

National Capital Region Transportation Planning Board

TPB Version 2.3 Travel Forecasting Model for the 3,722-Zone Area System: Calibration Report

Draft Report

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Agency National Capital Region Transportation Planning Board (TPB). Transportation planning at the regional level in the Washington area is coordinated by the National Capital Region Transportation Planning Board (TPB), the federally designated Metropolitan Planning Organization (MPO) for the region. The TPB is staffed by the Department of Transportation Planning (DTP) at the Metropolitan Washington Council of Governments (COG). COG is an independent, nonprofit association comprised of elected officials from 21 local governments, members of the Maryland and Virginia state legislatures, and members of the U.S. Congress.	
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Abstract: This report describes the application of a travel forecasting process, known as the Version 2.3 model, for the Washington, D.C. region. Version 2.3 is distinguished from prior TPB travel models in that it has been developed over a new 3,722 transportation analysis zone system, and it has been calibrated and validated with several sources of recently collected travel data, including the COG/TPB 2007/08 Household Travel Survey. TPB Travel Forecasting Subcommittee provided oversight for the Version 2.3 model development effort.	
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Chapter 1 Introduction

Transportation planning at the regional level in the Washington area is coordinated by the National Capital Region Transportation Planning Board (TPB), the federally designated Metropolitan Planning Organization (MPO) for the region. The TPB is staffed by the Department of Transportation Planning (DTP) at the Metropolitan Washington Council of Governments (COG). COG is an independent, nonprofit association comprised of elected officials from 21 local governments, members of the Maryland and Virginia state legislatures, and members of the U.S. Congress. The TPB coordinates transportation planning among federal, state, and local transportation agencies in the region. TPB staff maintains a travel forecasting capability that is used to support regional, corridor, and local transportation planning needs. The Models Development work activity in the TPB's Unified Planning Work Program (element 4.C in the FY2011 UPWP) is established to maintain and refine the TPB's travel forecasting methods and practice on a continuing basis.

This report documents the development of a newly developed travel forecasting process known as the Version 2.3 travel model. Version 2.3 is similar to the TPB's existing model, Version 2.2, in that it is a trip-based model incorporating the standard "four-step" process applied by most MPOs. However, the Version 2.3 model is different from Version 2.2 in two key respects. First, Version 2.3 operates on a more detailed zone system consisting of 3,722 Transportation Analysis Zones (TAZs). This represents an almost doubling of internal TAZs that are currently used by the Version 2.2 model. The increase in TAZs will allow for greater sensitivity to land development patterns, particularly for areas of intense land development. Second, the Version 2.3 model has also been calibrated with an array of newly collected travel survey data. The primary data source supporting the Version 2.3 calibration is the COG/TPB 2007/08 Household Travel Survey. The previous regional travel survey supporting the existing Version 2.2 model was conducted in 1994. Version 2.3 also includes several additional technical refinements which are described in greater detail below.

The oversight body of the TPB's Models Development program is 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, local transportation consultants, and interested citizens. As many TFS members are active users of the regional model, the subcommittee has been engaged on all facets of the Version 2.3 development process on a bi-monthly basis during the past two years.

The remainder of this chapter briefly describes background on the data that was prepared for the Version 2.3 calibration process. It also describes technical features of the model that are not considered in the TPB's existing Version 2.2 model. Chapter 2 describes some of the basic inputs to the travel model. The remainder of this report addresses the specific calibration work undertaken for each step of the model chain (Chapters 3 to 8). Validation summaries are presented in Chapter 9. The report also contains an appendix section which includes detailed calibration summaries.

1.1 Development history of the Version 2.3 travel model

The TPB's currently adopted travel model, Version 2.2, was released on March 1, 2008.¹ The Version 2.2 travel model was developed on the 2,191-TAZ area system and most of its sub-models were estimated/calibrated with data from the COG/TPB 1994 Household Travel Survey. At the time Version 2.2 was released, a parallel effort was also underway to combine a nested logit mode choice model and revised truck models into the Version 2.2 framework. This development effort proved to be viable and resulted in a release of what was then called the "draft Version 2.3 travel model" in June of 2008. The draft Version 2.3 model, like Version 2.2, was developed on the 2,191-TAZ area system.

The draft Version 2.3 model was not brought into production given that two related events were in motion during 2008. First, a new round of travel data collection was underway, including a major regional household travel survey (2007/08 HTS) and a bus on-board survey. Second, a new TAZ system was in development. The new zone system was envisioned to be developed over the same geographic area as the 2,191-TAZ system, but with smaller average zone sizes. TPB staff ultimately decided that the Version 2.3 travel model should not become the approved regional travel model until it incorporated the new zone system and the new data from the 2007/2008 Household Travel Survey.

The last two years have been spent compiling and cleaning new survey data, preparing calibration files based on the new 3,722 TAZ system, and estimating/calibrating the models that make up the regional travel model. This report documents the culmination of the Version 2.3 model calibration effort.

1.2 Calibration Data

1.2.1 2007/2008 COG/TPB Household Travel Survey

The COG/TPB 2007/08 Household Travel Survey (HTS) served as the primary data source for estimation and calibration of the Version 2.3 model. The survey included a sample of 11,400 households drawn from all 22 jurisdictions comprising the Version 2.3 study area. The 2007/08 HTS survey yielded approximately 88,000 un-weighted trip records occurring on weekdays.² The previous regional household travel survey, conducted in the spring and fall of 1994, included a 4,800-household sample drawn from a subset of jurisdictions in the modeled region (13 of the 22).

The 2007/08 HTS was not conducted during a specific season of the year, but rather, was collected on a continuing basis over a 15-month period, from February 2007 through May of 2008. As some of the sampled travel data were collected on federal holidays, staff decided to remove all holiday-related data

¹ Ronald Milone et al., *TPB Travel Forecasting Model, Version 2.2: Specification, Validation, and User's Guide* (Washington, D.C.: Metropolitan Washington Council of Governments, National Capital Region Transportation Planning Board, March 1, 2008).

² National Capital Region Transportation Planning Board, Metropolitan Washington Council of Governments, *2007/2008 TPB Household Travel Survey: Technical Documentation*, Draft report (Washington, D.C.: National Capital Region Transportation Planning Board, Metropolitan Washington Council of Governments, August 27, 2010).

from the final calibration file to ensure that the data reflected truly normal weekday conditions.³ The removing of holiday-related data reduced the household sample by about 300 households.

TPB staff spent several months during the fall of 2010 checking the geo-coding, logic, and internal consistency of the household travel data, and summarizing the data by purposes, modes, political geography, and by time of day.

1.2.2 Land activity

The provision of zonal land activity posed a significant challenge as no such data was readily available for the new TAZ system during the early stages of the calibration effort (spring of 2010). At that point in time, the adopted land activity projections (Round 7.2a Cooperative Forecasts) were developed for the 2,191 TAZ-system only. Consequently, TPB staff assembled American Community Survey (ACS) and proprietary employment inventory data to develop what was referred to as the 2007 “Pseudo Round 8.0” land use for the 3,722-TAZ system. The 2007 land activity totals are shown on Table 1.

Table 1 2007 “Pseudo Round 8.0” Land Activity Totals

Households	2,339,832
HH Population	5,860,693
Group Quarters	119,669
Total Population	5,980,362
Total Employment	3,801,935
Industrial Employment	547,612
Retail Employment	665,172
Office Employment	179,6018
Other Employment	793,133
Land Area (sq. mi)	6,795.684

1.2.3 Other data

Staff compiled several sources of recent data beyond the 2007/08 HTS to support the Version 2.3 calibration and validation. These included 2007 Highway Performance Monitoring System (HPMS) traffic

³ Ronald Milone et al., *FY-2010 Development Program for TPB Travel Forecasting Models: DRAFT* (Washington, D.C.: National Capital Region Transportation Planning Board, June 30, 2010), sec. 2.4.4.

counts, the 2007 Air Passenger Survey, 2007 ACS data, and numerous transit on-board surveys for 2007 and 2008. The transit on-board surveys are discussed in more detail in Chapter 6.

1.3 Features of the Version 2.3 travel model

The following sections provide greater detail on the new TAZ system and on technical refinements to Version 2.3.

1.3.1 3,722-TAZ system

The 3,722-TAZ system is comprised of 3,675 internal zones and 47 external stations (see Figure 1). The new TAZ system contains about 85% more internal zones than the existing 2,191-TAZ system. The new TAZ system was developed to improve the connection between transportation planning and local development plans. The delineation of the new zone system was conducted primarily by land use planners and was heavily influenced by the regional activity centers/activity clusters concept adopted by the TPB and COG Board.⁴

The modeling benefits of the more detailed zone system are substantial. It allows for a more detailed depiction of zonal access to the highway and transit systems and it also enables improved opportunities for modeling non-motorized travel.

One unfortunate aspect of the 3,722 TAZ system is that it does not neatly nest into the existing 2,191 TAZ system, and so, translating zonal attributes between systems is not easily done. However, spatial relationships between the two TAZ systems, complicated as they are, are well defined and can be made available. The 3,722 TAZ numbering has been developed on a jurisdictional basis. The TAZ numbering is shown on Table 2.

⁴ Metropolitan Washington Council of Governments, *Metropolitan Washington Regional Activity Centers and Clusters* (Washington, D.C.: Metropolitan Washington Council of Governments (COG), April 2007).

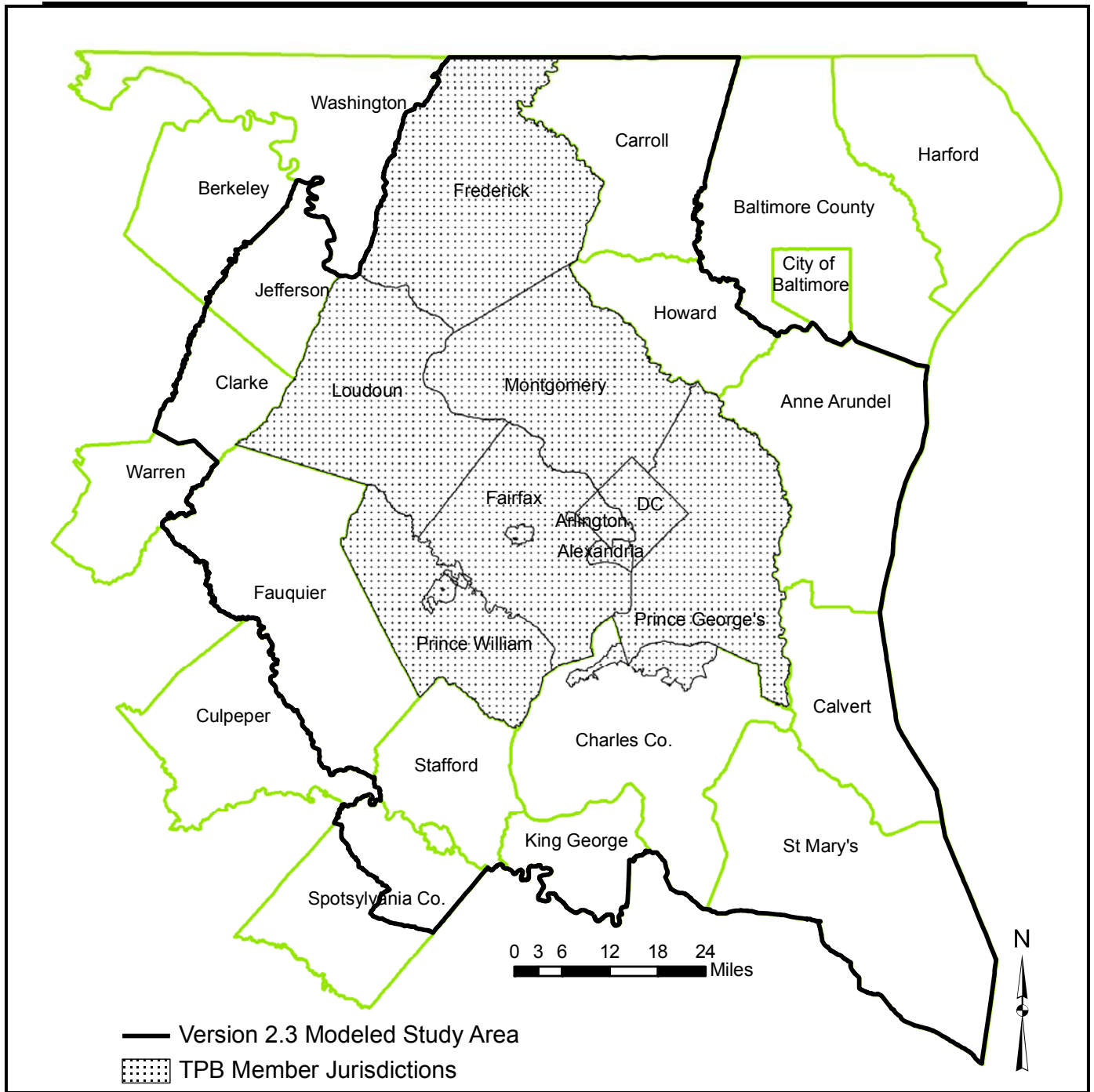


Figure 1 Modeled area: 3,722-TAZ area system covering 22 jurisdictions

Table 2 3,722-TAZ Numbering Allocation by Jurisdiction

Jurisdiction	Active TAZ Count	Beginning TAZ	Ending TAZ	Inactive TAZs
District of Columbia	391	1	393	61, 382
Montgomery Co., Md.	376	394	769	
Prince George's Co., Md.	633	770	1404	770, 777
Arlington Co., Va.	141	1405	1545	
City of Alexandria, Va.	65	1546	1610	
Fairfax Co., Va.	549	1611	2159	
Loudoun Co., Va.	282	2160	2441	
Prince William Co., Va.	376	2442	2819	2555, 2629
Frederick Co., Md.	130	2820	2949	
Howard Co., Md.	68	2950	3017	
Anne Arundel Co., Md.	98	3018	3116	3103
Charles Co., Md.	113	3117	3229	
Carroll Co., Md.	56	3230	3287	3266, 3267
Calvert Co., Md.	47	3288	3334	
St. Mary's Co., Md.	75	3335	3409	
King George Co., Va.	25	3410	3434	
City of Fredericksburg, Va.	14	3435	3448	
Stafford Co., Va.	90	3449	3541	3478, 3482, 3495
Spotsylvania Co., Va.	61	3542	3603	3544
Fauquier Co., Va.	50	3604	3653	
Clarke Co., Va.	9	3654	3662	
Jefferson Co., WV.	13	3663	3675	
External Stations:	47	3676	3722	
Reserved TAZ numbers	1,278	3723	5000	
Total Active Internal TAZs:	3662			
Total Active Internal and External TAZs:	3709			

Ref: 3722TAZ_Master_Node_Table.xls

1.3.2 Nested-logit mode choice model

Version 2.3 model includes a nested-logit (NL) mode choice model formulation, which replaces the sequential multinomial logit (SMNL) mode choice model used in Version 2.2. The NL model provides for a more exhaustive choice set (15 choices) compared to that offered by the existing SMNL model (5 choices).

1.3.3 Updated models for medium trucks and heavy trucks

The Version 2.2 model contains revised truck models that were initially developed, with consultant assistance, for the Version 2.3 model on the 2,191-TAZ system. Separate model specifications exist for “medium” (2- axle, 6 tire), and “heavy” (all combination vehicle) trucks. TPB staff has adapted the 2,191-TAZ-based models to operate on the 3,722-TAZ system.

1.3.4 Subdivided non-home-based purpose

Whereas the Version 2.2 model uses a single Non-Home-Based trip purpose, the Version 2.3 model disaggregates NHB travel among two sub-purposes: Non-Home-Base Work (NHW) and Non-Home Base Other (NHO). This change was also in line with consultant recommendations.⁵ TPB staff felt that the observed differences between these travel markets in terms of trip rates, trip lengths, modal preferences, etc. were substantial enough to justify establishing an additional purpose. It should be added that TPB staff considered adding yet another travel purposes into the Version 2.3 framework (such as HB-school), but ultimately decided to defer added trip purposes at the present time.

1.3.5 Refined non-motorized travel

The Version 2.3 model includes the development of non-motorized trips for all (work and non-work) purposes. The Version 2.2 model develops non-motorized travel for the HBW purpose only. Staff felt that the more detailed TAZ system would facilitate efforts to better reflect this particular travel market. However, the non-motorized travel will be developed at the trip generation stage only.

1.4 Overview of the Version 2.3 travel model

The Version 2.3 modeled area is the same as that of the existing Version 2.2 model. The study area is comprised of 22 jurisdictions and extends over the District of Columbia and portions of three states: Maryland, Virginia, and West Virginia. The study area extends well beyond the TPB member area, as well as, beyond the non-attainment area that is used in air quality planning work. A graphic showing the essential parts of the Version 2.3 modeling process is shown on Figure 2. Despite the general name for travel models (“four step”), the TPB travel model could more accurately be called a “six step” model. These six steps are described below.

⁵ Cambridge Systematics, Inc., *Fiscal Year 2010 Task Reports*, Final Report (National Capital Region Transportation Planning Board, November 16, 2010), 2-3, 2-12.

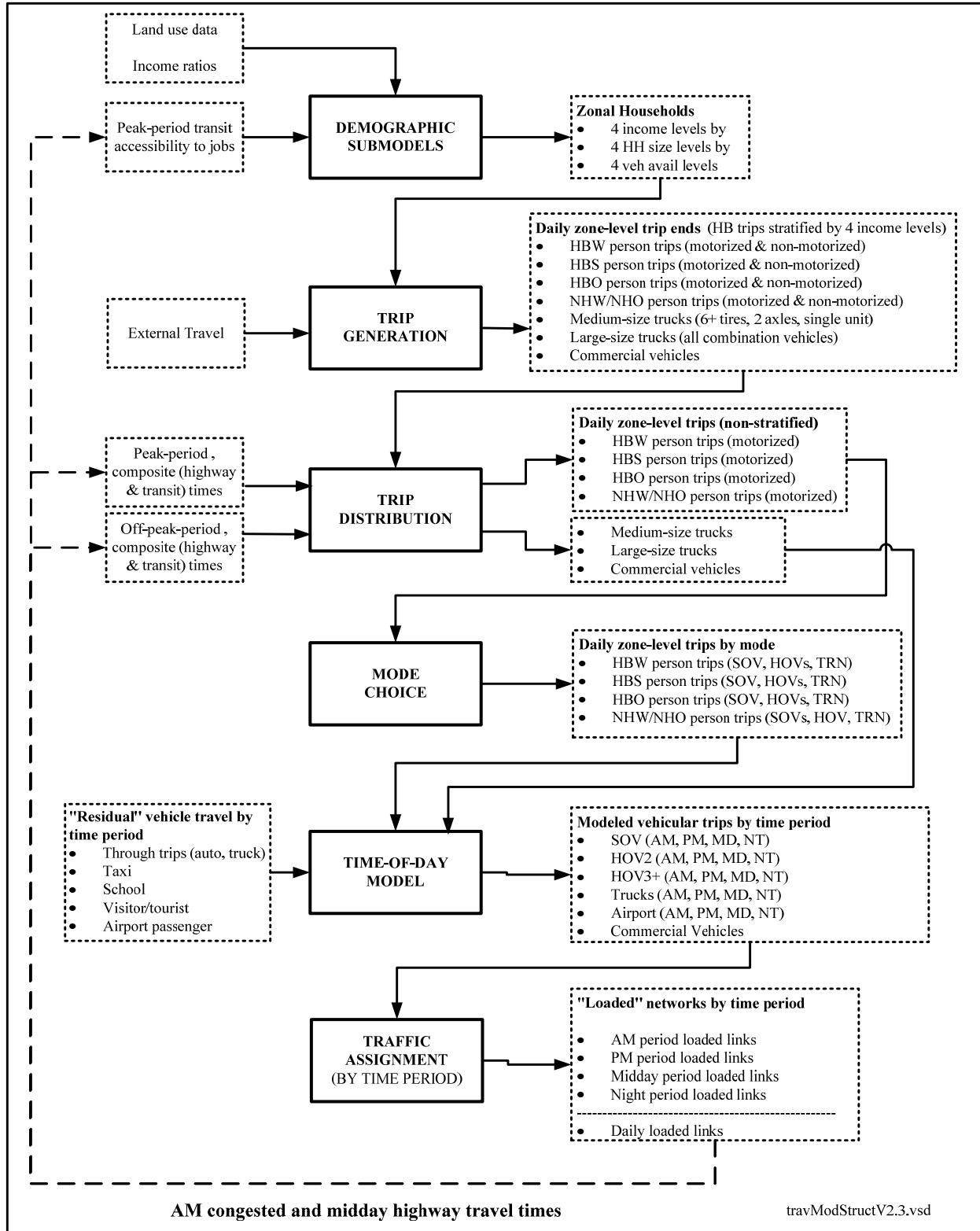


Figure 2 Version 2.3 Travel Model Structure

The demographic models are used to disaggregate the total number of zonal households across 64 cross-classes: 4 household income groups⁶ by 4 household size groups (1, 2, 3, 4+ persons) by 4 vehicle availability groups (0, 1, 2, and 3+ vehicles available). The allocation of households to each cross-class is made at the traffic analysis zone (TAZ) level. The figure indicates that peak-hour transit accessibility measures are used as part of the demographic (vehicle availability) submodel step.

The trip generation models are next applied to compute daily person trip productions and attractions by purpose. Five modeled purposes are modeled: Home-Based Work [HBW], Home-Based Shop [HBS], Home-Based Other [HBO], Non-Home-Based Work [NHW], and Non-Home-Based Other [NHO]. A commercial vehicle purpose (consisting of both autos and light duty trucks), and two truck types, Medium and Heavy, are also modeled. Medium trucks are those with two axles and 6 tires. Heavy trucks represent all combination vehicles.

Trip generation involves the application of daily trip rates to the number of households, in each of the 64 classes, and to the number of jobs. The trip rates reflect both motorized (i.e., transit and automobile) and non-motorized (i.e., bicycle and walk) person travel. The non-motorized trip-ends produced in the trip generation step are not carried forward into trip distribution. Trip attractions are computed by purpose as a function of zonal land use attributes. External (i.e., external-to-internal, X/I, and internal-to-external, I/X) productions and attractions are entered as an exogenous input, by purpose, into the trip generation process. External travel relates to auto person, commercial vehicle and truck travel only (transit externals are currently not considered in the model). The home-based productions and attractions are developed by the four income levels.

The trip distribution model uses the standard gravity model formulation and makes 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 30 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 seven daily trip tables corresponding to the basic motorized person, commercial, and truck purposes.

The mode choice process consists of five models corresponding to the HBW, HBS, HBO, NHW, and NHO purposes. The models are used to apportion total motorized person trips among SOVs, 2-occupant HOVs, 3+occupant HOVs, and 12 combinations of transit mode and access to transit.

