.00	-0.00	0.00	0.04	0.21	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
8 FFX	0.01	0.00	-0.00	0.02	-0.00	0.02	-0.00	0.00	-0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 LDN	0.00	0.23	0.12	0.20	0.24	-0.01	0.22	0.02	-0.00	0.07	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.37	0.00	0.00	0.00	0.00	0.00	0.01
10 PW	0.06	0.07	0.20	0.41	0.07	0.12	0.01	0.00	0.12	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.10	0.00	0.00	0.00	0.00	0.00
11 FRD	-0.21	0.25	-0.00	-0.26	0.32	-0.04	0.00	0.01	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	0.00	0.12	0.24	0.05	0.00	0.28	0.22	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.03
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	-0.03	-0.03	0.27	0.02	-0.07	-0.04	0.10	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.00
18 FAU	1.25	0.40	0.21	0.20	0.60	0.62	0.00	-0.00	-0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.00	0.12	0.00	0.00	0.00	0.00	0.02
19 STA	0.46	0.87	0.79	0.00	0.00	0.75	0.46	0.02	0.00	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	-0.08	0.00	0.00	0.00	0.00	-0.01
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	-0.01	0.01		-0.00		-0.00		0.01		0.01		0.00		-0.03		-0.04		-0.05		0.00		0.00		0.00	
	0.00		0.01		0.01		0.01		0.02		0.00		0.00		0.00		-0.03		0.00		0.00		0.00		0.01

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBW Table: Ratio (Est-to-Obs) Car Occupancy

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	1.00	1.12	0.77	1.12	0.00	1.17	1.14	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09
2 DC NC	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.04	0.00	1.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
3 MTG	1.00	1.00	1.00	1.02	1.11	1.12	0.91	1.12	0.00	0.00	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.00	0.00	0.00	1.01
4 PG	1.00	1.00	1.02	1.00	1.00	1.00	1.13	1.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.00	0.00	0.00	0.00	0.00	1.00
5 ARLCR	1.12	0.00	1.15	0.00	0.00	0.78	1.11	1.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02
6 ARNCR	1.00	1.02	1.12	1.13	1.00	1.00	1.00	1.00	1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02
7 ALX	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.04	1.21	0.00	1.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01
8 FFX	1.00	1.00	1.00	1.02	1.00	1.02	1.00	1.00	1.00	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
9 LDN	1.00	1.23	1.12	1.20	1.22	0.99	1.22	1.02	1.00	1.06	1.13	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.75	0.00	0.00	0.00	0.00	0.00	1.01
10 PW	1.04	1.07	1.20	1.41	1.06	1.06	1.01	1.00	1.12	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12	1.10	0.00	0.00	0.00	0.00	1.00
11 FRD	0.87	1.25	1.00	0.83	1.32	0.97	0.00	1.00	1.16	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	1.00	1.12	1.24	1.05	0.00	1.28	1.22	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97	0.00	1.16	0.00	0.00	0.00	0.00	0.00	0.00	1.03
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	0.98	0.97	1.27	1.02	0.94	0.97	1.10	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
18 FAU	2.25	1.27	1.21	1.20	1.60	1.62	0.00	1.00	1.00	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.12	0.00	0.00	0.00	0.00	1.02
19 STA	1.23	1.87	1.79	0.00	0.00	1.62	1.46	1.01	0.00	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.93	0.00	0.00	0.00	0.00	0.99
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.99	1.01		1.00		1.00		1.01		1.01		0.00		0.98		0.97		0.96		0.00		0.00		0.00	
	1.00		1.01		1.01		1.01		1.02		0.00		0.00		0.00		0.97		0.00		0.00		0.00		1.01

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBS Table: Estimated Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	460	856	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1365
2 DC NC	2890	4229	2079	1947	0	834	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11979
3 MTG	0	0	4234	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4246
4 PG	11	0	129	1120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1260
5 ARLCR	29	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48
6 ARNCR	46	0	0	0	0	1292	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1338
7 ALX	3	0	0	0	0	0	1393	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
8 FFX	0	0	0	0	0	699	0	3461	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4160
9 LDN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 PW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 FRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 CAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 HOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 CHS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 FAU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 STA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 CL/JF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 SP/FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 EXTL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3439		6491		31		1393		0		0		0		0		0		0		0		0	
		5085		3067		2825		3461		0		0		0		0		0		0		0		25792

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBS Table: Observed Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	645	1405	577	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2627
2 DC NC	3512	4500	569	829	0	301	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9711
3 MTG	0	0	6459	0	626	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7085
4 PG	654	0	703	1776	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3133
5 ARLCR	329	0	0	0	329	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	658
6 ARNCR	346	0	0	0	0	988	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1334
7 ALX	116	0	0	0	0	0	1140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1256
8 FFX	0	0	0	0	0	1374	0	647	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2021
9 LDN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 PW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 FRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 CAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 HOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 CHS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 FAU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 STA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 CL/JF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 SP/FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 EXTL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	5602		8308		955		1140		0		0		0		0		0		0		0		0	
		5905		2605		2663		647		0		0		0		0		0		0		0		27825

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBS Table: Estimated Pct Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	8.9	20.3	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.8
2 DC NC	20.5	4.2	10.3	5.6	0.0	9.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3
3 MTG	0.0	0.0	0.9	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
4 PG	1.6	0.0	2.9	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
5 ARLCR	8.5	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2
6 ARNCR	6.2	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
7 ALX	1.1	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9
8 FFX	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
9 LDN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 PW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11 FRD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12 CAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 HOW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 AAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 CAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16 STM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 CHS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18 FAU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19 STA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 CL/JF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21 SP/FB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22 KGEO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23 EXTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	16.0		1.3		0.9		2.1		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
		4.5		0.8		2.9		0.6		0.0		0.0		0.0		0.0		0.0		0.0		0.0		1.2

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBS Table: Observed Pct Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	25.9	33.2	31.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.1
2 DC NC	33.3	4.9	2.0	2.8	0.0	7.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8
3 MTG	0.0	0.0	1.4	0.0	41.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
4 PG	43.6	0.0	5.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
5 ARLCR	100.0	0.0	0.0	0.0	24.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.6
6 ARNCR	100.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
7 ALX	100.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9
8 FFX	0.0	0.0	0.0	0.0	0.0	17.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
9 LDN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 PW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11 FRD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12 CAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 HOW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 AAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 CAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16 STM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 CHS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18 FAU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19 STA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 CL/JF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21 SP/FB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22 KGEO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23 EXTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	30.0		1.6		10.3		1.6		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
		5.8		0.7		3.3		0.1		0.0		0.0		0.0		0.0		0.0		0.0		0.0		1.3

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBS Table: Estimated Car Occupancy

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	1.26	1.38	1.25	1.39	1.24	1.26	0.00	1.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30
2 DC NC	1.33	1.20	1.15	1.31	0.00	1.82	1.33	1.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25
3 MTG	0.00	1.39	1.21	1.34	1.41	1.38	0.00	1.36	0.00	0.00	1.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22
4 PG	1.34	0.00	1.43	1.20	0.00	0.00	0.00	1.23	0.00	1.40	0.00	0.00	0.00	0.00	0.00	0.00	1.42	0.00	0.00	0.00	0.00	0.00	0.00	1.21
5 ARLCR	0.00	0.00	0.00	0.00	1.07	1.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15
6 ARNCR	0.00	1.27	1.41	0.00	1.26	1.32	1.28	1.13	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27
7 ALX	0.00	1.27	0.00	1.42	0.00	1.38	1.17	1.32	0.00	1.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23
8 FFX	1.32	0.00	1.88	0.00	1.35	1.39	1.54	1.21	1.62	1.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23
9 LDN	0.00	0.00	1.56	0.00	0.00	0.00	0.00	1.32	1.18	1.44	1.44	0.00	0.00	0.00	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20
10 PW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16	1.43	1.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.38	0.00	0.00	0.00	0.00	0.00	1.36
11 FRD	0.00	0.00	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	0.00	1.57	0.00	1.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.00	1.58	2.00	0.00	0.00	0.00	0.00	0.00	1.20
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	0.00	1.66	0.00	1.20	0.00	0.00	0.00	1.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30	0.00	0.00	0.00	0.00	0.00	0.00	1.31
18 FAU	1.56	0.00	0.00	1.74	0.00	0.00	0.00	1.57	0.00	1.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.29	0.00	0.00	0.00	0.00	0.00	1.31
19 STA	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.69	0.00	1.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28	0.00	0.00	0.00	0.00	1.28
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1.31		1.21		1.17		1.24		1.29		1.25		0.00		1.19		1.32		1.28		0.00		0.00	
		1.22		1.22		1.37		1.21		1.37		0.00		0.00		0.00		1.30		0.00		0.00		1.24

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBS Table: Observed Car Occupancy

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	1.27	1.00	3.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16
2 DC NC	1.33	1.20	1.15	1.31	0.00	2.25	1.93	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23
3 MTG	0.00	1.00	1.21	1.33	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20
4 PG	1.00	0.00	1.43	1.20	0.00	0.00	0.00	1.24	0.00	2.59	0.00	0.00	0.00	0.00	0.00	0.00	1.42	0.00	0.00	0.00	0.00	0.00	0.00	1.23
5 ARLCR	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
6 ARNCR	0.00	1.00	1.48	0.00	1.00	1.31	1.28	1.04	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22
7 ALX	0.00	1.00	0.00	1.00	0.00	1.00	1.17	1.32	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19
8 FFX	2.82	0.00	1.88	0.00	1.98	1.00	1.54	1.21	1.63	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23
9 LDN	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.32	1.18	1.00	1.95	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21
10 PW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06	1.00	1.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.34
11 FRD	0.00	0.00	1.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	0.00	1.00	0.00	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	1.21
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	0.00	1.00	0.00	1.20	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30	0.00	0.00	0.00	0.00	0.00	0.00	1.29
18 FAU	2.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52	0.00	0.00	0.00	0.00	0.00	1.49
19 STA	1.00	0.00	0.00	0.00	0.00	1.00	0.00	3.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.37	0.00	0.00	0.00	0.00	1.35
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1.46		1.22		1.20		1.27		1.25		1.26		0.00		1.21		1.32		1.37		0.00		0.00	
		1.18		1.21		1.30		1.20		1.35		0.00		0.00		0.00		1.46		0.00		0.00		1.23

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBS Table: Difference (Est-Obs) Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	-185	-549	-528	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1262
2 DC NC	-622	-271	1510	1118	0	533	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2268
3 MTG	0	0	-2225	0	-614	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2839
4 PG	-643	0	-574	-656	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1873
5 ARLCR	-300	0	0	0	-310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-610
6 ARNCR	-300	0	0	0	0	304	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7 ALX	-113	0	0	0	0	0	253	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	140
8 FFX	0	0	0	0	0	-675	0	2814	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2139
9 LDN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 PW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 FRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 CAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 HOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 CHS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 FAU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 STA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 CL/JF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 SP/FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 EXTL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	-2163		-1817		-924		253		0		0		0		0		0		0		0		0	
		-820		462		162		2814		0		0		0		0		0		0		0		-2033

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBS Table: Ratio (Est-to-Obs) Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	0.71	0.61	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52
2 DC NC	0.82	0.94	3.65	2.35	0.00	2.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23
3 MTG	0.00	0.00	0.66	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60
4 PG	0.02	0.00	0.18	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40
5 ARLCR	0.09	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
6 ARNCR	0.13	0.00	0.00	0.00	0.00	1.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
7 ALX	0.03	0.00	0.00	0.00	0.00	0.00	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11
8 FFX	0.00	0.00	0.00	0.00	0.00	0.51	0.00	5.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.06
9 LDN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 PW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11 FRD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 FAU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19 STA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.61		0.78		0.03		1.22		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
		0.86		1.18		1.06		5.35		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.93

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBS Table: Difference (Est-Obs) Pct Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	-16.9	-12.9	-17.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-14.3
2 DC NC	-12.7	-0.7	8.2	2.8	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
3 MTG	0.0	0.0	-0.5	0.0	-34.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6
4 PG	-41.9	0.0	-2.7	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5
5 ARLCR	-91.5	0.0	0.0	0.0	-23.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-29.4
6 ARNCR	-93.8	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
7 ALX	-98.9	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
8 FFX	0.0	0.0	0.0	0.0	0.0	-9.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
9 LDN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 PW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11 FRD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12 CAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 HOW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 AAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 CAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16 STM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 CHS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18 FAU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19 STA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 CL/JF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21 SP/FB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22 KGEO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23 EXTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	-14.0		-0.3		-9.3			0.5		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
		-1.3		0.1		-0.4			0.5		0.0		0.0		0.0		0.0		0.0		0.0		0.0		-0.1

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBS Table: Ratio (Est-to-Obs) Pct Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	0.35	0.61	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38
2 DC NC	0.62	0.86	5.01	1.99	0.00	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.08
3 MTG	0.00	0.00	0.66	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59
4 PG	0.04	0.00	0.52	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42
5 ARLCR	0.08	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
6 ARNCR	0.06	0.00	0.00	0.00	0.00	1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.07
7 ALX	0.01	0.00	0.00	0.00	0.00	0.00	1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04
8 FFX	0.00	0.00	0.00	0.00	0.00	0.45	0.00	5.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.02
9 LDN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 PW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11 FRD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 FAU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19 STA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.53		0.83		0.09			1.32		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
		0.78		1.12		0.88			5.29		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.92

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBS Table: Difference (Est-Obs) Car Occupancy

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	-0.00	0.38	-1.75	0.39	0.24	0.26	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
2 DC NC	-0.00	0.00	0.00	0.00	0.00	-0.43	-0.59	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
3 MTG	0.00	0.39	-0.00	0.00	0.41	0.38	0.00	0.36	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
4 PG	0.34	0.00	-0.00	0.00	0.00	0.00	0.00	-0.01	0.00	-1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02
5 ARLCR	0.00	0.00	0.00	0.00	0.07	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
6 ARNCR	0.00	0.27	-0.06	0.00	0.26	0.00	-0.00	0.09	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
7 ALX	0.00	0.27	0.00	0.42	0.00	0.38	-0.00	-0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
8 FFX	-1.50	0.00	-0.01	0.00	-0.63	0.39	-0.00	0.00	-0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
9 LDN	0.00	0.00	0.56	0.00	0.00	0.00	0.00	-0.00	-0.00	0.44	-0.51	0.00	0.00	0.00	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01
10 PW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.02
11 FRD	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	0.00	0.57	0.00	-0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	0.00	0.58	1.00	0.00	0.00	0.00	0.00	0.00	-0.01
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	0.00	0.66	0.00	-0.00	0.00	0.00	0.00	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
18 FAU	-0.44	0.00	0.00	0.74	0.00	0.00	0.00	0.57	0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.23	0.00	0.00	0.00	0.00	0.00	-0.18
19 STA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-1.31	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.09	0.00	0.00	0.00	0.00	-0.07
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	-0.15		-0.01		-0.02		-0.03		0.04		-0.01		0.00		-0.02		-0.01		-0.09		0.00		0.00		
		0.04		0.00		0.07		0.01		0.02		0.00		0.00		0.00		-0.16		0.00		0.00			0.01

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBS Table: Ratio (Est-to-Obs) Car Occupancy

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	1.00	1.38	0.42	1.39	1.24	1.26	0.00	1.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
2 DC NC	1.00	1.00	1.00	1.00	0.00	0.81	0.69	1.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02
3 MTG	0.00	1.39	1.00	1.00	1.41	1.38	0.00	1.36	0.00	0.00	1.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01
4 PG	1.34	0.00	1.00	1.00	0.00	0.00	0.00	0.99	0.00	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99
5 ARLCR	0.00	0.00	0.00	0.00	1.07	1.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15
6 ARNCR	0.00	1.27	0.96	0.00	1.26	1.00	1.00	1.08	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04
7 ALX	0.00	1.27	0.00	1.42	0.00	1.38	1.00	1.00	0.00	1.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.03
8 FFX	0.47	0.00	1.00	0.00	0.68	1.39	1.00	1.00	1.00	1.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
9 LDN	0.00	0.00	1.56	0.00	0.00	0.00	0.00	1.00	1.00	1.44	0.74	0.00	0.00	0.00	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99
10 PW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09	1.43	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.38	0.00	0.00	0.00	0.00	0.00	0.00	1.01
11 FRD	0.00	0.00	1.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	0.00	1.57	0.00	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98	0.00	1.58	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	0.00	1.66	0.00	1.00	0.00	0.00	0.00	1.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01
18 FAU	0.78	0.00	0.00	1.74	0.00	0.00	0.00	1.57	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.88
19 STA	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.00	1.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93	0.00	0.00	0.00	0.00	0.95
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.90		0.99		0.98		0.98		1.03		0.99		0.00		0.98		1.00		0.93		0.00		0.00		
		1.04		1.00		1.05		1.01		1.02		0.00		0.00		0.00		0.89		0.00		0.00			1.00

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBO Table: Estimated Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	3045	4371	583	0	0	951	192	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9142
2 DC NC	21417	41842	5481	2430	1181	1599	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73950
3 MTG	8975	4313	7493	0	0	454	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21235
4 PG	2229	972	2679	1786	0	216	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7882
5 ARLCR	0	358	0	0	0	426	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	784
6 ARNCR	5043	2381	0	0	935	2382	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10741
7 ALX	1522	451	95	0	479	0	1269	680	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4496
8 FFX	10312	1121	0	0	0	952	0	1915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14300
9 LDN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 PW	0	0	0	0	0	5	0	0	0	68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73
11 FRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 CAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 HOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CAL	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 CHS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 FAU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 STA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 CL/JF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 SP/FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 EXTL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	52550		16331		2595		1461		0		0		0		0		0		0		0		0	0	
		55809		4216		6985		2595		68		0		0		0		0		0		0			142610

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBO Table: Observed Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	3106	4385	276	0	0	829	671	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9267
2 DC NC	22302	40598	5183	604	580	1798	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71065
3 MTG	9094	4242	4583	0	0	626	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18545
4 PG	2406	1180	2115	1204	0	600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7505
5 ARLCR	0	727	0	0	0	363	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1090
6 ARNCR	5096	2234	0	0	1005	1368	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9703
7 ALX	994	892	226	0	1340	0	918	436	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4806
8 FFX	9074	1071	0	0	0	1023	0	4123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15291
9 LDN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 PW	0	0	0	0	0	689	0	0	0	347	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1036
11 FRD	0	0	0	0	0	0	0	0	0	0	465	0	0	0	0	0	0	0	0	0	0	0	0	0	465
12 CAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 HOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CAL	446	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75	0	0	0	0	0	0	0	0	521
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 CHS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73	0	0	0	0	0	0	73
18 FAU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 STA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 CL/JF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 SP/FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 EXTL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	52518		12383		2925		1589		0		465		0		75		73		0		0		0	0	
		55329		1808		7296		4559		347		0		0		0		0		0		0			139367

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBO Table: Estimated Pct Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	13.8	24.2	32.3	0.0	0.0	31.6	23.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.1
2 DC NC	19.5	9.4	8.2	6.8	19.0	9.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.5
3 MTG	28.0	6.9	0.6	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
4 PG	7.7	1.0	6.8	0.2	0.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
5 ARLCR	0.0	15.2	0.0	0.0	0.0	11.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1
6 ARNCR	20.0	15.3	0.0	0.0	9.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4
7 ALX	18.0	6.4	6.1	0.0	19.1	0.0	1.5	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9
8 FFX	24.6	11.2	0.0	0.0	0.0	1.8	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
9 LDN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 PW	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11 FRD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12 CAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 HOW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 AAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 CAL	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16 STM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 CHS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18 FAU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19 STA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 CL/JF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21 SP/FB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22 KGEO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23 EXTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	19.2	8.4	1.1	0.4	9.0	2.4	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBO Table: Observed Pct Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	20.3	26.8	9.7	0.0	0.0	32.0	14.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0
2 DC NC	21.3	11.1	7.6	1.2	15.1	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.2
3 MTG	30.6	5.7	0.4	0.0	0.0	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
4 PG	9.5	1.4	3.3	0.1	0.0	18.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
5 ARLCR	0.0	100.0	0.0	0.0	0.0	19.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.0
6 ARNCR	29.0	12.9	0.0	0.0	9.1	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1
7 ALX	22.9	17.0	5.8	0.0	33.4	0.0	1.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1
8 FFX	25.5	14.2	0.0	0.0	0.0	1.8	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
9 LDN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 PW	0.0	0.0	0.0	0.0	0.0	18.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
11 FRD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
12 CAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 HOW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 AAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 CAL	34.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
16 STM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 CHS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18 FAU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19 STA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 CL/JF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21 SP/FB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22 KGEO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23 EXTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	22.0	9.6	0.9	0.2	10.9	2.4	0.8	0.3	0.0	0.1	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBO Table: Estimated Car Occupancy

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	1.58	1.21	1.94	1.51	0.00	1.36	1.39	1.42	0.00	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.42
2 DC NC	1.25	1.48	1.33	1.39	1.35	1.33	1.52	1.22	1.50	0.00	0.00	0.00	0.00	0.00	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.42
3 MTG	1.19	1.25	1.48	1.33	0.00	1.38	1.56	1.21	0.00	1.59	1.37	0.00	0.00	0.00	1.77	0.00	1.55	0.00	0.00	0.00	0.00	0.00	0.00	1.46
4 PG	1.33	1.40	1.43	1.46	1.49	1.39	1.90	1.21	1.57	1.57	0.00	0.00	0.00	0.00	1.58	0.00	2.02	0.00	0.00	0.00	0.00	0.00	0.00	1.45
5 ARLCR	0.00	0.00	0.00	0.00	0.00	1.46	1.40	1.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.83
6 ARNCR	1.19	1.25	1.41	1.38	1.18	1.47	1.34	1.32	1.54	1.51	0.00	0.00	0.00	0.00	0.00	0.00	1.83	0.00	0.00	0.00	0.00	0.00	0.00	1.39
7 ALX	1.38	1.58	1.21	1.50	1.18	1.26	1.43	1.21	1.46	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.36
8 FFX	1.21	1.41	1.32	1.38	1.39	1.52	1.34	1.45	1.38	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.56	0.00	0.00	0.00	0.00	1.44
9 LDN	1.46	1.56	1.52	1.60	0.00	1.52	1.55	1.40	1.46	1.56	1.55	0.00	0.00	0.00	0.00	0.00	0.00	1.55	0.00	0.00	0.00	0.00	0.00	1.46
10 PW	1.39	1.49	1.52	1.58	0.00	1.38	2.12	1.42	1.50	1.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28	1.22	0.00	0.00	0.00	0.00	1.52
11 FRD	1.55	0.00	1.22	1.55	0.00	0.00	0.00	1.56	1.38	0.00	1.42	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	1.51	1.54	1.52	1.29	0.00	1.49	0.00	1.55	1.58	0.00	0.00	0.00	0.00	0.00	1.28	0.00	1.47	0.00	0.00	0.00	0.00	0.00	0.00	1.29
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	1.51	1.53	1.68	1.28	1.78	1.50	1.50	1.58	0.00	0.00	0.00	0.00	0.00	0.00	1.41	0.00	1.32	0.00	0.00	0.00	0.00	0.00	0.00	1.32
18 FAU	0.00	0.00	0.00	0.00	1.54	1.50	0.00	1.22	1.22	1.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21	1.56	0.00	0.00	0.00	0.00	1.24
19 STA	0.00	0.00	0.00	1.43	0.00	1.50	0.00	1.25	0.00	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.26	1.24	0.00	0.00	0.00	0.00	1.26
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1.28		1.47		1.36		1.43		1.45		1.42		0.00		1.29		1.34		1.25		0.00		0.00	
		1.43		1.45		1.45		1.43		1.54		0.00		0.00		0.00		1.23		0.00		0.00		1.43

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBO Table: Observed Car Occupancy

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	1.59	1.21	1.95	1.51	0.00	1.36	1.24	2.06	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41
2 DC NC	1.25	1.48	1.33	1.39	1.35	1.33	1.51	1.22	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40
3 MTG	1.17	1.25	1.48	1.33	0.00	1.00	1.55	1.09	0.00	1.00	1.00	0.00	0.00	0.00	1.91	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.45
4 PG	1.33	1.40	1.43	1.46	1.00	1.00	1.92	1.10	1.58	2.20	0.00	0.00	0.00	0.00	1.00	0.00	2.02	0.00	0.00	0.00	0.00	0.00	0.00	1.46
5 ARLCR	0.00	0.00	0.00	0.00	0.00	1.46	1.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.93
6 ARNCR	1.14	1.25	1.41	1.00	1.10	1.47	1.34	1.32	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.38
7 ALX	1.00	1.58	1.20	1.96	1.14	1.26	1.43	1.21	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34
8 FFX	1.21	1.41	1.32	1.00	1.00	1.52	1.34	1.45	1.00	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.64	0.00	0.00	0.00	0.00	1.43
9 LDN	1.00	1.00	1.24	1.00	0.00	2.91	1.00	1.40	1.51	1.70	1.93	0.00	0.00	0.00	0.00	0.00	0.00	4.92	0.00	0.00	0.00	0.00	0.00	1.50
10 PW	1.00	1.51	1.33	1.00	0.00	1.00	2.13	1.41	1.50	1.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28	1.13	0.00	0.00	0.00	0.00	1.52
11 FRD	1.24	0.00	1.21	1.51	0.00	0.00	0.00	1.00	1.00	0.00	1.43	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	1.00	1.00	2.07	1.29	0.00	1.00	0.00	1.82	2.00	0.00	0.00	0.00	0.00	0.00	1.36	0.00	1.47	0.00	0.00	0.00	0.00	0.00	0.00	1.37
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	1.67	2.07	1.00	1.28	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41	0.00	1.65	0.00	0.00	0.00	0.00	0.00	0.00	1.59
18 FAU	0.00	0.00	0.00	0.00	2.00	1.00	0.00	1.13	1.16	1.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.45	2.27	0.00	0.00	0.00	0.00	1.40
19 STA	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.24	0.00	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25	1.79	0.00	0.00	0.00	0.00	1.72
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1.26		1.47		1.16		1.43		1.41		1.42		0.00		1.35		1.68		1.73		0.00		0.00	
		1.42		1.44		1.43		1.43		1.54		0.00		0.00		0.00		1.48		0.00		0.00		1.44

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBO Table: Difference (Est-Obs) Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	-61	-14	307	0	0	122	-479	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-125
2 DC NC	-885	1244	298	1826	601	-199	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2885
3 MTG	-119	71	2910	0	0	-172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2690
4 PG	-177	-208	564	582	0	-384	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	377
5 ARLCR	0	-369	0	0	0	63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-306
6 ARNCR	-53	147	0	0	-70	1014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1038
7 ALX	528	-441	-131	0	-861	0	351	244	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-310
8 FFX	1238	50	0	0	0	-71	0	-2208	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-991
9 LDN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 PW	0	0	0	0	0	-684	0	0	0	-279	0	0	0	0	0	0	0	0	0	0	0	0	0	-963
11 FRD	0	0	0	0	0	0	0	0	0	0	-465	0	0	0	0	0	0	0	0	0	0	0	0	-465
12 CAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 HOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CAL	-439	0	0	0	0	0	0	0	0	0	0	0	0	0	-75	0	0	0	0	0	0	0	0	-514
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 CHS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-73	0	0	0	0	0	0	-73
18 FAU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 STA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 CL/JF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 SP/FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 EXTL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	32	480	3948	2408	-330	-311	-128	-1964	0	-279	-465	0	0	0	-75	0	-73	0	0	0	0	0	0	3243