The time-of-day model apportions daily resident travel among four time periods: AM peak period (6:00 AM - 9:00 AM), midday (9:00 AM to 3:00 PM), PM peak period (3:00 PM - 7:00 PM), and the nighttime/early morning hours (7:00 PM to 6:00 AM). The time-of-day model consists of survey-based factors that are applied on the basis of purpose, mode, and directionality (i.e., the home-to-non-home and non-home-to-home directions). This step also includes provisions for apportioning daily residual

⁶ The income levels used approximate household income quartiles, based on the 2007 ACS.

travel⁷ 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 traffic assignment process addresses 6 user classes: SOVs, HOV-2, HOV 3+, Commercial Vehicles, trucks, and airport passenger vehicles. Highway link volumes are developed for each of the user classes by time period. Daily transit assignments can also be produced in the Version 2.3 model, though this capability has yet to be calibrated and validated.

Figure 2 also indicates that highway speeds resulting from the traffic assignment process are recycled back into the trip distribution and mode choice steps. A method of successive averages (MSA) is applied to daily link volumes to ensure that regional speeds and VMT close in on an equilibrium condition. Figure 3 shows the 2007 VMT that is produced by the Version 2.3 model by speed feedback iteration, and the dampened behavior that results using the MSA procedure. As indicated, the Version 2.3 model execution consists of five iterations: an initial (or “pump prime”) iteration using default input highway speeds and default mode choice model percentages, and four “standard” iterations using traffic assignment-based input highway speeds and a mode choice model execution.

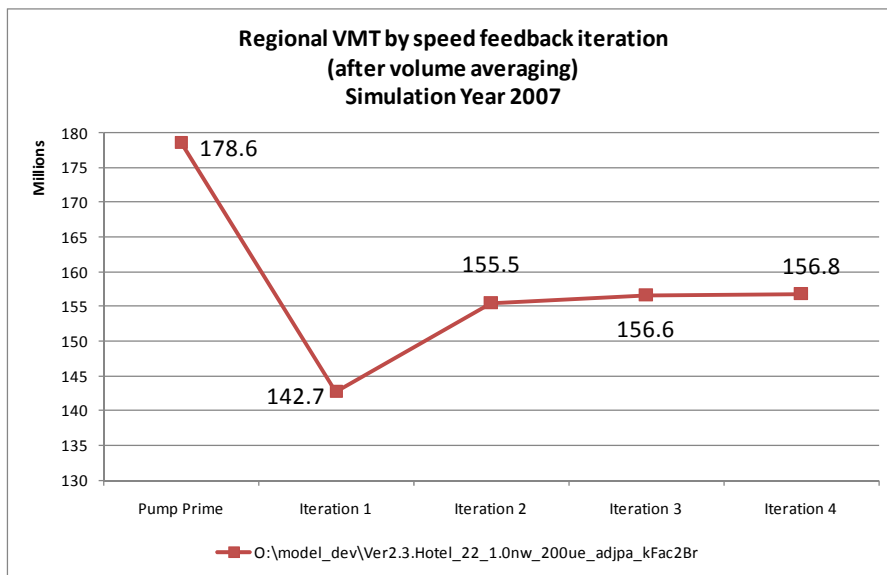


Figure 3 VMT by Iteration

⁷ 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.

1.5 Special modeling applications

(To be completed)

Chapter 2 Inputs to the Travel Model

This chapter describes the land use and exogenous travel files that have been prepared for the Version 2.3 model application. Zonal land use forecasts are periodically updated from COG's Cooperative Forecasting Program. The most recent land use release is known as Round 8.0 and it was released in July 2010. Exogenous trip files used in the Version 2.3 model represent special travel markets that need to be accounted for in the regional forecast. Such markets include external trip-ends, through trips, airport passengers trips, and "miscellaneous" (or taxi, school, and visitor/ tourist) trips. This chapter does not address network-related inputs to the travel model, which are typically discussed in network documentation.

2.1 Round 8.0 Land Use

The Version 2.3 model requires the preparation of a zonal land use file in a standard format, for each simulation year. The most recently adopted land use projections are the Round 8.0 Cooperative Forecasts (adopted in November 2010). The Cooperative Forecasts are zonal (both 2,191- and 3,722-TAZ systems) projections of households, household population, group quarters population, and employment by category (i.e., retail, office, industrial, and other). The Round 8.0 forecasts include land use projections from 2005 to 2040 in five-year increments. The Version 2.3 model requires a few additional data items that are included in the standard land use file.

- Zonal area (sq. mi)
- Jurisdiction Code (0-23)
- Zonal Median Income index (ratio of 2007 zonal median income to the regional median income, in tenths (e.g. a value of "10" indicates the ratio is 1.0 meaning the zonal income equals the regional median income))
- Airline Distance to the nearest external station (miles)
- X-coordinate of TAZ centroid (NAD83 projection in feet)
- Y-coordinate of TAZ centroid

The zonal median income index was developed using 2007 ACS information and is normally assumed to remain constant over time. Procedures to prepare standardized land use files supporting the TPB travel model have, in recent years, included a provision to factor employment on a jurisdictional basis to account for definitional differences between local planning agencies. The Round 8.0 regional land use totals over time are listed on Table 3. The totals shown in between the five-year increments have been linearly interpolated. (Intermediate years are typically required for air quality planning work, and so files are generally prepared for all years between the base and horizon year in a given land use round).

Table 3 Round 8.0 Land Use Forecasts for Version 2.3 Modeling (w/ CTPP Employment Adjustments)

Year	HH	HHPOP	GQPop	TotPop	TotEMP	OffEMP	RetEMP	IndEMP	OthEMP
2000	2,143,451	5,632,014	116,105	5,748,119	3,441,381	1,630,149	628,912	459,906	722,414
2001	2,183,671	5,730,582	120,415	5,851,012	3,493,123	1,651,538	640,799	471,392	729,431
2002	2,223,890	5,829,130	124,740	5,953,891	3,544,852	1,672,917	652,676	482,869	736,474
2003	2,264,122	5,927,655	129,102	6,056,736	3,596,604	1,694,239	664,507	494,309	743,465
2004	2,304,341	6,026,203	133,427	6,159,615	3,648,333	1,715,618	676,384	505,786	750,508
2005	2,344,561	6,124,771	137,737	6,262,508	3,700,075	1,737,007	688,271	517,272	757,525
2006	2,373,295	6,196,646	138,757	6,335,407	3,745,215	1,756,046	700,656	523,177	765,338
2007	2,402,012	6,268,475	139,783	6,408,278	3,790,330	1,775,055	713,043	529,082	773,150
2007	2,339,832	5,860,693	119,669	5,980,362	3,801,935	1,796,018	665,172	547,612	793,133
2008	2,430,726	6,340,350	140,837	6,481,167	3,835,434	1,794,100	725,370	534,987	780,977
2009	2,459,443	6,412,179	141,863	6,554,038	3,880,549	1,813,109	737,757	540,892	788,789
2010	2,488,177	6,484,054	142,883	6,626,937	3,925,689	1,832,148	750,142	546,797	796,602
2011	2,524,150	6,562,726	143,920	6,706,665	3,982,448	1,860,822	762,224	552,967	806,367
2012	2,560,126	6,641,442	144,994	6,786,434	4,039,250	1,889,515	774,342	559,164	816,163
2013	2,596,143	6,720,132	146,038	6,866,172	4,096,084	1,918,247	786,467	565,363	826,073
2014	2,632,119	6,798,848	147,112	6,945,941	4,152,886	1,946,940	798,585	571,560	835,869
2015	2,668,092	6,877,520	148,149	7,025,669	4,209,645	1,975,614	810,667	577,730	845,634
2016	2,702,192	6,954,419	148,452	7,102,874	4,276,603	2,014,539	822,186	585,908	853,940
2017	2,736,270	7,031,287	148,762	7,180,051	4,343,579	2,053,440	833,723	594,056	862,270
2018	2,770,344	7,108,250	149,081	7,257,329	4,410,604	2,092,399	845,309	602,272	870,714
2019	2,804,422	7,185,118	149,391	7,334,506	4,477,580	2,131,300	856,846	610,420	879,044
2020	2,838,522	7,262,017	149,694	7,411,711	4,544,538	2,170,225	868,365	618,598	887,350
2021	2,870,184	7,333,196	150,516	7,483,723	4,599,869	2,202,750	877,523	624,893	894,682
2022	2,901,857	7,404,337	151,347	7,555,697	4,655,240	2,235,254	886,683	631,204	902,006
2023	2,933,527	7,475,526	152,190	7,627,703	4,710,506	2,267,809	895,868	637,520	909,402
2024	2,965,200	7,546,667	153,021	7,699,677	4,765,877	2,300,313	905,028	643,831	916,726
2025	2,996,862	7,617,846	153,843	7,771,689	4,821,208	2,332,838	914,186	650,126	924,058
2026	3,024,306	7,680,053	154,389	7,834,459	4,868,342	2,357,519	922,961	657,237	930,578
2027	3,051,804	7,742,282	154,953	7,897,243	4,915,485	2,382,209	931,694	664,379	937,125
2028	3,079,378	7,804,473	155,544	7,960,009	4,962,592	2,406,933	940,512	671,523	943,702
2029	3,106,876	7,866,702	156,108	8,022,793	5,009,735	2,431,623	949,245	678,665	950,249
2030	3,134,320	7,928,909	156,654	8,085,563	5,056,869	2,456,304	958,020	685,776	956,769
2031	3,158,341	7,984,123	157,111	8,141,244	5,099,494	2,478,581	966,151	692,053	962,650
2032	3,182,385	8,039,333	157,584	8,196,924	5,142,175	2,500,839	974,322	698,358	968,567
2033	3,206,445	8,094,523	158,064	8,252,580	5,184,826	2,523,179	982,549	704,656	974,531
2034	3,230,489	8,149,733	158,537	8,308,260	5,227,507	2,545,437	990,720	710,961	980,448
2035	3,254,510	8,204,947	158,994	8,363,941	5,270,132	2,567,714	998,851	717,238	986,329
2036	3,275,533	8,254,463	159,481	8,413,952	5,307,502	2,587,634	1,006,677	720,919	992,210
2037	3,296,569	8,303,964	159,979	8,463,962	5,344,893	2,607,540	1,014,501	724,623	998,114
2038	3,317,681	8,353,473	160,507	8,513,961	5,382,243	2,627,515	1,022,420	728,372	1,004,051
2039	3,338,717	8,402,974	161,005	8,563,971	5,419,634	2,647,421	1,030,244	732,076	1,009,955
2040	3,359,740	8,452,490	161,492	8,613,982	5,457,004	2,667,341	1,038,070	735,757	1,015,836
Notes: (1) - Rnd 8.0 Employment has been adjusted with CTPP-based factors.									
(2) - The sum of emp. subcategories may not exactly equal the total emp. figures for interpolated years due to									
rounding									
2007	2007 "Pseudo" Round 8.0 Land Activity								

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2.2 External and Through Forecasts

External stations represent the entry and exit points of the highway network along the periphery of the modeled study area. External and through travel files are geographically referenced to 47 external stations, numbered from 3676 to 3722. The Version 2.3 model requires three files relating to external (I-X and X-I) and through (X-X) travel, for a given simulation year. These include:

- A through auto driver trip table file;
- A through commercial vehicle and truck (medium/heavy) trip table file;
- A file containing external productions and attractions by mode (auto, commercial vehicle, medium trucks, and heavy trucks).

The Version 2.3 external and through trip forecasts were recently updated to accommodate the revised truck models. Previously, the external and through trip forecasts were developed from base-year (year-2000) counts at each external station. The updated forecasts, however, were built from 2005 counts, the year for which the revised truck models were calibrated. Care was taken to respect the same traffic growth levels for 2030 that were established previously. A summary of the revised external and through trips are shown on Table 4. The projected total level of external travel between 2005 and 2040 is shown to grow from 1,320,900 to 2,082,700, which reflects an average annual growth rate of about 1.3%. External productions and attractions are shown by travel mode and purpose, in Table 5 and Table 6, respectively.

Table 4 External and Through Auto/Truck Trips by Year

Year	AAWDT	Auto Drv Control	Truck Control	Auto XX Trip-Ends	ComVehXX Trip-Ends	Auto XI Adr Trips	Auto IX Adr Trips	TruckXX Trip-Ends	Truck XI Trips	Truck IX Trips
2000	1,215,783	1,003,776	114,016	70,027	5,318	486,084	442,347	59,702	27,157	27,157
2001	1,236,031	1,020,677	116,024	71,258	5,413	494,348	449,658	60,766	27,629	27,629
2002	1,256,657	1,037,896	118,072	72,513	5,510	502,769	457,104	61,851	28,110	28,110
2003	1,277,670	1,055,440	120,161	73,793	5,609	511,350	464,688	62,958	28,601	28,601
2004	1,299,076	1,073,316	122,292	75,099	5,710	520,094	472,413	64,089	29,102	29,102
2005	1,320,886	1,091,530	124,466	76,430	5,813	529,005	480,281	65,242	29,612	29,612
2006	1,343,106	1,110,090	126,684	77,789	5,918	538,087	488,296	66,420	30,132	30,132
2007	1,365,745	1,129,002	128,947	79,174	6,025	547,343	496,460	67,622	30,663	30,663
2008	1,388,813	1,148,275	131,256	80,587	6,135	556,776	504,777	68,848	31,204	31,204
2009	1,412,317	1,167,915	133,612	82,028	6,246	566,391	513,250	70,101	31,756	31,756
2010	1,436,269	1,187,931	136,016	83,499	6,360	576,191	521,882	71,379	32,319	32,319
2011	1,460,676	1,208,331	138,469	84,999	6,476	586,180	530,676	72,684	32,893	32,893
2012	1,485,548	1,229,122	140,973	86,529	6,595	596,362	539,636	74,017	33,478	33,478
2013	1,510,895	1,250,312	143,527	88,090	6,716	606,741	548,765	75,377	34,075	34,075
2014	1,536,728	1,271,912	146,135	89,683	6,839	617,322	558,067	76,766	34,684	34,684
2015	1,563,056	1,293,928	148,796	91,309	6,966	628,109	567,545	78,184	35,306	35,306
2016	1,589,891	1,316,370	151,511	92,967	7,094	639,105	577,203	79,632	35,940	35,940
2017	1,617,242	1,339,246	154,283	94,660	7,226	650,316	587,045	81,111	36,586	36,586
2018	1,645,121	1,362,567	157,113	96,386	7,360	661,747	597,075	82,621	37,246	37,246
2019	1,673,539	1,386,342	160,001	98,149	7,497	673,401	607,296	84,164	37,919	37,919
2020	1,702,507	1,410,580	162,950	99,947	7,637	685,283	617,713	85,739	38,605	38,605
2021	1,719,603	1,424,873	164,676	101,002	7,718	692,284	623,868	86,659	39,009	39,009
2022	1,736,886	1,439,323	166,423	102,069	7,801	699,363	630,089	87,590	39,416	39,416
2023	1,754,359	1,453,933	168,189	103,149	7,885	706,521	636,378	88,532	39,829	39,829
2024	1,772,023	1,468,704	169,977	104,240	7,970	713,758	642,736	89,485	40,246	40,246
2025	1,789,883	1,483,639	171,785	105,345	8,055	721,076	649,163	90,449	40,668	40,668
2026	1,807,938	1,498,739	173,615	106,462	8,142	728,475	655,659	91,425	41,095	41,095
2027	1,826,193	1,514,006	175,466	107,592	8,230	735,957	662,227	92,413	41,527	41,527
2028	1,844,649	1,529,443	177,339	108,735	8,319	743,523	668,866	93,412	41,963	41,963
2029	1,863,309	1,545,051	179,233	109,892	8,408	751,173	675,578	94,424	42,405	42,405
2030	1,882,174	1,560,833	181,151	111,062	8,499	758,908	682,363	95,447	42,852	42,852
2031	1,901,249	1,576,790	183,090	112,246	8,591	766,730	689,223	96,483	43,304	43,304
2032	1,920,534	1,592,924	185,053	113,443	8,684	774,640	696,157	97,531	43,761	43,761
2033	1,940,033	1,609,239	187,038	114,654	8,779	782,638	703,168	98,592	44,223	44,223
2034	1,959,749	1,625,735	189,047	115,880	8,874	790,726	710,255	99,666	44,691	44,691
2035	1,979,683	1,642,415	191,080	117,120	8,970	798,904	717,421	100,752	45,164	45,164
2036	1,999,838	1,659,281	193,136	118,374	9,068	807,175	724,665	101,852	45,642	45,642
2037	2,020,217	1,676,336	195,217	119,643	9,167	815,538	731,989	102,965	46,126	46,126
2038	2,040,823	1,693,582	197,323	120,927	9,266	823,996	739,393	104,091	46,616	46,616
2039	2,061,659	1,711,021	199,454	122,225	9,368	832,549	746,879	105,231	47,111	47,111
2040	2,082,727	1,728,655	201,610	123,540	9,470	841,198	754,448	106,385	47,612	47,612

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Table 5 External Auto/Truck Productions by Year

Year	HBWXI AutoDrvs	HBSXI Auto Drvs	HBOXI AutoDrvs	NHBXI AutoDrvs	ComvXI AutoDrv	HBWXI AutoPsns	HBSXI Auto Psns	HBOXI AutoPsns	NHBXI AutoPsns	ComvXI AutoPsns	MedTkXI	HeavyTkXI	AutoXI Drv Totl	TruckXI Total
2000	236,559	42,352	117,778	56,408	32,987	272,043	69,457	189,623	72,203	42,223	3,637	23,520	486,084	27,157
2001	240,636	43,005	119,847	57,297	33,562	276,732	70,529	192,953	73,340	42,960	3,700	23,929	494,348	27,629
2002	244,792	43,670	121,956	58,202	34,149	281,510	71,619	196,348	74,499	43,711	3,765	24,346	502,769	28,110
2003	249,027	44,346	124,106	59,123	34,748	286,381	72,727	199,810	75,678	44,477	3,831	24,771	511,350	28,601
2004	253,344	45,034	126,298	60,061	35,358	291,346	73,855	203,340	76,878	45,258	3,898	25,204	520,094	29,102
2005	257,744	45,733	128,533	61,016	35,979	296,406	75,002	206,939	78,100	46,054	3,966	25,646	529,005	29,612
2006	262,229	46,444	130,813	61,987	36,613	301,564	76,168	210,609	79,344	46,865	4,036	26,096	538,087	30,132
2007	266,801	47,168	133,137	62,977	37,260	306,822	77,355	214,351	80,610	47,692	4,108	26,555	547,343	30,663
2008	271,462	47,903	135,508	63,984	37,919	312,181	78,562	218,167	81,900	48,536	4,180	27,024	556,776	31,204
2009	276,213	48,652	137,925	65,010	38,591	317,645	79,789	222,059	83,213	49,396	4,254	27,501	566,391	31,756
2010	281,057	49,413	140,390	66,055	39,276	323,216	81,038	226,028	84,550	50,273	4,330	27,989	576,191	32,319
2011	285,995	50,188	142,904	67,118	39,974	328,894	82,308	230,076	85,911	51,167	4,407	28,486	586,180	32,893
2012	291,030	50,976	145,468	68,201	40,687	334,684	83,600	234,204	87,298	52,079	4,486	28,992	596,362	33,478
2013	296,163	51,777	148,084	69,304	41,413	340,587	84,915	238,415	88,709	53,009	4,566	29,509	606,741	34,075
2014	301,396	52,593	150,751	70,427	42,154	346,606	86,252	242,710	90,147	53,957	4,648	30,037	617,322	34,684
2015	306,732	53,423	153,472	71,571	42,910	352,742	87,613	247,091	91,611	54,925	4,731	30,574	628,109	35,306
2016	312,174	54,267	156,248	72,737	43,680	359,000	88,997	251,559	93,103	55,911	4,816	31,123	639,105	35,940
2017	317,722	55,126	159,079	73,923	44,466	365,380	90,406	256,118	94,622	56,917	4,903	31,683	650,316	36,586
2018	323,380	55,999	161,968	75,132	45,268	371,887	91,839	260,768	96,169	57,943	4,992	32,254	661,747	37,246
2019	329,149	56,889	164,914	76,363	46,086	378,521	93,297	265,512	97,745	58,990	5,082	32,837	673,401	37,919
2020	335,033	57,793	167,920	77,618	46,920	385,288	94,781	270,351	99,350	60,057	5,174	33,431	685,283	38,605
2021	338,495	58,333	169,685	78,361	47,410	389,270	95,666	273,193	100,302	60,684	5,228	33,780	692,284	39,009
2022	341,997	58,878	171,471	79,113	47,905	393,296	96,560	276,068	101,264	61,319	5,283	34,133	699,363	39,416
2023	345,538	59,428	173,276	79,872	48,407	397,368	97,463	278,975	102,236	61,961	5,339	34,490	706,521	39,829
2024	349,118	59,984	175,102	80,639	48,914	401,486	98,375	281,915	103,218	62,610	5,395	34,851	713,758	40,246
2025	352,739	60,546	176,950	81,415	49,427	405,650	99,296	284,889	104,211	63,266	5,451	35,217	721,076	40,668
2026	356,400	61,114	178,818	82,199	49,945	409,860	100,226	287,897	105,214	63,930	5,509	35,586	728,475	41,095
2027	360,103	61,687	180,707	82,991	50,470	414,118	101,166	290,939	106,228	64,601	5,567	35,960	735,957	41,527
2028	363,847	62,266	182,619	83,792	51,000	418,424	102,115	294,016	107,253	65,280	5,625	36,338	743,523	41,963
2029	367,633	62,850	184,552	84,601	51,536	422,778	103,075	297,128	108,289	65,967	5,685	36,720	751,173	42,405
2030	371,463	63,441	186,507	85,419	52,079	427,182	104,043	300,276	109,336	66,661	5,745	37,107	758,908	42,852
2031	375,335	64,038	188,485	86,245	52,628	431,635	105,022	303,461	110,394	67,363	5,805	37,498	766,730	43,304
2032	379,251	64,640	190,485	87,080	53,183	436,138	106,010	306,681	111,463	68,074	5,867	37,894	774,640	43,761
2033	383,211	65,249	192,509	87,925	53,744	440,693	107,009	309,939	112,544	68,792	5,929	38,294	782,638	44,223
2034	387,216	65,864	194,555	88,778	54,312	445,299	108,018	313,234	113,636	69,519	5,992	38,699	790,726	44,691
2035	391,266	66,486	196,626	89,641	54,886	449,956	109,037	316,567	114,740	70,254	6,055	39,109	798,904	45,164
2036	395,363	67,113	198,720	90,512	55,466	454,667	110,066	319,939	115,856	70,997	6,119	39,523	807,175	45,642
2037	399,505	67,747	200,838	91,394	56,054	459,431	111,106	323,349	116,984	71,749	6,184	39,942	815,538	46,126
2038	403,695	68,388	202,981	92,284	56,648	464,249	112,156	326,799	118,124	72,509	6,250	40,366	823,996	46,616
2039	407,932	69,035	205,148	93,184	57,249	469,122	113,217	330,289	119,276	73,279	6,317	40,795	832,549	47,111
2040	412,217	69,689	207,341	94,094	57,857	474,050	114,289	333,819	120,441	74,056	6,384	41,229	841,198	47,612