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBO Table: Ratio (Est-to-Obs) Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	0.98	1.00	2.11	0.00	0.00	1.15	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99
2 DC NC	0.96	1.03	1.06	4.02	2.04	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04
3 MTG	0.99	1.02	1.63	0.00	0.00	0.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15
4 PG	0.93	0.82	1.27	1.48	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05
5 ARLCR	0.00	0.49	0.00	0.00	0.00	1.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.72
6 ARNCR	0.99	1.07	0.00	0.00	0.93	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11
7 ALX	1.53	0.51	0.42	0.00	0.36	0.00	1.38	1.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94
8 FFX	1.14	1.05	0.00	0.00	0.00	0.93	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94
9 LDN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 PW	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
11 FRD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 FAU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19 STA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1.00	1.01	1.32	2.33	0.89	0.96	0.92	0.57	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBO Table: Difference (Est-Obs) Pct Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	-6.6	-2.6	22.6	0.0	0.0	-0.4	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.9
2 DC NC	-1.9	-1.7	0.6	5.5	4.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7
3 MTG	-2.5	1.1	0.2	0.0	0.0	-1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
4 PG	-1.8	-0.4	3.5	0.1	0.0	-12.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 ARLCR	0.0	-84.8	0.0	0.0	0.0	-8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-10.9
6 ARNCR	-9.0	2.4	0.0	0.0	-0.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
7 ALX	-5.0	-10.6	0.3	0.0	-14.3	0.0	0.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2
8 FFX	-0.9	-3.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
9 LDN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 PW	0.0	0.0	0.0	0.0	0.0	-18.6	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2
11 FRD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2
12 CAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 HOW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 AAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 CAL	-33.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5
16 STM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 CHS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0
18 FAU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19 STA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 CL/JF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21 SP/FB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22 KGEO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23 EXTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	-2.8		0.3		-1.9		-0.0		0.0		-0.2		0.0		-0.1		-0.0		0.0		0.0		0.0		
		-1.2		0.2		-0.1		-0.1		-0.1		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBO Table: Ratio (Est-to-Obs) Pct Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	0.68	0.90	3.34	0.00	0.00	0.99	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90
2 DC NC	0.91	0.84	1.08	5.44	1.26	0.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93
3 MTG	0.92	1.20	1.60	0.00	0.00	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14
4 PG	0.81	0.71	2.07	1.45	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.07
5 ARLCR	0.00	0.15	0.00	0.00	0.00	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39
6 ARNCR	0.69	1.19	0.00	0.00	0.98	1.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.08
7 ALX	0.78	0.38	1.05	0.00	0.57	0.00	1.40	1.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93
8 FFX	0.96	0.79	0.00	0.00	0.00	1.01	0.00	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90
9 LDN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 PW	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
11 FRD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 FAU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19 STA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.87		1.33		0.83		0.95		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		
		0.87		2.34		0.98		0.55		0.19		0.00		0.00		0.00		0.00		0.00		0.00		0.00	1.00

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBO Table: Difference (Est-Obs) Car Occupancy

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	-0.01	0.00	-0.01	0.00	0.00	0.00	0.15	-0.64	0.00	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
2 DC NC	-0.00	0.01	0.00	0.00	0.00	-0.00	0.00	-0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
3 MTG	0.02	0.00	-0.00	-0.00	0.00	0.38	0.01	0.12	0.00	0.59	0.37	0.00	0.00	0.00	-0.14	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
4 PG	0.00	-0.00	0.00	0.00	0.49	0.39	-0.02	0.12	-0.01	-0.63	0.00	0.00	0.00	0.00	0.58	0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01
5 ARLCR	0.00	0.00	0.00	0.00	0.00	-0.00	0.40	-0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.10
6 ARNCR	0.04	0.00	-0.00	0.38	0.08	0.00	0.00	-0.00	0.54	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
7 ALX	0.38	-0.00	0.01	-0.45	0.05	-0.00	-0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
8 FFX	-0.00	0.00	-0.00	0.38	0.39	-0.00	0.00	0.00	0.38	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.08	0.00	0.00	0.00	0.00	0.01
9 LDN	0.46	0.56	0.29	0.60	0.00	-1.39	0.55	-0.00	-0.05	-0.14	-0.37	0.00	0.00	0.00	0.00	0.00	0.00	-3.36	0.00	0.00	0.00	0.00	0.00	0.00	-0.04
10 PW	0.39	-0.02	0.19	0.58	0.00	0.38	-0.01	0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00
11 FRD	0.31	0.00	0.01	0.04	0.00	0.00	0.00	0.56	0.38	0.00	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	0.51	0.54	-0.54	0.00	0.00	0.49	0.00	-0.28	-0.42	0.00	0.00	0.00	0.00	0.00	-0.08	0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.08
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	-0.15	-0.54	0.68	0.00	0.78	0.50	0.50	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.27
18 FAU	0.00	0.00	0.00	0.00	-0.46	0.50	0.00	0.09	0.06	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.24	-0.71	0.00	0.00	0.00	0.00	0.00	-0.16
19 STA	0.00	0.00	0.00	0.43	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-0.55	0.00	0.00	0.00	0.00	0.00	-0.46
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.02		0.00		0.21		-0.01		0.05		-0.00		0.00		-0.06		-0.34		-0.48		0.00		0.00		
		0.01		0.01		0.03		0.01		-0.00		0.00		0.00		0.00		-0.25		0.00		0.00		-0.01	

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: HBO Table: Ratio (Est-to-Obs) Car Occupancy

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	0.99	1.00	0.99	1.00	0.00	1.00	1.12	0.69	0.00	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2 DC NC	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	0.00	0.00	0.00	0.00	0.00	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01
3 MTG	1.02	1.00	1.00	1.00	0.00	1.38	1.01	1.11	0.00	1.59	1.37	0.00	0.00	0.00	0.93	0.00	1.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01
4 PG	1.00	1.00	1.00	1.00	1.49	1.39	0.99	1.11	0.99	0.71	0.00	0.00	0.00	0.00	1.58	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
5 ARLCR	0.00	0.00	0.00	0.00	0.00	1.00	1.40	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95
6 ARNCR	1.04	1.00	1.00	1.38	1.07	1.00	1.00	1.00	1.54	1.51	0.00	0.00	0.00	0.00	0.00	0.00	1.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01
7 ALX	1.38	1.00	1.00	0.77	1.04	1.00	1.00	1.00	1.46	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01
8 FFX	1.00	1.00	1.00	1.38	1.39	1.00	1.00	1.00	1.38	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95	0.00	0.00	0.00	0.00	0.00	1.01
9 LDN	1.46	1.56	1.23	1.60	0.00	0.52	1.55	1.00	0.96	0.92	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.97
10 PW	1.39	0.98	1.14	1.58	0.00	1.38	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.08	0.00	0.00	0.00	0.00	0.00	1.00
11 FRD	1.25	0.00	1.01	1.03	0.00	0.00	0.00	1.56	1.38	0.00	0.99	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	1.51	1.54	0.74	1.00	0.00	1.49	0.00	0.85	0.79	0.00	0.00	0.00	0.00	0.00	0.94	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	0.91	0.74	1.68	1.00	1.78	1.50	1.50	1.58	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83
18 FAU	0.00	0.00	0.00	0.00	0.77	1.50	0.00	1.08	1.05	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.69	0.00	0.00	0.00	0.00	0.00	0.89
19 STA	0.00	0.00	0.00	1.43	0.00	1.50	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01	0.69	0.00	0.00	0.00	0.00	0.00	0.73
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1.02		1.00		1.18		1.00		1.03		1.00		0.00		0.95		0.80		0.72		0.00		0.00		
		1.01		1.01		1.02		1.00		1.00		0.00		0.00		0.00		0.83		0.00		0.00		0.99	

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: NHB Table: Estimated Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	20654	9211	6081	3572	2657	4363	1292	3523	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51353
2 DC NC	11860	3858	3520	1872	604	1203	297	330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23544
3 MTG	6220	2926	9753	474	266	447	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20086
4 PG	4605	1663	1084	797	0	265	0	74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8488
5 ARLCR	2624	413	221	0	0	593	220	213	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4284
6 ARNCR	4678	1352	428	116	900	2708	456	1472	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12110
7 ALX	2618	357	0	0	385	791	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4151
8 FFX	5660	479	0	54	708	1109	0	3420	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11430
9 LDN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 PW	13	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
11 FRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 CAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 HOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 CHS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 FAU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 STA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 CL/JF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 SP/FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 EXTL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	58932		21087		5520		2265		0		0		0		0		0		0		0		0	0	
		20260		6885		11479		9032		0		0		0		0		0		0		0			135460

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: NHB Table: Observed Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	21795	9202	6152	4628	2720	4385	862	4895	54	617	86	0	0	0	110	0	0	0	65	0	0	0	0	0	55571
2 DC NC	9200	4386	881	1472	272	1247	479	233	0	201	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18371
3 MTG	6154	882	3050	674	232	326	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11318
4 PG	4627	1473	674	1297	0	222	0	562	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8855
5 ARLCR	2720	271	232	0	0	354	493	243	0	124	0	0	0	0	0	0	0	54	0	0	0	0	0	0	4491
6 ARNCR	4383	1246	326	222	354	425	95	1117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8168
7 ALX	861	479	0	0	493	96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1929
8 FFX	4897	233	0	562	243	1117	0	459	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7511
9 LDN	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54
10 PW	615	201	0	0	124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	940
11 FRD	86	0	0	0	0	0	0	0	0	0	330	0	0	0	0	0	0	0	0	0	0	0	0	0	416
12 CAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 HOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CAL	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 CHS	0	0	0	0	54	0	0	0	0	0	0	0	0	0	0	0	0	109	0	0	0	0	0	0	163
18 FAU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 STA	66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	66
20 CL/JF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 SP/FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 EXTL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	55568		11315		4492		1929		54		416		0		110		163		65		0		0	0	
		18373		8855		8172		7509		942		0		0		0		0		0		0			117963

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: NHB Table: Estimated Pct Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	19.0	11.3	37.4	12.4	47.5	13.5	9.0	11.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0
2 DC NC	13.9	2.2	9.6	4.1	16.3	8.4	4.3	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1
3 MTG	34.8	7.4	1.1	1.4	16.3	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
4 PG	16.2	3.5	2.7	0.1	0.0	5.3	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2
5 ARLCR	30.8	9.6	12.4	0.0	0.0	8.9	6.8	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0
6 ARNCR	17.2	8.3	7.2	2.6	11.2	3.7	2.4	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7
7 ALX	21.2	3.9	0.0	0.0	10.2	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3
8 FFX	17.1	2.8	0.0	0.6	7.7	2.2	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
9 LDN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 PW	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11 FRD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12 CAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 HOW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 AAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 CAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16 STM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 CHS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18 FAU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19 STA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 CL/JF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21 SP/FB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22 KGEO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23 EXTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	18.1	5.1	2.1	1.0	15.3	5.4	1.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: NHB Table: Observed Pct Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	26.6	16.3	31.0	17.6	58.7	26.5	10.6	14.7	5.5	20.2	16.9	0.0	0.0	0.0	10.1	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0	21.7
2 DC NC	16.3	2.6	2.0	3.7	15.3	10.1	7.2	1.8	0.0	19.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3
3 MTG	31.0	2.0	0.3	1.4	31.5	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1
4 PG	17.6	3.7	1.4	0.2	0.0	5.8	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2
5 ARLCR	58.7	15.2	31.5	0.0	0.0	4.2	40.0	3.1	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	34.0	0.0	0.0	0.0	0.0	0.0	0.0	13.7
6 ARNCR	26.5	10.0	7.7	5.8	4.2	0.4	0.6	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9
7 ALX	10.6	7.2	0.0	0.0	40.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1
8 FFX	14.7	1.7	0.0	4.2	3.1	2.8	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
9 LDN	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
10 PW	20.1	19.1	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
11 FRD	16.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
12 CAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 HOW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 AAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 CAL	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
16 STM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 CHS	0.0	0.0	0.0	0.0	34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
18 FAU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19 STA	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
20 CL/JF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21 SP/FB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22 KGEO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23 EXTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	21.7	5.3	1.1	1.2	13.7	3.9	1.1	0.7	0.1	0.4	0.2	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0	2.5

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: NHB Table: Estimated Car Occupancy

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	1.29	1.28	1.26	1.20	1.20	1.18	1.37	1.21	1.38	1.37	1.46	0.00	0.00	0.00	1.27	0.00	1.40	1.20	1.33	0.00	0.00	0.00	0.00	1.26
2 DC NC	1.28	1.34	1.17	1.18	1.25	1.15	1.21	1.15	1.36	1.36	1.35	0.00	0.00	0.00	1.39	0.00	1.37	1.67	0.00	0.00	0.00	0.00	0.00	1.27
3 MTG	1.26	1.17	1.29	1.16	1.34	1.15	1.25	1.15	1.41	1.37	1.26	0.00	0.00	0.00	1.27	0.00	1.52	0.00	0.00	0.00	0.00	0.00	0.00	1.28
4 PG	1.20	1.18	1.16	1.24	1.25	1.15	1.16	1.17	1.37	0.00	1.35	0.00	0.00	0.00	1.44	0.00	1.16	0.00	0.00	0.00	0.00	0.00	0.00	1.23
5 ARLCR	1.20	1.25	1.34	1.25	1.22	1.28	1.34	1.49	1.35	1.36	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	0.00	0.00	0.00	0.00	1.31
6 ARNCR	1.18	1.15	1.15	1.15	1.28	1.21	1.15	1.25	1.36	1.16	1.39	0.00	0.00	0.00	1.64	0.00	1.41	0.00	0.00	0.00	0.00	0.00	0.00	1.21
7 ALX	1.37	1.21	1.25	1.15	1.34	1.15	1.26	1.29	1.36	1.25	1.60	0.00	0.00	0.00	0.00	0.00	1.28	2.00	1.39	0.00	0.00	0.00	0.00	1.26
8 FFX	1.21	1.15	1.15	1.17	1.49	1.25	1.29	1.22	1.16	1.23	1.37	0.00	0.00	0.00	0.00	0.00	1.35	1.38	1.16	0.00	0.00	0.00	0.00	1.22
9 LDN	1.36	1.37	1.42	1.37	1.34	1.36	1.38	1.16	1.18	1.61	1.38	0.00	0.00	0.00	0.00	0.00	0.00	1.38	0.00	0.00	0.00	0.00	0.00	1.19
10 PW	1.44	1.37	1.37	0.00	1.35	1.16	1.25	1.23	1.61	1.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.24	1.16	0.00	0.00	0.00	0.00	1.35
11 FRD	1.37	1.37	1.26	1.38	0.00	1.36	1.41	1.38	1.38	0.00	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	1.36	1.38	1.39	1.44	0.00	1.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.18	0.00	1.38	1.00	0.00	0.00	0.00	0.00	0.00	1.21
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	1.37	1.35	1.34	1.16	1.17	1.35	1.36	1.38	0.00	0.00	0.00	0.00	0.00	0.00	1.38	0.00	1.44	0.00	0.00	0.00	0.00	0.00	0.00	1.39
18 FAU	1.35	1.54	0.00	0.00	0.00	0.00	1.37	1.35	1.38	1.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25	0.00	0.00	0.00	0.00	0.00	1.26
19 STA	1.36	0.00	0.00	0.00	0.00	0.00	1.36	1.16	0.00	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.38	0.00	0.00	0.00	0.00	1.31
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1.26	1.27	1.28	1.23	1.33	1.21	1.26	1.22	1.20	1.35	1.30	0.00	0.00	0.00	1.21	0.00	1.40	1.26	1.32	0.00	0.00	0.00	0.00	1.25

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: NHB Table: Observed Car Occupancy

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	1.29	1.28	1.26	1.20	1.20	1.18	1.37	1.21	1.41	1.44	1.24	0.00	0.00	0.00	1.13	0.00	1.48	2.00	6.50	0.00	0.00	0.00	0.00	1.27
2 DC NC	1.28	1.34	1.17	1.18	1.00	1.08	1.21	1.10	1.27	1.00	1.00	0.00	0.00	0.00	1.00	0.00	1.36	1.00	0.00	0.00	0.00	0.00	0.00	1.26
3 MTG	1.26	1.17	1.29	1.16	1.00	1.06	1.00	1.11	1.42	1.12	1.26	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27
4 PG	1.20	1.18	1.16	1.24	1.00	1.07	1.11	1.17	1.00	0.00	1.00	0.00	0.00	0.00	1.44	0.00	1.11	0.00	0.00	0.00	0.00	0.00	0.00	1.22
5 ARLCR	1.20	1.00	1.00	1.00	1.22	1.28	1.00	1.49	1.00	1.63	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.26
6 ARNCR	1.18	1.08	1.06	1.07	1.28	1.21	1.11	1.25	1.06	1.16	1.00	0.00	0.00	0.00	1.00	0.00	1.68	0.00	0.00	0.00	0.00	0.00	0.00	1.20
7 ALX	1.37	1.21	1.00	1.11	1.00	1.11	1.26	1.29	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.24
8 FFX	1.21	1.10	1.11	1.17	1.49	1.25	1.29	1.22	1.07	1.23	1.00	0.00	0.00	0.00	0.00	0.00	1.10	1.35	1.05	0.00	0.00	0.00	0.00	1.22
9 LDN	1.41	1.27	1.42	1.00	1.00	1.06	1.00	1.07	1.18	1.61	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.16
10 PW	1.44	1.00	1.12	0.00	1.63	1.16	1.00	1.23	1.62	1.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.24	1.10	0.00	0.00	0.00	0.00	1.35
11 FRD	1.24	1.00	1.26	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.29
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	1.13	1.00	1.00	1.44	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21	0.00	1.95	1.00	0.00	0.00	0.00	0.00	0.00	1.23
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	1.48	1.36	1.00	1.11	1.00	1.68	1.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00	1.96	0.00	1.44	0.00	0.00	0.00	0.00	0.00	0.00	1.39
18 FAU	2.00	1.00	0.00	0.00	0.00	0.00	1.00	1.35	1.00	1.24	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.25	0.00	0.00	0.00	0.00	0.00	1.25
19 STA	6.50	0.00	0.00	0.00	0.00	0.00	1.00	1.05	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.00	1.41
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1.27	1.26	1.27	1.22	1.26	1.20	1.24	1.22	1.17	1.35	1.29	0.00	0.00	0.00	1.23	0.00	1.39	1.25	1.41	0.00	0.00	0.00	0.00	1.25

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: NHB Table: Difference (Est-Obs) Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	-1141	9	-71	-1056	-63	-22	430	-1372	-54	-617	-86	0	0	0	-110	0	0	0	-65	0	0	0	0		-4218
2 DC NC	2660	-528	2639	400	332	-44	-182	97	0	-201	0	0	0	0	0	0	0	0	0	0	0	0	0		5173
3 MTG	66	2044	6703	-200	34	121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		8768
4 PG	-22	190	410	-500	0	43	0	-488	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		-367
5 ARLCR	-96	142	-11	0	0	239	-273	-30	0	-124	0	0	0	0	0	0	0	-54	0	0	0	0	0		-207
6 ARNCR	295	106	102	-106	546	2283	361	355	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		3942
7 ALX	1757	-122	0	0	-108	695	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		2222
8 FFX	763	246	0	-508	465	-8	0	2961	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		3919
9 LDN	-54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		-54
10 PW	-602	-200	0	0	-124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		-926
11 FRD	-86	0	0	0	0	0	0	0	0	0	0	-330	0	0	0	0	0	0	0	0	0	0	0		-416
12 CAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
13 HOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
14 AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
15 CAL	-110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		-110
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
17 CHS	0	0	0	0	-54	0	0	0	0	0	0	0	0	0	0	0	0	-109	0	0	0	0	0		-163
18 FAU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
19 STA	-66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		-66
20 CL/JF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
21 SP/FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
22 KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
23 EXTL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
TOTAL	3364		9772		1028		336		-54		-416		0		-110		-163		-65		0		0		
		1887		-1970		3307		1523		-942		0		0		0		0		0		0			17497

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: NHB Table: Ratio (Est-to-Obs) Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	0.95	1.00	0.99	0.77	0.98	0.99	1.50	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92
2 DC NC	1.29	0.88	4.00	1.27	2.22	0.96	0.62	1.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28
3 MTG	1.01	3.32	3.20	0.70	1.15	1.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.77
4 PG	1.00	1.13	1.61	0.61	0.00	1.19	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96
5 ARLCR	0.96	1.52	0.95	0.00	0.00	1.68	0.45	0.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95
6 ARNCR	1.07	1.09	1.31	0.52	2.54	6.37	4.80	1.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.48
7 ALX	3.04	0.75	0.00	0.00	0.78	8.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.15
8 FFX	1.16	2.06	0.00	0.10	2.91	0.99	0.00	7.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52
9 LDN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 PW	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
11 FRD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 FAU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19 STA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1.06		1.86		1.23		1.17		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		
		1.10		0.78		1.40		1.20		0.00		0.00		0.00		0.00		0.00		0.00		0.00			1.15

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: NHB Table: Difference (Est-Obs) Pct Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	-7.6	-5.0	6.4	-5.2	-11.3	-13.0	-1.6	-3.1	-5.5	-20.2	-16.9	0.0	0.0	0.0	-10.1	0.0	0.0	0.0	-7.4	0.0	0.0	0.0	0.0		-5.6
2 DC NC	-2.4	-0.4	7.6	0.4	1.0	-1.6	-2.9	0.3	0.0	-19.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.8
3 MTG	3.8	5.4	0.8	0.1	-15.3	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.9
4 PG	-1.4	-0.2	1.4	-0.1	0.0	-0.4	0.0	-3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		-0.0
5 ARLCR	-27.9	-5.6	-19.1	0.0	0.0	4.7	-33.1	-0.3	0.0	-8.7	0.0	0.0	0.0	0.0	0.0	0.0	-34.0	0.0	0.0	0.0	0.0	0.0	0.0		-1.7
6 ARNCR	-9.3	-1.7	-0.5	-3.2	7.0	3.2	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		1.8
7 ALX	10.7	-3.3	0.0	0.0	-29.8	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		1.3
8 FFX	2.4	1.0	0.0	-3.6	4.7	-0.7	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.3
9 LDN	-5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		-0.1
10 PW	-19.6	-19.0	0.0	0.0	-8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		-0.3
11 FRD	-16.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		-0.2
12 CAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
13 HOW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
14 AAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
15 CAL	-10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		-0.2
16 STM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
17 CHS	0.0	0.0	0.0	0.0	-34.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0		-0.1
18 FAU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
19 STA	-7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		-0.2
20 CL/JF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
21 SP/FB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
22 KGEO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
23 EXTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
TOTAL	-3.6	-0.1	1.0	-0.3	1.5	1.4	0.2	0.1	-0.1	-0.4	-0.2	0.0	0.0	0.0	-0.2	0.0	-0.1	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.3

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: NHB Table: Ratio (Est-to-Obs) Pct Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	0.71	0.69	1.21	0.71	0.81	0.51	0.85	0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74
2 DC NC	0.85	0.86	4.78	1.10	1.07	0.84	0.60	1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16
3 MTG	1.12	3.68	3.29	1.05	0.52	0.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.87
4 PG	0.92	0.94	2.02	0.61	0.00	0.92	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96
5 ARLCR	0.53	0.63	0.39	0.00	0.00	2.10	0.17	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87
6 ARNCR	0.65	0.83	0.93	0.45	2.65	8.85	4.04	1.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46
7 ALX	2.01	0.54	0.00	0.00	0.25	6.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.20
8 FFX	1.16	1.58	0.00	0.13	2.53	0.76	0.00	7.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.43
9 LDN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 PW	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
11 FRD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 FAU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19 STA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.83	0.97	1.96	0.79	1.11	1.36	1.19	1.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: NHB Table: Difference (Est-Obs) Car Occupancy

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	0.00	-0.00	0.00	-0.00	-0.00	0.00	-0.00	0.00	-0.03	-0.07	0.21	0.00	0.00	0.00	0.15	0.00	-0.08	-0.80	-5.17	0.00	0.00	0.00	0.00	-0.01
2 DC NC	-0.00	0.00	-0.00	-0.00	0.25	0.07	0.00	0.06	0.09	0.36	0.35	0.00	0.00	0.00	0.39	0.00	0.01	0.67	0.00	0.00	0.00	0.00	0.00	0.01
3 MTG	0.00	0.00	0.00	-0.00	0.34	0.09	0.25	0.05	-0.01	0.25	0.00	0.00	0.00	0.00	0.27	0.00	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.01
4 PG	-0.00	0.00	-0.00	0.00	0.25	0.08	0.04	0.00	0.37	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5 ARLCR	0.00	0.25	0.34	0.25	0.00	-0.00	0.34	0.00	0.35	-0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6 ARNCR	0.00	0.07	0.08	0.08	0.00	0.00	0.03	0.00	0.30	0.00	0.39	0.00	0.00	0.00	0.64	0.00	-0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.01
7 ALX	0.00	-0.00	0.25	0.04	0.34	0.03	-0.00	-0.00	0.36	0.25	0.60	0.00	0.00	0.00	0.00	0.00	0.28	1.00	0.39	0.00	0.00	0.00	0.00	0.02
8 FFX	0.00	0.06	0.05	0.00	-0.00	0.00	0.00	0.00	0.09	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.25	0.02	0.11	0.00	0.00	0.00	0.00	0.01
9 LDN	-0.05	0.09	0.00	0.37	0.34	0.30	0.38	0.09	-0.00	-0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.03
10 PW	0.00	0.37	0.25	0.00	-0.28	0.00	0.25	-0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	-0.01
11 FRD	0.13	0.37	-0.00	0.38	0.00	0.36	0.41	0.38	0.38	0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	0.23	0.38	0.39	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	0.00	-0.57	0.00	0.00	0.00	0.00	0.00	0.00	-0.02
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	-0.11	-0.01	0.34	0.05	0.17	-0.33	0.36	0.28	0.00	0.00	0.00	0.00	0.00	0.00	-0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.00
18 FAU	-0.65	0.54	0.00	0.00	0.00	0.00	0.37	-0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
19 STA	-5.14	0.00	0.00	0.00	0.00	0.00	0.36	0.11	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.07	0.00	0.00	0.00	0.00	-0.11
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	-0.00		0.01		0.06		0.03		0.04		0.01		0.00		-0.02		0.01		-0.09		0.00		0.00	
		0.01		0.00		0.01		0.00		-0.01		0.00		0.00		0.00		0.01		0.00		0.00		0.00

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: NHB Table: Ratio (Est-to-Obs) Car Occupancy

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.95	1.17	0.00	0.00	0.00	1.13	0.00	0.94	0.60	0.21	0.00	0.00	0.00	0.00	1.00
2 DC NC	1.00	1.00	1.00	1.00	1.25	1.07	1.00	1.05	1.07	1.36	1.35	0.00	0.00	0.00	1.39	0.00	1.01	1.67	0.00	0.00	0.00	0.00	0.00	1.01
3 MTG	1.00	1.00	1.00	1.00	1.34	1.08	1.25	1.04	0.99	1.22	1.00	0.00	0.00	0.00	1.27	0.00	1.52	0.00	0.00	0.00	0.00	0.00	0.00	1.00
4 PG	1.00	1.00	1.00	1.00	1.25	1.08	1.04	1.00	1.37	0.00	1.35	0.00	0.00	0.00	1.00	0.00	1.05	0.00	0.00	0.00	0.00	0.00	0.00	1.00
5 ARLCR	1.00	1.25	1.34	1.25	1.00	1.00	1.34	1.00	1.35	0.83	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	0.00	0.00	0.00	0.00	1.04
6 ARNCR	1.00	1.06	1.08	1.08	1.00	1.00	1.03	1.00	1.28	1.00	1.39	0.00	0.00	0.00	1.64	0.00	0.84	0.00	0.00	0.00	0.00	0.00	0.00	1.01
7 ALX	1.00	1.00	1.25	1.03	1.34	1.03	1.00	1.00	1.36	1.25	1.60	0.00	0.00	0.00	0.00	0.00	1.28	2.00	1.39	0.00	0.00	0.00	0.00	1.02
8 FFX	1.00	1.05	1.04	1.00	1.00	1.00	1.00	1.00	1.08	1.00	1.37	0.00	0.00	0.00	0.00	0.00	1.22	1.02	1.10	0.00	0.00	0.00	0.00	1.00
9 LDN	0.96	1.07	1.00	1.37	1.34	1.28	1.38	1.08	1.00	1.00	1.38	0.00	0.00	0.00	0.00	0.00	0.00	1.38	0.00	0.00	0.00	0.00	0.00	1.03
10 PW	1.00	1.37	1.22	0.00	0.83	1.00	1.25	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.05	0.00	0.00	0.00	0.00	1.00
11 FRD	1.10	1.37	1.00	1.38	0.00	1.36	1.41	1.38	1.38	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	1.21	1.38	1.39	1.00	0.00	1.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.71	1.00	0.00	0.00	0.00	0.00	0.00	0.98
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	0.92	1.00	1.34	1.05	1.17	0.80	1.36	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
18 FAU	0.68	1.54	0.00	0.00	0.00	0.00	1.37	1.00	1.38	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.01
19 STA	0.21	0.00	0.00	0.00	0.00	0.00	1.36	1.10	0.00	1.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95	0.00	0.00	0.00	0.00	0.92
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1.00		1.00		1.05		1.02		1.03		1.01		0.00		0.98		1.01		0.93		0.00		0.00	
		1.01		1.00		1.01		1.00		0.99		0.00		0.00		0.00		1.01		0.00		0.00		1.00