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Table 6 External Auto/Truck Attractions by Year

Year	HBWIX AutoDrvs	HBSIX Auto Drvs	HBOIX AutoDrvs	NHBIX AutoDrvs	ComvIX AutoDrvs	HBWIX AutoPsns	HBSIX Auto Psns	HBOIX AutoPsns	NHBIX AutoPsns	ComvIX AutoPsns	MedTkIX	HeavyTkIX	AutoIX Drv Totl	TruckIX Total
2000	146,581	41,644	164,738	56,400	32,983	168,568	68,297	265,229	72,193	42,219	3,637	23,520	442,347	27,157
2001	148,926	42,318	167,565	57,289	33,559	171,265	69,402	269,780	73,330	42,956	3,700	23,929	449,658	27,629
2002	151,314	43,004	170,447	58,194	34,146	174,011	70,526	274,419	74,488	43,707	3,765	24,346	457,104	28,110
2003	153,744	43,702	173,384	59,115	34,744	176,806	71,670	279,148	75,667	44,472	3,831	24,771	464,688	28,601
2004	156,218	44,411	176,378	60,053	35,354	179,650	72,834	283,968	76,867	45,253	3,898	25,204	472,413	29,102
2005	158,736	45,133	179,430	61,007	35,976	182,546	74,019	288,882	78,089	46,049	3,966	25,646	480,281	29,612
2006	161,299	45,868	182,541	61,979	36,609	185,494	75,224	293,890	79,333	46,860	4,036	26,096	488,296	30,132
2007	163,909	46,616	185,712	62,968	37,256	188,495	76,450	298,997	80,600	47,687	4,108	26,555	496,460	30,663
2008	166,565	47,376	188,946	63,976	37,915	191,550	77,697	304,203	81,889	48,531	4,180	27,024	504,777	31,204
2009	169,270	48,150	192,242	65,001	38,586	194,661	78,966	309,510	83,202	49,391	4,254	27,501	513,250	31,756
2010	172,024	48,938	195,603	66,046	39,271	197,827	80,258	314,921	84,539	50,267	4,330	27,989	521,882	32,319
2011	174,828	49,739	199,030	67,109	39,970	201,052	81,572	320,439	85,900	51,161	4,407	28,486	530,676	32,893
2012	177,682	50,554	202,525	68,192	40,682	204,335	82,909	326,064	87,286	52,073	4,486	28,992	539,636	33,478
2013	180,589	51,384	206,088	69,295	41,409	207,678	84,270	331,801	88,698	53,003	4,566	29,509	548,765	34,075
2014	183,549	52,228	209,721	70,418	42,149	211,082	85,655	337,651	90,135	53,951	4,648	30,037	558,067	34,684
2015	186,564	53,088	213,426	71,562	42,905	214,548	87,064	343,616	91,600	54,918	4,731	30,574	567,545	35,306
2016	189,633	53,962	217,205	72,727	43,675	218,078	88,498	349,699	93,091	55,904	4,816	31,123	577,203	35,940
2017	192,760	54,852	221,058	73,914	44,461	221,673	89,958	355,904	94,610	56,910	4,903	31,683	587,045	36,586
2018	195,943	55,758	224,988	75,123	45,263	225,335	91,443	362,231	96,157	57,936	4,992	32,254	597,075	37,246
2019	199,186	56,680	228,997	76,354	46,080	229,064	92,955	368,685	97,733	58,982	5,082	32,837	607,296	37,919
2020	202,488	57,618	233,085	77,608	46,914	232,861	94,493	375,267	99,338	60,050	5,174	33,431	617,713	38,605
2021	204,447	58,176	235,490	78,351	47,404	235,114	95,408	379,138	100,290	60,677	5,228	33,780	623,868	39,009
2022	206,426	58,740	237,921	79,103	47,900	237,390	96,333	383,053	101,251	61,311	5,283	34,133	630,089	39,416
2023	208,426	59,309	240,380	79,862	48,401	239,690	97,267	387,012	102,223	61,953	5,339	34,490	636,378	39,829
2024	210,448	59,885	242,867	80,629	48,908	242,015	98,211	391,015	103,206	62,602	5,395	34,851	642,736	40,246
2025	212,490	60,466	245,381	81,405	49,420	244,364	99,164	395,064	104,198	63,258	5,451	35,217	649,163	40,668
2026	214,554	61,053	247,924	82,189	49,939	246,738	100,127	399,158	105,202	63,922	5,509	35,586	655,659	41,095
2027	216,641	61,646	250,496	82,981	50,463	249,137	101,100	403,299	106,216	64,593	5,567	35,960	662,227	41,527
2028	218,749	62,246	253,097	83,781	50,993	251,561	102,083	407,486	107,240	65,272	5,625	36,338	668,866	41,963
2029	220,879	62,851	255,727	84,591	51,530	254,011	103,076	411,721	108,276	65,958	5,685	36,720	675,578	42,405
2030	223,032	63,463	258,388	85,408	52,072	256,487	104,079	416,004	109,323	66,652	5,745	37,107	682,363	42,852
2031	225,208	64,081	261,078	86,235	52,621	258,989	105,093	420,336	110,380	67,355	5,805	37,498	689,223	43,304
2032	227,407	64,705	263,799	87,070	53,176	261,518	106,117	424,716	111,450	68,065	5,867	37,894	696,157	43,761
2033	229,630	65,336	266,551	87,914	53,737	264,074	107,151	429,147	112,530	68,783	5,929	38,294	703,168	44,223
2034	231,876	65,973	269,334	88,768	54,304	266,657	108,196	433,628	113,622	69,510	5,992	38,699	710,255	44,691
2035	234,146	66,617	272,149	89,630	54,879	269,268	109,252	438,160	114,726	70,245	6,055	39,109	717,421	45,164
2036	236,440	67,268	274,996	90,502	55,459	271,906	110,319	442,744	115,842	70,988	6,119	39,523	724,665	45,642
2037	238,759	67,925	277,875	91,383	56,046	274,573	111,397	447,380	116,970	71,739	6,184	39,942	731,989	46,126
2038	241,103	68,589	280,788	92,273	56,640	277,268	112,486	452,068	118,110	72,500	6,250	40,366	739,393	46,616
2039	243,471	69,260	283,733	93,174	57,241	279,992	113,586	456,811	119,262	73,269	6,317	40,795	746,879	47,111
2040	245,865	69,937	286,713	94,083	57,849	282,745	114,697	461,607	120,427	74,047	6,384	41,229	754,448	47,612

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2.3 Miscellaneous and Airport-Passenger Trip Forecasts

The remaining exogenous travel markets consist of taxis, school, and visitor/tourist auto driver trips (collectively referred to as “miscellaneous trips”) and airport-passenger auto driver trips. The miscellaneous trip totals, shown by year on Table 7, are based on surveyed travel patterns that have been growth factored through time. The airport-passenger forecasts are shown on Table 8. The airport trips have been recently updated using the 2007 COG Air Passenger Survey. The trip tables represent auto travel to each of the three major airports serving the Washington/Baltimore area.

Table 7 Miscellaneous Auto Driver Forecasts

Year	School	Taxi	Visitor/ Tourist
2000	250,448	111,246	222,227
2001	255,158	112,989	226,423
2002	259,861	114,586	230,605
2003	264,556	116,329	234,769
2004	269,271	117,928	238,970
2005	273,930	119,671	243,045
2006	277,301	121,103	246,065
2007	280,645	122,504	249,010
2008	283,994	123,938	251,972
2009	287,368	125,477	254,993
2010	290,712	126,881	257,941
2011	294,940	128,748	261,728
2012	299,119	130,536	265,388
2013	303,334	132,394	269,139
2014	307,557	134,263	272,918
2015	311,736	136,057	276,574
2016	315,734	138,233	280,147
2017	319,733	140,385	283,723
2018	323,707	142,564	287,229
2019	327,698	144,721	290,788
2020	331,653	146,891	294,257
2021	335,374	148,724	297,598
2022	339,052	150,476	300,828
2023	342,766	152,304	304,155
2024	346,445	154,101	307,391
2025	350,158	155,830	310,714
2026	353,359	157,324	313,529
2027	356,574	158,933	316,376
2028	359,810	160,395	319,284
2029	363,022	161,984	322,126
2030	366,220	163,486	324,934
2031	369,030	164,826	327,428
2032	371,830	166,186	329,898
2033	374,676	167,632	332,479
2034	377,476	169,010	334,951
2035	380,292	170,339	337,456
2036	382,740	171,540	339,623
2037	385,196	172,762	341,808
2038	387,653	173,952	343,989
2039	390,110	175,134	346,174
2040	392,556	176,445	348,328

Ref: I:\ateam\mod_inputs\misc\2010_07_23_Rnd80Based\Interpolate_Misc_trips.xlsx
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Table 8 Air Passenger Auto Driver Trips by Year and Airport

Year	Airport			Total
	National	Dulles	BWI	
2000	18,746	16,585	14,486	49,723
2001	18,343	16,595	14,810	49,656
2002	17,941	16,604	15,134	49,588
2003	17,538	16,614	15,459	49,521
2004	17,136	16,623	15,783	49,453
2005	16,733	16,633	16,107	49,386
2006	16,714	17,000	16,918	50,544
2007	16,694	17,368	17,729	51,703
2008	16,673	17,737	18,540	52,863
2009	16,653	18,105	19,351	54,022
2010	16,634	18,471	20,162	55,180
2011	16,870	19,407	20,626	56,814
2012	17,106	20,343	21,091	58,449
2013	17,347	21,279	21,556	60,089
2014	17,583	22,214	22,020	61,724
2015	17,820	23,150	22,485	63,358
2016	18,058	24,133	22,969	65,061
2017	18,298	25,116	23,452	66,765
2018	18,541	26,101	23,938	68,476
2019	18,781	27,084	24,421	70,180
2020	19,019	28,068	24,906	71,883
2021	19,233	29,032	25,393	73,547
2022	19,448	29,997	25,883	75,214
2023	19,667	30,962	26,372	76,885
2024	19,882	31,927	26,861	78,552
2025	20,096	32,891	27,349	80,216
2026	20,284	33,850	27,856	81,868
2027	20,474	34,810	28,362	83,522
2028	20,667	35,771	28,869	85,180
2029	20,857	36,731	29,376	86,835
2030	21,046	37,690	29,883	88,487
2031	21,171	38,518	30,360	89,917
2032	21,298	39,347	30,839	91,350
2033	21,425	40,175	31,316	92,781
2034	21,551	41,004	31,795	94,213
2035	21,677	41,832	32,272	95,643
2036	21,765	42,416	32,724	96,766
2037	21,852	43,001	33,175	97,890
2038	21,938	43,586	33,627	99,012
2039	22,025	44,171	34,078	100,135
2040	22,113	44,755	34,530	101,258

Ref: I:\ateam\mod_inputs\airport\2009_07_25_Rnd80Based\ Airport_Summary.xls
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Chapter 3 Demographic models

This chapter describes the specification of the demographic modeling process used within the Version 2.3 travel model. The demographic models, or sub-models, refer to the household size, household income, and vehicle availability models that are run prior to trip generation. The models are applied at the zone level and are used to apportion the total number households among 64 size, income, and vehicle availability categories or cross classifications:

- 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).

Prior to this latest update, the last two updates of the demographic models, or sub-models, were completed in 2004, using the 1990 Census Transportation Planning Package (CTPP) data, and in 2006, using the 2000 CTPP data. The demographic models used in the Version 2.3 travel model are similar to those used in the Version 2.2 travel model, with the following exceptions. First, the validation of the three demographic sub-models was updated to year 2007 conditions, using the American Community Survey (ACS).⁸ Second, the vehicle availability model has been recalibrated based on the 2007/2008 Household Travel Survey.

The 2000 Census was the last decennial census to include the long form, a roughly one-in-six sample of the population that included many questions about commuting travel. The long form was the basis for the CTPP data in 1990 and 2000. The American Community Survey (ACS) is a project of the U.S. Census Bureau that replaces the long form in the decennial census. Ideally, when updating the demographic models, one would like to have small area, e.g., zone-level, data. Unfortunately, the ACS data does not generally support development of models at the TAZ level of geography, due to privacy concerns regarding the release of data. Consequently, the ACS updates were done using county-level data.⁹

According to the 2007 ACS data, the regional median household income is \$84,280 and the regional mean household income is \$106,780 (in year 2007 dollars). The household income quartiles, based on the 2007 ACS data, are shown in Table 9.

⁸ Hamid Humeida to Files, “Analysis of data from the American Community Survey (ACS): Households by household income, household size, and vehicle availability,” Memorandum, March 19, 2010.

⁹ It is thought that some CTPP data may be produced in the future from multiple years of the ACS, but that data is not likely to be available for another few years.

Table 9 Household income quartiles computed from the ACS

Quartile	Income range (2007 dollars)
First	Less than \$50,000
Second	\$50,000 to \$99,999
Third	\$100,000 to \$149,999
Fourth	\$150,000 or more

The median household income reported from the 2007/2008 HTS (\$90,086) is slightly higher than that of the ACS (\$84,280). However, both medians fall in the same income interval, \$50,000-\$99,999. One possible explanation for the difference is that the larger ACS sample covered a larger percentage of lower income households than the 2007/2008 HTS.

A sub-model was developed for each of the three socio-economic 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 formulation 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 as well as some additional parameters. The model specifications are detailed below.

3.1 Household size sub-model

The household size sub-model is 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 final model is shown in graphical form in Figure 4 and in tabular form in Table 10.

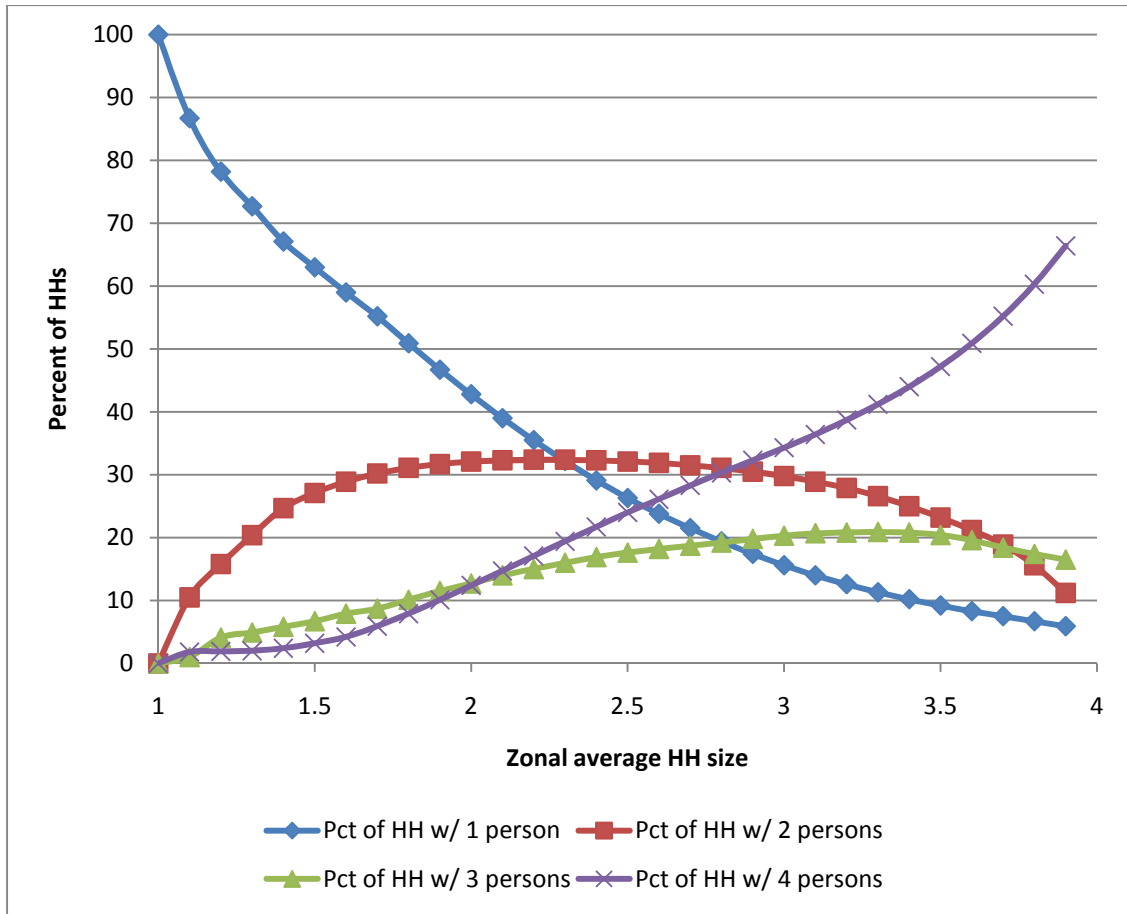


Figure 4 Household size sub-model: Graphical form

Table 10 Household size sub-model: Tabular form

Avg. Zonal HH Size	Pct of HH with 1 person	Pct of HH with 2 persons	Pct of HH with 3 persons	Pct of HH with 4+ persons
1.0	100.0	0.0	0.0	0.0
1.1	86.7	10.5	1.0	1.8
1.2	78.2	15.8	4.1	1.9
1.3	72.7	20.4	4.9	2.0
1.4	67.1	24.7	5.8	2.4
1.5	63.0	27.1	6.7	3.2
1.6	59.0	28.9	7.9	4.2
1.7	55.2	30.2	8.7	5.9
1.8	50.9	31.1	10.1	7.9
1.9	46.7	31.7	11.5	10.1
2.0	42.8	32.1	12.7	12.4
2.1	39.0	32.3	14.0	14.7
2.2	35.5	32.4	15.0	17.1
2.3	32.2	32.4	16.0	19.4
2.4	29.1	32.3	16.9	21.7
2.5	26.3	32.1	17.6	24.0
2.6	23.8	31.9	18.2	26.1
2.7	21.5	31.5	18.7	28.3
2.8	19.4	31.1	19.2	30.3
2.9	17.4	30.5	19.8	32.3
3.0	15.6	29.8	20.3	34.3
3.1	14.0	28.9	20.7	36.4
3.2	12.6	27.9	20.8	38.7
3.3	11.3	26.6	20.9	41.2
3.4	10.2	25.0	20.8	44.0
3.5	9.2	23.2	20.4	47.2
3.6	8.3	21.2	19.6	50.9
3.7	7.5	18.9	18.4	55.2
3.8	6.7	15.6	17.4	60.3
3.9	5.9	11.2	16.5	66.4

3.2 Household income sub-model

The household income sub-model is also an “aggregate share” model and is, therefore, similar in form to the household size sub-model. 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.

Unlike the 2000 CTPP, the most recent census data, the 2007 American Community Survey (ACS), is not available at the census tract level. This fact presented a limitation to any possible updates of the income sub-model using the ACS aggregated data. The county geography is the lowest level that the 2000 CTPP and the 2007 ACS data could be compared. As such, it was decided to use the existing models based on the 2000 CTPP data and to develop an area-based zone equivalency to migrate the 2191 TAZ model to the new 3722 TAZ system.¹⁰ Based on the 2000 CTPP data, the income ratio variable was developed as shown in Equation 1.

Equation 1 Income ratio equation

$$\text{Income ratio} = (\text{zonal median HH income}) / (\text{regional median HH income})$$

The final model is shown in graphical form in Figure 5 and in tabular form in Table 11.

¹⁰ Hamid Humeida to Files, “Development of an equivalency file to convert the household income sub-model from the 2191 TAZ system to the new 3722 TAZ system,” Memorandum, June 2, 2010.

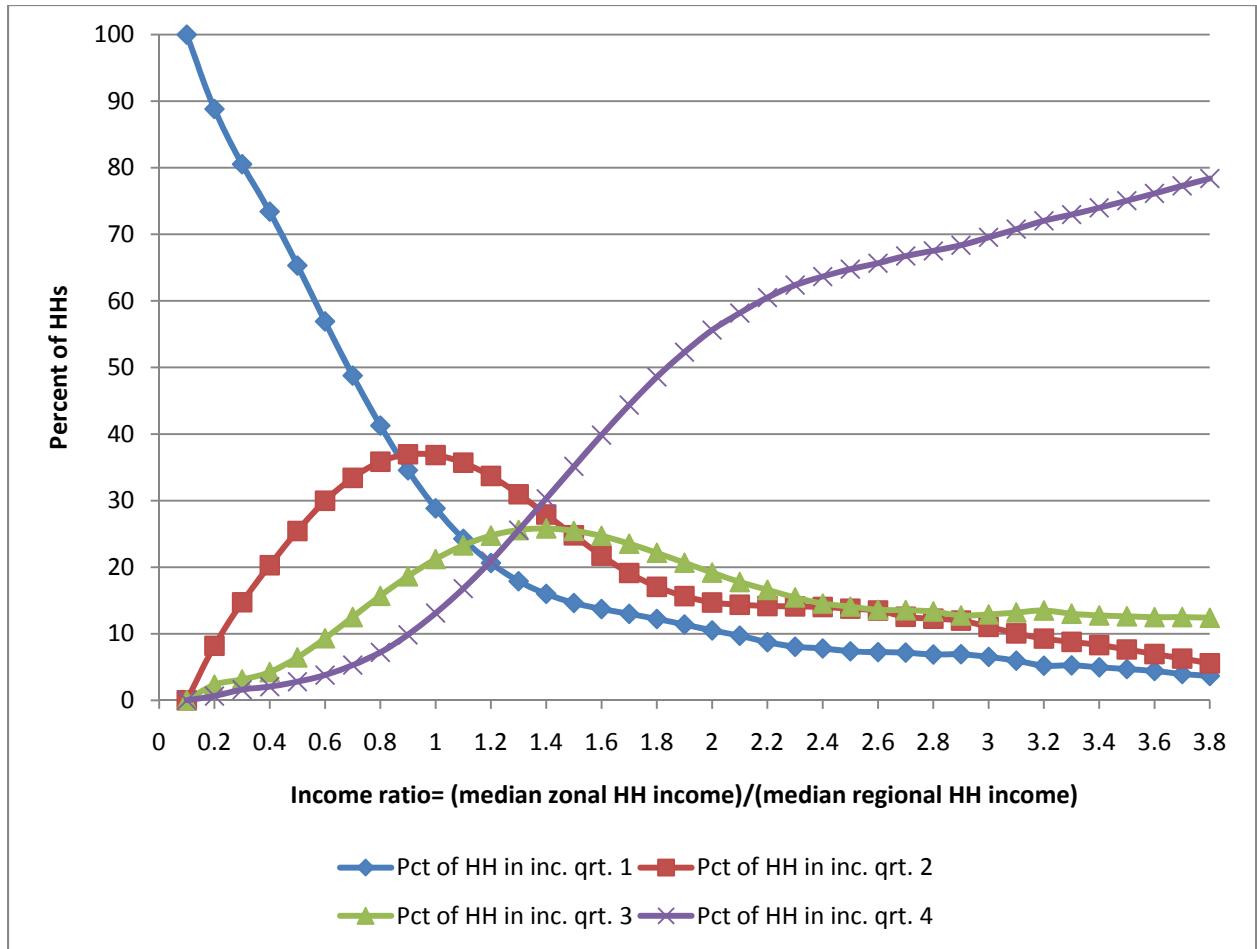


Figure 5 Household income sub-model: Graphical form

Table 11 Household income sub-model: Tabular form

Income Ratio	Pct of HH in inc. qrt. 1	Pct of HH in inc. qrt. 2	Pct of HH in inc. qrt. 3	Pct of HH in inc. qrt. 4
0.1	100.0	0.0	0.0	0.0
0.2	88.8	8.2	2.3	0.6
0.3	80.5	14.7	3.1	1.6
0.4	73.4	20.3	4.2	2.1
0.5	65.3	25.4	6.4	2.8
0.6	56.9	30.0	9.3	3.8
0.7	48.8	33.4	12.5	5.3
0.8	41.3	35.9	15.7	7.2
0.9	34.6	37.0	18.6	9.8
1.0	28.8	36.8	21.2	13.1
1.1	24.3	35.7	23.3	16.8
1.2	20.6	33.7	24.8	20.9
1.3	17.9	31.0	25.6	25.6
1.4	16.0	27.9	25.8	30.3
1.5	14.6	24.8	25.5	35.2
1.6	13.7	21.7	24.7	39.8
1.7	13.0	19.1	23.5	44.4
1.8	12.2	17.0	22.2	48.6
1.9	11.4	15.7	20.7	52.3
2.0	10.5	14.7	19.2	55.6
2.1	9.7	14.4	17.8	58.2
2.2	8.7	14.2	16.6	60.5
2.3	8.1	14.1	15.5	62.4
2.4	7.8	14.0	14.5	63.7
2.5	7.4	13.8	14.1	64.8
2.6	7.3	13.5	13.6	65.7
2.7	7.2	12.6	13.5	66.8
2.8	6.9	12.3	13.3	67.5
2.9	6.9	12.0	12.7	68.4
3.0	6.5	11.0	12.9	69.6
3.1	6.0	10.1	13.2	70.8
3.2	5.2	9.3	13.5	72.0
3.3	5.3	8.8	13.0	73.0
3.4	5.0	8.3	12.8	74.0
3.5	4.7	7.6	12.6	75.1
3.6	4.4	7.0	12.5	76.1
3.7	4.0	6.3	12.5	77.3
3.8	3.7	5.6	12.4	78.4

3.3 Vehicle availability sub-model

The vehicle availability sub-model is the last demographic sub-model. It is a disaggregate choice model that apportions households among vehicle availability levels. The variables considered are household size, household income (furnished by the previous sub-models), area type, and transit accessibility defined as the number of jobs accessible in 45 minutes using the “best” AM transit service. The best transit service is defined as the minimum AM walk-/drive-access transit time among the modeled sub-modes (commuter rail, bus-only, Metrorail/Bus, and Metrorail only). The vehicle availability model specification is detailed in Table 12.