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: ALL Table: Estimated Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	38379	19658	7442	3572	2657	6175	1743	4403	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	84029
2 DC NC	110471	64971	16971	8225	4917	5770	1481	2219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	215025
3 MTG	61310	14845	40866	474	3305	4221	0	1549	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	126570
4 PG	42326	7679	8054	8798	2756	2426	0	74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72113
5 ARLCR	5313	1079	221	0	175	1288	220	213	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8509
6 ARNCR	39291	7079	1442	116	3714	9202	456	4249	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65549
7 ALX	17146	2958	95	0	3125	2231	5261	2310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33126
8 FFX	60652	4818	0	54	10728	18533	1508	18600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114893
9 LDN	1130	66	90	0	126	161	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1573
10 PW	7488	544	65	0	369	1247	773	1361	0	68	0	0	0	0	0	0	0	0	0	0	0	0	0	11915
11 FRD	153	50	0	0	14	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	228
12 CAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 HOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CAL	784	180	0	0	44	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1054
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 CHS	1284	200	0	0	52	59	0	0	0	0	0	0	0	0	0	0	22	0	0	0	0	0	0	1617
18 FAU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 STA	173	29	6	0	49	75	61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	393
20 CL/JF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 SP/FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 EXTL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	385900		75252		32031		11503		0		0		0		0		22		0		0		0	
		124156		21239		51445		34978		68		0		0		0		0		0		0		736594

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: ALL Table: Observed Transit

ORIGIN	DESTINATION DC CR	DC NCR	MTG	PG	ARL CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	40520	19557	8032	4628	2720	5834	2782	7226	54	617	86	0	0	0	110	0	0	0	65	0	0	0	0	92231
2 DC NC	112144	70407	12462	4633	3907	5317	762	1759	0	201	0	0	0	0	0	0	0	0	0	0	0	0	0	211592
3 MTG	68665	11585	25108	674	3851	8092	0	1594	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	119569
4 PG	44683	7444	7866	9394	2950	2846	0	562	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75745
5 ARLCR	5873	1365	232	0	981	1054	493	243	0	124	0	0	0	0	0	0	54	0	0	0	0	0	0	10419
6 ARNCR	39932	6883	1684	222	3400	5808	95	1427	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59451
7 ALX	15428	3560	226	0	4378	1736	2971	2227	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30526
8 FFX	56234	4178	0	562	13150	19511	1197	15219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110051
9 LDN	3670	418	366	10	355	419	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5238
10 PW	9431	1336	896	0	1090	2375	330	1428	0	347	0	0	0	0	0	0	0	0	0	0	0	0	0	17233
11 FRD	1022	273	0	0	8	31	20	0	0	0	1751	0	0	0	0	0	0	0	0	0	0	0	0	3105
12 CAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 HOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 CAL	790	10	0	0	3	5	0	0	0	0	0	0	0	0	75	0	0	0	0	0	0	0	0	883
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 CHS	1437	69	0	0	216	32	0	0	0	0	0	0	0	0	0	0	855	0	0	0	0	0	0	2609
18 FAU	187	25	19	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	252
19 STA	1854	232	183	0	197	713	378	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3557
20 CL/JF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 SP/FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 EXTL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	401870		57074		37227		9028		54		1837		0		185		909		65		0		0	
		127342		20123		53773		31685		1289		0		0		0		0		0		0		742461

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: ALL Table: Estimated Pct Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	24.2	17.2	38.3	10.5	44.3	15.5	11.0	12.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.7
2 DC NC	32.1	8.3	12.2	6.2	27.4	11.3	5.6	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.9
3 MTG	38.9	8.6	1.4	0.4	28.0	16.6	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6
4 PG	26.8	3.5	7.5	0.4	19.9	10.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7
5 ARLCR	36.3	14.2	11.4	0.0	4.8	9.8	5.2	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.9
6 ARNCR	36.2	16.8	9.2	1.2	13.3	2.6	1.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.8
7 ALX	33.2	12.7	1.5	0.0	26.8	4.3	2.5	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6
8 FFX	32.6	8.3	0.0	0.2	28.2	10.8	0.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9
9 LDN	35.8	3.2	1.7	0.0	15.1	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
10 PW	36.6	9.1	2.4	0.0	13.4	9.9	4.3	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2
11 FRD	10.6	2.6	0.0	0.0	6.1	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12 CAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 HOW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 AAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 CAL	27.0	5.3	0.0	0.0	16.4	7.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
16 STM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 CHS	15.4	4.1	0.0	0.0	11.8	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
18 FAU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19 STA	22.4	10.3	7.2	0.0	20.3	12.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
20 CL/JF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21 SP/FB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22 KGEO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23 EXTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	31.7		2.3		23.6		2.2		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
		8.7		0.9		6.9		0.9		0.0		0.0		0.0		0.0		0.0		0.0		0.0		4.5

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: ALL Table: Observed Pct Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	33.5	22.9	30.4	14.7	50.3	28.1	19.4	17.3	5.5	17.9	16.9	0.0	0.0	0.0	10.1	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0	25.9
2 DC NC	36.9	10.1	7.4	3.6	33.0	12.7	5.2	4.0	0.0	11.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.9
3 MTG	42.9	6.6	0.9	0.5	33.9	31.2	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4
4 PG	28.8	4.0	4.6	0.5	28.8	10.6	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8
5 ARLCR	55.6	47.5	16.3	0.0	16.1	8.7	18.6	2.6	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	34.0	0.0	0.0	0.0	0.0	0.0	0.0	21.4
6 ARNCR	48.2	15.9	10.0	2.7	11.3	1.5	0.2	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9
7 ALX	39.0	19.2	2.2	0.0	41.8	4.2	1.2	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1
8 FFX	32.0	8.8	0.0	2.2	29.8	11.7	0.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9
9 LDN	48.6	17.8	6.1	0.9	13.6	9.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
10 PW	35.9	12.8	14.9	0.0	16.4	18.6	1.6	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7
11 FRD	29.4	21.9	0.0	0.0	1.8	1.3	3.8	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
12 CAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 HOW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 AAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 CAL	14.8	0.4	0.0	0.0	100.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
16 STM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 CHS	11.9	1.2	0.0	0.0	6.6	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.6
18 FAU	12.1	4.2	5.7	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
19 STA	56.9	24.6	52.1	0.0	19.2	20.4	31.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9
20 CL/JF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21 SP/FB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22 KGEO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23 EXTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	36.3		1.7		25.8		1.7		0.0		0.3		0.0		0.1		0.2		0.0		0.0		0.0	
		9.9		0.8		7.2		0.9		0.1		0.0		0.0		0.0		0.0		0.0		0.0		4.6

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: ALL Table: Estimated Car Occupancy

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	1.33	1.26	1.31	1.23	1.20	1.36	1.22	1.38	1.37	1.46	0.00	0.00	0.00	1.27	0.00	1.40	1.20	1.33	0.00	0.00	0.00	0.00	1.28
2 DC NC	1.27	1.38	1.25	1.26	1.31	1.33	1.31	1.18	1.40	1.36	1.44	0.00	0.00	0.00	1.38	0.00	1.37	1.67	0.00	0.00	0.00	0.00	1.33
3 MTG	1.20	1.17	1.34	1.22	1.43	1.22	1.39	1.16	2.22	1.39	1.20	0.00	0.00	0.00	1.39	0.00	1.53	1.07	0.00	0.00	0.00	0.00	1.32
4 PG	1.33	1.25	1.24	1.30	1.21	1.19	1.29	1.12	1.41	1.49	1.35	0.00	0.00	0.00	1.46	0.00	1.38	0.00	0.00	0.00	0.00	0.00	1.29
5 ARLCR	1.47	1.25	1.32	1.25	1.14	1.31	1.34	1.45	1.35	1.36	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	0.00	0.00	0.00	0.00	1.35
6 ARNCR	1.16	1.17	1.23	1.21	1.20	1.36	1.22	1.22	1.35	1.19	1.39	0.00	0.00	0.00	1.64	0.00	1.45	0.00	0.00	0.00	0.00	0.00	1.27
7 ALX	1.31	1.32	1.21	1.28	1.20	1.19	1.29	1.24	1.31	1.32	1.44	0.00	0.00	0.00	0.00	0.00	1.28	2.00	1.39	0.00	0.00	0.00	1.26
8 FFX	1.30	1.15	1.18	1.18	1.42	1.28	1.27	1.29	1.26	1.30	1.37	0.00	0.00	0.00	0.00	0.00	1.35	1.38	1.29	0.00	0.00	0.00	1.28
9 LDN	1.38	1.32	1.30	1.34	1.31	1.28	1.31	1.17	1.29	1.52	1.32	0.00	0.00	0.00	2.25	0.00	1.00	1.35	0.00	0.00	0.00	0.00	1.27
10 PW	1.55	1.32	1.34	1.46	1.26	1.43	1.44	1.23	1.40	1.42	0.00	0.00	0.00	0.00	0.00	0.00	1.23	1.18	0.00	0.00	0.00	0.00	1.38
11 FRD	1.43	1.31	1.15	1.31	1.32	1.32	1.41	1.44	1.29	0.00	1.30	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.29
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	1.21	1.26	1.39	1.25	0.00	1.34	1.22	1.36	1.58	0.00	0.00	0.00	0.00	0.00	1.23	0.00	1.35	1.92	0.00	0.00	0.00	0.00	1.23
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	1.23	1.30	1.42	1.13	1.23	1.29	1.18	1.36	0.00	0.00	0.00	0.00	0.00	0.00	1.30	0.00	1.32	0.00	0.00	0.00	0.00	0.00	1.29
18 FAU	1.62	1.67	1.21	1.72	1.55	1.51	1.37	1.18	1.26	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20	1.41	0.00	0.00	0.00	1.22
19 STA	2.15	1.87	1.79	1.43	0.00	1.88	1.43	1.13	0.00	1.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.55	1.25	0.00	0.00	0.00	1.25
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1.28		1.32		1.29		1.29		1.29		1.30		0.00		1.23		1.32		1.25		0.00		0.00	
		1.30		1.29		1.31		1.27		1.40		0.00		0.00		0.00		1.22		0.00		0.00		1.30

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: ALL Table: Observed Car Occupancy

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG ARL CR	ARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	1.33	1.23	1.39	1.20	1.13	1.19	1.31	1.20	1.41	1.36	1.24	0.00	0.00	0.00	1.13	0.00	1.48	2.00	6.50	0.00	0.00	0.00	1.27
2 DC NC	1.27	1.37	1.24	1.28	1.27	1.29	1.31	1.12	1.11	1.00	1.65	0.00	0.00	0.00	1.00	0.00	1.36	1.00	0.00	0.00	0.00	0.00	1.31
3 MTG	1.20	1.16	1.33	1.21	1.14	1.01	1.35	1.05	1.66	1.06	1.14	0.00	0.00	0.00	1.51	0.00	1.00	2.00	0.00	0.00	0.00	0.00	1.31
4 PG	1.33	1.25	1.24	1.30	1.08	1.18	1.49	1.11	1.45	2.33	1.00	0.00	0.00	0.00	1.31	0.00	1.51	0.00	0.00	0.00	0.00	0.00	1.29
5 ARLCR	1.62	1.00	1.00	1.00	1.17	1.30	1.00	1.51	1.00	1.63	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.29
6 ARNCR	1.14	1.13	1.16	1.03	1.15	1.34	1.21	1.19	1.01	1.13	1.00	0.00	0.00	0.00	1.00	0.00	1.17	0.00	0.00	0.00	0.00	0.00	1.25
7 ALX	1.24	1.31	1.11	1.28	1.09	1.13	1.29	1.23	1.00	1.08	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	1.24
8 FFX	1.31	1.13	1.18	1.09	1.36	1.25	1.27	1.29	1.11	1.18	1.00	0.00	0.00	0.00	0.00	0.00	1.10	1.35	1.37	0.00	0.00	0.00	1.27
9 LDN	1.35	1.13	1.20	1.00	1.07	1.26	1.00	1.15	1.31	1.32	1.53	0.00	0.00	0.00	1.00	0.00	1.00	1.45	0.00	0.00	0.00	0.00	1.27
10 PW	1.46	1.22	1.12	1.00	1.26	1.38	1.46	1.22	1.32	1.42	0.00	0.00	0.00	0.00	0.00	0.00	1.14	1.09	0.00	0.00	0.00	0.00	1.38
11 FRD	1.41	1.00	1.18	1.33	1.00	1.24	1.00	1.36	1.00	0.00	1.31	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.29
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	1.10	1.00	1.29	1.21	0.00	1.00	1.00	1.67	2.00	0.00	0.00	0.00	0.00	0.00	1.28	0.00	1.40	1.00	0.00	0.00	0.00	0.00	1.26
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	1.32	1.33	1.00	1.13	1.23	1.22	1.00	1.02	0.00	0.00	0.00	0.00	0.00	0.00	1.42	0.00	1.45	0.00	0.00	0.00	0.00	0.00	1.39
18 FAU	1.22	1.34	1.00	1.00	1.57	1.00	1.00	1.11	1.15	1.26	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.34	1.77	0.00	0.00	0.00	1.30
19 STA	2.58	1.00	1.00	1.00	0.00	1.14	1.00	1.15	0.00	1.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.93	1.55	0.00	0.00	0.00	1.45
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1.28		1.32		1.22		1.28		1.26		1.30		0.00		1.28		1.45		1.51		0.00		0.00	
		1.28		1.28		1.28		1.26		1.40		0.00		0.00		0.00		1.34		0.00		0.00		1.30

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: ALL Table: Difference (Est-Obs) Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	-2141	101	-590	-1056	-63	341	-1039	-2823	-54	-617	-86	0	0	0	-110	0	0	0	-65	0	0	0	0		-8202
2 DC NC	-1673	-5436	4509	3592	1010	453	719	460	0	-201	0	0	0	0	0	0	0	0	0	0	0	0	0		3433
3 MTG	-7355	3260	15758	-200	-546	-3871	0	-45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		7001
4 PG	-2357	235	188	-596	-194	-420	0	-488	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		-3632
5 ARLCR	-560	-286	-11	0	-806	234	-273	-30	0	-124	0	0	0	0	0	0	0	-54	0	0	0	0	0		-1910
6 ARNCR	-641	196	-242	-106	314	3394	361	2822	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		6098
7 ALX	1718	-602	-131	0	-1253	495	2290	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		2600
8 FFX	4418	640	0	-508	-2422	-978	311	3381	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		4842
9 LDN	-2540	-352	-276	-10	-229	-258	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		-3665
10 PW	-1943	-792	-831	0	-721	-1128	443	-67	0	-279	0	0	0	0	0	0	0	0	0	0	0	0	0		-5318
11 FRD	-869	-223	0	0	6	-20	-20	0	0	0	-1751	0	0	0	0	0	0	0	0	0	0	0	0		-2877
12 CAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
13 HOW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
14 AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
15 CAL	-6	170	0	0	41	41	0	0	0	0	0	0	0	0	0	-75	0	0	0	0	0	0	0		171
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
17 CHS	-153	131	0	0	-164	27	0	0	0	0	0	0	0	0	0	0	0	-833	0	0	0	0	0		-992
18 FAU	-187	-25	-19	0	-21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		-252
19 STA	-1681	-203	-177	0	-148	-638	-317	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		-3164
20 CL/JF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
21 SP/FB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
22 KGEO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
23 EXTL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
TOTAL	-15970		18178		-5196		2475		-54		-1837		0		-185			-887		-65		0		0	
		-3186		1116		-2328		3293		-1221		0		0		0			0		0		0		-5867

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: ALL Table: Ratio (Est-to-Obs) Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	0.95	1.01	0.93	0.77	0.98	1.06	0.63	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91
2 DC NC	0.99	0.92	1.36	1.78	1.26	1.09	1.94	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02
3 MTG	0.89	1.28	1.63	0.70	0.86	0.52	0.00	0.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06
4 PG	0.95	1.03	1.02	0.94	0.93	0.85	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95
5 ARLCR	0.90	0.79	0.95	0.00	0.18	1.22	0.45	0.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82
6 ARNCR	0.98	1.03	0.86	0.52	1.09	1.58	4.80	2.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10
7 ALX	1.11	0.83	0.42	0.00	0.71	1.29	1.77	1.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09
8 FFX	1.08	1.15	0.00	0.10	0.82	0.95	1.26	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04
9 LDN	0.31	0.16	0.25	0.00	0.35	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30
10 PW	0.79	0.41	0.07	0.00	0.34	0.53	2.34	0.95	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69
11 FRD	0.15	0.18	0.00	0.00	1.75	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	0.99	18.00	0.00	0.00	14.67	9.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	0.89	2.90	0.00	0.00	0.24	1.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
18 FAU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19 STA	0.09	0.12	0.03	0.00	0.25	0.11	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.96		1.32		0.86		1.27		0.00		0.00		0.00		0.00			0.02		0.00		0.00		0.00	
		0.97		1.06		0.96		1.10		0.05		0.00		0.00		0.00			0.00		0.00		0.00		0.99

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: ALL Table: Difference (Est-Obs) Pct Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	-9.3	-5.7	7.9	-4.3	-5.9	-12.6	-8.4	-4.9	-5.5	-17.9	-16.9	0.0	0.0	0.0	-10.1	0.0	0.0	0.0	-7.4	0.0	0.0	0.0	0.0		-6.2
2 DC NC	-4.8	-1.8	4.8	2.6	-5.6	-1.4	0.4	0.2	0.0	-11.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		-1.0
3 MTG	-4.0	1.9	0.5	-0.1	-5.9	-14.6	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.2
4 PG	-2.0	-0.5	2.9	-0.0	-8.9	-0.6	0.0	-0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		-0.1
5 ARLCR	-19.3	-33.3	-5.0	0.0	-11.3	1.1	-13.5	-0.5	0.0	-8.7	0.0	0.0	0.0	0.0	0.0	0.0	-34.0	0.0	0.0	0.0	0.0	0.0	0.0		-6.5
6 ARNCR	-12.0	0.9	-0.8	-1.5	2.0	1.1	0.8	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.8
7 ALX	-5.8	-6.5	-0.6	0.0	-15.0	0.1	1.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.5
8 FFX	0.6	-0.5	0.0	-2.0	-1.6	-0.9	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
9 LDN	-12.8	-14.6	-4.3	-0.9	1.5	-4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		-0.9
10 PW	0.7	-3.7	-12.5	0.0	-3.0	-8.6	2.7	-0.2	0.0	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		-0.5
11 FRD	-18.8	-19.3	0.0	0.0	4.3	0.3	-3.8	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		-0.5
12 CAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
13 HOW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
14 AAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
15 CAL	12.2	4.9	0.0	0.0	-83.6	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.1
16 STM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
17 CHS	3.5	2.8	0.0	0.0	5.2	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0		-0.2
18 FAU	-12.1	-4.2	-5.7	0.0	-3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		-0.2
19 STA	-34.5	-14.3	-44.9	0.0	1.1	-8.4	-26.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		-1.7
20 CL/JF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
21 SP/FB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
22 KGEO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
23 EXTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
TOTAL	-4.6		0.6		-2.2		0.5		-0.0		-0.3		0.0		-0.1			-0.2		-0.0		0.0		0.0	
		-1.3		0.0		-0.3		0.1		-0.1		0.0		0.0		0.0			0.0		0.0		0.0		-0.1

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: ALL Table: Ratio (Est-to-Obs) Pct Transit

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL	CRARL	NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	0.72	0.75	1.26	0.71	0.88	0.55	0.57	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76
2 DC NC	0.87	0.83	1.65	1.74	0.83	0.89	1.07	1.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93
3 MTG	0.91	1.29	1.63	0.83	0.83	0.53	0.00	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.07
4 PG	0.93	0.88	1.63	0.92	0.69	0.95	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97
5 ARLCR	0.65	0.30	0.70	0.00	0.30	1.13	0.28	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70
6 ARNCR	0.75	1.06	0.92	0.45	1.18	1.75	4.25	2.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10
7 ALX	0.85	0.66	0.71	0.00	0.64	1.02	1.99	0.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.08
8 FFX	1.02	0.94	0.00	0.11	0.95	0.92	1.34	1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
9 LDN	0.74	0.18	0.29	0.00	1.11	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27
10 PW	1.02	0.71	0.16	0.00	0.82	0.53	2.65	0.81	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68
11 FRD	0.36	0.12	0.00	0.00	3.45	1.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	1.82	13.57	0.00	0.00	0.16	28.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.29
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	1.29	3.28	0.00	0.00	1.79	7.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68
18 FAU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19 STA	0.39	0.42	0.14	0.00	1.06	0.59	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.87		1.38		0.91		1.32		0.00		0.00		0.00		0.00			0.03		0.00		0.00		0.00	
		0.87		1.05		0.96		1.06		0.05		0.00		0.00		0.00			0.00		0.00		0.00		0.98

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: ALL Table: Difference (Est-Obs) Car Occupancy

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CRARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	0.00	0.03	-0.09	0.03	0.07	0.01	0.05	0.02	-0.03	0.01	0.21	0.00	0.00	0.00	0.15	0.00	-0.08	-0.80	-5.17	0.00	0.00	0.00	0.00	0.01
2 DC NC	0.00	0.01	0.01	-0.02	0.05	0.04	0.00	0.05	0.29	0.36	-0.20	0.00	0.00	0.00	0.38	0.00	0.01	0.67	0.00	0.00	0.00	0.00	0.00	0.02
3 MTG	0.00	0.00	0.00	0.02	0.29	0.20	0.04	0.11	0.56	0.33	0.06	0.00	0.00	0.00	-0.13	0.00	0.53	-0.93	0.00	0.00	0.00	0.00	0.00	0.01
4 PG	-0.00	-0.00	0.00	0.00	0.13	0.00	-0.20	0.02	-0.04	-0.84	0.35	0.00	0.00	0.00	0.16	0.00	-0.13	0.00	0.00	0.00	0.00	0.00	0.00	-0.00
5 ARLCR	-0.15	0.25	0.32	0.25	-0.03	0.01	0.34	-0.05	0.35	-0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.06
6 ARNCR	0.02	0.04	0.07	0.18	0.05	0.02	0.01	0.03	0.34	0.07	0.39	0.00	0.00	0.00	0.64	0.00	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.02
7 ALX	0.07	0.01	0.10	-0.00	0.10	0.06	0.01	0.01	0.31	0.24	0.44	0.00	0.00	0.00	0.00	0.00	0.28	1.00	0.39	0.00	0.00	0.00	0.00	0.02
8 FFX	-0.02	0.02	0.00	0.08	0.06	0.02	-0.00	0.00	0.15	0.13	0.37	0.00	0.00	0.00	0.00	0.00	0.25	0.02	-0.07	0.00	0.00	0.00	0.00	0.01
9 LDN	0.02	0.19	0.10	0.34	0.25	0.02	0.31	0.02	-0.02	0.20	-0.21	0.00	0.00	0.00	1.25	0.00	0.00	-0.09	0.00	0.00	0.00	0.00	0.00	-0.01
10 PW	0.09	0.11	0.22	0.46	0.00	0.05	-0.02	0.01	0.08	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00
11 FRD	0.02	0.31	-0.03	-0.02	0.32	0.09	0.41	0.08	0.29	0.00	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.00
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	0.11	0.26	0.10	0.04	0.00	0.34	0.22	-0.31	-0.42	0.00	0.00	0.00	0.00	0.00	-0.05	0.00	-0.06	0.92	0.00	0.00	0.00	0.00	0.00	-0.03
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	-0.09	-0.02	0.42	-0.00	0.00	0.07	0.18	0.34	0.00	0.00	0.00	0.00	0.00	0.00	-0.12	0.00	-0.13	0.00	0.00	0.00	0.00	0.00	0.00	-0.09
18 FAU	0.40	0.32	0.21	0.72	-0.02	0.51	0.37	0.06	0.11	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.14	-0.35	0.00	0.00	0.00	0.00	-0.08
19 STA	-0.43	0.87	0.79	0.43	0.00	0.73	0.43	-0.01	0.00	-0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.38	-0.30	0.00	0.00	0.00	0.00	-0.20
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	-0.00		0.01		0.07		0.00		0.03		-0.00		0.00		-0.04		-0.13		-0.26		0.00		0.00	
		0.02		0.01		0.03		0.01		0.01		0.00		0.00		0.00		-0.12		0.00		0.00		0.00

Yr 1994 Est/Obs Mode Choice Anaylsis - Model V2.1D #50, Iter 6 Purpose: ALL Table: Ratio (Est-to-Obs) Car Occupancy

ORIGIN \ DESTINATION	DC CR	DC NCR	MTG	PG	ARL CRARL NCR	ALX	FFX	LDN	PW	FRD	CAR	HOW	AAR	CAL	STM	CHS	FAU	STA	CL/JF	SP/FB	KGEO	EXTL	TOTAL
1 DC CR	1.00	1.02	0.94	1.02	1.06	1.01	1.04	1.01	0.98	1.01	1.17	0.00	0.00	0.00	1.13	0.00	0.94	0.60	0.21	0.00	0.00	0.00	0.00	1.01
2 DC NC	1.00	1.01	1.01	0.99	1.04	1.03	1.00	1.05	1.26	1.36	0.88	0.00	0.00	0.00	1.38	0.00	1.01	1.67	0.00	0.00	0.00	0.00	0.00	1.01
3 MTG	1.00	1.00	1.00	1.01	1.26	1.20	1.03	1.11	1.34	1.31	1.05	0.00	0.00	0.00	0.92	0.00	1.53	0.53	0.00	0.00	0.00	0.00	0.00	1.01
4 PG	1.00	1.00	1.00	1.00	1.12	1.00	0.86	1.01	0.97	0.64	1.35	0.00	0.00	0.00	1.12	0.00	0.92	0.00	0.00	0.00	0.00	0.00	0.00	1.00
5 ARLCR	0.91	1.25	1.32	1.25	0.97	1.01	1.34	0.96	1.35	0.83	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	0.00	0.00	0.00	0.00	1.05
6 ARNCR	1.01	1.04	1.06	1.18	1.05	1.02	1.01	1.02	1.33	1.06	1.39	0.00	0.00	0.00	1.64	0.00	1.24	0.00	0.00	0.00	0.00	0.00	0.00	1.02
7 ALX	1.05	1.01	1.09	1.00	1.10	1.06	1.01	1.01	1.31	1.22	1.44	0.00	0.00	0.00	0.00	0.00	1.28	2.00	1.39	0.00	0.00	0.00	0.00	1.02
8 FFX	0.99	1.02	1.00	1.07	1.04	1.02	1.00	1.00	1.14	1.11	1.37	0.00	0.00	0.00	0.00	0.00	1.22	1.02	0.95	0.00	0.00	0.00	0.00	1.01
9 LDN	1.02	1.17	1.08	1.34	1.23	1.02	1.31	1.01	0.98	1.15	0.86	0.00	0.00	0.00	2.25	0.00	1.00	0.94	0.00	0.00	0.00	0.00	0.00	1.00
10 PW	1.06	1.09	1.19	1.46	1.00	1.03	0.98	1.01	1.06	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.08	1.08	0.00	0.00	0.00	0.00	1.00
11 FRD	1.02	1.31	0.97	0.99	1.32	1.07	1.41	1.06	1.29	0.00	0.99	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
12 CAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 HOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 AAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 CAL	1.10	1.26	1.08	1.04	0.00	1.34	1.22	0.82	0.79	0.00	0.00	0.00	0.00	0.00	0.96	0.00	0.96	1.92	0.00	0.00	0.00	0.00	0.00	0.98
16 STM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 CHS	0.93	0.98	1.42	1.00	1.00	1.06	1.18	1.33	0.00	0.00	0.00	0.00	0.00	0.00	0.91	0.00	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.93
18 FAU	1.33	1.24	1.21	1.72	0.98	1.51	1.37	1.06	1.10	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.80	0.00	0.00	0.00	0.00	0.94
19 STA	0.83	1.87	1.79	1.43	0.00	1.64	1.43	0.99	0.00	0.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80	0.81	0.00	0.00	0.00	0.00	0.86
20 CL/JF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 SP/FB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 KGEO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 EXTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1.00		1.01		1.06		1.00		1.03		1.00		0.00		0.97		0.91		0.83		0.00		0.00	
		1.01		1.00		1.02		1.01		1.00		0.00		0.00		0.00		0.91		0.00		0.00		1.00

Appendix D
Mode Choice Model Calibration File Formats and Statistics

File formats

Variable statistics (minimum, maximum, mean)

Ref: cal_fmt_v21d.xls, calsumhbw.lst, calsumhbs.lst, calsumhbo.lst, calsumnhb.lst

File Format Description
HBW "Main" Mode Choice Model Calibration File Format / Version 2 Model Set

File Names: hbwm5.dat
Date: 05/28/04
Record Count: 7,209
Programmer: RJM

Field #	Begin Col.	End Col.	Variable	Field Length	Description
1	1	8	hhid	8	Household ID
2	10	11	persnum	2	Person Number Within a HH
3	13	14	tripnum	2	Trip Number of Person
4	16	16	vehicnt	1	Number of vehicles owned 0-2 (2 refers to 2 or more vehicles)
5	18	18	mainmd	1	main mode choice 1)Transit, 2)Drive Alone, 3)Group Drive
6	20	23	ffactor	4	survey weight (or expansion factor)
7	25	28	ptaz	4	Production TAZ
8	30	33	ataz	4	Attraction TAZ
9	35	36	pshtim_a	2	AM Production-end short-walk area time (min)
10	38	39	plgtim_a	2	AM Production-end long-walk area time (min)
11	41	42	ashtim_a	2	AM Attraction-end short-walk area time (min)
12	44	45	algtim_a	2	AM Attraction-end long-walk area time (min)
13	47	50	wkctm_w	4	walking connecting time - walk network (min)
14	52	55	drvtm_w	4	drv access time - walk network (min)
15	57	60	iwttm_w	4	initial wait time - walk network (min)
16	62	65	xwttm_w	4	transfer time - walk network (min)
17	67	70	nmetm_w	4	nonmetro in-veh,time - walk network (min)
18	72	75	mettm_w	4	metrorail in-veh, time - walk network (min)
19	77	80	wkctm_d	4	walk connecting time - drv network (min)
20	82	85	drvtm_d	4	drive access time - drv network (min)
21	87	90	iwttm_d	4	initial wait time - drv network (min)
22	92	95	xwttm_d	4	transfer wait time - drv network (min)
23	97	100	nmetm_d	4	nonmetro in-veh, time - drv network (min)
24	102	105	mettm_d	4	metrorail in-veh, time - drv network (min)
25	107	110	fare_wk	4	transit fare - walk network (1994 cents)
26	112	115	fare_dr	4	transit fare - driv network (1994 cents)
27	117	120	daopcst	4	drv alone hwy operating cost (1994 cents)
28	122	125	gropcst	4	drv group hwy operating cost (1994 cents)
29	127	130	dapkcst	4	drv alone parking cost (1994 cents)
30	132	135	grpkcst	4	drv group parking cost (1994 cents)
31	137	140	daexctm	4	drv alone excess time (min)
32	142	145	grexctm	4	drv group excess time (min)
33	147	150	dahwyrun	4	drv alone hwy run time (min)
34	152	155	grhwyrun	4	drv group hwy run time (min)
35	157	160	ve0dum	4	0 veh own, hh dummy (0,1)
36	162	165	ve1dum	4	1 veh own, hh dummy (0,1)
37	167	170	ve2dum	4	2+veh own, hh dummy (0,1)
38	172	175	wmt25dum	4	Metro time >25% of all tr IVT? 1=yes, 0=No (walk acc path)
39	177	181	plu_mix	5	Production-end Land Use mix index
40	183	187	alu_mix	5	Attraction-end Land Use mix index
41	189	192	pshpct_a	4	AM production-end zonal 'short walk' area percent (0-100)
42	194	197	plgpct_a	4	AM production-end zonal 'long walk' area percent (0-100)
43	199	202	ptopct_a	4	AM production-end zonal 'Total walk' area percent (0-100)
44	204	207	ashpct_a	4	AM Attraction-end zonal 'short walk' area percent (0-100)
45	209	212	algpct_a	4	AM attraction-end zonal 'long walk' area percent (0-100)
46	214	217	atopct_a	4	AM attraction-end zonal 'Total walk' area percent (0-100)

Ref: cal_fmt_v21d.xls, mhbw

HBW "Main" Mode Choice Model Calibration File Format / Version 2 Model Set

File Names: hbwm5.dat
Date: 05/28/04
Record Count: 7,209
Programmer: RJM

Field #	Begin Col.	End Col.	Variable	Field Length	Description
47	219	219	pwmrkt_a	1	Production zonal walk market type (1-6)
48	221	221	awmrkt_a	1	Attraction zonal walk market type (1-6)
49	223	223	gishacda	1	GIS -based household location type (1-4)
50	225	227	wlktotrn	3	Transit Available (wlk acc) - 1/yes -1/ no
51	229	231	auttotrn	3	Transit Available (Drv acc) - 1/yes -1/ no
52	233	236	datoll	4	drive alone toll (1994 cents)
53	238	241	grtoll	4	group drive toll (1994 cents)
54	243	246	ftt	4	final total transit travel time for obs. used in estimation
55	248	251	fwalktm	4	final total walking time used in estimation
56	253	256	ffare	4	final transit fare used in estimation
57	258	261	fwaittm	4	final total waiting time (initial and xfer) used in estimation
58	263	266	fivtmet	4	final total metrorail IVT used in estimation
59	268	271	fivtnmet	4	final non-metrorail IVT used in estimation
60	273	276	fmetdum	4	final flag for 25%> IVT time in metrorail used in estimation
61	278	281	fdrvadum	4	final drive access to transit dummy (0/No-1/yes)
62	283	286	acctotrn	4	Transit available - for both walk&auto paths
63	288	289	slflag	2	interchange sh/lg market code 1-10 (see below)

Notes:
pwmrkt_o / awmrkt_o are zonal P/A transit access codes based on the proximity to Off-Pk hr service, as follows:

1 S "short" walk only
2 S&L partial "short" and "long" walk only
3 L "long" walk only
4 L&N partial "long" and "no walk" only
5 S&L&N partial "short"and"long"and"no walk"only
6 N "no walk" only

gishacda codes:
GIS-based household location indicators
with respect to AM peak transit service as follows:
1 HH located in "short" walk access area
2 HH located in "long" walk access area to transit
3 HH located in "no-walk" walk area to transit
4 HH location unknown

slflag I/J coding flg:

1 sh wk/sh wk transit i/j market
2 sh wk/lg wk transit i/j market
3 sh wk/no wk transit i/j market
4 lg wk/sh wk transit i/j market
5 lg wk/lg wk transit i/j market
6 lg wk/no wk transit i/j market
7 no wk/sh wk transit i/j market
8 no wk/lg wk transit i/j market
9 no wk/no wk transit i/j market
10 Unknown i/j walk market

Ref: cal_fmt_v21d.xls, mhbw

File Format Description
HBS "Main" Mode Choice Model Calibration File Format / Version 2 Model Set

File Names: hbsm5.dat
Date: 05/28/04
Record Count: 3,407
Programmer: RJM

Field #	Begin Col.	End Col.	Variable	Field Length	Description
1	1	8	hhid	8	Household ID
2	10	11	persnum	2	Person Number Within a HH
3	13	14	tripnum	2	Trip Number of Person
4	16	16	vehicnt	1	Number of vehicles owned 0-2 (2 refers to 2 or more vehicles)
5	18	18	mainmd	1	main mode choice 1)Transit, 2)Drive Alone, 3)Group Drive
6	20	23	ffactor	4	survey weight (or expansion factor)
7	25	28	ptaz	4	Production TAZ
8	30	33	ataz	4	Attraction TAZ
9	35	36	pshtim_o	2	Off-Pk Production-end short-walk area time (min)
10	38	39	plgtim_o	2	Off-Pk Production-end long-walk area time (min)
11	41	42	ashtim_o	2	Off-Pk Attraction-end short-walk area time (min)
12	44	45	algtim_o	2	Off-Pk Attraction-end long-walk area time (min)
13	47	50	wkctm_w	4	walking connecting time - walk network (min)
14	52	55	drvtm_w	4	drv access time - walk network (min)
15	57	60	iwttm_w	4	initial wait time - walk network (min)
16	62	65	xwttm_w	4	transfer time - walk network (min)
17	67	70	nmetm_w	4	nonmetro in-veh,time - walk network (min)
18	72	75	mettm_w	4	metrorail in-veh, time - walk network (min)
19	77	80	wkctm_d	4	walk connecting time - drv network (min)
20	82	85	drvtm_d	4	drive access time - drv network (min)
21	87	90	iwttm_d	4	initial wait time - drv network (min)
22	92	95	xwttm_d	4	transfer wait time - drv network (min)
23	97	100	nmetm_d	4	nonmetro in-veh, time - drv network (min)
24	102	105	mettm_d	4	metrorail in-veh, time - drv network (min)
25	107	110	fare_wk	4	transit fare - walk network (1994 cents)
26	112	115	fare_dr	4	transit fare - driv network (1994 cents)
27	117	120	daopcst	4	drv alone hwy operating cost (1994 cents)
28	122	125	gropcst	4	drv group hwy operating cost (1994 cents)
29	127	130	dapkcst	4	drv alone parking cost (1994 cents)
30	132	135	grpkcst	4	drv group parking cost (1994 cents)
31	137	140	daexctm	4	drv alone excess time (min)
32	142	145	grexctm	4	drv group excess time (min)
33	147	150	dahwyrun	4	drv alone hwy run time (min)
34	152	155	grhwyrun	4	drv group hwy run time (min)
35	157	160	ve0dum	4	0 veh own, hh dummy (0,1)
36	162	165	ve1dum	4	1 veh own, hh dummy (0,1)
37	167	170	ve2dum	4	2+veh own, hh dummy (0,1)
38	172	175	wmt25dum	4	Metro time >25% of all tr IVT? 1=yes, 0=No (walk acc path)
39	177	181	plu_mix	5	Production-end Land Use mix index
40	183	187	alu_mix	5	Attraction-end Land Use mix index
41	189	192	pshpct_o	4	Off-Pk production-end zonal 'short walk' area percent (0-100)
42	194	197	plgpct_o	4	Off-Pk production-end zonal 'long walk' area percent (0-100)
43	199	202	ptopct_o	4	Off-Pk production-end zonal 'Total walk' area percent (0-100)
44	204	207	ashpct_o	4	Off-Pk Attraction-end zonal 'short walk' area percent (0-100)
45	209	212	algpct_o	4	Off-Pk attraction-end zonal 'long walk' area percent (0-100)
46	214	217	atopct_o	4	Off-Pk attraction-end zonal 'Total walk' area percent (0-100)

Ref: cal_fmt_v21d.xls, mhbs

HBS "Main" Mode Choice Model Calibration File Format / Version 2 Model Set

File Names: hbsm5.dat
Date: 05/28/04
Record Count: 3,407
Programmer: RJM

Field #	Begin Col.	End Col.	Variable	Field Length	Description
47	219	219	pwmrkt_o	1	Production zonal walk market type (1-6)
48	221	221	awmrkt_o	1	Attraction zonal walk market type (1-6)
49	223	223	gishacdo	1	GIS -based household location type (1-4)
50	225	227	wlktotrn	3	Transit Available (wlk acc) - 1/yes -1/ no
51	229	231	auttotrn	3	Transit Available (Drv acc) - 1/yes -1/ no
52	233	236	datoll	4	drive alone toll (1994 cents)
53	238	241	grtoll	4	group drive toll (1994 cents)
54	243	246	ftt	4	final total transit travel time for obs. used in estimation
55	248	251	fwalktm	4	final total walking time used in estimation
56	253	256	ffare	4	final transit fare used in estimation
57	258	261	fwaittm	4	final total waiting time (initial and xfer) used in estimation
58	263	266	fivtmet	4	final total metrorail IVT used in estimation
59	268	271	fivtnmet	4	final non-metrorail IVT used in estimation
60	273	276	fmetdum	4	final flag for 25%> IVT time in metrorail used in estimation
61	278	281	fdrvadum	4	final drive access to transit dummy (0/No-1/yes)
62	283	286	acctotrn	4	Transit available - for both walk&auto paths
63	288	289	slflag	2	interchange sh/lg market code 1-10 (see below)

Notes:
pwmrkt_o / awmrkt_o are zonal P/A transit access codes based on the proximity to Off-Pk hr service, as follows:

1 S "short" walk only
2 S&L partial "short" and "long" walk only
3 L "long" walk only
4 L&N partial "long" and "no walk" only
5 S&L&N partial "short"and"long"and"no walk"only
6 N "no walk" only

gishacdo codes are GIS-based household location indicators with respect to Off-peak transit service as follows:

1 HH located in "short" walk access area
2 HH located in "long" walk access area to transit
3 HH located in "no-walk" walk area to transit
4 HH location unknown

slflag I/J coding flg:

1 sh wk/sh wk transit i/j market
2 sh wk/lg wk transit i/j market
3 sh wk/no wk transit i/j market
4 lg wk/sh wk transit i/j market
5 lg wk/lg wk transit i/j market
6 lg wk/no wk transit i/j market
7 no wk/sh wk transit i/j market
8 no wk/lg wk transit i/j market
9 no wk/no wk transit i/j market
10 Unknown i/j walk market

Ref: cal_fmt_v21d.xls, mhbs

File Format Description
HBO "Main" Mode Choice Model Calibration File Format / Version 2 Model Set

File Names: hbom5.dat
Date: 05/28/04
Record Count: 10,494
Programmer: RJM

Field #	Begin Col.	End Col.	Variable	Field Length	Description
1	1	8	hhid	8	Household ID
2	10	11	persnum	2	Person Number Within a HH
3	13	14	tripnum	2	Trip Number of Person
4	16	16	vehicnt	1	Number of vehicles owned 0-2 (2 refers to 2 or more vehicles)
5	18	18	mainmd	1	main mode choice 1)Transit, 2)Drive Alone, 3)Group Drive
6	20	23	ffactor	4	survey weight (or expansion factor)
7	25	28	ptaz	4	Production TAZ
8	30	33	ataz	4	Attraction TAZ
9	35	36	pshtim_o	2	Off-Pk Production-end short-walk area time (min)
10	38	39	plgtim_o	2	Off-Pk Production-end long-walk area time (min)
11	41	42	ashtim_o	2	Off-Pk Attraction-end short-walk area time (min)
12	44	45	algtim_o	2	Off-Pk Attraction-end long-walk area time (min)
13	47	50	wkctm_w	4	walking connecting time - walk network (min)
14	52	55	drvtm_w	4	drv access time - walk network (min)
15	57	60	iwttm_w	4	initial wait time - walk network (min)
16	62	65	xwttm_w	4	transfer time - walk network (min)
17	67	70	nmetm_w	4	nonmetro in-veh,time - walk network (min)
18	72	75	mettm_w	4	metrorail in-veh, time - walk network (min)
19	77	80	wkctm_d	4	walk connecting time - drv network (min)
20	82	85	drvtm_d	4	drive access time - drv network (min)
21	87	90	iwttm_d	4	initial wait time - drv network (min)
22	92	95	xwttm_d	4	transfer wait time - drv network (min)
23	97	100	nmetm_d	4	nonmetro in-veh, time - drv network (min)
24	102	105	mettm_d	4	metrorail in-veh, time - drv network (min)
25	107	110	fare_wk	4	transit fare - walk network (1994 cents)
26	112	115	fare_dr	4	transit fare - driv network (1994 cents)
27	117	120	daopcst	4	drv alone hwy operating cost (1994 cents)
28	122	125	gropcst	4	drv group hwy operating cost (1994 cents)
29	127	130	dapkcst	4	drv alone parking cost (1994 cents)
30	132	135	grpkcst	4	drv group parking cost (1994 cents)
31	137	140	daexctm	4	drv alone excess time (min)
32	142	145	grexctm	4	drv group excess time (min)
33	147	150	dahwyrun	4	drv alone hwy run time (min)
34	152	155	grhwyrun	4	drv group hwy run time (min)
35	157	160	ve0dum	4	0 veh own, hh dummy (0,1)
36	162	165	ve1dum	4	1 veh own, hh dummy (0,1)
37	167	170	ve2dum	4	2+veh own, hh dummy (0,1)
38	172	175	wmt25dum	4	Metro time >25% of all tr IVT? 1=yes, 0=No (walk acc path)
39	177	181	plu_mix	5	Production-end Land Use mix index
40	183	187	alu_mix	5	Attraction-end Land Use mix index
41	189	192	pshpct_o	4	Off-Pk production-end zonal 'short walk' area percent (0-100)
42	194	197	plgpct_o	4	Off-Pk production-end zonal 'long walk' area percent (0-100)
43	199	202	ptopct_o	4	Off-Pk production-end zonal 'Total walk' area percent (0-100)
44	204	207	ashpct_o	4	Off-Pk Attraction-end zonal 'short walk' area percent (0-100)
45	209	212	algpct_o	4	Off-Pk attraction-end zonal 'long walk' area percent (0-100)
46	214	217	atopct_o	4	Off-Pk attraction-end zonal 'Total walk' area percent (0-100)

Ref: cal_fmt_v21d.xls, mhbo

File Format Description
HBO "Main" Mode Choice Model Calibration File Format / Version 2 Model Set

File Names: hbom5.dat
Date: 05/28/04
Record Count: 10,494
Programmer: RJM

Field #	Begin Col.	End Col.	Variable	Field Length	Description
47	219	219	pwmrkt_o	1	Production zonal walk market type (1-6)
48	221	221	awmrkt_o	1	Attraction zonal walk market type (1-6)
49	223	223	gishacdo	1	GIS -based household location type (1-4)
50	225	227	wlktotrn	3	Transit Available (wlk acc) - 1/yes -1/ no
51	229	231	auttotrn	3	Transit Available (Drv acc) - 1/yes -1/ no
52	233	236	datoll	4	drive alone toll (1994 cents)
53	238	241	grtoll	4	group drive toll (1994 cents)
54	243	246	ftt	4	final total transit travel time for obs. used in estimation
55	248	251	fwalktm	4	final total walking time used in estimation
56	253	256	ffare	4	final transit fare used in estimation
57	258	261	fwaittm	4	final total waiting time (initial and xfer) used in estimation
58	263	266	fivtmet	4	final total metrorail IVT used in estimation
59	268	271	fivtnmet	4	final non-metrorail IVT used in estimation
60	273	276	fmetdum	4	final flag for 25%> IVT time in metrorail used in estimation
61	278	281	fdrvadum	4	final drive access to transit dummy (0/No-1/yes)
62	283	286	acctotrn	4	Transit available - for both walk&auto paths
63	288	289	slflag	2	interchange sh/lg market code 1-10 (see below)

Notes:
pwmrkt_o / awmrkt_o are zonal P/A transit access codes based on the proximity to Off-Pk hr service, as follows:

1 S "short" walk only
2 S&L partial "short" and "long" walk only
3 L "long" walk only
4 L&N partial "long" and "no walk" only
5 S&L&N partial "short"and"long"and"no walk"only
6 N "no walk" only

gishacdo codes are GIS-based household location indicators with respect to Off-peak transit service as follows:

1 HH located in "short" walk access area
2 HH located in "long" walk access area to transit
3 HH located in "no-walk" walk area to transit
4 HH location unknown

slflag I/J coding flg:

1 sh wk/sh wk transit i/j market
2 sh wk/lg wk transit i/j market
3 sh wk/no wk transit i/j market
4 lg wk/sh wk transit i/j market
5 lg wk/lg wk transit i/j market
6 lg wk/no wk transit i/j market
7 no wk/sh wk transit i/j market
8 no wk/lg wk transit i/j market
9 no wk/no wk transit i/j market
10 Unknown i/j walk market

Ref: cal_fmt_v21d.xls, mhbo

File Format Description
NHB "Main" Mode Choice Model Calibration File Format / Version 2 Model Set

File Names: nhbm5.dat
Date: 05/28/04
Record Count: 7,904
Programmer: RJM

Field #	Begin Col.	End Col.	Variable	Field Length	Description
1	1	8	hhid	8	Household ID
2	10	11	persnum	2	Person Number Within a HH
3	13	14	tripnum	2	Trip Number of Person
4	16	16	vehicnt	1	Number of vehicles owned 0-2 (2 refers to 2 or more vehicles)
5	18	18	mainmd	1	main mode choice 1)Transit, 2)Drive Alone, 3)Group Drive
6	20	23	ffactor	4	survey weight (or expansion factor)
7	25	28	ptaz	4	Production TAZ
8	30	33	ataz	4	Attraction TAZ
9	35	36	pshtim_o	2	Off-Pk Production-end short-walk area time (min)
10	38	39	plgtim_o	2	Off-Pk Production-end long-walk area time (min)
11	41	42	ashtim_o	2	Off-Pk Attraction-end short-walk area time (min)
12	44	45	algtim_o	2	Off-Pk Attraction-end long-walk area time (min)
13	47	50	wkctm_w	4	walking connecting time - walk network (min)
14	52	55	drvtm_w	4	drv access time - walk network (min)
15	57	60	iwttm_w	4	initial wait time - walk network (min)
16	62	65	xwttm_w	4	transfer time - walk network (min)
17	67	70	nmetm_w	4	nonmetro in-veh,time - walk network (min)
18	72	75	mettm_w	4	metrorail in-veh, time - walk network (min)
19	77	80	wlkctm_d	4	walk connecting time - drv network (min)
20	82	85	drvtm_d	4	drive access time - drv network (min)
21	87	90	iwttm_d	4	initial wait time - drv network (min)
22	92	95	xwttm_d	4	transfer wait time - drv network (min)
23	97	100	nmetm_d	4	nonmetro in-veh, time - drv network (min)
24	102	105	mettm_d	4	metrorail in-veh, time - drv network (min)
25	107	110	fare_wk	4	transit fare - walk network (1994 cents)
26	112	115	fare_dr	4	transit fare - driv network (1994 cents)
27	117	120	daopcst	4	drv alone hwy operating cost (1994 cents)
28	122	125	gropcst	4	drv group hwy operating cost (1994 cents)
29	127	130	dapkcst	4	drv alone parking cost (1994 cents)
30	132	135	grpkcst	4	drv group parking cost (1994 cents)
31	137	140	daexctm	4	drv alone excess time (min)
32	142	145	grexctm	4	drv group excess time (min)
33	147	150	dahwyrun	4	drv alone hwy run time (min)
34	152	155	grhwyrun	4	drv group hwy run time (min)
35	157	160	ve0dum	4	0 veh own, hh dummy (0,1)
36	162	165	ve1dum	4	1 veh own, hh dummy (0,1)
37	167	170	ve2dum	4	2+veh own, hh dummy (0,1)
38	172	175	wmt25dum	4	Metro time >25% of all tr IVT? 1=yes, 0=No (walk acc path)
39	177	181	plu_mix	5	Production-end Land Use mix index
40	183	187	alu_mix	5	Attraction-end Land Use mix index
41	189	192	pshpct_o	4	Off-Pk production-end zonal 'short walk' area percent (0-100)
42	194	197	plgpct_o	4	Off-Pk production-end zonal 'long walk' area percent (0-100)
43	199	202	ptopct_o	4	Off-Pk production-end zonal 'Total walk' area percent (0-100)
44	204	207	ashpct_o	4	Off-Pk Attraction-end zonal 'short walk' area percent (0-100)
45	209	212	algpct_o	4	Off-Pk attraction-end zonal 'long walk' area percent (0-100)
46	214	217	atopct_o	4	Off-Pk attraction-end zonal 'Total walk' area percent (0-100)

Ref: cal_fmt_v21d.xls, mnhb

File Format Description
NHB "Main" Mode Choice Model Calibration File Format / Version 2 Model Set

File Names: nhbm5.dat
Date: 05/28/04
Record Count: 7,904
Programmer: RJM

Field #	Begin Col.	End Col.	Variable	Field Length	Description
47	219	219	pwmrkt_o	1	Production zonal walk market type (1-6)
48	221	221	awmrkt_o	1	Attraction zonal walk market type (1-6)
49	223	223	gishacdo	1	GIS -based household location type (1-4)
50	225	227	wlktotrn	3	Transit Available (wlk acc) - 1/yes -1/ no
51	229	231	auttotrn	3	Transit Available (Drv acc) - 1/yes -1/ no
52	233	236	datoll	4	drive alone toll (1994 cents)
53	238	241	grtoll	4	group drive toll (1994 cents)
54	243	246	ftt	4	final total transit travel time for obs. used in estimation
55	248	251	fwalktm	4	final total walking time used in estimation
56	253	256	ffare	4	final transit fare used in estimation
57	258	261	fwaittm	4	final total waiting time (initial and xfer) used in estimation
58	263	266	fivtmet	4	final total metrorail IVT used in estimation
59	268	271	fivtnmet	4	final non-metrorail IVT used in estimation
60	273	276	fmetdum	4	final flag for 25%> IVT time in metrorail used in estimation
61	278	281	fdrvadum	4	final drive access to transit dummy (0/No-1/yes)
62	283	286	acctotrn	4	Transit available - for both walk&auto paths
63	288	289	slflag	2	interchange sh/lg market code 1-10 (see below)

Notes:
pwmrkt_o / awmrkt_o are zonal P/A transit access codes based on the proximity to Off-Pk hr service, as follows:

1 S "short" walk only
2 S&L partial "short" and "long" walk only
3 L "long" walk only
4 L&N partial "long" and "no walk" only
5 S&L&N partial "short"and"long"and"no walk"only
6 N "no walk" only

gishacdo codes are GIS-based household location indicators with respect to Off-peak transit service as follows:

1 HH located in "short" walk access area
2 HH located in "long" walk access area to transit
3 HH located in "no-walk" walk area to transit
4 HH location unknown

slflag I/J coding flg:

1 sh wk/sh wk transit i/j market
2 sh wk/lg wk transit i/j market
3 sh wk/no wk transit i/j market
4 lg wk/sh wk transit i/j market
5 lg wk/lg wk transit i/j market
6 lg wk/no wk transit i/j market
7 no wk/sh wk transit i/j market
8 no wk/lg wk transit i/j market
9 no wk/no wk transit i/j market
10 Unknown i/j walk market

Ref: cal_fmt_v21d.xls, mnhb

File Format Description

HBW Car Occupancy Mode Choice Model Calibration File Format / Version 2 Model Set

File Name: hbwc5.dat
Date: 05/28/04
Record Count: 1,317
Programmer: RJM

Field #	Begin Col.	End Col.	Variable	Field Length	Description
1	1	8	hhid	8	Household ID
2	10	11	persnum	2	Person Number Within a HH
3	13	14	tripnum	2	Trip Number (HBW) of a hh member
4	16	16	vehicnt	1	Number of vehicles owned (0,1,2+)
5	18	18	coccmd	1	car occ, choice 1= 2occ; 2= 3occ; 3= 4+occ
6	20	21	occgrp	2	Auto Occupancy (2,3,4)
7	23	26	ptaz	4	Productions TAZ
8	28	31	ataz	4	Attractions TAZ
9	33	34	pjur	2	Production jurisdiction
10	36	37	ajur	2	Attraction jurisdiction
11	39	41	pnewdist	3	Production district
12	43	45	anewdist	3	Attraction district
13	47	50	ffactor	4	Survey Weight
14	51	55	oc3v0dum	5	3 occ -0 veh owned hh dummy (0,1)
15	56	60	oc3v1dum	5	3 occ -1 veh owned hh dummy (0,1)
16	61	65	oc3v2dum	5	3 occ -2+veh owned hh dummy (0,1)
17	66	70	oc4v0dum	5	4+occ -0 veh owned hh dummy (0,1)
18	71	75	oc4v1dum	5	4+occ -1 veh owned hh dummy (0,1)
19	76	80	oc4v2dum	5	4+occ -2+veh owned hh dummy (0,1)
20	81	85	oc2exctm	5	2 occ hwy excess time (min)
21	86	90	oc3exctm	5	3 occ hwy excess time (min)
22	91	95	oc4exctm	5	4+occ hwy excess time (min)
23	96	100	oc2opcst	5	2 occ auto operating cost (1994 cents)
24	101	105	oc3opcst	5	3 occ auto operating cost (1994 cents)
25	106	110	oc4opcst	5	4+ occ auto operating cost (1994 cents)
26	111	115	oc2dst	5	2 occ hwy distance (1/10s miles)
27	116	120	oc3dst	5	3 occ hwy distance (1/10s miles)
28	121	125	oc4dst	5	4+occ hwy distance (1/10s miles)
29	126	130	oc2pkcst	5	2 occ parking cost (1994 cents)
30	131	135	oc3pkcst	5	3 occ parking cost (1994 cents)
31	136	140	oc4pkcst	5	4+occ parking cost (1994 cents)
32	141	145	oc2hwyrn	5	2 occ hwy run time (min)
33	146	150	oc3hwyrn	5	3 occ hwy run time (min)
34	151	155	oc4hwyrn	5	4+occ hwy run time (min)
35	151	155	tmsav_24	5	time saved by HOV3+ relative to HOV2 (min)
36	151	155	oc2toll	5	2 occ toll (1994 cents)
37	151	155	oc3toll	5	3 occ toll (1994 cents)
38	151	155	oc4toll	5	4+occ toll(1994 cents)

Note: Observations based on non-intrazonal motorized HBW trip records from the 1994 HTS.
All data formats are integer; each field is separated by at least one space.