Table 12 Vehicle availability model

Number of Vehicles				Variable	New Coefficient
0	1	2	3+		
	X			Constant	0.5382
		X		Constant	-3.0820
			X	Constant	-6.8508
	X			Household Size	0.1693
		X		Household Size	1.3439
			X	Household Size	1.6910
	X			Income level 2	1.4535
		X		Income level 2	1.8432
			X	Income level 2	2.4619
	X			Income level 3	2.2589
		X		Income level 3	3.4209
			X	Income level 3	4.6234
	X			Income level 4	2.6558
		X		Income level 4	3.9163
			X	Income level 4	5.5402
	X			Employment w/in 45 min transit	-1.20E-06
		X		Employment w/in 45 min transit	-2.04E-06
			X	Employment w/in 45 min transit	-2.37E-06
	X			Area type	0.2092
		X		Area type	0.4772
			X	Area type	0.7792
	X			DC dummy	-0.9448
		X		DC dummy	-1.3977
			X	DC dummy	-1.5294

3.4 Demographic Model Validation Results

In order to evaluate how well the models fit the data, a comparison was made between the estimated results and data from the 2007 ACS. Table 13, Table 14, and Table 15 show the regional estimates, observed ACS data, the ratio of estimated to observed, and the difference between the estimated and observed results. It is evident that the difference between the estimated and observed data is less than 1% for all three demographic models, which indicates an acceptable fit. The difference in the total number of households of 15,885 is due to Clarke County being omitted from the ACS dataset because the county is small and no data was available at this level of geography. In addition to regional summaries, jurisdictional summaries for household size, household income, and vehicle availability are presented in a memorandum¹¹.

Table 13 2007 Regional Estimated and Observed Households by Size

Estimated					
	1 Psn	2 Psns	3 Psns	4+ Psns	Total
HHs	664,559	723,464	392,846	558,997	2,339,865
Pct.	28.40%	30.92%	16.79%	23.89%	100.00%
Observed					
	1 Psn	2 Psns	3 Psns	4+ Psns	Total
HHs	649,305	713,509	385,435	575,731	2,323,980
Pct.	27.94%	30.70%	16.59%	24.77%	100.00%
Estimated/Observed Ratio					
	1 Psn	2 Psns	3 Psns	4+ Psns	Total
HHs	1.0235	1.0140	1.0192	0.9709	1.0068
Pct.	1.0165	1.0071	1.0123	0.9643	1.0000
Estimated- Observed					
	1 Psn	2 Psns	3 Psns	4+ Psns	Total
HHs	15,254	9,955	7,411	-16,734	15,885
Pct.	0.46%	0.22%	0.20%	-0.88%	0.00%

¹¹ Hamid Humeida to Files, "Analysis of data from the American Community Survey (ACS): Households by household income, household size, and vehicle availability," Memorandum, March 19, 2010.

Table 14 2007 Regional Estimated and Observed Households by Income Level

Estimated					
	< 50.00k	50.00k-99.99k	100.k-149.99k	> 150.00k	Total
HHs	635,803	726,626	483,261	494,175	2,339,865
Pct.	27.17%	31.05%	20.65%	21.12%	100.00%
Observed					
	< 50.00k	50.00k-99.99k	100.k-149.99k	> 150.00k	Total
HHs	640,594	731,729	470,110	481,547	2,323,980
Pct.	27.56%	31.49%	20.23%	20.72%	100.00%
Estimated/Observed Ratio					
	< 50.00k	50.00k-99.99k	100.k-149.99k	> 150.00k	Total
HHs	0.9925	0.9930	1.0280	1.0262	1.0068
Pct.	0.9858	0.9863	1.0210	1.0193	1.0000
Estimated- Observed					
	< 50.00k	50.00k-99.99k	100.k-149.99k	> 150.00k	Total
HHs	-4,791	-5,103	13,151	12,628	15,885
Pct.	-0.39%	-0.43%	0.42%	0.40%	0.00%

Table 15 2007 Regional Estimated and Observed Households by Vehicles Available

Estimated					
	0 Vehs.	1 Veh.	2 Vehs.	3+ Vehs.	Total
HHs	197,911	734,183	877,105	530,667	2,339,865
Pct.	8.46%	31.38%	37.49%	22.68%	100.00%
Observed					
	0 Vehs.	1 Veh.	2 Vehs.	3+ Vehs.	Total
HHs	200,561	733,753	865,514	524,152	2,323,980
Pct.	8.63%	31.57%	37.24%	22.55%	100.00%
Estimated/Observed Ratio					
	0 Vehs.	1 Veh.	2 Vehs.	3+ Vehs.	Total
HHs	0.9868	1.0006	1.0134	1.0124	1.0068
Pct.	0.9801	0.9938	1.0065	1.0056	1.0000
Estimated- Observed					
	0 Vehs.	1 Veh.	2 Vehs.	3+ Vehs.	Total
HHs	-2,650	430	11,591	6,515	15,885
Pct.	-0.17%	-0.20%	0.24%	0.13%	0.00%

Chapter 4 Trip Generation

The Version 2.3 trip generation process computes zonal trip productions and trip attractions, for each modeled purpose, on the basis of zonal land activity. This chapter details the trip generation model pertaining to resident, commercial vehicle, and truck purposes. “Resident trips” are those made by people who reside in the modeled area. Information on resident trips is obtained from the COG/TPB 2007/2008 Household Travel Survey.

4.1 Model Structure

The trip generation model is used to compute the number of daily person trips (i.e., on an average weekday) and daily truck/commercial vehicle trips produced by and attracted to each transportation analysis zone (TAZ). Resident trips are stratified into five trip purposes:

- Home-Based Work (HBW)
- Home-Based Shop (HBS)
- Home-Based Other (HBO)
- Non-Home-Based Work (NHW)
- Non-Home-Based Other (NHO)

HBO trips include home-based school and home-based university trips, since these trips are not modeled separately. Following consultant guidance, what used to be one trip purpose – non-home-based (NHB) – has now been divided into two trip purposes: NHW and NHO.¹² In the Version 2.1 travel model and previous TPB travel models, commercial vehicle travel, described below, was assumed to be part of the non-home-based trip purpose, although this is no longer the case. In general, a commercial vehicle is a motor vehicle used to transport goods (freight), services, or, potentially, revenue-paying passengers. However, the usage of this term within the TPB travel model is more limited. Since the TPB travel model has always had a truck model (for medium trucks and heavy trucks), the term “commercial vehicle” is used to refer to light-duty vehicles (auto, light trucks, SUV, etc.) used to transport goods and services.¹³ Consequently, there are three commercial/truck vehicle types:

- Medium truck (single unit, two axles, 6 or more tires)
- Heavy truck (all combination vehicles)¹⁴
- Commercial vehicles (autos and light duty trucks used to transport commercial goods and services)

Examples of commercial vehicles include “delivery and courier vehicles (including postal vehicles), light trucks used in construction, tradesmen, craftsmen, equipment service personnel, telephone company trucks, shuttle vans, taxicabs, ambulances, police cars, government vehicles, and 4-tire vans used for

¹² Cambridge Systematics, Inc., *Fiscal Year 2010 Task Reports*, Final Report (National Capital Region Transportation Planning Board, November 16, 2010), 2-3, 2-12.

¹³ William G., Jr. Allen, *Development of a Model for Commercial Vehicle Trips* (Washington, D.C.: Metropolitan Washington Council of Governments, National Capital Region Transportation Planning Board, May 4, 2007).

¹⁴ Note that “heavy” and “medium” do not refer strictly to the weight of the vehicle.

paratransit and school transportation.”¹⁵ As stated earlier, in the Version 2.1 travel model and previous TPB travel models, commercial vehicle travel was assumed to be part of the non-home-based trip purpose. Similar to the Version 2.2 model, the Version 2.3 model now accounts for commercial trips as a separate and distinct trip purpose. The trip generation process also estimates productions and attractions associated with non-motorized (walk and bicycle) trips. The non-motorized trips are removed from the “final” trip-ends prior to the trip distribution step.

The resident trip generation process can be envisioned as a series of six sequential steps. These are:

- 1) Trip production model;
- 2) Internal-to-external trip extraction model;
- 3) Non-motorized trip production model;
- 4) Trip attraction model;
- 5) Non-motorized trip attraction model; and
- 6) Home-based attraction income disaggregation model.

4.2 Trip Production Model

The trip production model is a cross-classification model involving the application of trip rates to households in specific socioeconomic categories. The trip rates are specific to each purpose. The cross-classes established for the Version 2.3 model are structured by the four household income, four household size, and four vehicle availability levels used in the demographic models. The total number of cross-classes equals 64 (i.e., 4 x 4 x 4). The trip rates are displayed, by purpose in Table 16, Table 17, Table 18, Table 19, and Table 20. Trip rates are weighted rates, based on the 2007/2008 Household Travel Survey.¹⁶

¹⁵ Allen, *Development of a Model for Commercial Vehicle Trips*, 4.

¹⁶ Hamid Humeida to Files, Mark Moran, and Ronald Milone, “Estimation of Trip Production Model based on the 2007 Household Travel Survey,” Memorandum, January 13, 2011.

Table 16 Final HBW Trip Production Rates¹⁷

Income Level	HH Size	Vehicles				Subtotal
		0	1	2	3+	
00k - 50k	1-PSN	0.41	0.65	0.54	0.66	0.58
	2-PSN	0.67	0.86	1.27	1.34	1.05
	3-PSN	0.91	1.34	1.89	1.92	1.55
	4+PSN	1.34	1.34	1.70	2.50	1.69
	Subtotal	0.55	0.80	1.35	1.75	0.94
50k-100k	1-PSN	1.00	1.06	1.04	1.04	1.05
	2-PSN	1.20	1.29	1.41	1.51	1.39
	3-PSN	1.25	1.70	1.95	2.05	1.93
	4+PSN	1.34	1.82	1.99	2.69	2.24
	Subtotal	1.06	1.20	1.63	2.14	1.55
100k-150k	1-PSN	1.08	0.99	1.09	1.29	1.03
	2-PSN	1.72	1.78	1.78	1.87	1.79
	3-PSN	1.72	1.82	2.05	2.51	2.23
	4+PSN	1.75	1.97	1.98	2.71	2.26
	Subtotal	1.33	1.36	1.86	2.42	1.92
> 150k	1-PSN	1.16	1.04	1.20	0.87	1.07
	2-PSN	1.72	1.82	1.87	1.90	1.88
	3-PSN	1.72	2.16	2.28	2.93	2.62
	4+PSN	1.75	2.24	2.60	2.97	2.75
	Subtotal	1.33	1.57	2.15	2.58	2.25
	TOTAL	0.72	1.10	1.78	2.33	1.63

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¹⁷ Source: Hamid Humeida to Files, Mark Moran, and Ronald Milone, "Estimation of Trip Production Model based on the 2007 Household Travel Survey," Memorandum, January 13, 2011.

Table 17 Final HBS Trip Production Rates¹⁸

Income Level	HH Size	Vehicles				Subtotal
		0	1	2	3+	
00k - 50k	1-PSN	0.59	0.65	0.77	0.77	0.64
	2-PSN	0.88	1.16	1.18	1.29	1.15
	3-PSN	0.90	1.31	1.52	1.57	1.36
	4+PSN	1.00	1.31	1.52	1.53	1.40
	Subtotal	0.69	0.85	1.25	1.35	0.94
50k-100k	1-PSN	0.59	0.67	0.64	0.77	0.66
	2-PSN	0.88	1.26	1.31	1.31	1.28
	3-PSN	0.92	0.94	1.64	1.74	1.52
	4+PSN	1.25	1.59	2.12	2.15	2.07
	Subtotal	0.69	0.85	1.52	1.76	1.28
100k-150k	1-PSN	0.67	0.71	0.73	0.77	0.71
	2-PSN	0.88	1.30	1.31	1.31	1.30
	3-PSN	0.88	1.65	1.69	1.63	1.66
	4+PSN	1.75	1.81	2.22	2.36	2.25
	Subtotal	0.83	1.04	1.68	1.86	1.60
> 150k	1-PSN	0.86	0.89	0.89	0.89	0.89
	2-PSN	1.31	1.31	1.31	1.31	1.31
	3-PSN	0.88	1.66	1.66	1.66	1.66
	4+PSN	1.24	2.12	2.40	2.45	2.41
	Subtotal	0.99	1.27	1.71	1.83	1.70
	TOTAL	0.70	0.90	1.58	1.79	1.36

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¹⁸ Source: Hamid Humeida to Files, Mark Moran, and Ronald Milone, "Estimation of Trip Production Model based on the 2007 Household Travel Survey," Memorandum, January 13, 2011.

Table 18 Final HBO Trip Production Rates¹⁹

Income Level	HH Size	Vehicles				Subtotal
		0	1	2	3+	
00k - 50k	1-PSN	0.80	0.89	0.89	1.17	0.87
	2-PSN	0.78	1.57	1.98	2.22	1.70
	3-PSN	1.55	1.57	3.00	3.00	2.25
	4+PSN	1.66	3.76	3.76	5.91	3.93
	Subtotal	0.91	1.30	2.38	3.48	1.62
50k-100k	1-PSN	0.80	0.89	0.89	1.18	0.89
	2-PSN	1.26	2.08	2.08	2.10	2.06
	3-PSN	1.55	3.00	3.47	3.79	3.47
	4+PSN	1.66	6.15	6.44	6.81	6.52
	Subtotal	0.96	1.59	3.45	4.52	2.86
100k-150k	1-PSN	1.09	0.90	0.93	0.90	0.92
	2-PSN	1.55	2.08	2.08	2.10	2.08
	3-PSN	2.50	3.40	3.66	3.79	3.70
	4+PSN	2.50	6.48	7.36	7.36	7.31
	Subtotal	1.35	1.87	4.24	4.93	3.96
> 150k	1-PSN	1.09	0.90	0.98	1.15	0.95
	2-PSN	1.55	2.08	2.08	2.08	2.08
	3-PSN	2.50	4.15	5.00	5.00	4.94
	4+PSN	2.50	6.48	7.36	7.87	7.55
	Subtotal	1.23	2.35	4.25	5.09	4.34
	TOTAL	0.95	1.58	3.76	4.75	3.13

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¹⁹ Source: Hamid Humeida to Files, Mark Moran, and Ronald Milone, "Estimation of Trip Production Model based on the 2007 Household Travel Survey," Memorandum, January 13, 2011.

Table 19 Final NHW Trip Production Rates²⁰

Income Level	HH Size	Vehicles				Subtotal
		0	1	2	3+	
00k - 50k	1-PSN	0.30	0.37	0.37	0.37	0.35
	2-PSN	0.30	0.32	0.44	0.44	0.38
	3-PSN	0.35	0.56	0.56	0.85	0.57
	4+PSN	0.35	0.56	0.56	1.18	0.65
	Subtotal	0.31	0.39	0.48	0.76	0.42
50k-100k	1-PSN	0.30	0.75	0.75	0.75	0.72
	2-PSN	0.30	0.77	0.81	0.81	0.79
	3-PSN	0.83	0.77	0.77	0.93	0.83
	4+PSN	0.83	0.94	0.94	1.04	0.97
	Subtotal	0.33	0.77	0.83	0.94	0.81
100k-150k	1-PSN	0.30	0.75	0.75	0.75	0.73
	2-PSN	0.75	1.03	1.03	1.18	1.06
	3-PSN	0.95	1.03	1.15	1.18	1.15
	4+PSN	0.98	1.03	1.15	1.33	1.21
	Subtotal	0.49	1.03	1.08	1.24	1.08
> 150k	1-PSN	0.75	1.00	1.00	1.05	0.99
	2-PSN	0.80	1.08	1.08	1.08	1.08
	3-PSN	1.26	1.26	1.30	1.42	1.36
	4+PSN	1.26	1.35	1.35	1.42	1.38
	Subtotal	0.77	1.10	1.20	1.31	1.23
	TOTAL	0.33	0.70	0.95	1.13	0.87

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²⁰ Source: Hamid Humeida to Files, Mark Moran, and Ronald Milone, "Estimation of Trip Production Model based on the 2007 Household Travel Survey," Memorandum, January 13, 2011.

Table 20 Final NHO Trip Production Rates²¹

Income Level	HH Size	Vehicles				Subtotal
		0	1	2	3+	
00k - 50k	1-PSN	0.58	0.68	0.96	1.12	0.68
	2-PSN	0.63	1.22	1.22	1.44	1.17
	3-PSN	0.71	1.25	1.25	1.25	1.18
	4+PSN	1.10	1.10	1.72	1.69	1.45
	Subtotal	0.63	0.86	1.30	1.44	0.95
50k-100k	1-PSN	0.61	0.68	0.96	1.21	0.72
	2-PSN	0.63	1.22	1.25	1.45	1.26
	3-PSN	0.74	1.46	1.47	1.62	1.52
	4+PSN	1.10	1.54	2.33	2.56	2.33
	Subtotal	0.64	0.89	1.56	1.95	1.35
100k-150k	1-PSN	0.61	0.72	0.94	0.88	0.76
	2-PSN	0.87	1.22	1.25	1.53	1.30
	3-PSN	1.00	1.46	1.47	1.62	1.53
	4+PSN	1.38	1.54	2.33	2.56	2.38
	Subtotal	0.75	0.99	1.67	2.00	1.63
> 150k	1-PSN	0.67	0.72	0.99	1.36	0.84
	2-PSN	0.95	1.22	1.49	1.62	1.50
	3-PSN	1.00	1.46	1.56	1.66	1.61
	4+PSN	1.49	2.39	2.41	2.56	2.48
	Subtotal	0.76	1.17	1.79	1.98	1.79
	TOTAL	0.64	0.91	1.61	1.94	1.41

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Table 21 shows a summary of the trip production rates across the five trip purposes, indicating an average of about 8.40 trip productions per household on an average weekday. According to NCHRP 365, one would expect about 8.5 daily person trips per household for an urban area with over one million people.²²

²¹ Source: Hamid Humeida to Files, Mark Moran, and Ronald Milone, "Estimation of Trip Production Model based on the 2007 Household Travel Survey," Memorandum, January 13, 2011.

²² William A. Martin and Nancy A. McGuckin, *NCHRP Report 365, Travel Estimation Techniques for Urban Planning*, National Cooperative Highway Research Program (NCHRP) (Washington, D.C.: Transportation Research Board, National Research Council, 1998), 25.

Table 21 Daily trip productions per household (average weekday), summary across the trip purposes

Daily Trip Productions per HH (ave wkday)	
HBW	1.63
HBS	1.36
HBO	3.13
NHW	0.87
NHO	1.41
Total	8.40

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4.3 The Internal-to-External Trip Estimation Model

Travel can be categorized into four markets, based on whether the starting and ending points of the trip are within or beyond the modeled area, as can be seen in Table 22.

Table 22 Categorization of trips into four markets, based on whether the starting and ending points of the trip are within or beyond the modeled area

Travel market	Acronym	Short-hand name
Internal-to-internal	I-I	Internal
Internal-to-external	I-X	External
External-to-internal	X-I	External
External-to-external	X-X	Through

Since I-X trips and X-I trips are typically referred to as “external travel,” one can also think in terms of three markets: internal, external, and through. External and through travel (I-X, X-I and X-X) are entered exogenously into the trip generation process. However, since the trip production rates include both internal (I-I) and internal-to-external (I-X) trips generated by households that reside in the modeled area, it is necessary to remove the I-X portion of total trip productions to avoid double counting.

The first I-X trip extraction sub-model was estimated by William Allen in the early 1990s based on the 1987 Home Interview Survey and the 1478 zone system. The model was then updated by TPB staff in 1997 using the 1994 HTS and the 2,191 zone system.^{23 24 25} Consequently, this is the third update of the I-X trip extraction model. This latest update is based on the 2007 HTS and the 3,722-zone system, which has 3,675 internal zones. All of these models are based on the premise that the share of I-X trips is inversely related to the distance between the centroid of the production zone and the nearest external station.