Ref: cal_fmt_v21d.xls, chbw

File Format Description
HBS Car Occupancy Mode Choice Model Calibration File Format / Version 2 Model Set

File Name: hbsc5.dat
Date: 05/28/04
Record Count: 1,503
Programmer: RJM

Field #	Begin Col.	End Col.	Variable	Field Length	Description
1	1	8	hhid	8	Household ID
2	10	11	persnum	2	Person Number Within a HH
3	13	14	tripnum	2	Trip Number (HBW) of a hh member
4	16	16	vehicnt	1	Number of vehicles owned (0,1,2+)
5	18	18	coccmd	1	car occ, choice 1= 2occ; 2= 3occ; 3= 4+occ
6	20	21	occgrp	2	Auto Occupancy (2,3,4)
7	23	26	ptaz	4	Productions TAZ
8	28	31	ataz	4	Attractions TAZ
9	33	34	pjur	2	Production jurisdiction
10	36	37	ajur	2	Attraction jurisdiction
11	39	41	pnewdist	3	Production district
12	43	45	anewdist	3	Attraction district
13	47	50	ffactor	4	Survey Weight
14	51	55	oc3v0dum	5	3 occ -0 veh owned hh dummy (0,1)
15	56	60	oc3v1dum	5	3 occ -1 veh owned hh dummy (0,1)
16	61	65	oc3v2dum	5	3 occ -2+veh owned hh dummy (0,1)
17	66	70	oc4v0dum	5	4+occ -0 veh owned hh dummy (0,1)
18	71	75	oc4v1dum	5	4+occ -1 veh owned hh dummy (0,1)
19	76	80	oc4v2dum	5	4+occ -2+veh owned hh dummy (0,1)
20	81	85	oc2exctm	5	2 occ hwy excess time (min)
21	86	90	oc3exctm	5	3 occ hwy excess time (min)
22	91	95	oc4exctm	5	4+occ hwy excess time (min)
23	96	100	oc2opcst	5	2 occ auto operating cost (1994 cents)
24	101	105	oc3opcst	5	3 occ auto operating cost (1994 cents)
25	106	110	oc4opcst	5	4+ occ auto operating cost (1994 cents)
26	111	115	oc2dst	5	2 occ hwy distance (1/10s miles)
27	116	120	oc3dst	5	3 occ hwy distance (1/10s miles)
28	121	125	oc4dst	5	4+occ hwy distance (1/10s miles)
29	126	130	oc2pkcst	5	2 occ parking cost (1994 cents)
30	131	135	oc3pkcst	5	3 occ parking cost (1994 cents)
31	136	140	oc4pkcst	5	4+occ parking cost (1994 cents)
32	141	145	oc2hwyrn	5	2 occ hwy run time (min)
33	146	150	oc3hwyrn	5	3 occ hwy run time (min)
34	151	155	oc4hwyrn	5	4+occ hwy run time (min)
35	156	160	tmsav_24	5	time saved by HOV3+ relative to HOV2 (min)
36	161	165	oc2toll	5	2 occ toll (1994 cents)
37	166	170	oc3toll	5	3 occ toll (1994 cents)
38	171	175	oc4toll	5	4+occ toll(1994 cents)

Note: Observations based on non-intrazonal motorized HBW trip records from the 1994 HTS.
All data formats are integer; each field is separated by at least one space.

Ref: cal_fmt_v21d.xls, chbs

File Format Description
HBO Car Occupancy Mode Choice Model Calibration File Format / Version 2 Model Set

File Name: hboc5.dat
Date: 05/28/04
Record Count: 5,848
Programmer: RJM

Field #	Begin Col.	End Col.	Variable	Field Length	Description
1	1	8	hhid	8	Household ID
2	10	11	persnum	2	Person Number Within a HH
3	13	14	tripnum	2	Trip Number (HBW) of a hh member
4	16	16	vehicnt	1	Number of vehicles owned (0,1,2+)
5	18	18	coccmd	1	car occ, choice 1= 2occ; 2= 3occ; 3= 4+occ
6	20	21	occgrp	2	Auto Occupancy (2,3,4)
7	23	26	ptaz	4	Productions TAZ
8	28	31	ataz	4	Attractions TAZ
9	33	34	pjur	2	Production jurisdiction
10	36	37	ajur	2	Attraction jurisdiction
11	39	41	pnewdist	3	Production district
12	43	45	anewdist	3	Attraction district
13	47	50	ffactor	4	Survey Weight
14	51	55	oc3v0dum	5	3 occ -0 veh owned hh dummy (0,1)
15	56	60	oc3v1dum	5	3 occ -1 veh owned hh dummy (0,1)
16	61	65	oc3v2dum	5	3 occ -2+veh owned hh dummy (0,1)
17	66	70	oc4v0dum	5	4+occ -0 veh owned hh dummy (0,1)
18	71	75	oc4v1dum	5	4+occ -1 veh owned hh dummy (0,1)
19	76	80	oc4v2dum	5	4+occ -2+veh owned hh dummy (0,1)
20	81	85	oc2exctm	5	2 occ hwy excess time (min)
21	86	90	oc3exctm	5	3 occ hwy excess time (min)
22	91	95	oc4exctm	5	4+occ hwy excess time (min)
23	96	100	oc2opcst	5	2 occ auto operating cost (1994 cents)
24	101	105	oc3opcst	5	3 occ auto operating cost (1994 cents)
25	106	110	oc4opcst	5	4+ occ auto operating cost (1994 cents)
26	111	115	oc2dst	5	2 occ hwy distance (1/10s miles)
27	116	120	oc3dst	5	3 occ hwy distance (1/10s miles)
28	121	125	oc4dst	5	4+occ hwy distance (1/10s miles)
29	126	130	oc2pkcst	5	2 occ parking cost (1994 cents)
30	131	135	oc3pkcst	5	3 occ parking cost (1994 cents)
31	136	140	oc4pkcst	5	4+occ parking cost (1994 cents)
32	141	145	oc2hwyrn	5	2 occ hwy run time (min)
33	146	150	oc3hwyrn	5	3 occ hwy run time (min)
34	151	155	oc4hwyrn	5	4+occ hwy run time (min)
35	156	160	tmsav_24	5	time saved by HOV3+ relative to HOV2 (min)
36	161	165	oc2toll	5	2 occ toll (1994 cents)
37	166	170	oc3toll	5	3 occ toll (1994 cents)
38	171	175	oc4toll	5	4+occ toll(1994 cents)

Note: Observations based on non-intrazonal motorized HBW trip records from the 1994 HTS.
All data formats are integer; each field is separated by at least one space.

Ref: cal_fmt_v21d.xls, chbo

File Format Description
NHB Car Occupancy Mode Choice Model Calibration File Format / Version 2 Model Set

File Name: nhbc5.dat
Date: 05/28/04
Record Count: 3,225
Programmer: RJM

Field #	Begin Col.	End Col.	Variable	Field Length	Description
1	1	8	hhid	8	Household ID
2	10	11	persnum	2	Person Number Within a HH
3	13	14	tripnum	2	Trip Number (HBW) of a hh member
4	16	16	vehicnt	1	Number of vehicles owned (0,1,2+)
5	18	18	coccmd	1	car occ, choice 1= 2occ; 2= 3occ; 3= 4+occ
6	20	21	occgrp	2	Auto Occupancy (2,3,4)
7	23	26	ptaz	4	Productions TAZ
8	28	31	ataz	4	Attractions TAZ
9	33	34	pjur	2	Production jurisdiction
10	36	37	ajur	2	Attraction jurisdiction
11	39	41	pnewdist	3	Production district
12	43	45	anewdist	3	Attraction district
13	47	50	ffactor	4	Survey Weight
14	51	55	oc3v0dum	5	3 occ -0 veh owned hh dummy (0,1)
15	56	60	oc3v1dum	5	3 occ -1 veh owned hh dummy (0,1)
16	61	65	oc3v2dum	5	3 occ -2+veh owned hh dummy (0,1)
17	66	70	oc4v0dum	5	4+occ -0 veh owned hh dummy (0,1)
18	71	75	oc4v1dum	5	4+occ -1 veh owned hh dummy (0,1)
19	76	80	oc4v2dum	5	4+occ -2+veh owned hh dummy (0,1)
20	81	85	oc2exctm	5	2 occ hwy excess time (min)
21	86	90	oc3exctm	5	3 occ hwy excess time (min)
22	91	95	oc4exctm	5	4+occ hwy excess time (min)
23	96	100	oc2opcst	5	2 occ auto operating cost (1994 cents)
24	101	105	oc3opcst	5	3 occ auto operating cost (1994 cents)
25	106	110	oc4opcst	5	4+ occ auto operating cost (1994 cents)
26	111	115	oc2dst	5	2 occ hwy distance (1/10s miles)
27	116	120	oc3dst	5	3 occ hwy distance (1/10s miles)
28	121	125	oc4dst	5	4+occ hwy distance (1/10s miles)
29	126	130	oc2pkcst	5	2 occ parking cost (1994 cents)
30	131	135	oc3pkcst	5	3 occ parking cost (1994 cents)
31	136	140	oc4pkcst	5	4+occ parking cost (1994 cents)
32	141	145	oc2hwyrn	5	2 occ hwy run time (min)
33	146	150	oc3hwyrn	5	3 occ hwy run time (min)
34	151	155	oc4hwyrn	5	4+occ hwy run time (min)
35	156	160	tmsav_24	5	time saved by HOV3+ relative to HOV2 (min)
36	161	165	oc2toll	5	2 occ toll (1994 cents)
37	166	170	oc3toll	5	3 occ toll (1994 cents)
38	171	175	oc4toll	5	4+occ toll(1994 cents)

Note: Observations based on non-intrazonal motorized HBW trip records from the 1994 HTS.
All data formats are integer; each field is separated by at least one space.

Ref: cal_fmt_v21d.xls, cnhb

hbw
12:11 Friday, May 28, 2004 1
Calibration file for main model

Variable	N	Nmiss	Minimum	Maximum	Mean	Sum
VEHICNT	7209	0	0.000	2.000	1.679	12105.000
MAINMD	7209	0	1.000	3.000	2.024	14590.000
FFACTOR	7209	0	36.000	1827.000	361.372	2605128.000
PTAZ	7209	0	1.000	2125.000	1125.478	8113568.000
ATAZ	7209	0	1.000	2124.000	872.750	6291655.000
PSHTIM_A	7209	0	0.000	7.000	3.092	22288.000
PLGTIM_A	7209	0	0.000	20.000	10.007	72144.000
ASHTIM_A	7209	0	0.000	7.000	3.399	24501.000
ALGTIM_A	7209	0	0.000	20.000	8.776	63263.000
WKCTM_W	7209	0	0.000	27.000	0.701	5051.000
DRVTM_W	7209	0	0.000	0.000	0.000	0.000
IWTTM_W	7209	0	0.000	30.000	4.887	35233.000
XWTTM_W	7209	0	0.000	45.000	3.568	25724.000
NMETM_W	7209	0	0.000	119.000	14.714	106071.000
METTM_W	7209	0	0.000	63.000	5.984	43139.000
WKCTM_D	7209	0	0.000	11.000	2.195	15824.000
DRVTM_D	7209	0	0.000	52.000	9.866	71126.000
IWTTM_D	7209	0	0.000	30.000	4.269	30778.000
XWTTM_D	7209	0	0.000	45.000	4.039	29115.000
NMETM_D	7209	0	0.000	112.000	14.063	101380.000
METTM_D	7209	0	0.000	63.000	8.841	63733.000
FARE_WK	7209	0	50.000	647.000	224.725	1620043.000
FARE_DR	7209	0	50.000	860.000	249.581	1799226.000
DAOPCST	7209	0	3.000	653.000	130.026	937359.000
GROPCST	7209	0	1.000	282.000	57.832	416914.000
DAPKCST	7209	0	0.000	273.000	52.258	376731.000
GRPKCST	7209	0	0.000	137.000	22.177	159873.000
DAEXCTM	7209	0	1.000	8.000	3.964	28575.000
GREXCTM	7209	0	1.000	8.000	3.964	28575.000
DAHWYRUN	7209	0	1.000	139.000	38.676	278813.000
GRHWYRUN	7209	0	2.000	138.000	35.825	258263.000
VE0DUM	7209	0	0.000	1.000	0.045	325.000
VE1DUM	7209	0	0.000	1.000	0.231	1663.000
VE2DUM	7209	0	0.000	1.000	0.724	5221.000
WMT25DUM	7209	0	0.000	1.000	0.288	2076.000
PLU_MIX	7209	0	0.000	28014.000	1957.200	14109455.000
ALU_MIX	7209	0	0.000	34336.000	2935.627	21162933.000
PSHPCT_A	7209	0	0.000	100.000	32.650	235377.000
PLGPCT_A	7209	0	0.000	100.000	40.037	288627.000
PTOPCT_A	7209	0	0.000	100.000	72.687	524004.000
ASHPCT_A	7209	0	0.000	100.000	52.153	375968.000
ALGPCT_A	7209	0	0.000	100.000	34.835	251123.000
ATOPCT_A	7209	0	0.000	100.000	86.987	627091.000
PWMRKT_A	7209	0	1.000	6.000	3.283	23669.000
AWMRKT_A	7209	0	1.000	6.000	2.529	18232.000
GISHACDA	7209	0	1.000	4.000	2.264	16318.000
WLKTOTRN	7209	0	-1.000	1.000	0.274	1973.000
AUTTOTRN	7209	0	-1.000	1.000	0.530	3819.000
DATOLL	7209	0	0.000	110.000	1.300	9375.000
GRTOLL	7209	0	0.000	55.000	0.901	6496.000
FTT	7209	0	0.000	170.000	38.728	279192.000
FWALKTM	7209	0	0.000	31.000	6.411	46216.000
FFARE	7209	0	0.000	860.000	171.061	1233176.000
FWAITTM	7209	0	0.000	60.000	7.888	56862.000

hbw
12:11 Friday, May 28, 2004 2
Calibration file for main model

Variable	N	Nmiss	Minimum	Maximum	Mean	Sum
FIVTMET	7209	0	0.000	63.000	6.283	45293.000
FIVTNMET	7209	0	0.000	119.000	14.004	100958.000
FMETDUM	7209	0	0.000	1.000	0.306	2207.000
FDRVADUM	7209	0	0.000	1.000	0.393	2832.000
ACCTOTRN	7209	0	-1.000	1.000	0.294	2119.000
SLFLAG	7209	0	1.000	10.000	4.892	35269.000

hbw
12:11 Friday, May 28, 2004 3
Calibration file for carpool occ model

Variable	N	Nmiss	Minimum	Maximum	Mean	Sum
VEHICNT	1317	0	0.000	2.000	1.677	2208.000
COCCMD	1317	0	1.000	3.000	1.438	1894.000
OCCGRP	1317	0	2.000	4.000	2.438	3211.000
PTAZ	1317	0	47.000	2125.000	1151.814	1516939.000
ATAZ	1317	0	1.000	2123.000	805.597	1060971.000
PJUR	1317	0	0.000	21.000	5.494	7235.000
AJUR	1317	0	0.000	21.000	3.140	4135.000
PNEWDIST	1317	0	8.000	418.000	201.318	265136.000
ANEWDIST	1317	0	1.000	416.000	142.982	188307.000
FFACTOR	1317	0	41.000	1218.000	369.822	487056.000
OC3V0DUM	1317	0	0.000	1.000	0.036	47.000
OC3V1DUM	1317	0	0.000	1.000	0.252	332.000
OC3V2DUM	1317	0	0.000	1.000	0.712	938.000
OC4V0DUM	1317	0	0.000	1.000	0.036	47.000
OC4V1DUM	1317	0	0.000	1.000	0.252	332.000
OC4V2DUM	1317	0	0.000	1.000	0.712	938.000
OC2EXCTM	1317	0	1.000	8.000	4.284	5642.000
OC3EXCTM	1317	0	1.000	8.000	4.284	5642.000
OC4EXCTM	1317	0	1.000	8.000	4.284	5642.000
OC2OPCST	1317	0	1.000	164.000	41.916	55204.000
OC3OPCST	1317	0	1.000	110.000	28.605	37673.000
OC4OPCST	1317	0	1.000	75.000	19.507	25691.000
OC2DST	1317	0	5.000	620.000	158.282	208458.000
OC3DST	1317	0	5.000	620.000	161.909	213234.000
OC4DST	1317	0	5.000	620.000	161.909	213234.000
OC2PKCST	1317	0	0.000	137.000	30.553	40238.000
OC3PKCST	1317	0	0.000	91.000	20.362	26817.000
OC4PKCST	1317	0	0.000	62.000	13.892	18296.000
OC2HWYRN	1317	0	3.000	132.000	43.153	56832.000
OC3HWYRN	1317	0	4.000	133.000	39.680	52259.000
OC4HWYRN	1317	0	5.000	134.000	40.680	53576.000
TMSAV_24	1317	0	-2.000	57.000	2.472	3256.000
OC2TOLL	1317	0	0.000	55.000	1.099	1447.000
OC3TOLL	1317	0	0.000	37.000	0.757	997.000
OC4TOLL	1317	0	0.000	25.000	0.502	661.000

hbs
12:12 Friday, May 28, 2004 1
Calibration file for main model

Variable	N	Nmiss	Minimum	Maximum	Mean	Sum
VEHICNT	3407	0	0.000	2.000	1.706	5812.000
MAINMD	3407	0	1.000	3.000	2.418	8237.000
FFACTOR	3407	0	36.000	988.000	369.409	1258576.000
PTAZ	3407	0	2.000	2125.000	1107.750	3774105.000
ATAZ	3407	0	8.000	2124.000	1118.918	3812153.000
PSHTIM_A	3407	0	0.000	7.000	2.606	8877.000
PLGTIM_A	3407	0	0.000	20.000	8.510	28992.000
ASHTIM_A	3407	0	0.000	7.000	2.780	9471.000
ALGTIM_A	3407	0	0.000	20.000	8.158	27796.000
WKCTM_W	3407	0	0.000	6.000	0.171	581.000
DRVTM_W	3407	0	0.000	0.000	0.000	0.000
IWTTM_W	3407	0	0.000	30.000	7.685	26183.000
XWTTM_W	3407	0	0.000	45.000	2.258	7692.000
NMETM_W	3407	0	0.000	76.000	6.220	21190.000
METTM_W	3407	0	0.000	57.000	1.166	3971.000
WKCTM_D	3407	0	0.000	7.000	1.605	5469.000
DRVTM_D	3407	0	0.000	25.000	6.611	22524.000
IWTTM_D	3407	0	0.000	30.000	6.424	21886.000
XWTTM_D	3407	0	0.000	55.000	3.778	12870.000
NMETM_D	3407	0	0.000	109.000	7.155	24377.000
METTM_D	3407	0	0.000	57.000	2.938	10011.000
FARE_WK	3407	0	50.000	616.000	157.575	536858.000
FARE_DR	3407	0	50.000	616.000	185.062	630506.000
DAOPCST	3407	0	3.000	802.000	56.934	193974.000
GROPCST	3407	0	1.000	331.000	24.045	81923.000
DAPKCST	3407	0	0.000	50.000	0.318	1085.000
GRPKCST	3407	0	0.000	25.000	0.132	451.000
DAEXCTM	3407	0	1.000	8.000	2.092	7128.000
GREXCTM	3407	0	1.000	8.000	2.092	7128.000
DAHWYRUN	3407	0	1.000	136.000	13.029	44391.000
GRHWYRUN	3407	0	2.000	137.000	14.029	47798.000
VE0DUM	3407	0	0.000	1.000	0.025	84.000
VE1DUM	3407	0	0.000	1.000	0.245	834.000
VE2DUM	3407	0	0.000	1.000	0.731	2489.000
WMT25DUM	3407	0	0.000	1.000	0.079	269.000
PLU_MIX	3407	0	0.000	34336.000	1572.570	5357746.000
ALU_MIX	3407	0	0.000	34336.000	2281.964	7774652.000
PSHPCT_A	3407	0	0.000	100.000	34.832	118674.000
PLGPCT_A	3407	0	0.000	100.000	39.787	135555.000
PTOPCT_A	3407	0	0.000	100.000	74.620	254229.000
ASHPCT_A	3407	0	0.000	100.000	42.267	144005.000
ALGPCT_A	3407	0	0.000	100.000	40.375	137557.000
ATOPCT_A	3407	0	0.000	100.000	82.642	281562.000
PWMRKT_A	3407	0	1.000	6.000	3.140	10698.000
AWMRKT_A	3407	0	1.000	6.000	2.851	9715.000
GISHACDA	3407	0	1.000	4.000	2.243	7641.000
WLKTOTRN	3407	0	-1.000	1.000	0.128	435.000
AUTTOTRN	3407	0	-1.000	1.000	0.290	987.000
DATOLL	3407	0	0.000	85.000	0.530	1805.000
GRTOLL	3407	0	0.000	38.000	0.228	778.000
FTT	3407	0	0.000	156.000	24.324	82873.000
FWALKTM	3407	0	0.000	31.000	5.726	19508.000
FFARE	3407	0	0.000	616.000	120.340	409997.000
FWAITTM	3407	0	0.000	60.000	9.266	31570.000

hbs
12:12 Friday, May 28, 2004 2
Calibration file for main model

Variable	N	Nmiss	Minimum	Maximum	Mean	Sum
FIVTMET	3407	0	0.000	57.000	1.286	4380.000
FIVTNMET	3407	0	0.000	109.000	5.838	19891.000
FMETDUM	3407	0	0.000	1.000	0.125	426.000
FDRVADUM	3407	0	0.000	1.000	0.404	1375.000
ACCTOTRN	3407	0	-1.000	1.000	0.134	455.000
SLFLAG	3407	0	1.000	10.000	5.355	18246.000

hbs
12:12 Friday, May 28, 2004 3
Calibration file for carpool occ model

Variable	N	Nmiss	Minimum	Maximum	Mean	Sum
VEHICNT	1503	0	0.000	2.000	1.721	2587.000
COCCMD	1503	0	1.000	3.000	1.440	2165.000
OCCGRP	1503	0	2.000	4.000	2.440	3668.000
PTAZ	1503	0	37.000	2125.000	1151.024	1729989.000
ATAZ	1503	0	10.000	2124.000	1160.347	1744001.000
PJUR	1503	0	0.000	21.000	5.266	7915.000
AJUR	1503	0	0.000	21.000	5.228	7858.000
PNEWDIST	1503	0	7.000	418.000	201.275	302516.000
ANEWDIST	1503	0	2.000	417.000	203.261	305502.000
FFACTOR	1503	0	64.000	988.000	364.774	548256.000
OC3V0DUM	1503	0	0.000	1.000	0.023	34.000
OC3V1DUM	1503	0	0.000	1.000	0.234	351.000
OC3V2DUM	1503	0	0.000	1.000	0.744	1118.000
OC4V0DUM	1503	0	0.000	1.000	0.023	34.000
OC4V1DUM	1503	0	0.000	1.000	0.234	351.000
OC4V2DUM	1503	0	0.000	1.000	0.744	1118.000
OC2EXCTM	1503	0	1.000	8.000	2.024	3042.000
OC3EXCTM	1503	0	1.000	8.000	2.024	3042.000
OC4EXCTM	1503	0	1.000	8.000	2.024	3042.000
OC2OPCST	1503	0	1.000	114.000	18.043	27118.000
OC3OPCST	1503	0	1.000	76.000	12.018	18063.000
OC4OPCST	1503	0	0.000	52.000	8.165	12272.000
OC2DST	1503	0	3.000	432.000	68.047	102274.000
OC3DST	1503	0	3.000	432.000	68.047	102274.000
OC4DST	1503	0	3.000	432.000	68.047	102274.000
OC2PKCST	1503	0	0.000	25.000	0.118	178.000
OC3PKCST	1503	0	0.000	17.000	0.080	120.000
OC4PKCST	1503	0	0.000	11.000	0.053	80.000
OC2HWYRN	1503	0	2.000	76.000	14.855	22327.000
OC3HWYRN	1503	0	3.000	77.000	15.855	23830.000
OC4HWYRN	1503	0	4.000	78.000	16.855	25333.000
TMSAV_24	1503	0	-2.000	-2.000	-2.000	-3006.000
OC2TOLL	1503	0	0.000	43.000	0.337	506.000
OC3TOLL	1503	0	0.000	28.000	0.219	329.000
OC4TOLL	1503	0	0.000	19.000	0.151	227.000

hbo
12:13 Friday, May 28, 2004 1
Calibration file for main model

Variable	N	Nmiss	Minimum	Maximum	Mean	Sum
VEHICNT	10494	0	0.000	2.000	1.744	18302.000
MAINMD	10494	0	1.000	3.000	2.517	26417.000
FFACTOR	10494	0	36.000	1218.000	353.966	3714520.000
PTAZ	10494	0	2.000	2125.000	1071.305	11242275.000
ATAZ	10494	0	1.000	2125.000	1037.380	10886264.000
PSHTIM_A	10494	0	0.000	7.000	2.497	26201.000
PLGTIM_A	10494	0	0.000	20.000	8.233	86392.000
ASHTIM_A	10494	0	0.000	7.000	2.711	28446.000
ALGTIM_A	10494	0	0.000	20.000	8.211	86162.000
WKCTM_W	10494	0	0.000	14.000	0.302	3168.000
DRVTM_W	10494	0	0.000	0.000	0.000	0.000
IWTTM_W	10494	0	0.000	30.000	6.963	73072.000
XWTTM_W	10494	0	0.000	44.000	2.685	28173.000
NMETM_W	10494	0	0.000	88.000	7.253	76111.000
METTM_W	10494	0	0.000	59.000	2.235	23450.000
WKCTM_D	10494	0	0.000	13.000	1.589	16672.000
DRVTM_D	10494	0	0.000	25.000	6.590	69155.000
IWTTM_D	10494	0	0.000	30.000	5.787	60729.000
XWTTM_D	10494	0	0.000	45.000	3.546	37209.000
NMETM_D	10494	0	0.000	113.000	6.875	72143.000
METTM_D	10494	0	0.000	63.000	3.898	40907.000
FARE_WK	10494	0	50.000	616.000	171.900	1803917.000
FARE_DR	10494	0	50.000	616.000	193.214	2027590.000
DAOPCST	10494	0	3.000	1000.000	74.200	778655.000
GROPCST	10494	0	1.000	413.000	30.830	323527.000
DAPKCST	10494	0	0.000	100.000	2.177	22842.000
GRPKCST	10494	0	0.000	50.000	0.922	9679.000
DAEXCTM	10494	0	1.000	8.000	2.119	22240.000
GREXCTM	10494	0	1.000	8.000	2.119	22240.000
DAHWYRUN	10494	0	1.000	153.000	16.385	171948.000
GRHWYRUN	10494	0	2.000	154.000	17.385	182442.000
VE0DUM	10494	0	0.000	1.000	0.023	241.000
VE1DUM	10494	0	0.000	1.000	0.210	2204.000
VE2DUM	10494	0	0.000	1.000	0.767	8049.000
WMT25DUM	10494	0	0.000	1.000	0.132	1385.000
PLU_MIX	10494	0	0.000	34336.000	1687.520	17708839.000
ALU_MIX	10494	0	0.000	34336.000	2153.404	22597822.000
PSHPCT_A	10494	0	0.000	100.000	33.056	346887.000
PLGPCT_A	10494	0	0.000	100.000	40.714	427251.000
PTOPCT_A	10494	0	0.000	100.000	73.770	774138.000
ASHPCT_A	10494	0	0.000	100.000	38.166	400512.000
ALGPCT_A	10494	0	0.000	100.000	40.636	426437.000
ATOPCT_A	10494	0	0.000	100.000	78.802	826949.000
PWMRKT_A	10494	0	1.000	6.000	3.218	33770.000
AWMRKT_A	10494	0	1.000	6.000	3.009	31572.000
GISHACDA	10494	0	1.000	4.000	2.266	23777.000
WLKTOTRN	10494	0	-1.000	1.000	0.095	1002.000
AUTTOTRN	10494	0	-1.000	1.000	0.246	2582.000
DATOLL	10494	0	0.000	85.000	1.119	11745.000
GRTOLL	10494	0	0.000	43.000	0.468	4910.000
FTT	10494	0	0.000	168.000	25.680	269490.000
FWALKTM	10494	0	0.000	31.000	5.719	60012.000
FFARE	10494	0	0.000	616.000	128.806	1351689.000
FWAITTM	10494	0	0.000	69.000	8.838	92743.000

hbo
12:13 Friday, May 28, 2004 2
Calibration file for main model

Variable	N	Nmiss	Minimum	Maximum	Mean	Sum
FIVTMET	10494	0	0.000	63.000	2.443	25641.000
FIVTNMET	10494	0	0.000	100.000	6.307	66181.000
FMETDUM	10494	0	0.000	1.000	0.176	1850.000
FDRVADUM	10494	0	0.000	1.000	0.432	4529.000
ACCTOTRN	10494	0	-1.000	1.000	0.096	1004.000
SLFLAG	10494	0	1.000	10.000	5.475	57456.000

hbo
12:13 Friday, May 28, 2004 3
Calibration file for carpool occ model

Variable	N	Nmiss	Minimum	Maximum	Mean	Sum
VEHICNT	5848	0	0.000	2.000	1.790	10466.000
COCCMD	5848	0	1.000	3.000	1.596	9333.000
OCCGRP	5848	0	2.000	4.000	2.596	15181.000
PTAZ	5848	0	2.000	2125.000	1112.068	6503374.000
ATAZ	5848	0	2.000	2125.000	1082.771	6332045.000
PJUR	5848	0	0.000	21.000	5.046	29508.000
AJUR	5848	0	0.000	21.000	4.778	27939.000
PNEWDIST	5848	0	1.000	418.000	193.567	1131979.000
ANEWDIST	5848	0	1.000	418.000	189.000	1105270.000
FFACTOR	5848	0	36.000	1218.000	353.529	2067438.000
OC3V0DUM	5848	0	0.000	1.000	0.015	87.000
OC3V1DUM	5848	0	0.000	1.000	0.181	1056.000
OC3V2DUM	5848	0	0.000	1.000	0.805	4705.000
OC4V0DUM	5848	0	0.000	1.000	0.015	87.000
OC4V1DUM	5848	0	0.000	1.000	0.181	1056.000
OC4V2DUM	5848	0	0.000	1.000	0.805	4705.000
OC2EXCTM	5848	0	1.000	8.000	1.872	10950.000
OC3EXCTM	5848	0	1.000	8.000	1.872	10950.000
OC4EXCTM	5848	0	1.000	8.000	1.872	10950.000
OC2OPCST	5848	0	1.000	177.000	20.530	120059.000
OC3OPCST	5848	0	1.000	118.000	13.670	79945.000
OC4OPCST	5848	0	0.000	80.000	9.333	54578.000
OC2DST	5848	0	3.000	667.000	77.477	453087.000
OC3DST	5848	0	3.000	667.000	77.477	453087.000
OC4DST	5848	0	3.000	667.000	77.477	453087.000
OC2PKCST	5848	0	0.000	50.000	0.642	3757.000
OC3PKCST	5848	0	0.000	33.000	0.424	2481.000
OC4PKCST	5848	0	0.000	23.000	0.290	1693.000
OC2HWYRN	5848	0	2.000	105.000	16.467	96297.000
OC3HWYRN	5848	0	3.000	106.000	17.467	102145.000
OC4HWYRN	5848	0	4.000	107.000	18.467	107993.000
TMSAV_24	5848	0	-2.000	-2.000	-2.000	-11696.000
OC2TOLL	5848	0	0.000	43.000	0.459	2686.000
OC3TOLL	5848	0	0.000	28.000	0.301	1760.000
OC4TOLL	5848	0	0.000	19.000	0.206	1203.000

nhb
12:14 Friday, May 28, 2004 1
Calibration file for main model

Variable	N	Nmiss	Minimum	Maximum	Mean	Sum
VEHICNT	7904	0	0.000	2.000	1.738	13741.000
MAINMD	7904	0	1.000	3.000	2.353	18601.000
FFACTOR	7904	0	36.000	1218.000	362.434	2864675.000
PTAZ	7904	0	1.000	2140.000	1014.873	8021557.000
ATAZ	7904	0	1.000	2125.000	1036.024	8188730.000
PSHTIM_A	7904	0	0.000	7.000	2.904	22954.000
PLGTIM_A	7904	0	0.000	20.000	8.470	66949.000
ASHTIM_A	7904	0	0.000	7.000	2.891	22847.000
ALGTIM_A	7904	0	0.000	20.000	8.419	66547.000
WKCTM_W	7904	0	0.000	14.000	0.383	3024.000
DRVTM_W	7904	0	0.000	0.000	0.000	0.000
IWTTM_W	7904	0	0.000	50.000	7.335	57977.000
XWTTM_W	7904	0	0.000	50.000	3.545	28017.000
NMETM_W	7904	0	0.000	106.000	8.522	67357.000
METTM_W	7904	0	0.000	58.000	2.946	23282.000
WKCTM_D	7904	0	0.000	15.000	1.771	13999.000
DRVTM_D	7904	0	0.000	30.000	7.092	56054.000
IWTTM_D	7904	0	0.000	30.000	6.194	48959.000
XWTTM_D	7904	0	0.000	55.000	4.549	35953.000
NMETM_D	7904	0	0.000	112.000	7.905	62480.000
METTM_D	7904	0	0.000	60.000	5.438	42984.000
FARE_WK	7904	0	50.000	616.000	168.232	1329708.000
FARE_DR	7904	0	50.000	666.000	190.384	1504794.000
DAOPCST	7904	0	3.000	763.000	81.116	641140.000
GROPCST	7904	0	1.000	321.000	33.973	268520.000
DAPKCST	7904	0	0.000	100.000	3.429	27101.000
GRPKCST	7904	0	0.000	50.000	1.456	11510.000
DAEXCTM	7904	0	1.000	8.000	2.440	19282.000
GREXCTM	7904	0	1.000	8.000	2.440	19282.000
DAHWYRUN	7904	0	1.000	135.000	17.876	141293.000
GRHWYRUN	7904	0	2.000	136.000	18.876	149197.000
VE0DUM	7904	0	0.000	1.000	0.019	147.000
VE1DUM	7904	0	0.000	1.000	0.224	1773.000
VE2DUM	7904	0	0.000	1.000	0.757	5984.000
WMT25DUM	7904	0	0.000	1.000	0.179	1412.000
PLU_MIX	7904	0	0.000	34336.000	2405.565	19013584.000
ALU_MIX	7904	0	0.000	34336.000	2377.116	18788724.000
PSHPCT_A	7904	0	0.000	100.000	42.667	337240.000
PLGPCT_A	7904	0	0.000	100.000	40.223	317921.000
PTOPCT_A	7904	0	0.000	100.000	82.890	655161.000
ASHPCT_A	7904	0	0.000	100.000	42.204	333577.000
ALGPCT_A	7904	0	0.000	100.000	40.263	318241.000
ATOPCT_A	7904	0	0.000	100.000	82.467	651818.000
PWMRKT_A	7904	0	1.000	6.000	2.836	22413.000
AWMRKT_A	7904	0	1.000	6.000	2.840	22449.000
GISHACDA	7904	0	1.000	4.000	2.298	18161.000
WLKTOTRN	7904	0	-1.000	1.000	0.190	1498.000
AUTTOTRN	7904	0	-1.000	1.000	0.341	2692.000
DATOLL	7904	0	0.000	100.000	1.730	13675.000
GRTOLL	7904	0	0.000	43.000	0.736	5815.000
FTT	7904	0	0.000	157.000	31.324	247581.000
FWALKTM	7904	0	0.000	31.000	6.934	54805.000
FFARE	7904	0	0.000	616.000	152.396	1204539.000
FWAITTM	7904	0	0.000	69.000	11.566	91416.000

nhb
12:14 Friday, May 28, 2004 2
Calibration file for main model

Variable	N	Nmiss	Minimum	Maximum	Mean	Sum
FIVTMET	7904	0	0.000	58.000	3.066	24233.000
FIVTNMET	7904	0	0.000	106.000	9.197	72695.000
FMETDUM	7904	0	0.000	1.000	0.185	1464.000
FDRVADUM	7904	0	0.000	1.000	0.225	1780.000
ACCTOTRN	7904	0	-1.000	1.000	0.248	1964.000
SLFLAG	7904	0	1.000	9.000	2.823	22314.000

nhb
12:14 Friday, May 28, 2004 3
Calibration file for carpool occ model

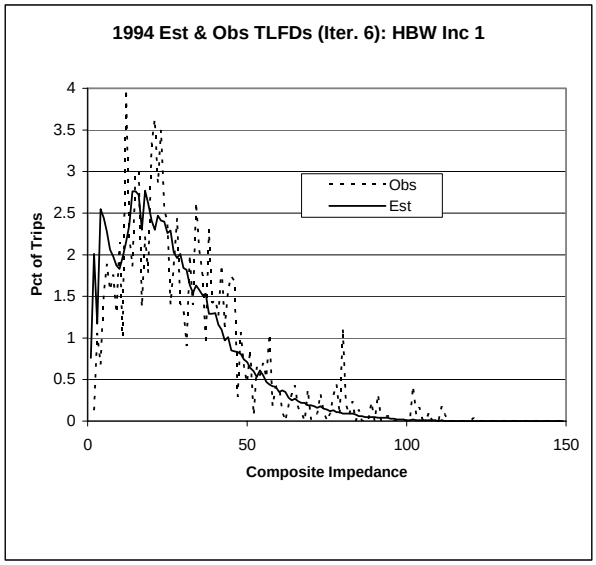
Variable	N	Nmiss	Minimum	Maximum	Mean	Sum
VEHICNT	3225	0	0.000	2.000	1.770	5709.000
COCCMD	3225	0	1.000	3.000	1.525	4918.000
OCCGRP	3225	0	2.000	4.000	2.525	8143.000
PTAZ	3225	0	2.000	2140.000	1051.549	3391244.000
ATAZ	3225	0	2.000	2125.000	1061.565	3423546.000
PJUR	3225	0	0.000	23.000	4.616	14886.000
AJUR	3225	0	0.000	21.000	4.634	14945.000
PNEWDIST	3225	0	1.000	435.000	183.333	591249.000
ANEWDIST	3225	0	1.000	418.000	184.845	596124.000
FFACTOR	3225	0	41.000	1218.000	360.605	1162952.000
OC3V0DUM	3225	0	0.000	1.000	0.011	34.000
OC3V1DUM	3225	0	0.000	1.000	0.209	673.000
OC3V2DUM	3225	0	0.000	1.000	0.781	2518.000
OC4V0DUM	3225	0	0.000	1.000	0.011	34.000
OC4V1DUM	3225	0	0.000	1.000	0.209	673.000
OC4V2DUM	3225	0	0.000	1.000	0.781	2518.000
OC2EXCTM	3225	0	1.000	8.000	2.151	6938.000
OC3EXCTM	3225	0	1.000	8.000	2.151	6938.000
OC4EXCTM	3225	0	1.000	8.000	2.151	6938.000
OC2OPCST	3225	0	1.000	203.000	22.825	73612.000
OC3OPCST	3225	0	1.000	136.000	15.212	49059.000
OC4OPCST	3225	0	0.000	92.000	10.366	33429.000
OC2DST	3225	0	3.000	767.000	86.124	277750.000
OC3DST	3225	0	3.000	767.000	86.124	277750.000
OC4DST	3225	0	3.000	767.000	86.124	277750.000
OC2PKCST	3225	0	0.000	50.000	1.107	3569.000
OC3PKCST	3225	0	0.000	33.000	0.729	2350.000
OC4PKCST	3225	0	0.000	23.000	0.500	1611.000
OC2HWYRN	3225	0	2.000	108.000	18.165	58581.000
OC3HWYRN	3225	0	3.000	109.000	19.165	61806.000
OC4HWYRN	3225	0	4.000	110.000	20.165	65031.000
TMSAV_24	3225	0	-2.000	-2.000	-2.000	-6450.000
OC2TOLL	3225	0	0.000	50.000	0.704	2271.000
OC3TOLL	3225	0	0.000	33.000	0.459	1479.000
OC4TOLL	3225	0	0.000	23.000	0.316	1019.000

Appendix E
Trip Length Frequency (TLF) Summaries

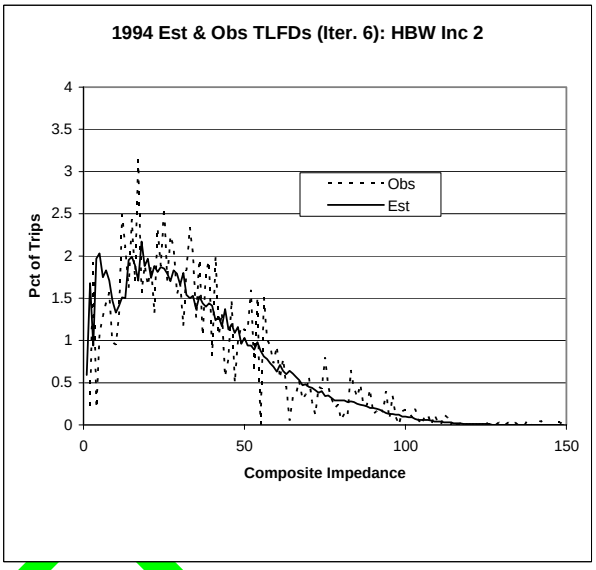
Ref: tlfchkcg_V21d50.xls

Estimated/Observed Internal HBW Composite Time TLFs by Income Level

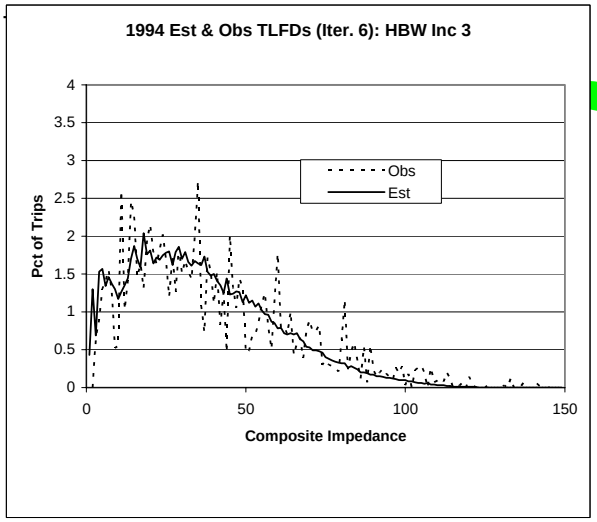
TPB Version 2.1D Travel Model (cgv21d_50)



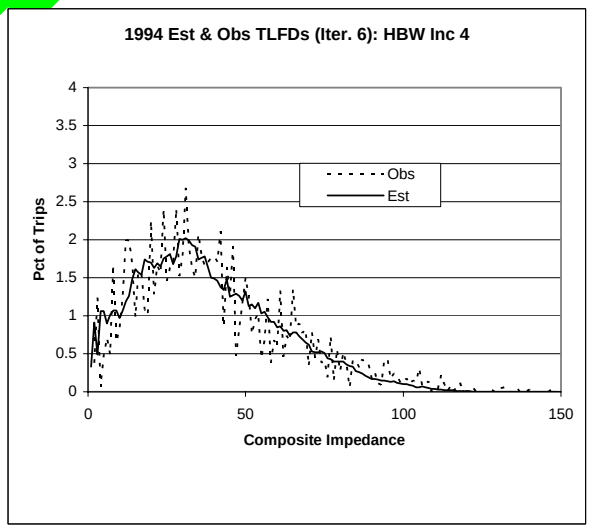
Average	Obs	29.96 minutes
	Est	27.50 minutes
	Est - Obs	-2.46 minutes



Average	Obs	36.10 minutes
	Est	35.15 minutes
	Est - Obs	-0.95 minutes



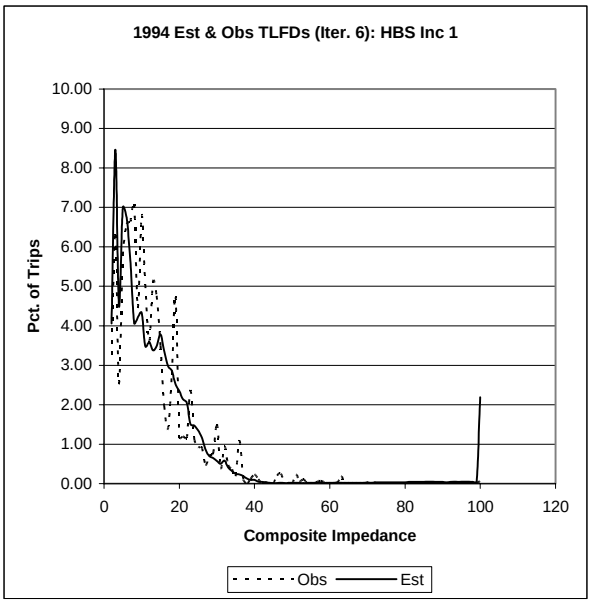
Average	Obs	40.02 minutes
	Est	37.13 minutes
	Est - Obs	-2.89 minutes



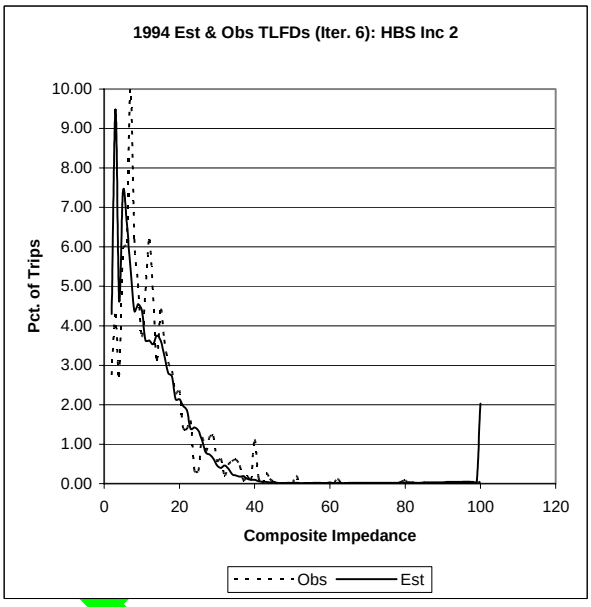
Average	Obs	40.59 minutes
	Est	39.41 minutes
	Est - Obs	-1.18 minutes

Estimated/Observed Internal HBS Composite Time TLFs by Income Level

TPB Version 2.1D Travel Model (cgv21d_50)

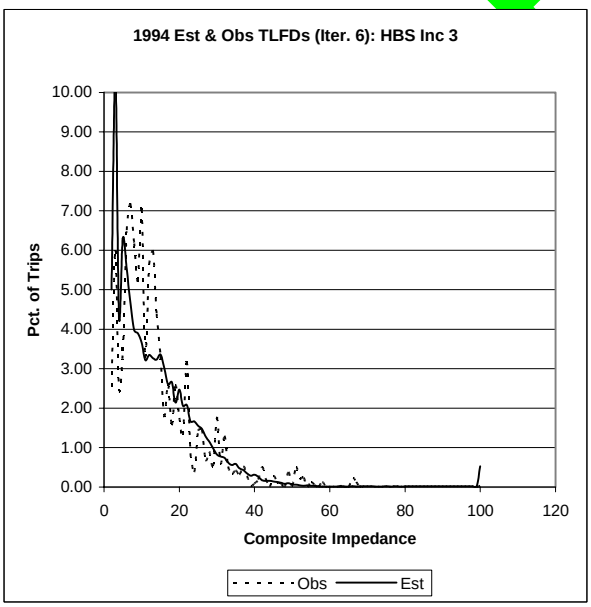


Average	Obs	13.66 minutes
	Est	15.61 minutes
	Est - Obs	1.95 minutes

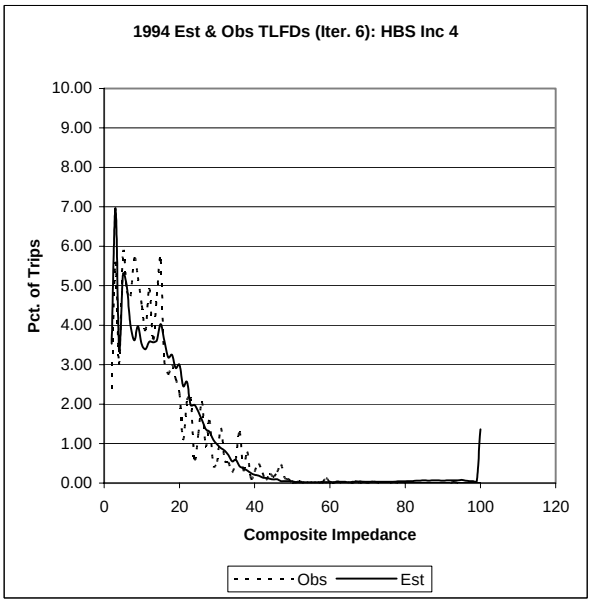


Average	Obs	13.65 minutes
	Est	14.79 minutes
	Est - Obs	1.14 minutes

TPB Version 2.1D Travel Model (cgv21d_50)



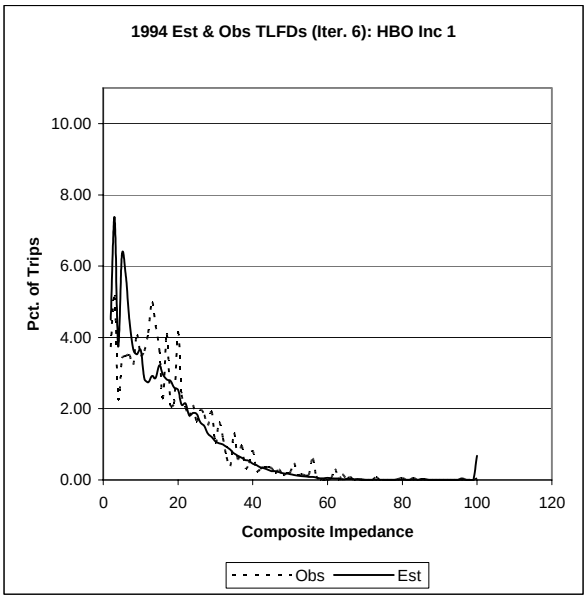
Average	Obs	14.91 minutes
	Est	14.40 minutes
	Est - Obs	-0.51 minutes

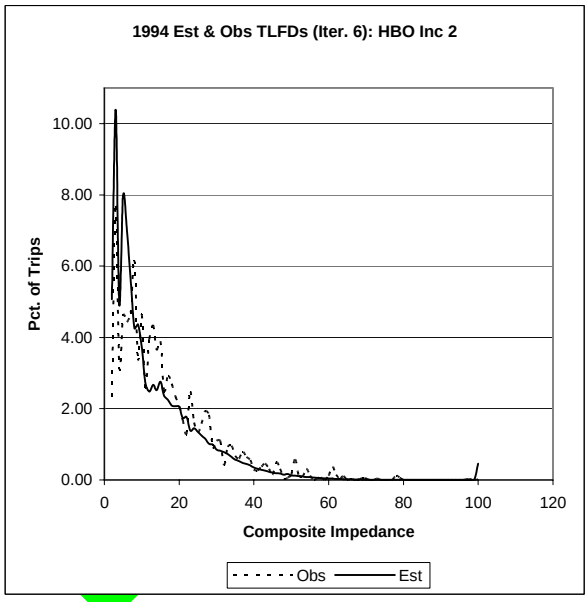


Average	Obs	15.19 minutes
	Est	17.20 minutes
	Est - Obs	2.01 minutes

Estimated/Observed Internal HBO Composite Time TLFs by Income Level

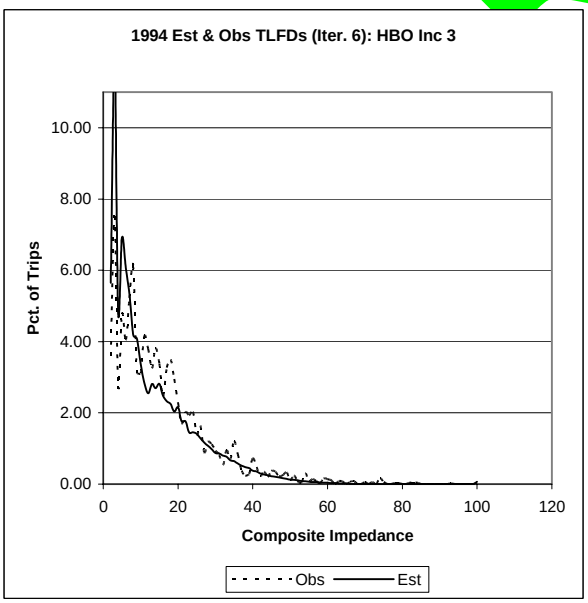
TPB Version 2.1D Travel Model (cgv21d_50)

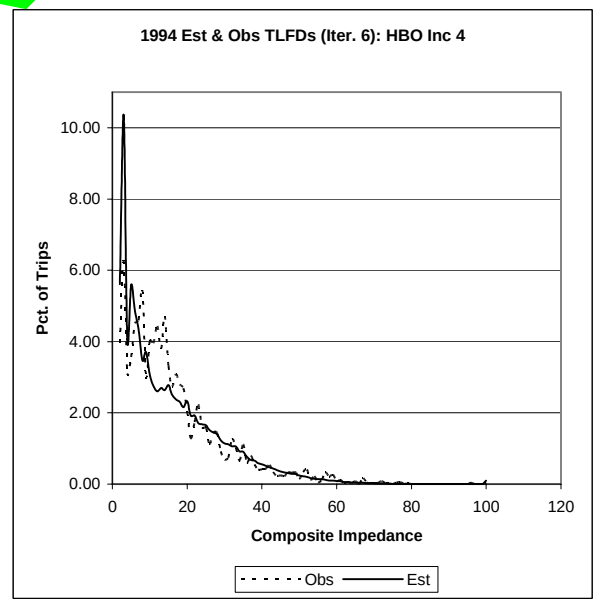




Average	Obs	18.86 minutes	Average	Obs	17.07 minutes
	Est	16.37 minutes		Est	14.16 minutes
	Est - Obs	-2.49 minutes		Est - Obs	-2.91 minutes

TPB Version 2.1D Travel Model (cgv21d_50)

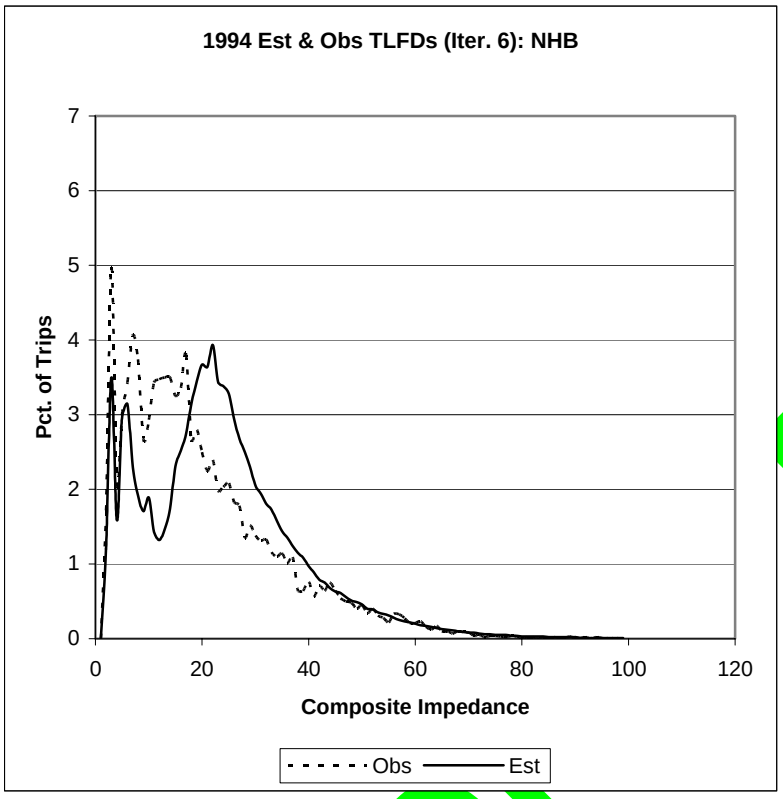




Average	Obs	16.96 minutes	Average	Obs	17.53 minutes
	Est	13.68 minutes		Est	16.01 minutes
	Est - Obs	-3.28 minutes		Est - Obs	-1.52 minutes

Estimated/Observed Internal NHB Composite Time TLFs by Income Level

TPB Version 2.1D Travel Model (cgv21d_50)



Average	Obs	21.44	minutes
	Est	23.73	minutes
	Est - Obs	2.29	minutes

Appendix F
Trip Generation Aggregate Adjustments

List of Figures

Trip Generation Adjustments

The technical adjustments employed in the Version 2.1 D Draft#50 trip generation model address the following issues:

1) Underreporting – Trip generation rates developed from household travel surveys inherently have some degree of underreporting. Underreporting is typically associated with short non-work trips. If this problem is not addressed, the VMT produced by the traffic assignment will be underestimated. The Draft#50 model applies a factor of 1.50 to all non-work trips to account for underreporting. This factor typically varies from 1.3 to 2.0.

2) Aggregation Error and Rate Variance – TPB's trip production (cross-classification) models are developed at the sampled household level. When disaggregate rates are applied to aggregate zonal households, there is no guarantee that modeled productions will match weighted person trips. Therefore, sub-area adjustments are both common and necessary. TPB has historically treated this type of error with adjustments to superdistrict-based or jurisdiction-based areas. It is also important to underscore that the trip generation rate itself is subject to a great deal of variation. For a given 3-person household the trip making propensity varies substantially if those 3 people are college age students, versus a mother, father, and infant child, versus a single mother raising two teenage children. The trip rates should be viewed as an average value that lies in the middle of a distribution. There are also limits to the accuracy of trip rates in certain cells. It is well known that large household size, low income families do not respond well to travel surveys and are therefore underrepresented. By the same token certain high income households don't respond well either (perhaps, household members are too busy traveling to respond to travel surveys).