In Version 2.2 of the travel model, a single curve was developed to extract internal-to-external trips following trip generation. However, during Version 2.3 model calibration, it was noted that Home-

²³ Parsons, Brinckerhoff, Quade & Douglas, Inc., KPMG Peat Marwick LLP, and William G., Jr. Allen to Metropolitan Washington Council of Governments, “Technical Assistance for 1995 Model Validation: Technical Memorandum #2: Review of 1994 Survey Files,” Memorandum, January 19, 1997, 16.

²⁴ Parsons, Brinckerhoff, Quade & Douglas, Inc., KPMG Peat Marwick LLP, and William G., Jr. Allen to Metropolitan Washington Council of Governments, “Technical Assistance for 1995 Model Validation: Technical Memorandum #4: Trip Generation and Time-of-Day Models,” Memorandum, June 30, 1997, 7.

²⁵ Ronald Milone, Hamid Humeida, and Meseret Seifu, *FY-97 Models Development Program for COG/TPB Travel Models*, Draft (Washington, D.C.: Metropolitan Washington Council of Governments, National Capital Region Transportation Planning Board, June 30, 1997), 3-31.

Based-Work internal-to-external trip rates are dramatically different for counties in the vicinity of Baltimore.²⁶ Thus, for the purposes of HBW I-X trip estimation, the region was split into counties near Baltimore (i.e., Anne Arundel, Howard, and Carroll counties) and the rest of the region. The equations developed for I-X trip extraction are described below and shown graphically in Figure 6. This function captures the fact that, as the distance to the nearest external station increases, the share of total trip productions that is attracted to external locations (I-X) drops.

Equation 2 Percent of total trips productions that are I-X

$$IX_Baltimore_HBW = 0.3348 \text{ Exp } (-0.0938 * DNE)$$

$$IX_Baltimore_Non-HBW = 0.1766 \text{ Exp } (-0.1957 * DNE)$$

$$IX_Non-Baltimore_HBW = 0.2133 \text{ Exp } (-0.1950 * DNE)$$

where

DNE = the “straight-line” distance to the nearest external station (in miles)

Exp = the exponential function

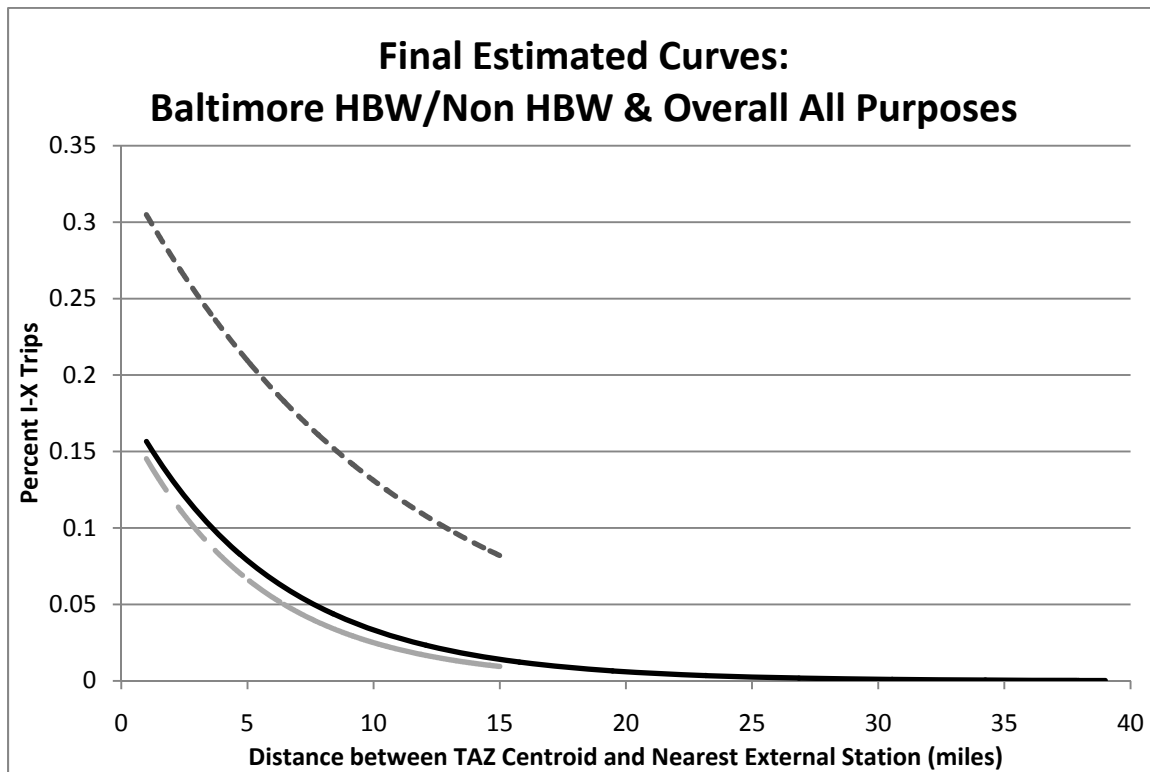


Figure 6 Internal-to-External Trip Extraction Model

²⁶ Hamid Humeida to Mark Moran, “I-X Trip Extraction Sub-Model,” Memorandum, January 13, 2011.

4.4 Area type

Area type is an important parameter that is used as a basis for determining link free-flow speed and link capacity, and is also used in a number of models, including the vehicle ownership, trip generation models, and the non-motorized HBW trip end model. In Version 2.2 of the model, area type is defined based on a one-mile “floating” employment and population density. The one-mile floating density for a specified TAZ is calculated by adding the density in the TAZ to the density in other TAZs whose centroid lies within a one-mile radius of the specified TAZ’s centroid (this aggregation technique is sometimes referred to as “geographic centroid aggregation”). In the Version 2.2 travel model, there were seven area types, which were a function of the population density and the employment density.²⁷ In the Version 2.3 travel model on the 3,722-TAZ area system, there are now six area types, as can be seen in Table 23.²⁸ Changes to the previous definitions included combining area types 6 and 7, changing the employment and population category thresholds, as well as reclassifying some area types. Also, the new scheme has generally a smoother transition from one area type to the next.

Table 23 Area Type Definitions (1-7) as a function of population and employment density

One-Mile “Floating” Population Density (Pop/Sq mi)	One- mile “Floating” Employment Density (Emp/Sq mi)						
	0-100	101-350	351-1,500	1,501-3,550	3,551- 13,750	13,751- 15,000	15,001+
0-750	6	6	5	3	3	3	2
751-1,500	6	5	5	3	3	3	2
1,501-3,500	6	5	5	3	3	2	2
3,501-6,000	6	4	4	3	2	2	1
6,001-10,000	4	4	4	2	2	2	1
10,000-15,000	4	4	4	2	2	2	1
15,001+	2	2	2	2	2	1	1

Two maps showing the revised area types can be seen in Figure 7 and Figure 8.

²⁷ Ronald Milone et al., *TPB Travel Forecasting Model, Version 2.2: Specification, Validation, and User’s Guide* (Washington, D.C.: Metropolitan Washington Council of Governments, National Capital Region Transportation Planning Board, March 1, 2008), 4-8.

²⁸ Mary Martchouk to Mark S. Moran, “Area Type Definitions for Version 2.3 Travel Demand Model,” Memorandum, June 16, 2010.

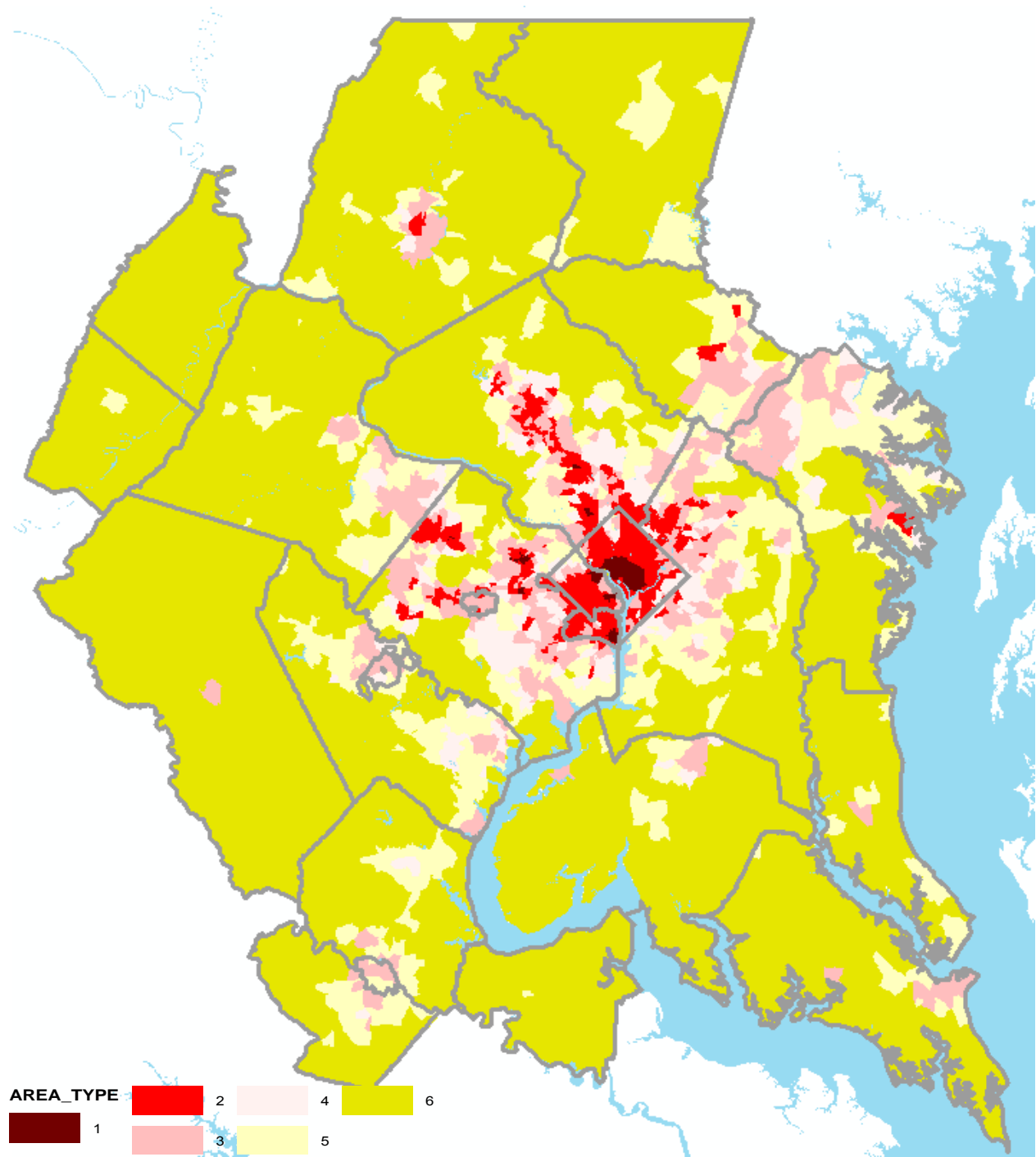


Figure 7 Revised area types used in the Version 2.3 travel model: Modeled area

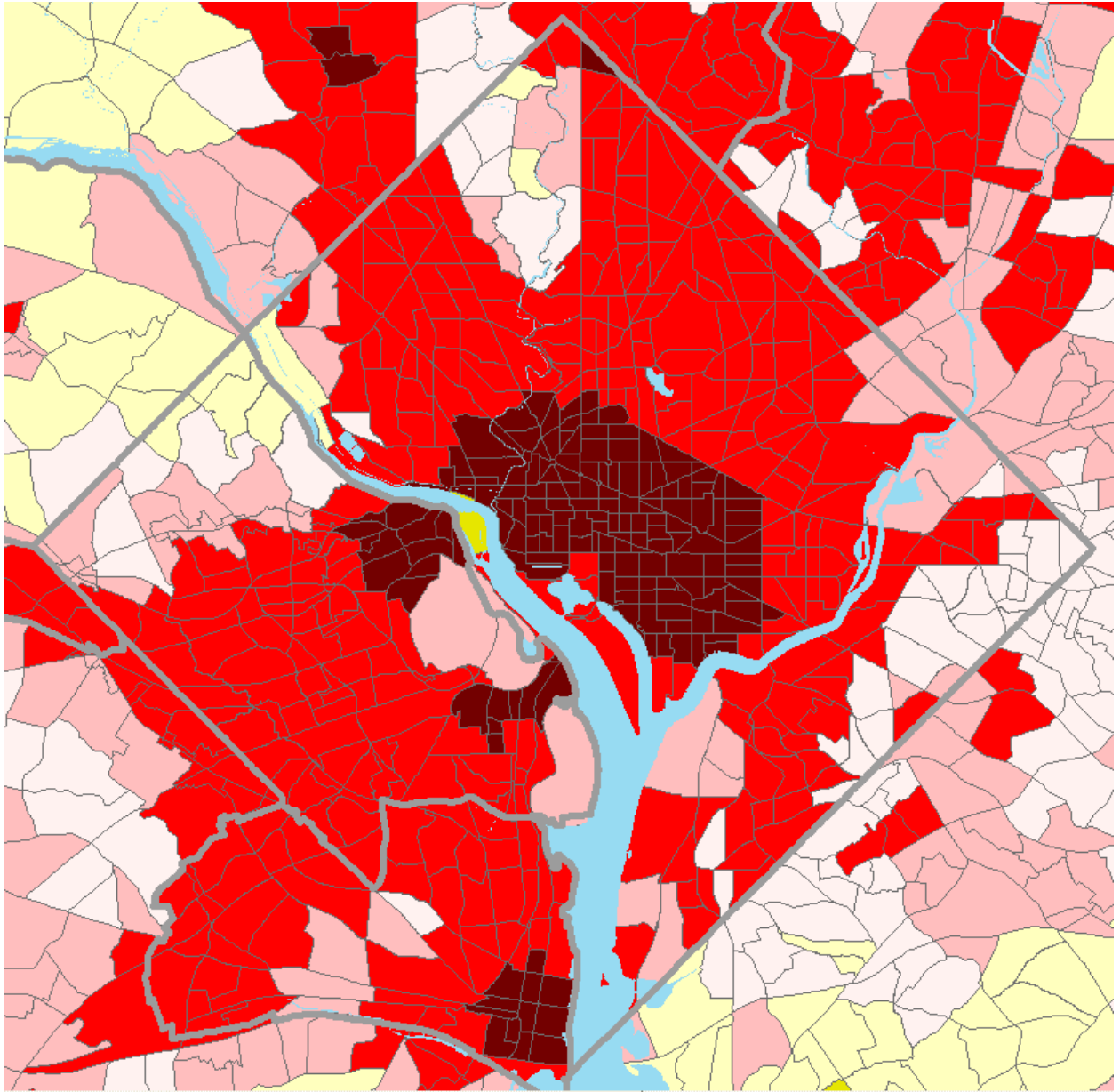


Figure 8 Revised area types used in the Version 2.3 travel model: the 10-mile square

The following names are associated with the six area types:

Table 24 Description of each area type and examples of each area type

Area Type	Name	Examples
1	High mixed employment and population density	<ol style="list-style-type: none"> 1. Downtown DC, between Georgetown, Florida Ave., and 11th St. NE & SE 2. Old Town Alexandria 3. The Rosslyn/Court House area of Arlington Co. 4. Pentagon City area of Arlington Co. 5. Downtown Bethesda, Maryland 6. Center of Tysons Corner, Virginia
2	Medium/high mixed density	<ol style="list-style-type: none"> 1. A majority of DC outside the downtown core 2. A majority of Arlington Co., south of Lee Highway 3. A majority of Alexandria 4. Areas of Tysons Corner just beyond the center 5. Annapolis, Maryland 6. Downtown Frederick, Maryland 7. Parts of Reston and Herndon, Virginia, along the Dulles Access/Toll Road
3	Medium employment density	<ol style="list-style-type: none"> 1. Parts of upper NW DC near Rock Creek Park 2. Parts of Arlington along Lee Highway 3. National Airport 4. The Pentagon 5. Arlington Cemetery 6. BWI Airport 7. Potomac Mills mall in Woodbridge, Virginia
4	Medium population density	<ol style="list-style-type: none"> 1. Parts of upper NW DC near Rock Creek Park 2. Parts of north Arlington 3. SE DC near the Capitol Heights Metrorail station 4. Chevy Chase, Maryland, near the DC border
5	Low density	<ol style="list-style-type: none"> 1. Area along McArthur Boulevard in DC 2. Upper north Arlington Co. 3. Fort Hunt section of Fairfax Co. 4. Dulles Airport 5. Andrews Air Force Base
6	Rural	<ol style="list-style-type: none"> 1. Great Falls, Virginia 2. Much of Loudoun Co., Virginia 3. Most of Fauquier Co., Virginia 4. Much of Charles, St. Mary's, and Calvert Counties, Maryland 5. Most of Frederick and Carroll Co., Maryland

Note that the Pentagon and Arlington Cemetery are area type 3 (“medium employment density”). This is due to the use of the one-mile floating density. Users of the travel model may wish to re-categorize Arlington Cemetery as “rural” (area type 6) and the Pentagon as area type 2 (“medium/high mixed density”). These can be reset using the area-type override capability that currently exists in the travel model.

While calibrating the trip generation model, a series of area-type adjustments were added to the model, as seen in Table 25.²⁹

²⁹ Ronald Milone to Files, “Performance of trip generation models,” Memorandum, November 18, 2010.

Table 25 Area-type adjustments developed in trip generation calibration

Motorized Production Adjustments

AreaType->	1	2	3	4	5	6
HBW	1.1358	1.1180	1.0554	0.9175	0.9577	0.9307
HBS	0.8092	0.9504	1.0793	0.9059	1.0751	0.8620
HBO	1.1067	1.1181	1.0303	0.9647	1.0109	0.8324
NHB	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
NHO	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Motorized Attraction Adjustments

AreaType->	1	2	3	4	5	6
HBW	1.0765	0.8478	0.9612	1.1045	0.9871	1.0383
HBS	0.7952	1.0967	1.1577	0.8770	0.9437	0.5187
HBO	1.1542	1.1304	0.9307	1.0635	1.0480	0.8032
NHB	1.1457	0.8686	0.9843	1.5731	1.1860	1.0919
NHO	0.7953	1.0652	1.0724	0.9180	1.0899	0.7224

Nonmotorized Production Adjustments

AreaType->	1	2	3	4	5	6
HBW	1.4424	1.1007	1.0554	0.9175	0.9577	0.9307
HBS	1.2222	1.2677	1.0793	0.9059	1.0751	0.8619
HBO	0.9363	1.3047	1.0303	0.9647	1.0109	0.8325
NHB	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
NHO	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Nonmotorized Attraction Adjustments

AreaType->	1	2	3	4	5	6
HBW	1.2809	1.0087	1.1436	1.3141	1.1746	1.2354
HBS	1.0758	1.2904	1.3709	1.0385	1.1175	0.6141
HBO	0.6886	1.2374	1.0476	1.1970	1.1796	0.9041
NHB	1.0477	1.0620	0.8302	1.3269	1.0004	0.9211
NHO	1.2008	1.0651	0.8146	0.6974	0.8280	0.5488

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In model application, these are supplemented with a series of jurisdiction-level production and attraction modification factors (p-mods and a-mods).

4.5 Non-Motorized Production Trip Model

The trip rates developed in trip generation reflect both motorized and non-motorized travel. The inclusion of non-motorized trips 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 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). In Version 2.2 of the travel model, non-motorized trips were estimated using a fixed percentage developed based on area type and were only modeled for home-based work trips.³⁰

In Version 2.3 of the model, non-motorized trip are estimated for all purposes. In addition, walking environment factors, sometimes referred to as pedestrian environment factors or PEFs, are considered in modeling these trips. Walking environment can be captured using parameters that can be estimated based on a GIS street layer and include block density, ratio of 4-way intersections to cul-de-sacs, and major/minor street density. All these parameters were considered in the non-motorized model, however, only block density proved to be a significant predictor of non-motorized trip percentage.

The percentage of non-motorized trips was modeled using linear regression for high density areas (area types 1 and 2). For other area types, too few non-motorized trips were observed to produce any meaningful model results and thus fixed percentages of non-motorized trips were assumed for each area type as shown in Table 26.³¹ For area types 1 and 2, HBW and HBS/HBO models were estimated as shown in Table 27 and Table 28. Note that the no non-motorized trip models are developed at the production end for non-home-based trips.

Table 26 Production End Non-Motorized Trip Percentages for Area Types 3-6

Area Type	HBW	HBS	HBO	NHW	NHO	Total
3	2.45%	2.79%	8.19%	4.69%	4.20%	5.00%
4	1.15%	2.32%	7.36%	2.04%	3.99%	4.52%
5	0.42%	1.06%	5.10%	2.41%	3.10%	3.00%
6	0.81%	0.17%	3.58%	3.07%	1.77%	2.08%

³⁰ Milone et al., *TPB Travel Forecasting Model, Version 2.2: Specification, Validation, and User's Guide*, 4-8.

³¹ Mary Martchouk to Mark Moran, "Validation of Non-Motorized Trip Model," Memorandum, October 27, 2010; Mary Martchouk to Mark Moran, "Development of the Non-motorized Trip End Model," Memorandum, October 7, 2010.