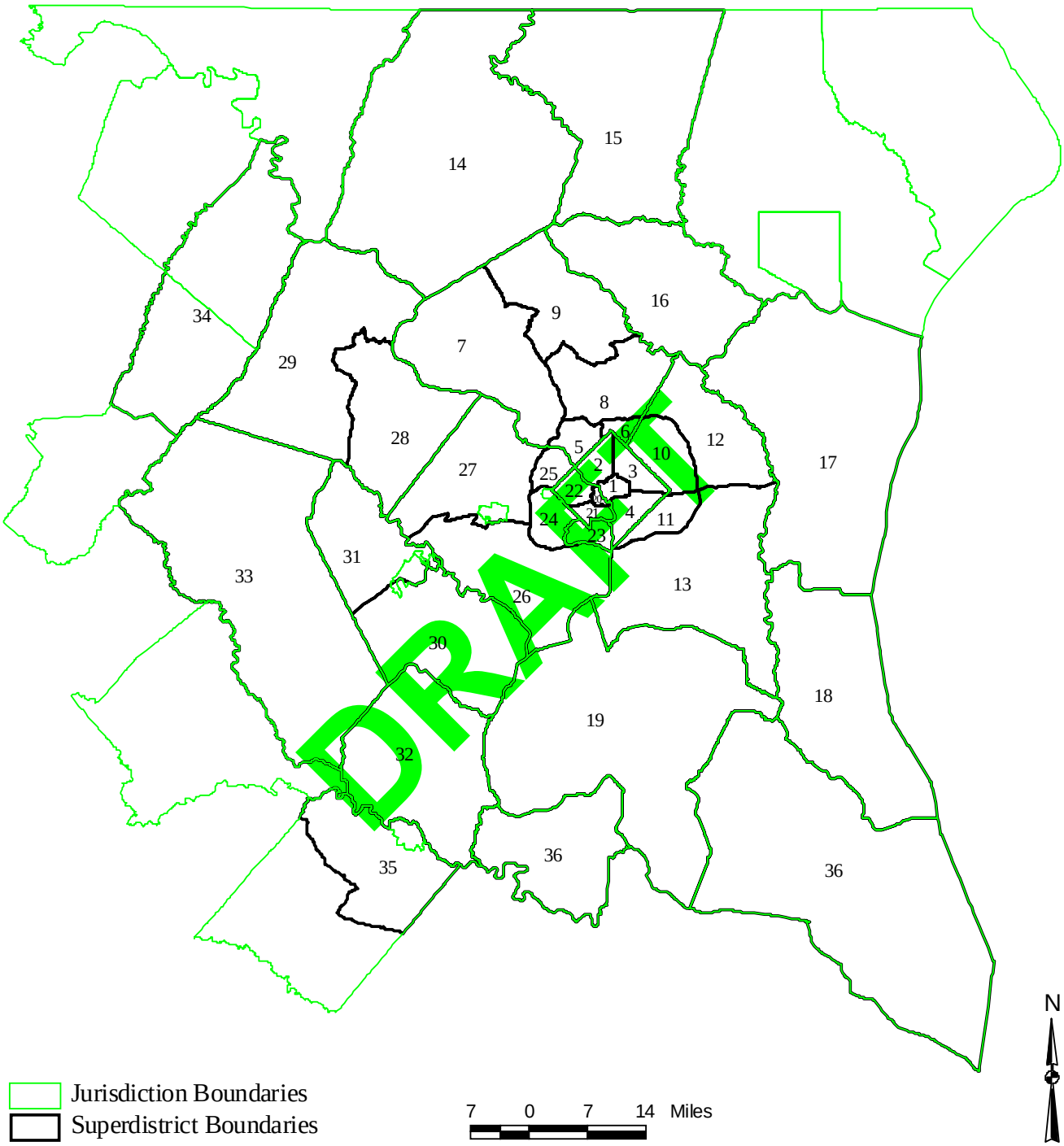
3) Limited Geographic Scope of the Household Travel Survey - The COG/TPB 1994 Household Travel Survey (HTS) was the primary travel survey supporting the model. The survey area comprised 13 of the 22 major jurisdictions in the modeled area, including TPB member governments. To arrive at a total observed figure of person trips for the modeled area, county-level travel data was extracted from the 1993 Baltimore Household Travel Survey (BTS). The amount of external interaction between Baltimore County and Baltimore City just outside the study area to the northeast is substantial. It was expected that some adjustments would be needed to address this substantial external interaction.

The trip generation results affect every other model step. The calibrated model has to attain a reasonable match with observed survey data, while addressing the issues above. Once disaggregate rates were specified, they were applied to the land use data and compared against the survey results. The model results were ultimately compared with observed data at superdistrict level (see Figure 1) and by income level. Factors were selectively developed to address some differences that were noted. The resulting trip generation modification factors (or 'p-mods' and 'a-mods') are generally between 0.5 and 2.0, but in a few cases is exceeded. Adjustment factors for HBW, HBS, HBO, and NHB trip purposes are displayed in Tables 1-4, respectively.

To address the external interaction issue with Baltimore, county-level factors (see Table 5) were

developed. These factors reflect the fact that a substantial amount of trips to and from certain counties are already accounted for in the external trip file, which is an input to the trip generation model. Thus to avoid double-counting external trips, adjustments must be made to the productions and attractions of counties that interact heavily with Baltimore. The table indicates that, as one would expect, the jurisdictions affected most are Howard, Anne Arundel, and Carroll Counties.

Figure 1: Superdistrict Area System Version 2.1 D Draft #50 Trip Generation Model



HBW Trip Generation Adjustment Factors by Income Group

Superdistrict Number	Superdistrict Area	Production				Attraction			
		Income 1	Income 2	Income 3	Income 4	Income 1	Income 2	Income 3	Income 4
1	DC core	1.51	1.00	1.00	2.85	1.14	1.00	1.05	1.08
2	DC ncore NW	1.00	1.00	1.00	2.82	1.84	1.00	1.00	1.00
3	DC ncore NE	1.00	0.58	1.00	1.65	1.58	1.00	0.59	0.51
4	DC ncore SW	0.61	0.40	1.00	1.42	1.27	1.29	1.27	1.35
5	Mtg. IBelt W.	1.00	1.00	1.00	0.91	1.00	0.80	0.72	0.87
6	Mtg. IBelt E.	1.00	0.50	1.54	2.02	1.00	1.00	0.37	1.00
7	Mtg. OBelt W.	1.00	0.64	1.00	1.00	0.51	1.00	1.00	1.00
8	Mtg. OBelt E.	1.00	0.63	0.92	0.95	0.54	0.67	0.87	0.83
9	Mtg. OBelt N.	0.61	1.27	1.63	1.34	0.38	0.61	0.68	1.00
10	PG IBelt N.	0.71	0.81	1.00	1.00	1.00	1.00	1.00	0.54
11	PG IBelt S.	1.32	0.68	1.00	1.00	1.00	1.28	0.43	0.54
12	PG OBelt N.	1.17	1.58	1.35	0.77	1.00	0.80	1.00	0.61
13	PG OBelt S.	1.11	1.00	1.49	1.00	1.27	1.00	1.00	1.00
14	Frederick	0.75	1.00	1.46	1.00	1.00	1.30	1.24	1.00
15	Carroll	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
16	Howard	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
17	Anne Arundel	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
18	Calvert	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
19	Chs/StM	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20	Arl. core	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.54
21	Arl. ncore S.	1.00	0.66	1.00	1.00	0.37	1.44	1.33	1.18
22	Arl. ncore N.	1.77	1.00	1.22	1.89	1.00	1.00	1.00	1.32
23	Alexandria	1.37	0.71	1.25	1.64	1.00	1.00	1.00	1.00
24	FFX IBelt S.	1.00	0.70	0.81	1.00	1.00	1.00	0.71	1.00
25	FFX IBelt N.	1.00	1.00	0.41	1.00	1.00	1.00	1.00	2.03
26	FFX OBelt S.	0.75	0.78	1.28	1.25	1.00	1.00	1.00	1.36
27	FFX OBelt N.	1.82	0.78	1.13	1.19	0.83	0.78	0.86	1.24
28	Loudoun E.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.91
29	Loudoun W.	2.47	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30	PW S.	1.00	1.00	1.14	1.24	1.00	1.00	1.00	1.00
31	PW N.	1.00	1.00	0.53	1.00	0.30	1.00	0.44	0.67
32	Stafford	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
33	Fauquier	1.00	0.59	1.00	1.00	1.00	1.00	1.00	1.00
34	Clk./Jeff.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
35	Spots./Frbg.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
36	KGeo.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
37	Ext./Unused	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Ref: ADJZPAF.xls

HBS Trip Generation Adjustment Factors by Income Group

Superdistrict Number	Superdistrict Area	Production				Attraction			
		Income 1	Income 2	Income 3	Income 4	Income 1	Income 2	Income 3	Income 4
1	DC core	0.32	0.29	1.00	1.00	1.00	1.00	0.60	0.39
2	DC ncore NW	1.08	0.71	1.15	2.08	1.00	1.00	1.00	2.04
3	DC ncore NE	0.76	0.52	1.00	1.00	1.00	0.34	0.29	0.12
4	DC ncore SW	1.00	0.34	0.50	1.00	1.00	1.00	0.39	0.43
5	Mtg. IBelt W.	2.31	1.00	2.01	1.00	1.00	1.00	1.00	2.29
6	Mtg. IBelt E.	1.00	1.00	3.09	1.00	1.00	1.00	1.00	1.00
7	Mtg. OBelt W.	1.00	1.00	1.00	1.00	1.00	1.00	1.47	1.97
8	Mtg. OBelt E.	1.93	0.57	1.47	1.00	1.59	0.64	1.53	1.27
9	Mtg. OBelt N.	1.73	1.96	1.55	1.00	1.43	2.27	1.37	1.00
10	PG IBelt N.	1.00	1.00	1.00	1.00	1.60	1.00	0.63	0.35
11	PG IBelt S.	0.69	0.56	1.00	0.10	1.00	1.00	0.62	0.13
12	PG OBelt N.	1.49	1.88	1.53	0.75	1.00	2.18	1.00	1.00
13	PG OBelt S.	1.00	0.65	1.68	1.00	1.00	1.00	1.56	0.50
14	Frederick	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00
15	Carroll	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
16	Howard	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
17	Anne Arundel	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
18	Calvert	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
19	Chs/StM	1.00	1.00	1.00	1.00	1.00	0.67	1.00	1.00
20	Arl. core	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
21	Arl. ncore S.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00
22	Arl. ncore N.	1.00	1.00	1.00	1.00	2.10	2.55	1.36	2.48
23	Alexandria	1.00	1.00	1.00	1.56	1.00	1.00	1.00	1.00
24	FFX IBelt S.	1.00	1.00	1.00	1.00	1.00	1.00	0.65	0.78
25	FFX IBelt N.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
26	FFX OBelt S.	0.40	1.00	1.73	1.03	0.47	1.00	1.42	1.54
27	FFX OBelt N.	1.00	1.00	1.74	1.54	0.44	0.82	1.00	1.49
28	Loudoun E.	1.00	0.72	1.00	1.00	1.00	1.00	1.00	1.00
29	Loudoun W.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30	PW S.	0.37	1.00	1.54	1.36	0.31	1.00	1.53	1.00
31	PW N.	1.00	1.00	1.00	1.00	1.00	1.00	0.62	0.68
32	Stafford	1.00	1.00	1.00	1.48	1.00	1.00	0.49	1.00
33	Fauquier	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
34	Clk./Jeff.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
35	Spots./Frbg.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
36	KGeo.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
37	Ext./Unused	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Ref: ADJZPAF.xls

HBO Trip Generation Adjustment Factors by Income Group

Superdistrict Number	Superdistrict Area	Production				Attraction			
		Income 1	Income 2	Income 3	Income 4	Income 1	Income 2	Income 3	Income 4
1	DC core	1.00	0.38	0.49	0.67	1.07	0.63	0.62	0.76
2	DC ncore NW	1.00	1.00	1.45	2.95	1.29	1.68	1.10	1.76
3	DC ncore NE	1.00	0.61	1.00	1.00	1.88	1.19	0.50	0.44
4	DC ncore SW	1.00	0.33	1.00	1.00	1.51	1.00	0.51	0.34
5	Mtg. IBelt W.	1.00	1.46	1.40	1.00	1.00	1.16	1.81	1.91
6	Mtg. IBelt E.	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.78
7	Mtg. OBelt W.	1.00	0.65	1.00	1.48	1.00	1.00	0.73	1.61
8	Mtg. OBelt E.	1.35	0.49	1.20	1.00	1.00	0.72	1.17	1.10
9	Mtg. OBelt N.	1.00	1.42	1.98	1.00	1.00	1.55	1.67	1.33
10	PG IBelt N.	0.86	0.76	1.00	1.00	2.02	1.47	0.66	0.50
11	PG IBelt S.	0.81	0.57	1.00	0.35	1.00	1.00	0.69	0.27
12	PG OBelt N.	0.71	1.00	1.37	0.86	1.00	1.00	1.32	0.65
13	PG OBelt S.	1.00	1.08	1.54	0.67	1.36	1.31	1.28	0.70
14	Frederick	1.00	0.65	1.38	1.00	1.43	1.00	1.28	0.61
15	Carroll	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
16	Howard	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
17	Anne Arundel	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
18	Calvert	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
19	Chs/StM	1.00	0.82	1.00	1.00	1.00	1.41	1.14	0.76
20	Arl. core	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.68
21	Arl. ncore S.	1.00	0.48	1.00	1.88	1.00	1.00	0.61	0.85
22	Arl. ncore N.	3.22	0.70	1.00	1.68	2.35	1.00	1.00	1.83
23	Alexandria	1.00	0.50	1.00	1.00	0.50	1.00	1.15	0.89
24	FFX IBelt S.	1.00	0.41	1.00	1.33	1.55	1.00	1.00	1.20
25	FFX IBelt N.	1.00	1.00	0.38	1.00	1.00	1.00	1.00	1.88
26	FFX OBelt S.	1.00	0.45	1.24	1.00	0.49	0.59	1.13	1.35
27	FFX OBelt N.	1.00	0.72	1.10	1.21	0.57	0.64	0.82	1.69
28	Loudoun E.	1.00	1.00	0.70	1.00	1.00	1.00	1.00	1.55
29	Loudoun W.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30	PW S.	1.00	0.63	1.00	1.39	1.00	1.00	1.00	1.00
31	PW N.	0.43	0.83	0.75	1.00	1.00	1.00	0.71	0.56
32	Stafford	1.00	0.69	0.74	1.00	1.00	1.00	1.00	0.72
33	Fauquier	0.42	1.00	0.68	1.00	1.00	1.00	0.57	0.55
34	Clk./Jeff.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
35	Spots./Frbg.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
36	KGeo.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
37	Ext./Unused	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Ref: ADJZPAF.xls

NHB Trip Generation Adjustment Factors by Income Group

Superdistrict Number	Superdistrict Area	Production				Attraction			
		Income 1	Income 2	Income 3	Income 4	Income 1	Income 2	Income 3	Income 4
1	DC core	1.06	1.00	1.00	1.00	1.06	1.00	1.00	1.00
2	DC ncore NW	1.11	1.00	1.00	1.00	1.11	1.00	1.00	1.00
3	DC ncore NE	0.74	1.00	1.00	1.00	0.74	1.00	1.00	1.00
4	DC ncore SW	0.65	1.00	1.00	1.00	0.65	1.00	1.00	1.00
5	Mtg. IBelt W.	1.08	1.00	1.00	1.00	1.08	1.00	1.00	1.00
6	Mtg. IBelt E.	0.78	1.00	1.00	1.00	0.78	1.00	1.00	1.00
7	Mtg. OBelt W.	1.25	1.00	1.00	1.00	1.25	1.00	1.00	1.00
8	Mtg. OBelt E.	1.14	1.00	1.00	1.00	1.14	1.00	1.00	1.00
9	Mtg. OBelt N.	1.34	1.00	1.00	1.00	1.34	1.00	1.00	1.00
10	PG IBelt N.	0.90	1.00	1.00	1.00	0.90	1.00	1.00	1.00
11	PG IBelt S.	0.69	1.00	1.00	1.00	0.69	1.00	1.00	1.00
12	PG OBelt N.	1.05	1.00	1.00	1.00	1.05	1.00	1.00	1.00
13	PG OBelt S.	1.22	1.00	1.00	1.00	1.22	1.00	1.00	1.00
14	Frederick	1.13	1.00	1.00	1.00	1.13	1.00	1.00	1.00
15	Carroll	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
16	Howard	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
17	Anne Arundel	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
18	Calvert	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
19	Chs/StM	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20	Arl. core	0.76	1.00	1.00	1.00	0.76	1.00	1.00	1.00
21	Arl. ncore S.	0.88	1.00	1.00	1.00	0.88	1.00	1.00	1.00
22	Arl. ncore N.	1.35	1.00	1.00	1.00	1.35	1.00	1.00	1.00
23	Alexandria	1.10	1.00	1.00	1.00	1.10	1.00	1.00	1.00
24	FFX IBelt S.	1.07	1.00	1.00	1.00	1.07	1.00	1.00	1.00
25	FFX IBelt N.	1.24	1.00	1.00	1.00	1.24	1.00	1.00	1.00
26	FFX OBelt S.	1.04	1.00	1.00	1.00	1.04	1.00	1.00	1.00
27	FFX OBelt N.	1.07	1.00	1.00	1.00	1.07	1.00	1.00	1.00
28	Loudoun E.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
29	Loudoun W.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30	PW S.	0.93	1.00	1.00	1.00	0.93	1.00	1.00	1.00
31	PW N.	1.10	1.00	1.00	1.00	1.10	1.00	1.00	1.00
32	Stafford	0.62	1.00	1.00	1.00	0.62	1.00	1.00	1.00
33	Fauquier	0.63	1.00	1.00	1.00	0.63	1.00	1.00	1.00
34	Clk./Jeff.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
35	Spots./Frbg.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
36	KGeo.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
37	Ext./Unused	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Ref: ADJZPAF.xls

External Trip Generation Factors

		District of Columbia	Prince George's	Howard	Anne Arundel	Carroll
HBW	Prod	-	-	0.75	0.85	0.85
	Attr	1.07	1.10	0.75	0.85	0.85
HBS	Prod	-	-	0.75	-	0.68
	Attr	-	-	0.80	-	0.68
HBO	Prod	-	-	0.70	-	0.75
	Attr	-		0.80	-	0.75
NHB	Prod	-	-	-	-	-
	Attr	-	-	-	-	-

Appendix G
Trip Distribution Adjustments

Trip Distribution Adjustments

Two sets of adjustment factors were applied to the trip distribution model. The first set was a series of time penalties applied sparingly to a matrix of twelve superdistricts depicted in Figure 3. Time penalties were developed as an integrated part of the F-factor calibration process, using HTS data. These superdistricts generally represent one or more jurisdictions, excepting those defining the District of Columbia and Arlington County in which there are core and non-core delineations. The calibration involved running the model for several iterations, using a gamma distribution fitting technique to arrive at a 'smoothed' F-function, which allowed observed trip length profiles to be matched. Time penalties are used to address physical barrier effects on trip patterns and to address jurisdictional effects (e.g., school trips and shopping trips tend to remain in a given traveler's residence jurisdiction). The percentage of interchanges receiving time penalties applied by trip purpose were as follows:

HBW 7 to 12 percent
HBS 1 to 6 percent
HBO 8 to19 percent
NHB 32 percent

The listings of these time penalties for HBW, HBS, HBO, and NHB trip purposes are presented in Tables 5-8, respectively. The time penalties were not developed in a mechanical process, but were developed after running and rerunning the calibration process with different time penalty sets. An analysis of the results was conducted between iterations.

A second set of adjustment factors was introduced during model application. Commonly referenced as K-factors, 52 individual values were applied in the Version 2.1D Draft #50 model. This is a reduction from the 68 K-factors that were employed in the Version 2.1C model, and reflects the improvements obtained with the introduction of other model and data input enhancements in the Version 2.1D Draft #50 model. Furthermore, of the remaining 52 K-factors in the Version 2.1D Draft #50 model, 32 have been dampened (i.e., their values have been made closer to 1.0). The breakdown by trip purpose of these factors (shown in Table 9) is as follows:

HBW - 29 factors
HBS - 8 factors
HBO - 10 factors
NHB - 5 factors

K-factors were developed in the application of the model for the entire modeled area, after the F-factor calibration was completed. The K-factors were developed separately for each purpose, after several application iterations. Several points should be noted about these 52 factors. First, 18 are applied to jurisdictions which are within the modeled cordon but which lie outside the non-attainment boundary, principally, Anne Arundel, Howard, and Carroll Counties in the Baltimore suburbs. These counties were added together with others in Maryland, Virginia, and West Virginia for the express purpose of modeling an area greater than the non-attainment area. The goal was to move modeling noise to the periphery, thereby reducing noise within the non-attainment area. The network grain is much coarser in these outer jurisdictions compared to the

grain within the non-attainment area.

Second, of the remaining 34 K-factors, these encompass 22 unique jurisdictional interchanges, all of which lie within the non-attainment boundary. There are 13 x 13 = 169 possible jurisdictional interchanges which lie within the non-attainment boundary. These 22 unique interchanges receiving a K-Factor represent approximately 13 percent of the jurisdictional interchanges within the non-attainment boundary.

Third, seven of the 22 unique jurisdictional K-factors involve intra-jurisdictional adjustments, reflecting policy goals and programs in several jurisdictions aimed at attracting and retaining a mix of land activities that will encourage their residents to work, shop, and conduct other activities within their jurisdiction of residence. Of the remaining 15 unique K-factor interchanges, all but two are interchanges where either the D.C. Core or the D.C. Non-Core is involved. (The two exceptions are a Charles County to Prince George's County K-factor for HBW trips and a Fairfax County to Arlington Non-Core K-Factor for HBW trips.)

There is a behavioral pattern present in trip distribution involving the District of Columbia which simple time and cost variables in modeling cannot explain. The D.C. Core has several major nodes of development and encompasses a larger "downtown" than many other cities of similar size. There is a very large federal government presence in the D.C. Core, the Arlington Core, and in recent years, the Ballston corridor in the Arlington Non-Core.

Another pattern which is evident in the application of K-factors is the influence of Baltimore at the northern external boundary. Nearly all of the K-factors involving jurisdictions outside the non-attainment boundary for Washington are for Carroll, Howard, and Anne Arundel Counties or for external stations on the Baltimore County boundary with these jurisdictions. These factors are uniformly less than 1.0 for interchanges beginning in either Montgomery County or Prince George's County to discourage travel northward into the Baltimore region. (Montgomery to Howard is 0.5 for HBW trips, while Prince George's to Anne Arundel is 0.5 for HBW trips.) Both Montgomery County and Prince George's County receive K-factors which are greater than 1.0 for interchanges heading southward into the District of Columbia. (Montgomery to D.C. Core is 2.0, while Prince George's to D.C. Core is 1.4.) This has the effect of forcing the gravity model to distribute trips southward in both Montgomery County and Prince George's County toward the District of Columbia instead of sending them to jobs in Anne Arundel and Howard Counties based on network times alone. This reflects a pattern of travel from households in the Baltimore region to employment in the Washington region which is likely to continue in the future given the disparity in housing costs in the two regions.

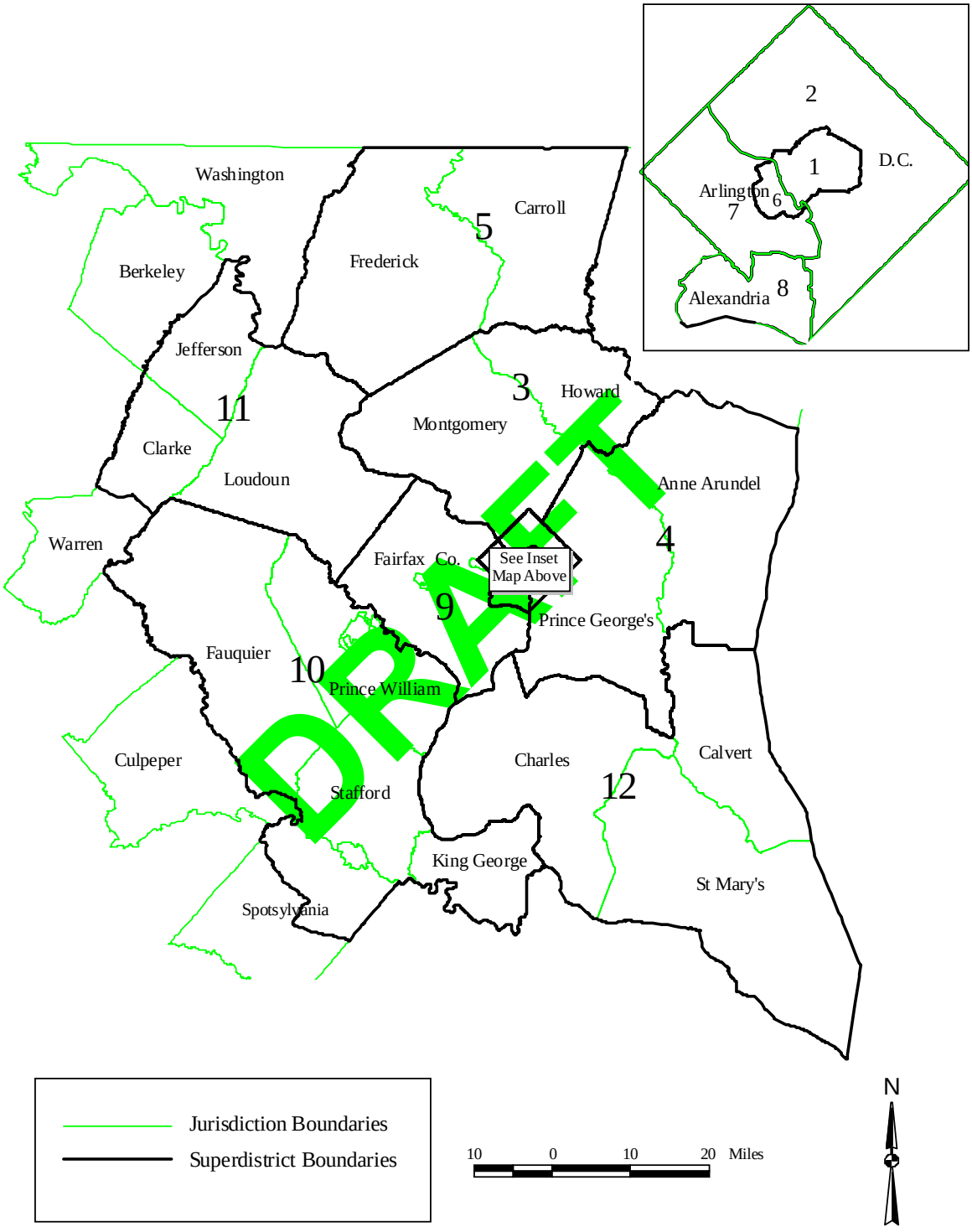
Fairfax County illustrates an additional behavioral pattern which simple time and cost variables in modeling cannot explain. The county has experienced substantial growth in employment during the past two decades, and is projected to continue this trend. However, there remains a significant amount of interaction with the District of Columbia and Arlington County, largely in terms of commutation to government employment and to other jobs related to government employment. Given the large growth in employment projected within Fairfax County in the future, a gravity model will likely understate this commutation into the central jurisdictions unless K-factors are applied. (Fairfax to D.C. Core is 2.2, Fairfax to D.C. Non-Core is 1.3, and

Fairfax to Arlington Non-Core is 1.3.)

Charles County exhibits another behavior pattern which is not fully described using time and cost variables in modeling. Many residents in the county commute to employment in the District of Columbia and in Prince George's County. There are military installations and other government agencies in these two jurisdictions, and a significant number of military and other government workers reside in Charles County. This has been a pattern going back decades, and it is likely to continue into the future. The non-work pattern for Charles County tends to be more intra-county in orientation however. Therefore, there are intra-county K-factors for each of the non-work trip purposes and two inter-jurisdictional K-factors (Charles to D.C. Core and Charles to Prince George's) for the HBW purpose. (Charles County to D.C. Core for HBW trips is 2.2, while Charles County to Prince George's County is 2.0. Intra-Charles County trips for HBS and HBO purposes receive K-factors of 2.5 and 2.4, respectively.)

As the travel demand model is incrementally improved, opportunities to further reduce and/or dampen the use of K-factors will be examined. The Version 2.1D Draft #50 model contains fewer K-factors than the Version 2.1C model, the current model of record.

Superdistrict Area System used in the Version 2.1 D Draft #50 Internal Trip Distribution / Time Penality Calibration (12 Superdistricts)



Time Penalities (in minutes) Purpose: HBW

Origin	Destination	Income Level 1	Income Level 2	Income Level 3	Income Level 4
2	1	0	0	0	3
2	3	5	0	0	0
2	4	0	3	3	10
2	6	0	0	0	9
2	7	0	0	5	9
3	4	0	5	7	7
3	7	0	0	0	7
3	9	0	0	3	0
4	1	5	5	5	5
4	2	3	3	5	7
4	3	0	2	3	3
4	6	0	0	0	7
4	7	3	0	10	0
4	8	5	3	10	7
4	9	5	0	0	0
7	1	0	0	3	0
7	9	7	0	0	0
8	1	3	0	0	0
8	7	0	0	0	3
8	9	0	3	0	0
9	1	2	2	3	5
9	2	3	2	0	5
9	3	0	0	0	7
9	4	0	0	3	10
9	10	0	0	0	5
9	11	0	3	0	0
10	8	0	0	5	0
10	9	0	3	0	0
12	1	0	0	5	0

Ref: Timepen_V2.1D_50.xls

Time Penalities (in minutes) Purpose: HBS

Origin	Destination	Income Level 1	Income Level 2	Income Level 3	Income Level 4
2	3	0	0	3	3
2	4	3	3	0	0
2	7	0	0	0	3
3	2	0	0	0	3
3	4	0	5	3	3
3	5	10	10	10	10
3	9	0	0	0	5
4	2	3	3	3	0
4	3	0	3	0	3
5	3	10	10	10	10
9	7	0	0	0	3
9	10	0	0	5	3
10	9	0	0	3	0

Ref: Timepen_V2.1D_50.xls

Time Penalities (in minutes) Purpose: HBO

Origin	Destination	Income Level 1	Income Level 2	Income Level 3	Income Level 4
2	1	0	0	0	3
2	4	7	3	3	9
2	7	7	0	5	3
2	9	5	0	0	7
3	1	0	0	0	3
3	5	10	10	10	10
3	7	0	0	0	7
3	9	0	3	7	10
4	1	3	3	7	9
4	7	0	3	7	7
4	8	0	0	5	7
4	9	3	0	10	3
5	3	10	10	15	10
7	1	0	0	3	5
7	2	5	0	7	5
7	3	3	0	3	7
7	4	3	0	3	0
7	8	0	3	5	3
7	9	3	3	3	5
8	1	0	0	3	5
8	2	3	0	0	3
8	4	3	0	0	0
8	7	3	0	3	3
9	2	3	9	3	10
9	3	0	5	5	5
9	4	0	5	5	3
9	7	3	0	5	0
9	8	0	0	0	3
9	10	0	5	7	9
9	11	0	0	3	5
10	9	3	5	5	5
11	9	0	0	0	3

Ref: Timepen_V2.1D_50.xls

Time Penalities (in minutes) Purpose: NHB

Origin	Destination	Time Pen.
2	1	5
2	3	7
2	4	7
2	6	5
2	7	9
2	8	9
2	9	10
3	1	5
3	2	7
3	4	7
3	5	13
3	6	3
3	7	10
3	8	7
3	9	10
4	1	7
4	2	9
4	3	7
4	7	10
4	8	10
4	9	9
5	3	15
5	11	5
6	2	3
7	1	7
7	2	9
7	3	10
7	4	10
7	8	5
7	9	7
8	1	7
8	2	7
8	3	5
8	4	10
8	7	5
8	9	3
9	1	5
9	2	10
9	3	10
9	4	9
9	7	7
9	8	3
9	10	9
9	11	3
10	4	3
10	9	10

Ref: Timepen_V2.1D_50.xls

K-Factor Listing

	Version 2.1C				Version 2.1D, Draft 50				Result of K-Factor Change			
	Purpose				Purpose				Purpose			
Interchange	HBW	HBS	HBO	NHB	HBW	HBS	HBO	NHB	HBW	HBS	HBO	NHB
dc cr - dc cr	2.2	1.0	1.0	1.0	2.0	1.0	1.0	1.0	Reduced			
dc cr - dc ncr	2.5	1.0	1.0	1.0	2.2	1.0	1.0	1.0	Reduced			
dc ncr - dc cr	3.0	1.2	2.0	1.0	1.8	1.0	1.0	1.0	Reduced	**Removed**	**Removed**	
dc ncr - dc ncr	2.5	1.3	1.3	1.0	1.0	1.0	1.0	1.0	**Removed**	**Removed**	**Removed**	
dc ncr - mtg	1.0	2.0	1.0	1.0	1.0	2.0	1.0	1.0				
dc ncr - ffx	1.0	1.0	0.5	1.0	1.0	1.0	1.0	1.0			**Removed**	
dc ncr - extls	0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	**Removed**			
mtg - dc cr	2.9	1.0	2.0	1.0	2.0	1.0	2.0	1.0	Reduced			
mtg - dc ncr	2.4	1.0	1.0	1.0	1.7	1.0	1.0	1.0	Reduced			
mtg - mtg	2.0	2.8	2.5	2.0	2.0	2.8	2.0	1.9			Reduced	Reduced
mtg - how	0.2	1.0	0.2	0.2	0.5	1.0	1.0	0.2	Reduced		**Removed**	
mtg - aa	0.2	1.0	1.0	1.0	0.2	1.0	1.0	1.0				
pg - dc cr	1.8	1.0	2.0	1.0	1.4	1.0	1.8	1.0	Reduced		Reduced	
pg - dc ncr	1.8	1.0	1.0	1.0	1.4	1.0	1.0	1.0	Reduced			
pg - pg	2.5	1.8	2.5	2.0	1.5	1.7	1.9	1.9	Reduced	Reduced	Reduced	Reduced
pg - how	0.2	1.0	1.0	1.0	0.5	1.0	1.0	1.0	Reduced			
pg - aa	0.2	1.0	1.0	0.2	0.5	1.0	1.0	0.3	Reduced			Reduced
pg - mtg	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0				
pg - extls	0.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	**Removed**			
pw - dc cr	1.0	1.0	1.0	1.0	2.8	1.0	1.0	1.0	**Added**			
arl cr - dc cr	2.5	1.0	1.0	1.0	2.5	1.0	1.0	1.0				
arl cr - dc ncr	2.0	1.0	1.0	1.0	1.8	1.0	1.0	1.0	Reduced			
arl ncr - arl ncr	1.0	2.6	1.6	2.0	1.0	2.6	1.0	1.0			**Removed**	**Removed**
arl ncr - dc cr	2.5	1.0	1.0	1.0	2.4	1.0	1.0	1.0	Reduced			
alx - alx	1.0	2.3	1.9	2.0	1.0	2.3	1.6	1.7			Reduced	Reduced
alx - dc cr	2.8	1.0	1.0	1.0	1.9	1.0	1.0	1.0	Reduced			
how - mtg	1.0	1.0	0.5	1.0	1.0	1.0	1.0	1.0			**Removed**	
how - pg	2.5	1.0	1.0	1.0	2.2	1.0	1.0	1.0	Reduced			
how - extls/balt	2.5	1.0	1.0	1.0	2.5	1.0	1.0	1.0				
aa - aa	0.5	1.0	2.5	1.0	0.5	1.0	1.8	1.0			Reduced	
aa - pg	1.0	1.0	0.6	1.0	1.0	1.0	0.7	1.0			Reduced	
ffx - dc cr	2.8	1.0	2.0	1.0	2.2	1.0	1.6	1.0	Reduced		Reduced	
ffx - dc ncr	2.3	1.0	1.0	1.0	1.3	1.0	1.0	1.0	Reduced			
ffx - ffx	1.2	1.1	2.0	2.0	0.9	1.0	1.0	1.0	Reduced	**Removed**	**Removed**	**Removed**
ffx - arl ncr	1.3	1.0	1.0	1.0	1.3	1.0	1.0	1.0				
frd - frd	1.0	2.8	2.5	2.5	1.0	2.8	2.5	1.0				**Removed**
frd - aa	0.2	1.0	1.0	1.0	0.2	1.0	1.0	1.0				
frd - how	0.2	1.0	1.0	1.0	0.2	1.0	1.0	1.0				
chs - chs	1.0	2.5	2.5	2.5	1.0	2.5	2.4	1.0			Reduced	**Removed**
chs - dc cr	2.2	1.0	1.0	1.0	2.2	1.0	1.0	1.0				
chs - pg	2.2	1.0	1.0	1.0	2.0	1.0	1.0	1.0	Reduced			
car - car	1.0	0.5	1.0	1.0	1.0	0.5	1.0	1.0				

Number of K Factors	68	52	
Minimum	0.1	0.2	
Maximum	3	2.8	
Average	1.30	1.20	

	Count
K factor removed	17
K factor added	1
K factor value reduced (closer to 1)	32
K factor value increased (farther from to 1)	0

Ref: k_facs_v21d_12.xls

Appendix H
Mode Choice Model Jurisdiction-Level Adjustment Factors

List of Exhibits

Ref: mcJurLevFacsV21d19.xls, mcJurFacsV21d19_2

Jurisdiction-Level Adjustments

The output of the disaggregate estimation process is four *disaggregate* mode choice models (HBW, HBS, HBO, NHB) based on person-trip-level data. In application, the models will be applied at an *aggregate* (zone interchange) level. Results are usually summed to the jurisdiction interchange level. The region-level and jurisdiction-level validations ensure that the model can replicate region-level and jurisdiction-level control totals.

There are two phases to the mode choice model validation process. The first phase, known as the "region-level validation," involves adjusting the alternative-specific constants, until the model matches region-level control totals. The second phase, known as the "jurisdiction-level validation," involves using jurisdiction-level (or, more accurately, superdistrict-level) adjustment factors. The Fortran program used to apply the COG mode choice model, COGMC.EXE, permits the use of two sets of jurisdiction-to-jurisdiction-level adjustment factors. The first type of factors is called "transit percent adjustment factors," or TPAFs. The second type of factors is called "car occupancy adjustment factors," or COAFs. The area system used for both the factor files is the same and is shown in Exhibit H-2. These factors enable refined matches of estimated and observed results at the county interchange level, and to correct for minor model performance problems at this particular level of analysis. The factors should be viewed not as an undermining influence to the model, but rather, as a refinement to improve upon random aggregation error in the modeled transit percentage and car occupancy value at county level.

These jurisdiction-level factors have been used since the mid 1980s, though their values have been re-estimated each time the mode choice model was re-estimated. The values of these factors have been reduced over time. For example, in the Version 2.1C travel model, the factors ranged in value from 0.25 to 12.00, with an average value of 1.07. By contrast, in the Version 2.1D, Draft #50 travel model, the factors range in value from 0.50 to 2.00, with an average value of 1.00 (See Exhibit H-1). Staff has made a conscious effort to scrutinize and minimize each factor used in the Draft #50 model, and will strive to continue to do so.

Exhibit H-1 Minimum, Maximum, and Average of Jurisdiction-Level Mode Choice Model Factors

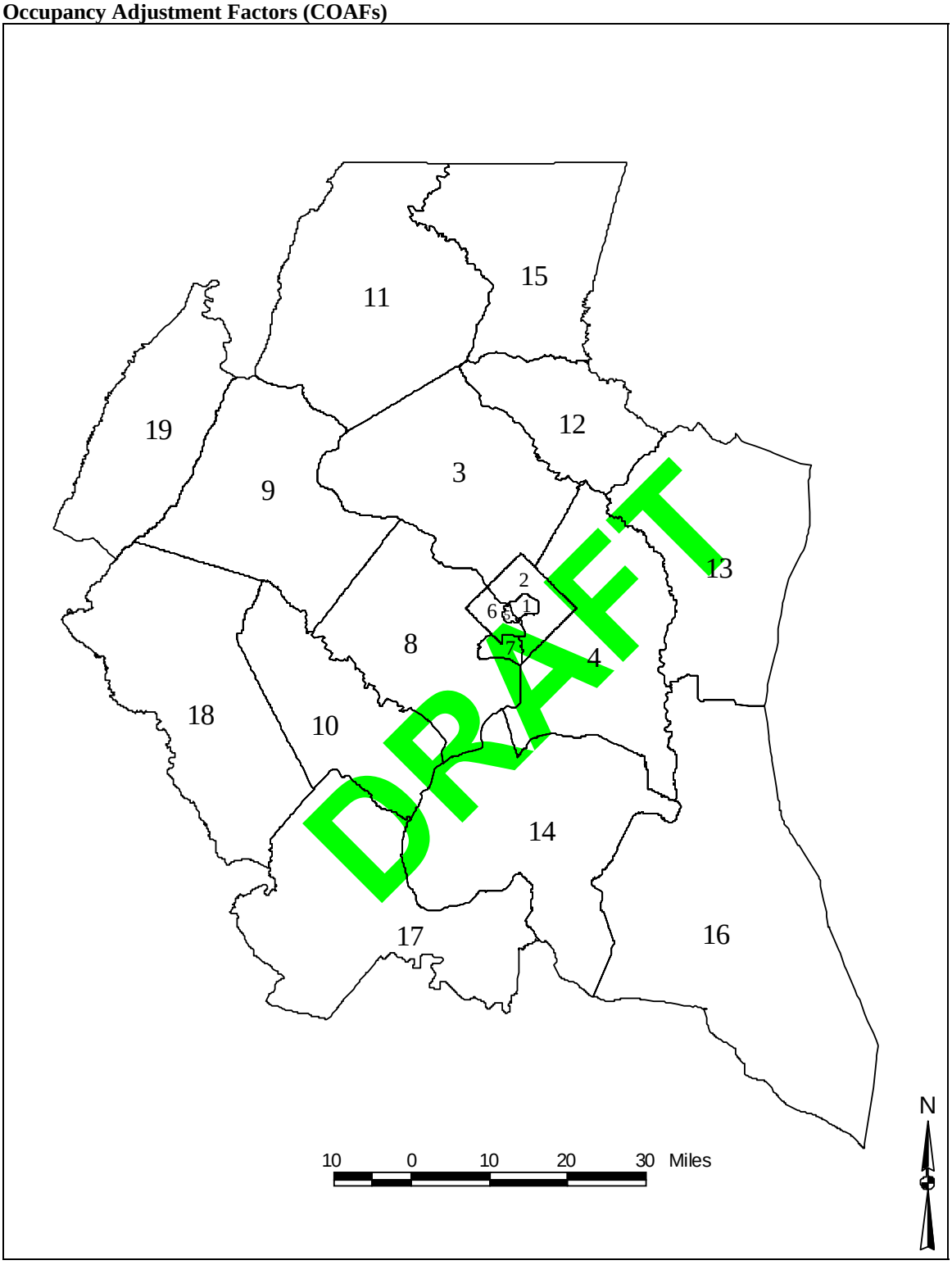
		Version 2.1C			Version 2.1D, Draft 50		
		Min	**Max**	**Ave**	**Min**	**Max**	**Ave**
HBW	TPAF	0.25	7.00	1.26	0.50	2.00	1.03
	COAF	0.25	2.68	0.97	0.50	2.00	1.00
HBS	TPAF	0.25	12.00	1.11	0.61	2.00	1.01
	COAF	0.25	12.00	1.11	0.50	2.00	1.03
HBO	TPAF	0.26	12.00	1.05	0.50	2.00	1.00
	COAF	0.25	12.00	1.11	0.50	2.00	0.99
NHB	TPAF	0.25	7.54	0.98	0.50	2.00	1.01
	COAF	0.25	10.86	0.97	0.50	1.81	0.95
Average		0.25	9.51	1.07	0.51	1.98	1.00

Min, Max, Ave, Std Dev out of 400 factors

Ref: mcJurLevFacsV21d19.xls, summary

The actual values used for the TPAFs and COAFs can be found at the end of this appendix.

Exhibit H-2 Area System (Superdistricts) used for Transit Percent Adjustment Factors (TPAFs) and Car Occupancy Adjustment Factors (COAFs)



HBW Transit Percentage Factors / HBW Car Occupancy Factors

HBW TPAF mctf_hbw.asc

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	dc cr	dcncr	mtg	pg	arlcr	arlnc	alx	ffx	ldn	pw	frd	how	aa	chs	carrl	ca/sm	s. va	fauq	w. va	ext
1	1.0276	1.0246	2.0000	1.0000	1.0000	1.0000	1.0000	2.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	1.0523	0.8531	1.2435	0.7754	1.0335	0.6118	1.0000	0.8515	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	1.0980	0.7096	0.5000	1.0000	1.7758	2.0000	1.0000	2.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	1.1445	0.5869	1.4573	0.5136	1.5348	0.9467	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5	1.5230	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6	1.2607	2.0000	2.0000	1.0000	0.7026	0.6147	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
7	1.1576	2.0000	1.0000	1.0000	1.6118	0.5629	1.0000	0.8856	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
8	1.2266	0.8966	1.0000	1.0000	2.0000	1.5614	0.5000	0.5000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
9	2.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	2.0000	2.0000	1.0000	1.0000	1.0000	2.0000	1.0000	0.9331	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12	2.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
13	1.5349	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
14	0.6666	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
18	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
19	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
20	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	Min	0.5000		Max	2.0000		Ave	1.0347		Std dev	0.2131		Count	400						

HBW COAF mccf_hbw.asc

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	dc cr	dcncr	mtg	pg	arlcr	arlnc	alx	ffx	ldn	pw	frd	how	aa	chs	carrl	ca/sm	s. va	fauq	w. va	ext
1	1.7494	0.9755	1.0000	0.7867	1.0000	1.0000	1.0000	0.7969	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	1.6737	1.1928	1.7726	1.1908	2.0000	1.4428	0.9570	0.5000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	1.0413	0.5811	1.0924	0.5000	0.7814	0.7330	2.0000	0.9036	1.0000	1.0000	0.8968	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	1.8737	0.9805	0.5000	0.8599	1.0331	0.6049	1.0000	0.5000	1.0000	1.0000	1.0000	1.0000	1.0000	2.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5	0.8199	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6	0.6831	0.5000	0.8901	0.8804	0.9917	0.6295	1.2350	0.5000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
7	1.2430	1.7387	0.7319	2.0000	0.6606	0.5862	1.2399	0.5000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
8	1.2259	0.5433	0.5142	0.5000	1.7072	0.5000	0.8633	0.6303	1.0827	1.1203	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
9	0.8932	1.0000	0.7219	1.0000	1.0000	0.6127	1.0000	0.5000	1.3493	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	0.7846	0.5000	0.5000	1.0000	0.5000	1.3936	0.8580	0.8518	0.9461	1.7725	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8605	0.9883	1.0000	1.0000
11	1.0000	1.0000	0.5428	1.0000	1.0000	1.0000	1.0000	1.7307	1.0000	1.0000	0.9671	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12	1.2775	1.6392	0.5000	1.5970	1.0000	1.0000	1.0000	0.7207	1.0000	1.0000	1.0000	0.5137	0.5000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
13	1.1758	1.6396	1.9898	0.7270	1.0000	1.0000	1.0000	0.6165	1.0000	1.0000	1.0000	0.5477	1.2835	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
14	0.8001	1.4124	1.0000	0.5000	1.0000	1.0000	0.6489	0.6524	1.0000	1.0000	1.0000	1.0000	1.0000	0.7359	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
15	1.0000	1.0000	0.7127	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9023	1.0000	1.0000	2.0000	1.0000	1.0000	1.0000	1.0000	1.0000
16	0.5000	0.6456	1.0000	0.5000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.7242	1.0000	1.0000	1.0000	1.0000
17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.5000	1.0000	0.9328	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2.0000	1.0000	1.0000	1.0000
18	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.5095	1.5016	0.9753	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.1474	1.0000	1.0000
19	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
20	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	Min	0.5000		Max	2.0000		Ave	0.9968		Std dev	0.2417		Count	400						

HBS Transit Percentage Factors / HBW Car Occupancy Factors

HBS TPAF `mctf_hbs.asc`

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	dc cr	dcncr	mtg	pg	arlcr	arlnc	alx	ffx	ldn	pw	frd	how	aa	chs	carrl	ca/sm	s. va	fauq	w. va	ext
1	1.0000	2.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	2.0000	0.8069	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	1.0000	1.0000	0.6110	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	1.0000	1.0000	1.0000	0.6332	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
8	1.0000	1.0000	1.0000	1.0000	1.0000	2.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
18	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
19	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
20	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	Min	0.6110		Max	2.0000		Ave	1.0076		Std dev	0.1037		Count	400						

HBS COAF `mccf_hbs.asc`

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	dc cr	dcncr	mtg	pg	arlcr	arlnc	alx	ffx	ldn	pw	frd	how	aa	chs	carrl	ca/sm	s. va	fauq	w. va	ext
1	1.4763	1.5111	1.0000	1.1256	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	1.1424	0.9863	0.5868	0.9128	1.0000	2.0000	1.0000	1.0248	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	1.0000	1.2538	0.9149	0.9794	1.0000	1.0532	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	1.0000	1.0000	1.1840	0.9024	1.0000	1.0000	1.0000	0.6675	1.0000	1.0000	1.0000	1.0000	1.0000	1.0429	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5	1.0000	1.0000	1.0000	1.0000	2.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6	1.0000	1.0000	1.0000	1.0000	1.0000	1.6398	0.9693	0.5000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
7	1.0000	1.0000	1.0000	1.0000	1.0000	1.2252	1.0558	1.0252	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
8	1.0000	1.0000	1.6157	1.0000	1.0000	1.1345	1.4214	0.9433	1.4727	1.0218	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8816	0.8770	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.5000	1.0000	1.5039	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9549	1.0000	1.0000
11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.2581	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12	1.0000	1.0000	0.9665	1.0722	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2.0000	1.9899	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
13	1.0000	1.0000	1.0000	0.8539	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0157	1.3636	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
14	1.0000	1.0000	1.0000	0.5083	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.9780	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.6818	1.0000	1.0000	1.0000	1.0000	1.0000
16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.2846	1.0000	1.0000	1.0000	1.0000
17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2.0000	1.0000	1.0000	1.0000
18	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.1955	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2.0000	1.0000	1.0000
19	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
20	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	Min	0.5000		Max	2.0000		Ave	1.0267		Std dev	0.1635		Count	400						

HBO Transit Percentage Factors / HBW Car Occupancy Factors

HBO **TPAF** `mctf_hbo.asc`

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	dc cr	dcncr	mtg	pg	arlcr	arlnc	alx	ffx	ldn	pw	frd	how	aa	chs	carrl	ca/sm	s. va	fauq	w. va	ext
1	0.5000	1.1698	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	0.7045	1.5348	0.7576	1.0000	1.0000	0.6733	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	1.3114	0.9246	0.5000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	0.6019	0.5000	1.5211	0.5000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6	0.7241	1.5274	1.0000	1.0000	0.8336	0.5000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
7	1.0000	1.0000	1.0000	1.0000	2.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
8	1.9103	2.0000	1.0000	1.0000	1.0000	0.5567	1.0000	0.5000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
18	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
19	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
20	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	Min	0.5000		Max	2.0000		Ave	0.9994		Std dev	0.1225		Count	400						

HBO **COAF** `mccf_hbo.asc`

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	dc cr	dcncr	mtg	pg	arlcr	arlnc	alx	ffx	ldn	pw	frd	how	aa	chs	carrl	ca/sm	s. va	fauq	w. va	ext
1	1.7326	0.6189	1.7965	1.1105	1.0000	0.9675	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	0.6386	1.3835	0.7772	0.8150	0.8314	0.7829	1.0465	0.5381	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	0.5000	0.6053	1.3483	0.7155	1.0000	0.8246	1.0600	0.5000	1.0000	1.0000	0.7868	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	0.7510	0.8438	0.8904	1.3140	1.0000	0.8441	1.4123	0.5000	1.0000	1.0000	1.0000	1.0000	1.0000	1.4140	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5	1.0000	1.0000	1.0000	1.0000	1.0000	1.1261	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6	0.5000	0.6253	0.8916	0.8353	0.5000	1.4532	0.7895	0.7278	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
7	0.8763	1.1522	0.5310	1.0000	0.5000	0.6510	1.4614	0.5358	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
8	0.5264	0.8716	0.7075	0.7966	0.8555	1.0250	0.7470	1.2662	0.7797	1.1157	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8149	1.9471	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	0.8147	0.9749	1.0000	1.0000	1.0000	0.8073	1.5453	0.8333	0.9375	1.6804	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.5000	0.6097	1.0000	1.0000
11	1.0000	1.0000	0.5000	1.0000	1.0000	1.0000	1.0000	1.0000	0.7770	1.0000	1.5671	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12	1.0000	1.0000	1.0306	1.2340	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2.0000	0.6026	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
13	1.0000	1.0000	0.9343	0.9304	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.5000	1.7287	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
14	1.0000	1.0000	1.0000	0.6139	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2.0000	1.0000	0.8044	1.0000	1.0000	1.0000	1.0000
15	1.0000	1.0000	0.7826	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.5000	1.0000	1.0000	2.0000	1.0000	1.0000	1.0000	1.0000	1.0000
16	1.0000	1.0000	1.0000	0.6316	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8897	1.0000	1.6580	1.0000	1.0000	1.0000	1.0000
17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.5485	1.0000	0.8685	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2.0000	1.5581	1.0000	1.0000
18	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.5000	0.5000	0.7177	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	2.0000	1.0000	1.0000
19	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
20	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	Min	0.5000		Max	2.0000		Ave	0.9926		Std dev	0.2084		Count	400						

NHB Transit Percentage Factors / HBW Car Occupancy Factors

NHB TPAF `mctf_nhb.asc`

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	dc cr	dcncr	mtg	pg	arlcr	arlnc	alx	ffx	ldn	pw	frd	how	aa	chs	carrl	ca/sm	s. va	fauq	w. va	ext
1	0.6046	1.2088	1.8743	2.0000	1.7486	0.7375	1.0000	2.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	0.5000	0.7280	1.0000	1.8174	1.0000	0.8937	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	1.0203	1.0000	0.5000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	0.9093	1.3226	1.0000	0.6958	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5	0.6987	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6	0.5000	1.2003	1.0000	1.0000	1.0000	1.0000	1.0000	1.6189	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
8	1.0647	1.0000	1.0000	1.0000	1.0000	0.7838	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
18	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
19	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
20	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	Min	0.5000		Max	2.0000		Ave	1.0061		Std dev	0.1210		Count	400						

NHB COAF `mccf_nhb.asc`

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	dc cr	dcncr	mtg	pg	arlcr	arlnc	alx	ffx	ldn	pw	frd	how	aa	chs	carrl	ca/sm	s. va	fauq	w. va	ext
1	0.9703	0.8366	0.8009	0.6363	0.6460	0.6054	1.0489	0.6614	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	0.8381	1.0837	0.5619	0.5640	0.7957	0.5000	0.6656	0.5000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	0.8057	0.5626	0.9604	0.5278	1.0000	0.5000	0.7639	0.5000	1.0695	1.0000	0.7575	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4	0.6341	0.5654	0.5261	0.8059	0.7607	0.5000	0.5000	0.5251	1.0000	1.0000	1.0000	1.0000	1.0000	0.5000	1.0000	1.1050	1.0000	1.0000	1.0000	1.0000
5	0.6646	0.7912	1.0000	0.7642	1.5076	0.8894	1.0000	1.2851	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6	0.6079	0.5000	0.5000	0.5000	0.8885	0.8637	0.5000	0.7678	1.0000	0.5318	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
7	1.0544	0.6590	0.7731	0.5000	1.0000	0.5000	0.9615	0.8615	1.0000	0.7525	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
8	0.6600	0.5000	0.5000	0.5259	1.2746	0.7678	0.8598	0.7461	0.5000	0.6827	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.5000	1.0000	1.0000	1.0000
9	1.0000	1.0000	1.0917	1.0000	1.0000	1.0000	1.0000	0.5000	0.8007	1.3848	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.1540	1.0000	1.0000	1.0000	1.0000	0.5289	0.7470	0.6820	1.3853	1.3444	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.5000	0.7010	1.0000	1.0000
11	1.0000	1.0000	0.7598	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.3325	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
14	1.0000	0.9628	1.0000	0.5000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.8020	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
16	1.0000	1.0000	1.0000	1.1063	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.8764	1.0000	1.0000	1.0000	1.0000
17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.5000	1.0000	0.5000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.8115	1.0000	1.0000	1.0000
18	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9447	1.0000	0.7032	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.6545	1.0000	1.0000
19	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
20	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	Min	0.5000		Max	1.8115		Ave	0.9500		Std dev	0.1734		Count	400						