Table 27 HBW Non-Motorized Production-End Trip Model

Variable	Definition	Coefficient	Std. Error	T- stat.	P-value	Avg. Value
Constant		-0.00388	0.009633	-0.402	0.6875	
POPDEN10	One-mile floating population density (persons/sq. mile)	2.20E-06	1.12E-06	1.963	0.0496	8943
EMPDEN10	One-mile floating employment density (employees/sq. mile)	3.54E-06	1.85E-07	19.148	0	16520
BLKDEN05	Street block density (blocks/sq. mile)	0.000474	0.000124	3.82	0.0001	71.99
Adjusted R ²		0.44				
Number of Observations		758				

Table 28 Home-Based Shop (HBS) and Home-Based Other (HBO) Non-Motorized Production Trip Model

Variable	Definition	Coefficient	Std. Error	T- stat.	P-value	Avg. Value
Constant		-0.00870	0.01148	-0.758	0.4485	
POPDEN10	One-mile floating population density (persons/sq. mile)	1.110E-05	1.37E-05	8.141	0	8812
EMPDEN10	One-mile floating employment density (employees/sq. mile)	2.582E-06	2.30E-06	11.243	0	16150
BLKDEN05	Street block density (blocks/sq. mile)	0.00083426	0.00013	5.527	0	70.53
Adjusted R ²		0.40				
Number of Observations		786				

4.6 Trip Attraction Model

The trip attraction models are linear regression equations that use land use data, including employment and population, to predict number of attractions in a TAZ. The equations were developed using district-level data from the 2007/2008 Household Travel Survey. Trip attractions are estimated by trip purpose

and two area type groupings (area types 1-2 and area types 3+).³² The resulting trip attractions models are shown below.

$$\text{HBW_Attr}_{1-2} = 1.118 * \text{TOTEMP}$$

$$\text{HBW_Attr}_{3+} = 0.8546 * \text{TOTEMP}$$

$$\text{HBS_Attr}_{1-2} = 1.995 * \text{RETEMP} + 0.301 * \text{TOTPOP}$$

$$\text{HBS_Attr}_{3+} = 3.102 * \text{RETEMP} + 0.221 * \text{TOTPOP}$$

$$\text{HBO_Attr}_{1-2} = 0.425 * \text{NONRETEMP} + 1.012 * \text{TOTPOP}$$

$$\text{HBO_Attr}_{3+} = 1.084 * \text{NONRETEMP} + 0.588 * \text{RETEMP} + 0.777 * \text{TOTPOP}$$

$$\text{NHW_Attr}_{1-2} = 0.944 * \text{RETEMP} + 0.557 * \text{OFFEMP} + 0.656 * \text{OTHEREMP}$$

$$\text{NHW_Attr}_{3+} = 0.807 * \text{RETEMP} + 0.522 * \text{OFFEMP} + 0.507 * \text{OTHEREMP}$$

$$\text{NHO_Attr}_{1-2} = 0.097 * \text{NONRETEMP} + 1.498 * \text{RETEMP} + 0.300 * \text{TOTPOP}$$

$$\text{NHO_Attr}_{3+} = 0.178 * \text{NONRETEMP} + 2.784 * \text{RETEMP} + 0.184 * \text{TOTPOP}$$

4.7 Non-motorized Attraction Trip Model

The non-motorized trip model on the attraction trip end is estimated similarly to the non-motorized trip model on the production trip end. For area types 3-6, a fixed percentage of non-motorized trips is assumed for each area type as shown in Table 29. For area types 1 and 2, the non-motorized trips are predicted as a function of the land use and walkability factors. The models are split by trip purpose into HBW, HBS/HBO/NHO, and NHW. However, since there are too few HBW non-motorized trip attractions, a fixed percentage of 4.87% is assumed. The HBS/HBO/NHO and NHW models are shown in Table 30 and Table 31.

³² Mary Martchouk to Mark Moran, "Development of Trip Attraction Models," Memorandum, September 14, 2010.

Table 29 Attraction End Non-Motorized Trip Percentages for Area Types 3-6

Area Type	HBW	HBS	HBO	NHW	NHO	Total
3	1.71%	1.48%	6.19%	4.59%	4.26%	3.87%
4	2.33%	4.14%	9.28%	1.95%	3.87%	6.42%
5	0.77%	1.45%	5.67%	2.16%	3.19%	3.67%
6	1.41%	0.74%	5.28%	3.46%	1.23%	3.42%

Table 30 HBS/HBO/NHO Non-Motorized Attraction Trip Model

Variable	Definition	Coefficient	Std. Error	T- stat.	P-value	Avg. Value
Constant		-0.0157	0.00953	-1.647	0.0995	
POPDEN10	One-mile floating population density (persons/sq. mile)	1.08E-05	1.18E-04	9.203	0	8612
BLKDEN05	Street block density (blocks/sq. mile)	0.001294	0.000125	10.35	0	68.87
Adjusted R ²		0.37				
Number of Observations		822				

Table 31 NHW Non-Motorized Attraction Trip Model

Variable	Definition	Coefficient	Std. Error	T- stat.	P-value	Avg. Value
Constant		-0.00383	0.012245	-0.312	0.7547	
POPDEN10	One-mile floating population density (persons/sq. mile)	5.41E-06	1.48E-04	3.665	0.0002	8769
EMPDEN10	One-mile floating employment density (employees/sq. mile)	5.34E-06	2.30E-05	23.196	0	18003
BLKDEN05	Street block density (blocks/sq. mile)	0.001217	0.000165	7.382	0	70.43
Adjusted R ²		0.57				
Number of Observations		756				

4.8 Home-based Trip Attraction Income Disaggregation Model

The Version 2.3 trip distribution and mode choice models are applied by income level for the home-based trip purposes. Trip production stratification by income is straightforward since trip productions

are developed by income, along with size and vehicle availability levels. However, the trip attraction model calculates total trip attractions for each TAZ, and so, a technique is necessary for apportioning the total attractions among the four income levels, for each home-based purpose.

The approach for apportioning trip attractions by income level is one that assumes that the zonal income distribution is not substantially different from the regional income distribution. The approach does, however, allow for the income variation by area type which is an important consideration. Ideally, it would be desirable to know the type of employment in each TAZ as a basis for the distributing HBW attractions by income, or the type of retail employment as a basis for distributing HBS attractions by income. Unfortunately, this type of information is not currently available as an input to the travel model and cannot be considered.

The income distribution of HBW, HBS, and HBO trip attractions by area type is shown on Table 32, Table 33, and Table 34, respectively. These tables were summarized from the 2007/08 HTS. Table 32 indicates that 12.95% of regional attractions are comprised of income level 1 attractions. Table 32 also indicates that the regional proportion varies somewhat by area type. For example, the proportion of income level 1 attractions in area type 1 (high density urban) is about 9.6% of all attractions in area type 1, and this differential is reflected in the ratios shown at the bottom of Table 32 (the ratio of 9.4% to 12.95% is 0.74). This information will be used to perform the apportioning of total motorized attractions by income level. In application, the technique is will be performed for each purpose as follows:

Total motorized attractions will be computed for a TAZ

Equation 3 Trip Attraction by Income Level

The TAZ level trip attractions will be calculated by income level, by purpose, using the following equation:

$$\text{Attractions(L)} = \text{Total Attractions} * \text{Regional Pct(L)} * \text{Ratio (L,AT)}$$

where:

Attractions(L)	= income level L trip attractions
Total Attractions	= Total trip attractions
Regional Pct(L)	= Regional percent of trip attractions of income L
Ratio (L,T)	= Ratio of area type T pct. of income L attractions to the regional pct.

The income-based attractions computed in step 2 will be normalized to the step 1 total

The regional income percentage and the area type-based ratios for each HB purpose are read into the trip generation program as a parameter table (or a “lookup table”). After all TAZs have been processed, the zonal trip attractions in each income group are scaled to match the computed trip production totals. This method assures that the income distribution of attractions within area types will agree with that of the 2007/08 HTS. It is assumed that this distribution will remain stable over time.

Table 32 HBW Motorized Trip Attractions by Area Type and Income

Area Type	Income1	Income2	Income3	Income4	Total
1	80,191	241,965	287,102	222,871	832,129
2	101,088	288,627	309,459	204,419	903,593
3	147,866	350,939	345,579	195,381	1,039,764
4	30,640	67,420	44,367	28,069	170,496
5	61,816	139,199	133,200	49,754	383,969
6	34,570	73,482	63,813	19,652	191,517
Total	456,170	1,161,633	1,183,521	720,146	3,521,469
Income Distribution of HBW Trip Attractions by Area Type					
Area Type	Income1	Income2	Income3	Income4	Total
1	9.64%	29.08%	34.50%	26.78%	100.00%
2	11.19%	31.94%	34.25%	22.62%	100.00%
3	14.22%	33.75%	33.24%	18.79%	100.00%
4	17.97%	39.54%	26.02%	16.46%	100.00%
5	16.10%	36.25%	34.69%	12.96%	100.00%
6	18.05%	38.37%	33.32%	10.26%	100.00%
Total	12.95%	32.99%	33.61%	20.45%	100.00%
Ratio of Area Type Income Distribution to the Regional Distribution					
Area Type	Income1	Income2	Income3	Income4	
1	0.7439	0.8815	1.0266	1.3097	
2	0.8636	0.9683	1.0190	1.1062	
3	1.0978	1.0232	0.9889	0.9189	
4	1.3873	1.1988	0.7743	0.8050	
5	1.2428	1.0990	1.0322	0.6336	
6	1.3935	1.1631	0.9914	0.5018	

Source: 2007/2008 HTS

Table 33 HBS Motorized Trip Attractions by Area Type and Income

Area Type	Income1	Income2	Income3	Income4	Total
1	20,757	42,349	37,159	27,709	127,974
2	95,882	191,413	204,988	128,509	620,791
3	165,345	381,588	368,510	159,232	1,074,675
4	56,739	117,664	112,012	58,191	344,607
5	72,449	211,873	201,293	60,035	545,650
6	30,362	54,583	60,979	22,475	168,398
Total	441,533	999,471	984,940	456,151	2,882,095
Income Distribution of HBS Trip Attractions by Area Type					
Area Type	Income1	Income2	Income3	Income4	Total
1	16.22%	33.09%	29.04%	21.65%	100.00%
2	15.45%	30.83%	33.02%	20.70%	100.00%
3	15.39%	35.51%	34.29%	14.82%	100.00%
4	16.46%	34.14%	32.50%	16.89%	100.00%
5	13.28%	38.83%	36.89%	11.00%	100.00%
6	18.03%	32.41%	36.21%	13.35%	100.00%
Total	15.32%	34.68%	34.17%	15.83%	100.00%
Ratio of Area Type Income Distribution to the Regional Distribution					
Area Type	Income1	Income2	Income3	Income4	
1	1.0587	0.9542	0.8499	1.3677	
2	1.0085	0.8890	0.9663	1.3076	
3	1.0046	1.0239	1.0035	0.9362	
4	1.0744	0.9844	0.9511	1.0670	
5	0.8668	1.1197	1.0796	0.6949	
6	1.1769	0.9345	1.0597	0.8433	

Source: 2007/2008 HTS

Table 34 HBO Motorized Trip Attractions by Area Type and Income

Area Type	Income1	Income2	Income3	Income4	Total
1	62,588	104,036	102,072	91,767	360,463
2	232,338	416,417	418,281	285,700	1,352,736
3	207,625	572,863	552,918	310,960	1,644,367
4	136,070	326,709	315,535	187,180	965,495
5	151,018	504,410	521,081	241,014	1,417,524
6	60,220	235,598	277,858	106,643	680,319
Total	849,860	2,160,033	2,187,745	1,223,265	6,420,904
Income Distribution of HBO Trip Attractions by Area Type					
Area Type	Income1	Income2	Income3	Income4	Total
1	17.36%	28.86%	28.32%	25.46%	100.00%
2	17.18%	30.78%	30.92%	21.12%	100.00%
3	12.63%	34.84%	33.62%	18.91%	100.00%
4	14.09%	33.84%	32.68%	19.39%	100.00%
5	10.65%	35.58%	36.76%	17.00%	100.00%
6	8.85%	34.63%	40.84%	15.68%	100.00%
Total	13.24%	33.64%	34.07%	19.05%	100.00%
Ratio of Area Type Income Distribution to the Regional Distribution					
Area Type	Income1	Income2	Income3	Income4	
1	1.3112	0.8579	0.8312	1.3365	
2	1.2976	0.9150	0.9075	1.1087	
3	0.9539	1.0357	0.9868	0.9927	
4	1.0642	1.0059	0.9592	1.0178	
5	0.8044	1.0577	1.0790	0.8924	
6	0.6684	1.0294	1.1987	0.8231	

Source: 2007/08 HTS

4.9 Truck Model

The origin/destination truck trip generation rates are based on area type and land activity variables as shown in Table 35. The truck trip generation model also includes provisions to remove external trucks generated because external truck travel is accounted for exogenously. The truck trip generation process also includes network checks provisions to ascertain whether or not truck access from each TAZ to the highway network is valid. There are some zonal centroids in the regional network that have a single connection to a parkway where trucks are prohibited. In these types of cases, truck trip generation is suppressed. Finally, the truck model also considers a limited number of special generator TAZs, or locations where truck traffic generation is known to be more intensive. Global trip generation adjustments are applied to the special generator TAZs. The medium truck generation is factored by 2.70 while heavy trucks are factored by 5.3.

Table 35 Truck trip generation rates as a function of truck type, area type, and land use category³³

Vehicle Type	Area Type	Land Use Category				
		Office	Retail	Industrial	Other	HH
Medium Truck (Single Unit 6+ Tires)	1 (CBD)	0.004	0.088	0.088	0.014	0.070
	2 - 4	0.005	0.125	0.125	0.020	0.100
	5	0.006	0.150	0.150	0.024	0.120
	6	0.006	0.150	0.150	0.024	0.120
Heavy Truck (All Combination Vehicles)	1 (CBD)	0.001	0.027	0.055	0.002	0.011
	2 - 4	0.002	0.039	0.078	0.003	0.015
	5	0.002	0.043	0.086	0.003	0.017
	6	0.002	0.043	0.086	0.003	0.017

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4.10 Commercial Vehicle Model

The trip generation of zonal commercial vehicle trips is developed with the equation shown below:³⁴

Equation 4 Trip generation of commercial vehicle trips

COM productions =

$$(0.056 \cdot \text{indemp} + 0.168 \cdot \text{offemp} + 0.494 \cdot \text{retemp} + 0.082 \cdot \text{othemp} + 0.130 \cdot \text{HH}) \cdot \text{ATFAC}$$

(attractions = productions, by zone)

where:

indemp = industrial employment

offemp = office employment

retemp = retail employment

othemp = other employment

HH = households

ATFAC = area type adjustment factor:

Area type	Factor
1	1.05
2	0.90
6	1.20

Note: no factor is applied to area types 3-5.

³³ William G. Allen, *Development of a Model for Truck Trips* (Windsor, South Carolina: Prepared for the Metropolitan Washington Council of Governments/National Capital Region Transportation Planning Board, January 14, 2008).

³⁴ Allen, *Development of a Model for Commercial Vehicle Trips*, 46.

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Chapter 5 Trip Distribution

The Version 2.3 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 (i.e., external-to-internal, X/I, and internal-to-external, I/X) auto and truck distribution models. The Version 2.3 trip distribution process is identical to that of Version 2.2, except that, first, the truck F-Factors have been revised,³⁵ and, second, the output formats of trip table have been changed from an integer format to a real number format (two-decimals).

5.1 Model Structure

The Version 2.3 trip distribution model is used to develop zonal trip tables corresponding to the eight basic trip purposes:

- HBW, HBS, HBO, NHW, and NHO motorized person trips,
- Commercial vehicle trips, and
- Medium and heavy truck trips.

The Version 2.3 trip distribution process consists of several different distribution models that are developed for special travel markets within the eight basic purposes. As can be seen in Table 36, there are 17 markets for internal (I-I) trips and 13 markets for external (I-X, X-I) trips, which leads to 30 trip distribution markets.

Table 36 Trip distribution markets

Purpose/Mode	Internal (I-I) trips	External (I-X, X-I) trips
HBW person	4 income strata	2 facility types: interstate and arterial
HBS person	4 income strata	2 facility types: interstate and arterial
HBO person	4 income strata	2 facility types: interstate and arterial
NHW person	1 (non-stratified)	2 facility types: interstate and arterial
NHO person	1 (non-stratified)	2 facility types: interstate and arterial
Commercial vehicles	1 (non-stratified)	1 (non-stratified)
Medium truck	1 (non-stratified)	1 (non-stratified)
Heavy truck	1 (non-stratified)	1 (non-stratified)
Total internal/ext. markets	17	13
Total markets modeled	30	

For the current calibration effort, 14 of the 30 trip distribution markets have been re-calibrated using the observed motorized trips from the 2007/2008 Household Travel Survey data and year 2007 highway

³⁵ William G. Allen, *Development of a Model for Truck Trips* (Windsor, South Carolina: Prepared for the Metropolitan Washington Council of Governments/National Capital Region Transportation Planning Board, January 14, 2008).

and transit networks (See Table 37).³⁶ These 14 markets account for the vast majority of motorized travel in the region. The external distribution models were not re-estimated as no external survey data has been recently collected for these markets. Similarly, the internal trip distribution markets for commercial vehicles and trucks were not re-estimated. Consequently, the “legacy” friction factor (F-factor) curves used in the Version 2.2 model will be maintained for the other 16 markets. The commercial vehicle and truck models calibrated in 2008 on the 2,191-TAZ area system were preserved and adapted to operate on the 3,722-TAZ area system.³⁷

Table 37 Trip distribution markets that were re-calibrated

Purpose/Mode	Internal Person Models
HBW person	4 Income Strata
HBS person	4 Income Strata
HBO person	4 Income Strata
NHW person	1 (non-stratified)
NHO person	1 (non-stratified)
Total Markets	14

5.2 Internal Motorized Person Models

The Version 2.3 trip distribution model includes income stratification for the home-based trip purposes. The model also makes 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 some previous model versions) has the potential to understate accessibility. The definition of the composite time is:

³⁶ Ron Milone to Files, “Version 2.3 Trip Distribution Calibration,” Memorandum, January 2, 2011.

³⁷ Ronald Milone to Hamid Humeida and Mark Moran, “Conversion Truck Modeling Inputs for the 3722 System,” Memorandum, March 26, 2010; Hamid Humeida to Files, “Development of an equivalency file to convert truck modeling inputs from the 2191 TAZ system to the new 3722 TAZ system,” Memorandum, April 16, 2010.

Equation 5 Composite time

$$CT_i = \frac{1}{\frac{1}{HT + TollT_i} + \frac{P_i}{TT}}$$

where

CT_i = Composite time for income level i

HT = Congested highway time (minutes), including terminal time

$TollT_i$ = Time equivalent (minutes) of tolls associated with the minimum-time path for income i

P_i = Regional transit share of income i for the trip purpose

TT = Metrorail-related transit time (min.), including in-vehicle and out-of-veh. time components

The highway and transit times used in the formulation vary by purpose. AM peak highway/transit times are used for the HBW purpose and midday highway/transit times are used for the remaining HBS, HBO, NHW and NHO purposes. The highway time (HT) includes both over-the-network times as well as terminal times, e.g., parking and retrieving a vehicle, which vary from 1 to 5 minutes depending on the area type of the origin/destination. Since the trip distribution model not only distributes trips between zones, but also determines the number of trips that stay within each zone, the average travel time for intra-zonal trips must be estimated. The intra-zonal highway times have been set to 85% of the minimum inter-zonal time. The previous assumption (50% of the minimum intra-zonal time) was found to yield an overestimation in intra-zonal travel and so the percentage was increased to better approximate the observed intra-zonal proportions. The regional share of transit trips made by each income group (P_i) is shown in Table 38 as percents. The table indicates that work transit shares vary by income, from 0.1483 to 0.1851. The transit percentages for the remaining purposes vary by income group from 0.0104 to 0.1239. Since these values are relatively small, the effect of highway times will be generally more pronounced on the overall composite time function compared to the effect of transit times for most interchanges.

Table 38 Internal Motorized Trips and Transit Percentages by Purpose and Mode

Purpose	Mode	Income Level				Total
		<50k	50k - 100k	100k - 150k	>150k	
HBW	Transit	84,443	181,611	199,065	106,767	571,886
	Auto Person & Transit	456,170	1,161,633	1,183,520	720,145	3,521,468
	<i>Transit Percentage</i>	<i>18.51%</i>	<i>15.63%</i>	<i>16.82%</i>	<i>14.83%</i>	<i>16.24%</i>
HBS	Transit	35,553	18,377	11,572	4,748	70,250
	Auto Person & Transit	441,532	999,471	984,941	456,151	2,882,095
	<i>Transit Percentage</i>	<i>8.05%</i>	<i>1.84%</i>	<i>1.17%</i>	<i>1.04%</i>	<i>2.44%</i>
HBO	Transit	105,308	49,816	41,030	19,324	215,478
	Auto Person & Transit	849,860	2,160,034	2,187,745	1,223,266	6,420,905
	<i>Transit Percentage</i>	<i>12.39%</i>	<i>2.31%</i>	<i>1.88%</i>	<i>1.58%</i>	<i>3.36%</i>
NHW	Transit	20,858	38,214	51,402	29,110	139,584
	Auto Person & Transit	183,863	549,589	557,211	320,450	1,611,113
	<i>Transit Percentage</i>	<i>11.34%</i>	<i>6.95%</i>	<i>9.22%</i>	<i>9.08%</i>	<i>8.66%</i>
NHO	Transit	35,845	10,999	12,305	6,216	65,365
	Auto Person & Transit	478,859	1,050,166	950,672	437,335	2,917,032
	<i>Transit Percentage</i>	<i>7.49%</i>	<i>1.05%</i>	<i>1.29%</i>	<i>1.42%</i>	<i>2.24%</i>
All	Transit	282,007	299,017	315,374	166,165	1,062,563
	Auto Person & Transit	2,410,284	5,920,893	5,864,089	3,157,347	17,352,613
	<i>Transit Percentage</i>	<i>11.70%</i>	<i>5.05%</i>	<i>5.38%</i>	<i>5.26%</i>	<i>6.12%</i>

Source: 2007/08 HTS, Ref: 2007_HTS_Trips_by_Mode&Income.xlsx

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, the presence of transit service will generally contribute a small benefit to the travel time, since the regional transit shares are relatively small. Nonetheless, the composite time function will still reflect some travel time benefit with the presence of competitive transit service. This benefit would not be captured with an impedance measure based on highway time alone.

The highway time in the composite time function consists of both over-the-network time combined with terminal times (both production and attraction-end times). The highway time also includes toll values accumulated along the path that have been transformed into equivalent minutes.

The time-cost equivalents are provided by income level and purpose, and are shown on Table 39. These equivalents were developed using 2007 ACS income data and are described in greater detail in Chapter 2 (“Set-Up Programs and Highway Network Building”) of the Version 2.3 mode user’s guide.

The basis of the TollT_i term calculation is specified in Table 39. The table indicates the average time valuation (minutes per 2007 dollar) assigned to a toll value by income level and trip type (in 2007 dollars). The table indicates, for example, that a \$1.00 toll equates to 8.7 minutes of travel time for a traveler in income level 1. More generally, the table indicates that travelers commuting to work are less sensitive to tolls than non-work-bound travelers because the time valuation of commuters is relatively high. The table also reflects the intuitive generalization that lower income travelers are more sensitive to tolls than the higher income travelers. Table 40 indicates assumed average time valuations by time period and mode. The values shown on Table 40 are not used in the distribution step, but will be used in the traffic assignment process, where income is not considered but highway mode is considered.

Table 39 Time Valuation (Minutes/2007\$) by Purpose and Income Level

HH Income Quartile Range (1)	Mid-Point of HH Income Range	Hourly Rate per Worker (2)	2007 Time Valuation (Minutes per Dollar)	
			Work Trips (75% V.O.T.)	Non-work (50% V.O.T.)
\$ 0 - \$ 50,000	\$25,000	\$9.23	8.7	13.0
\$ 50,000 - \$ 100,000	\$75,000	\$27.70	2.9	4.3
\$100,000 - \$150,000	\$125,000	\$46.17	1.7	2.6
\$150,000 +	\$175,000	\$64.64	1.2	1.9

Notes:

- (1) Income groups based on 2007 ACS-based quartiles
- (2) Hourly rate based on 1,920 annual hours/worker * 1.41 workers/HH = 2,707 hrs/HH
- (3) Median 2007 Annual Income for modeled area is \$84,280

Table 40 Time valuation (minutes per year 2007 dollar) by vehicle type and time period, used in traffic assignment

Mode	Equivalent Minutes per Dollar			
	AM Peak	Midday	PM Peak	Night
SOV	2.5	3.0	3.0	3.0
HOV 2-occupant auto	1.5	4.0	2.0	4.0
HOV 3+occupant auto	1.0	4.0	1.0	4.0
Light duty commercial vehicle	2.0	2.0	2.0	2.0
Truck	2.0	2.0	2.0	2.0
Auto serving airport passenger	2.0	2.0	2.0	2.0

Time_Valuation_V2.3.xls

5.3 External Auto Person , commercial vehicle, and truck models

The external trip distribution models segment markets by purpose and facility. Facilities are distinguished as interstates (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 commercial vehicle and truck models (medium and heavy) are not segmented by facility types.

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 midday 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.

5.4 Friction Factor Summary

The process of calibrating F-factors for each purpose and income strata was established after the observed trip files and network files were prepared. Developing F-factors is a trial-and-error process. Test F-factors are used in a gravity model (GM) execution and then subsequently adjusted based on a comparison of observed and estimated trip lengths made for each one-minute increment of travel time. The calculation used to adjust the F-factor is as follows:

$$F_{\text{adjusted}} = F_{\text{used}} * \text{Observed Pct.}/\text{Estimated Pct.}$$

where

- F_{adjusted} = Adjusted F-factor to be used in a future GM execution
- F_{used} = Tested F-factor used in a previous GM execution
- Observed Pct. = Percentage of observed trips observed
- Estimated Pct. = Percentage of estimated trips resulting from the use of the test F-factors

The resulting adjusted F-curve typically appears as a “saw-tooth” looking function because the observed trip percent is subject to varying degrees of sampling error from one impedance unit to the next. An

irregular function is not desirable for modeling. Consequently, a nonlinear curve fitting is used for “smoothing” the adjusted F-factor curve.

The Gamma function was selected for smoothing the adjusted F-factor function. The form of the function is:

$$F_i = A \times I^B \times e^{-GI}$$

where

F_i = “Smoothed”, adjusted F-factor at impedance unit I

I = travel impedance (usually time in minutes)

A, B, G = Gamma function coefficients to be statistically estimated

e = Euler’s number; base of natural logarithms

The resulting Gamma coefficients are listed on Table 41. Friction factors are also shown graphically in Figure 9, Figure 10, Figure 11, and Figure 12.

Table 41 Estimated Gamma Distribution Values by Purpose and Income Strata

Purpose	Strata	Beta	Gamma
HBW	Income 1	-0.95818	-0.04622
	Income 2	-1.41425	-0.02571
	Income 3	-1.49461	-0.01920
	Income 4	-1.88024	-0.00835
HBS	Income 1	-2.46334	-0.07853
	Income 2	-1.33371	-0.12170
	Income 3	-1.99113	-0.09033
	Income 4	-2.91461	-0.06704
HBO	Income 1	-1.83692	-0.09635
	Income 2	-1.92946	-0.07128
	Income 3	-1.72297	-0.08637
	Income 4	-2.44221	-0.05837
NHW		-2.34915	-0.01478
NHO		-1.77486	-0.07430

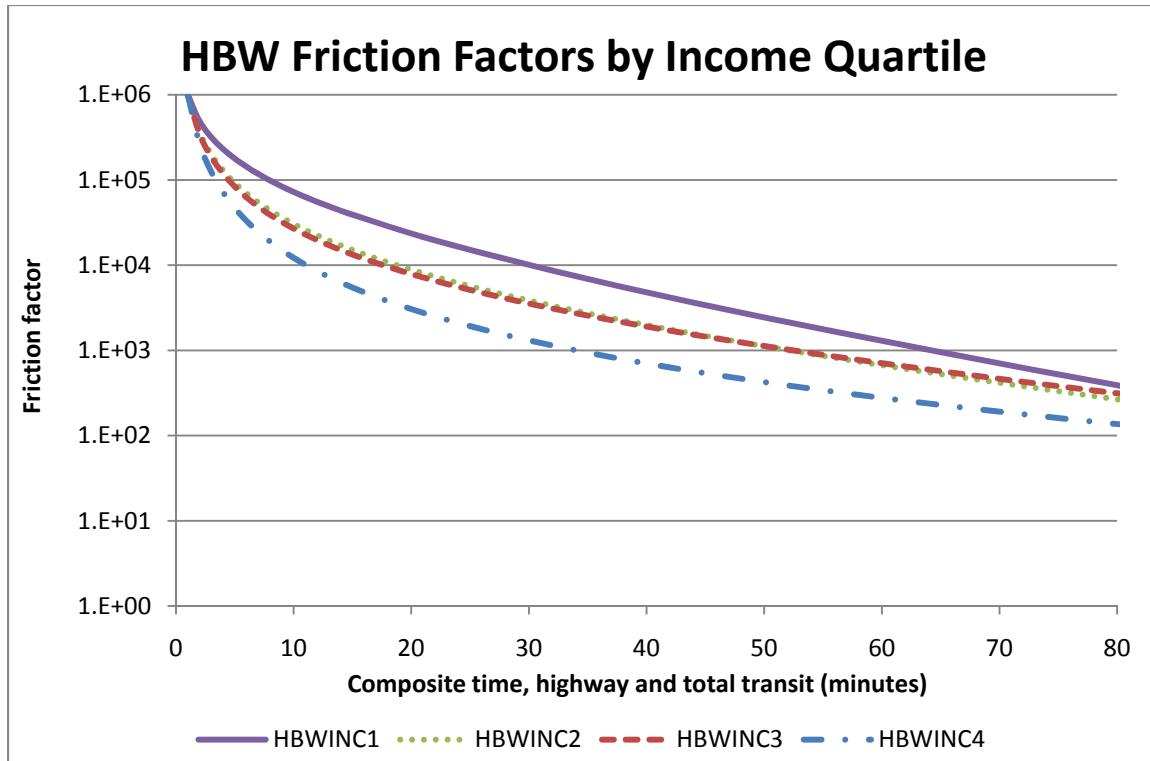


Figure 9 HBW Friction Factors

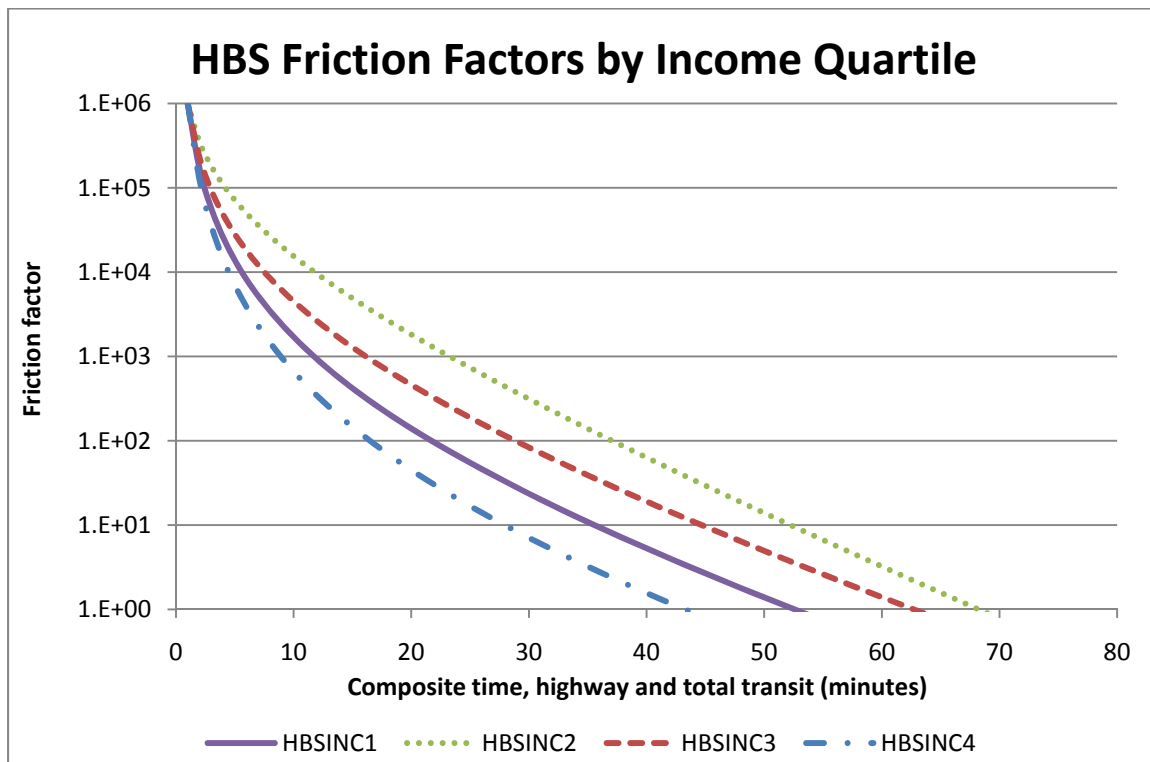


Figure 10 HBS Friction Factors

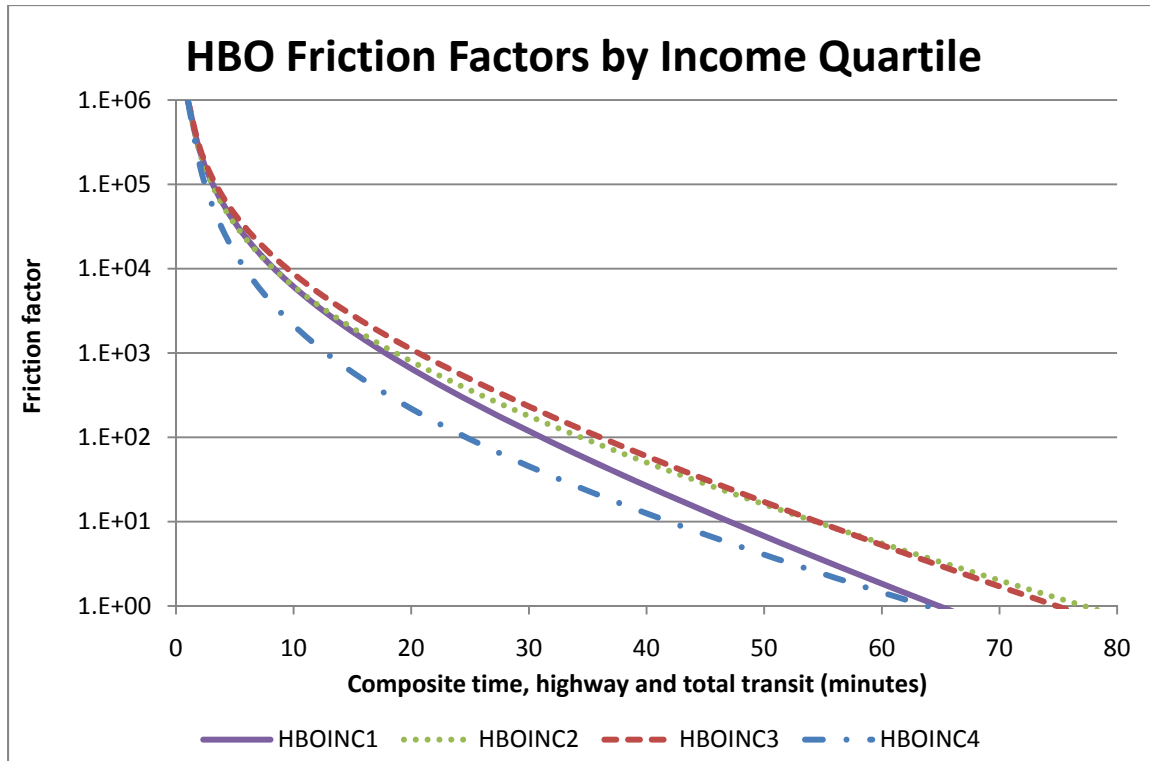


Figure 11 HBO Friction Factors

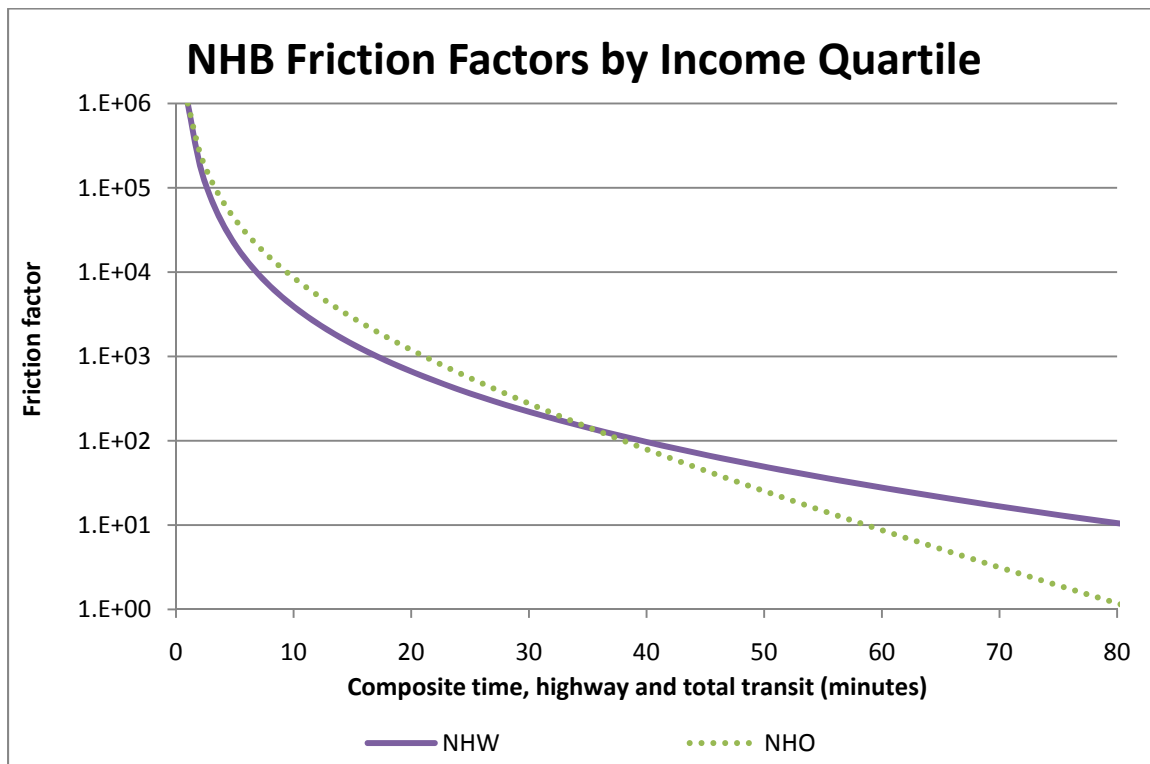


Figure 12 NHB Friction Factors

Table 42 presents a summary of estimated and observed trip lengths and intra-zonal percentages resulting from the calibrated F-factors, which are reasonable.

Table 42 Regional Estimated and Observed Trip lengths and Intra-zonal Percentages

Purpose	Income Level	HTS Trips	Trip Length in Composite mins.			Intrazonal Percentage		
			Est.	Obs.	Est.-Obs.	Est.	Obs.	Est.-Obs.
HBW	1	456,200	33.69	35.58	-1.89	3.12	3.22	-0.10
	2	1,161,600	46.54	47.21	-0.67	3.00	2.92	0.08
	3	1,183,500	52.47	51.33	1.14	2.02	1.97	0.05
	4	720,100	53.57	52.21	1.36	1.41	1.62	-0.21
HBS	1	441,500	16.56	16.81	-0.25	9.13	9.33	-0.20
	2	999,500	16.82	17.17	-0.35	8.98	9.84	-0.86
	3	984,900	17.30	17.70	-0.40	7.88	7.68	0.20
	4	456,200	16.83	17.13	-0.30	6.37	5.19	1.18
HBO	1	849,900	16.73	18.31	-1.58	9.36	7.90	1.46
	2	2,160,000	17.61	17.86	-0.25	11.60	11.06	0.54
	3	2,187,700	17.15	17.77	-0.62	9.92	12.15	-2.23
	4	1,223,300	17.00	17.92	-0.92	9.56	9.12	0.44
NHW	(n/a)	1,611,100	24.63	23.58	1.05	10.63	7.44	3.19
NHO	(n/a)	2,917,000	17.13	17.50	-0.37	17.33	14.61	2.72

The calibration procedure is described in more detail in a recent memorandum,³⁸ which includes trip-length frequency distributions comparing estimated and observed trips.

5.5 References

- Allen, William G. *Development of a Model for Truck Trips*. Windsor, South Carolina: Prepared for the Metropolitan Washington Council of Governments/National Capital Region Transportation Planning Board, January 14, 2008.
- Humeida, Hamid. Memorandum to Files. "Development of an equivalency file to convert truck modeling inputs from the 2191 TAZ system to the new 3722 TAZ system." Memorandum, April 16, 2010.
- Milone, Ron. Memorandum to Files. "Version 2.3 Trip Distribution Calibration." Memorandum, January 2, 2011.
- Milone, Ronald. Memorandum to Hamid Humeida and Mark Moran. "Conversion Truck Modeling Inputs for the 3722 System." Memorandum, March 26, 2010.

³⁸ Milone to Files, "Version 2.3 Trip Distribution Calibration."

Chapter 6 Mode choice

6.1 Overview

A mode choice model is used to apportion motorized person trips by travel mode. The mode choice model in the TPB Version 2.3 travel model on the 3,722-TAZ area system is a 15-choice, nested-logit mode choice (NLMC) model. The model includes three auto modes (drive alone, shared ride 2-person, and shared ride 3+person) and four transit modes (commuter rail, all bus, all Metrorail, and combined bus/Metrorail) by three modes of access to transit (park and ride, kiss and ride, and walk), as shown in Figure 13.

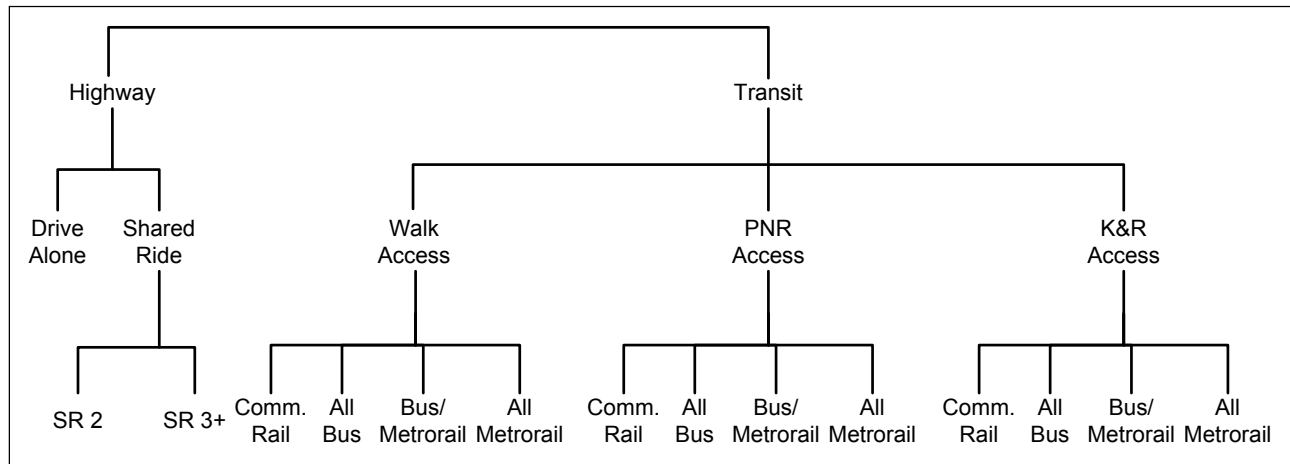


Figure 13 Nesting structure of the nested-logit mode choice model in the Version 2.3 travel model

Ref: O:\model_dev\nest_log\NestedChoice_Struct3.vsd

The definition of high-occupancy vehicle (HOV) trips has changed, compared to the definition that was used in Version 2.2 and before. Previously, HOV trips coming out of the mode choice model referred to *only those that use HOV facilities for a substantial portion of their trip*. Similarly, in previous models, the definition of low-occupancy vehicle (LOV) included both drive-alone and carpools (provided the carpools did not use a preferential HOV facility). By contrast, in the Version 2.3 NLMC model, the term LOV refers to only the drive-alone trips. Similarly, HOV refers to all shared-ride 2 (2-person carpools) and shared-ride 3 (3+ person carpools), irrespective of whether they use an HOV facility or not.

In terms of access to transit, park-and-ride (PNR) access means driving to transit and parking a motor vehicle at the PNR lot, for the purpose of boarding a transit vehicle at the transit stop. Similarly, kiss-and-ride (KNR) access, also known as “ride to transit,” means accessing transit by driving in cases where one either 1) is dropped-off/picked-up or 2) rides with a PNR driver. Motorized person trips are those that occur in motorized vehicles, such as cars, trains, buses, and subways. Motorized trips exclude walk and bike trips. However, as noted above, walking is represented in the model as one of the three access modes to transit. The NLMC model is applied at the zone-to-zone interchange level after trip distribution and before highway and transit assignment (i.e., within what is known as the “speed feedback loop” of the four-step model). The model is applied using a Fortran program named AEMS

(AECOM mode split modeling package).³⁹ AEMS is completely parametric, i.e., all characteristics for any given mode choice model are specified in a control file. Characteristics represented in the control file include nesting structure, market segmentation, utility/disutility functions, and the values of coefficients and constants. AEMS can handle models with any nesting structure and up to 15 choices.⁴⁰ AEMS and its control files are described in more detail in the Version 2.3 travel model user's guide.

There are five NLMC models – one for each trip purpose: home-based work (HBW), home-based shop (HBS), home-based other (HBO), non-home-based work (NHW), and non-home-based other (NHO). Each of the five models shares the same nesting structure (shown in Figure 13), but each has its own set of coefficients and constants, discussed later in this chapter. In model application, the inputs to the TPB Version 2.3 nested logit mode choice model are

- Motorized person trips, segmented by four income levels and 20 geographic market segments, in production/attraction format (these are output from the trip distribution step);
- Highway “skims” (i.e., zone-to-zone travel times and costs), which come from the highway path building and skimming process;
- Transit “skims,” which come from the transit path building and skimming process; and
- Zonal attributes, such as parking cost, terminal time (i.e., the time to park and “unpark” a car), and the percent of each zone that is within walking distance to transit (where two walking distances are defined: short and long).

The HBW mode choice model was calibrated with and is applied with transit and highway skims corresponding to the AM peak period. The non work (i.e., HBS, HBO, NHW, and NHO) mode choice models were calibrated with and are applied with transit and highway skims corresponding to the midday period.

Two of the most significant changes between the NLMC model and its predecessor (the sequential multinomial logit, or SMNL, mode choice model found in the Version 2.2 travel model) are that the NLMC model handles 15 choices (up from five, previously) and the NLMC model provides sufficiently detailed output, such that a transit assignment can be performed.

Although not explicitly listed as one of the four transit travel modes, the NLMC model can also model light rail transit (LRT), bus rapid transit (BRT), and street car.⁴¹ A description of how LRT, BRT, and streetcar are represented in the model can be found in the mode choice chapter of the Version 2.3 travel model user's guide (Chapter 11). Other significant changes, compared to past TPB mode choice models, include the new definition of HOV trips (mentioned earlier), revised methods for coding access to transit (both walk and drive), revised procedures for calculating the percent of each zone within walking distance to transit, and more detailed transit path-building procedures -- transit paths by transit

³⁹ AECOM Consult, Inc., *AECOM Consult Mode Choice Computation Programs, AEMS, Users Guide*, Draft report (Fairfax, Virginia: AECOM Consult, Inc., April 5, 2005).

⁴⁰ A newer version of AEMS is now available that can handle up to 18 choices.

⁴¹ Manish Jain to Ronald Milone and Mark Moran, “MWCOG network coding guide for Nested Logit Model,” Memorandum, February 2008, 10.

sub-mode and access mode, yielding 11 paths for each of the two time-of-day periods (AM peak period and midday period).

6.2 Background

The nested-logit mode choice model in the TPB Version 2.3 travel model nested-logit mode choice model is a descendant of an earlier nested-logit model developed by AECOM Consult, Inc. for the Washington Metropolitan Area Transit Authority (WMATA). The TPB nested-logit mode choice model and its predecessor, the AECOM/WMATA nested logit mode choice model, share many traits, but also have some key differences. Table 43 summarizes the key differences between these two models. More information can be found on pages 6-2 to 6-8 of the earlier Version 2.3 model documentation.⁴²

⁴² Ronald Milone et al., *TPB Travel Forecasting Model, Version 2.3: Specification, Validation, and User's Guide*, Draft report (Washington, D.C.: Metropolitan Washington Council of Governments, National Capital Region Transportation Planning Board, June 30, 2008), 6-2 to 6-8.

Table 43 Comparison of characteristics found in both the AECOM/WMATA NLMC model and the TPB NLMC model

Item	AECOM/WMATA NLMC	TPB NLMC
Travel modes	15 (3 auto, 12 transit)	Same
Nesting structure	3 levels, including auto by occupancy and transit by access mode	Same
Model application code	AEMS Fortran program	Same
How the mode choice model is applied	As a post process to the regional travel model	Within the speed feedback loop of the regional travel model (i.e., after trip distribution and before traffic assignment)
Trip purposes	3 (HBW, HBS/O, and NHB)	5 (HBW, HBS, HBO, NHW, and NHO)
Types of travel skims	2 (AM peak period and off peak period)	2 (AM peak period and midday period)
Number of mode choice models	6 (HBW AM, HBW OP, HBS/O AM, HBS/O OP, NHB AM, and NHB OP)	5 (HBW AM, HBS MD, HBO MD, NHW MD, and NHO MD)
Geographic market segmentation	7 superdistricts; 20 production/attraction interchanges	Same
Economic market segmentation	Households stratified by income (four levels)	Same
Revised transit access coding	<ul style="list-style-type: none"> • Additional information to describe transit stations; • A new way to code sidewalks and walk-access-to-transit links; • A new way to code drive-access-to-transit links; • Additional coding detail around Metrorail stations with “park and ride” access; and • Revised procedures for calculating the percent of each zone that is within walking distance to transit 	Same, except the item in the fourth bullet has not been adopted: <ul style="list-style-type: none"> • Additional coding detail around Metrorail stations with “park and ride” access;
Calibration year	2002	2007/2008
Data used for calibration	2002 WMATA Metrorail survey; 2000 Regional bus survey; Boarding counts for express bus and commuter rail	2008 Metrorail Survey; 2008 Regional Bus Survey, supplemented by the Fairfax Connector Bus Survey; 2007-2008 On-Board Survey of Maryland Transit Administration (MTA) Riders; 2005 Virginia Railway Express (VRE) Passenger Survey
Calibration approach	Calibrated by AECOM for 6 models applied as a post process	Re-calibrated by TPB staff for 5 models. Applied as an integral part of the speed feedback loop
Calibration programs	Used the Fortran program CALIBMS to automate the process of calculating nesting constants	Same

6.3 Detailed description of the TPB nested-logit mode choice model

The NLMC model in TPB’s Version 2.3 travel model can be thought of as consisting of four parts, each of which is described below:

1. A set of available modes/choices (15) and a nesting structure;
2. Rules for market segmentation
3. A set of utility equations, which include time and cost coefficients and also income constants;
4. A set of nesting *coefficients* (a.k.a. logsum parameters or Φ) and nesting *constants* (NC).

6.3.1 Choice set and nesting structure

The choice set and nesting structure of the NLMC model in the Version 2.3 travel model was already described in section 6.1 on page 67.

6.3.2 Market segmentation

The TPB NLMC model is market segmented by household income level, geography, and by access to transit. This three-way market segmentation scheme was developed by AECOM Consult, Inc. for the AECOM/Wmata NLMC model and was retained by TPB staff. The income segmentation is the same that is used for the first two steps of the travel model (i.e., trip generation and trip distribution), namely households are segmented by the four household income levels. As for geographic market segmentation, AECOM Consult, Inc. divided the modeled area into seven superdistricts:⁴³

1. DC core
2. VA core
3. DC urban
4. MD urban
5. VA urban
6. MD suburban
7. VA suburban

These seven superdistricts are also shown in Figure 14. Although seven market areas could lead to 49 (= 7 x 7) geographic interchanges, AECOM Consult, Inc. grouped them into the 20 paired production/attraction areas shown in Table 45. Another way to view the 20 geographic market segments is shown in Table 46.

Table 44 Production and attraction market segments used in the TPB Version 2.3 NLMC model

Production Areas	Attraction Areas
1. DC Core / Urban	1. DC Core
2. MD Urban	2. VA Core
3. VA Core / Urban	3. Urban
4. MD Suburban	4. Suburban
5. VA Suburban	

Ref: O:\model_dev\nest_log\marketSeg.xls

⁴³ Bill Woodford, "Development of Revised Transit Components of Washington Regional Demand Forecasting Model" (presented at the Transit Modeling Meeting, held at the Metropolitan Washington Council of Governments, Washington, D.C., December 1, 2004), 30.

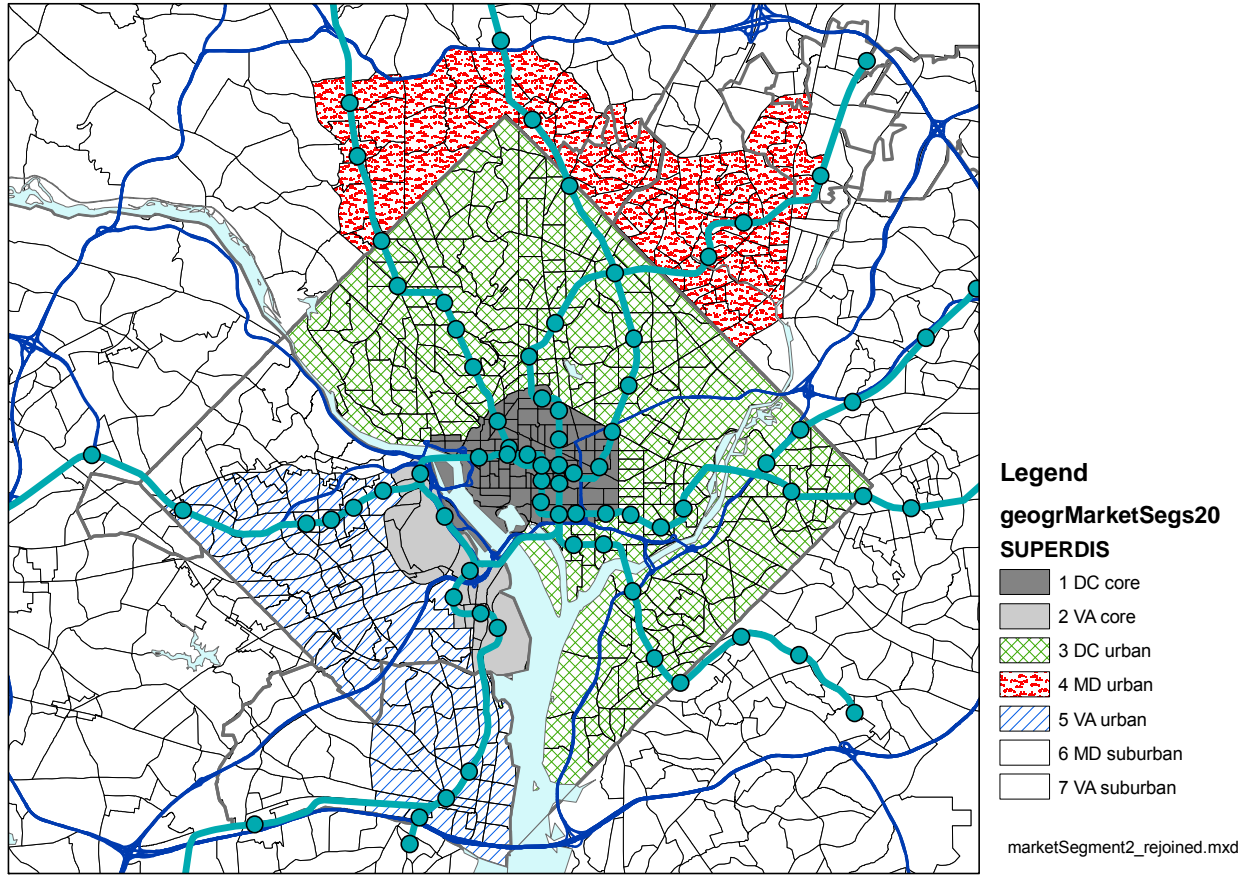


Figure 14 Seven superdistricts used in the Version 2.3 nested-logit mode choice model

Ref: O:\model_dev\nest_log\marketSegment2_rejoined.mxd,
O:\model_dev\nest_log\marketSegment2_rejoined_forBlackAndWhite.emf

Table 45 20 geographic market segments used in the TPB nested-logit mode choice model

Market Seg No.	Prod Superdis	Attr Superdis	Production Area	Attraction Area
1	1,3	1	DC	DC core
2	1,3	2	DC	VA core
3	1,3	3,4,5	DC	Urban DC, MD, VA
4	1,3	6,7	DC	Suburban MD, VA
5	4	1	MD urban	DC core
6	4	2	MD urban	VA core
7	4	3,4,5	MD urban	Urban DC, MD, VA
8	4	6,7	MD urban	Suburban MD, VA
9	2,5	1	VA core/urban	DC core
10	2,5	2	VA core/urban	VA core
11	2,5	3,4,5	VA core/urban	Urban DC, MD, VA
12	2,5	6,7	VA core/urban	Suburban MD, VA
13	6	1	MD suburban	DC core
14	6	2	MD suburban	VA core
15	6	3,4,5	MD suburban	Urban DC, MD, VA
16	6	6,7	MD suburban	Suburban MD, VA
17	7	1	VA suburban	DC core
18	7	2	VA suburban	VA core
19	7	3,4,5	VA suburban	Urban DC, MD, VA
20	7	6,7	VA suburban	Suburban MD, VA

Ref: O:\model_dev\nest_log\marketSeg.xls

Table 46 Equivalency between seven super-districts and the 20 geographic market segments

	1 DC core	2 VA core	3 DC urban	4 MD urban	5 VA urban	6 MD suburban	7 VA suburban
1 DC core	1	2	3	3	3	4	4
3 DC urban	1	2	3	3	3	4	4
4 MD urban	5	6	7	7	7	8	8
2 VA core	9	10	11	11	11	12	12
5 VA urban	9	10	11	11	11	12	12
6 MD suburban	13	14	15	15	15	16	16
7 VA suburban	17	18	19	19	19	20	20

Ref: O:\model_dev\nest_log\superDistr_marketSeg.xlsx

Table 47 shows the equivalency between the seven NLMC superdistricts and the new 3,722-TAZ area system.

Table 47 Equivalency between nested-logit mode choice superdistricts and TPB TAZ 3,722

No.	Name	TAZs (TPB TAZ 3,722)
-----	------	----------------------

No.	Name	TAZs (TPB TAZ 3,722)
1	DC core	1-4,6-47,49-63,65,181-287,374-381
2	VA core	1471-1476,1486-1489,1493,1495-1504,1507,1508,1510,1511
3	DC urban	5,48,51,64,66-180,210-281,288-373,382-393
4	MD urban	603,606,612-628,630-640,662-664,669,670,913,916,917,939-957,959,961-982,985,
4	MD urban	986
5	VA urban	1405-1422,1427-1435,1448,1452,1454-1464,1477-1485,1490-1492,1494,1505,1506,
5	VA urban	1509,1512-1545,1569-1609
6	MD suburban	394-602,604,605,607-611,629,641-661,665-668,671-912,914,915,918-938,958,960,
6	MD suburban	983,984,987-1404,2820-3102,3104-3409
7	VA suburban	1423-1426,1436-1447,1449-1451,1453,1465-1470,1546-1568,1610-2554,2556-2628,
7	VA suburban	2630-2819,3410-3477,3479-3481,3483-3494,3496-3675

Ref: O:\model_dev\neat_log\equiv_tpbTaz3722_nlmc_superdistr.txt and O:\model_dev\neat_log\Market_segment_NewTAZs_sorted.xlsx

Finally, the mode choice model is segmented by access to transit:

- Park and ride (PNR),
- Kiss and ride (KNR, or “ride to transit”), and
- Walk

Walk-access is further segmented by the length of walk to transit:

- Short walk (<= 0.5 miles)
- Long walk (> 0.5 miles and <= 1.0 mile).

This contrasts with the Version 2.2 mode choice model, which used slightly different definitions of short walk (0 to 0.3333 mile) and long walk (0.3333 mile to 1.0 mile).

6.3.3 Utility equations, including time and cost coefficients and income constants

The TPB nested-logit mode choice model has five utility equations -- one per trip purpose. The time and cost coefficients used in the utility equations are shown in Table 48.

Table 48 Time and cost coefficients in the Version 2.3 nested-logit mode choice model

Variable		Trip Purpose (5)				
		HBW	HBS	HBO	NHBW	NHBO
In-vehicle time	ivt	-0.02128	-0.02168	-0.02322	-0.02860	-0.02860
Auto access time	aat	-0.03192	-0.03252	-0.03483	-0.04290	-0.04290
Walk access time	ovtwa	-0.04256	-0.04336	-0.04644	-0.05720	-0.05720
Other out-of-vehicle time*	ovtot	-0.05320	-0.05420	-0.05805	-0.07150	-0.07150
Cost - Income group 1	costinc1	-0.00185	-0.00202	-0.00202	-0.00994	-0.00994
Cost - Income group 2	costinc2	-0.00093	-0.00101	-0.00101	-0.00994	-0.00994
Cost - Income group 3	costinc3	-0.00062	-0.00067	-0.00067	-0.00994	-0.00994
Cost - Income group 4	costinc4	-0.00046	-0.00051	-0.00051	-0.00994	-0.00994
* Includes boarding penalty						

Ref: O:\model_dev\neat_log\NLmcTimeCostCoef5.xlsx

A note about calibration and estimation of coefficient values

Some of the coefficients in Table 48 are statistically estimated, others are set using professional judgment and rules of thumb. Before discussing which are statistically estimated and which are set using professional judgment, it is useful to understand how calibration approaches have changed in the past few years.

In previous mode choice models developed by TPB staff (e.g., the sequential, multinomial-logit mode choice model in the Version 2.1 and Version 2.2 travel models), coefficients in the utility equations of the mode choice model were statistically estimated.⁴⁴ Following the estimation of coefficients, TPB staff would check the reasonableness of coefficients by using various rules of thumb. For example, one rule of thumb is that the ratio of the out-of-vehicle travel time coefficient to the in-vehicle travel time coefficient (C_{ovtt}/C_{ivtt}) should be between 2.0 and 3.0. This rule of thumb has always been used by TPB staff in mode choice model estimation and has also been proposed by the Federal Transit Administration.⁴⁵ In cases where the estimated coefficients did not agree with the rule of thumb, one was left to ponder the cause of the discrepancy. For example: Was there a problem with the estimation data? Was a utility equation misspecified? Was the estimation software not used correctly? Did the discrepancy in the ratio value represent a true difference in travel behavior of Washington, D.C. area travelers compared to other travelers in the U.S? Or, since the values of the coefficients are, in part, a function of the other coefficients in the utility equation, would a different set of utility variables have resulted in coefficient values that met the rule of thumb? Due to issues such as these, and the increased interest in getting proposed transit projects to pass muster with the FTA, many consulting firms and agencies have started taking a new approach in calibrating mode choice models: namely, using a combination of statistically estimated coefficients and coefficients that are set by fiat, typically based on rules of thumb. This latter approach is what was used by AECOM when they calibrated their nested-logit mode choice model in 2004-2005, and it is also the approach used by TPB staff in calibrating the NLMC model.

Discussion of coefficient values in the TPB nested-logit mode choice model

The in-vehicle time (IVT) coefficients are all about -0.02 and were statistically estimated using Alogit software. These come from earlier estimation work done by TPB staff, for the 2.1C and 2.1D travel models. These values are in the range of values expected by FTA, which expects IVT coefficients in the range of -0.03 to -0.02.⁴⁶ The next three time coefficients have been set as multiples of the IVT coefficient. For example, the auto access time coefficient is set equal to 1.5 times the IVT coefficient, indicating that time spent in a car for accessing transit is perceived as 1.5 times as burdensome as time spent in the transit vehicle itself. Similarly, the walk-access time coefficient is set equal to 2.0 time the

⁴⁴ Using a maximum likelihood estimation (MLE) technique in a software package such as Alogit.

⁴⁵ Jim Ryan, "Travel Forecasting for New Starts: The FTA Perspective," April 7, 2004, 55; Federal Transit Administration, "12 - Early Quality-of-Service Analysis of the Alternatives" (presented at the Travel Forecasting for New Starts Proposals Workshop, Minneapolis, Minnesota, June 16, 2006), 38, http://www.fta.dot.gov/planning/newstarts/planning_environment_5402.html.

⁴⁶ Ryan, "Travel Forecasting for New Starts: The FTA Perspective," 53; Federal Transit Administration, "12 - Early Quality-of-Service Analysis of the Alternatives," 37.

IVT coefficient, indicating that time spent walking to access transit is perceived as 2.0 times as burdensome as time spent in the transit vehicle. Lastly, the other-out-of-vehicle time coefficient is set to a value of 2.5 times the IVT coefficient. These last two out-of-vehicle time coefficients conform to FTA expectations that the ratio of C_{ovt}/C_{ivt} should be between 2.0 and 3.0, unless an agency can provide compelling evidence to the contrary. Next come four cost coefficients, one per household income group (income group 1, 2, 3, and 4). The first cost coefficient, like the IVT coefficient, was statistically estimated from a previous version of the regional travel model. The remaining three cost coefficients, in the case of the three home-based purposes, are set as factors of the cost coefficient for income group 1. Specifically, the cost coefficient for income group 2 is equal to 1/2 the cost coefficient for income group 1. Similarly, the cost coefficient for income group 3 is equal to 1/3 the cost coefficient for income group 1, and the cost coefficient for income group 4 is equal to 1/4 the cost coefficient for income group 1.

The TPB NLMC model also uses a set of income constants, which were developed for the AECOM/WMATA NLMC model and retained for use in the TPB model (See Table 49). AECOM introduced the income constants to help reduce the high number of modeled boardings in Northwest DC.⁴⁷

Table 49 Income constants used in the TPB Ver. 2.3 NLMC model

Mode	Income stratification		
	Low	Middle	High
All auto modes	0.0	0.0	0.0
Walk to commuter rail	2.0	0.0	-2.0
Walk to all bus	2.0	0.0	-2.0
Walk to bus/Metrorail	2.0	0.0	-2.0
Walk to all Metrorail	2.0	0.0	-2.0
PNR and KNR to transit	0.0	0.0	0.0

Ref: O:\model_dev\nest_log\NlmcTimeCostCoef5.xlsx

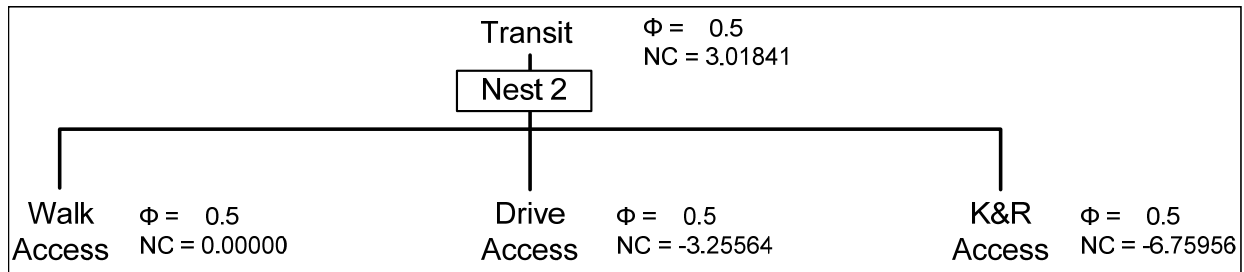
The income constants apply to all trip purposes. “Low income” means income group 1. “Middle income” means income groups 2 and 3. “High income” means income group 4. These income constants have the effect of increasing the probability (due to the +2.0) that low income travelers will choose walk to transit and decreasing the probability (due to the -2.0) that high income travelers will choose walk to transit.

6.3.4 Nesting coefficients and nesting constant

Each nest in a nested-logit mode choice model has at least two alternatives. For example, in the TPB NLMC model, the transit nest has three alternatives: PNR, KNR, and walk access. Each nest has N nesting coefficients (a.k.a. logsum parameters, or Φ) and N-1 constants (NCs), where N is the number of alternatives in the nest. So, for example, in the example nest shown in Figure 15, the transit nest has three alternatives, three nesting coefficients, and two (non-zero) nesting constants.

⁴⁷ Bruce Williams, “Revised Calibration Results with Additional Revisions to Transit Components of Washington Regional Demand Forecasting Model” (presented at the Transit Modeling Meeting, held at the Metropolitan Washington Council of Governments, Washington, D.C., March 2, 2005), 5.

Figure 15 Example of a nest in a nested logit mode choice model (with hypothetical values for Φ and NC)



Ref: O:\model_dev\nest_log\NestedChoice_Struct3.vsd

In the TPB NL MC model, nesting coefficients (Φ) have been set using professional judgment and nesting constants (NC) are estimated in the calibration process. This follows the lead set by AECOM in their calibration of the AECOM/WMATA NL MC model.

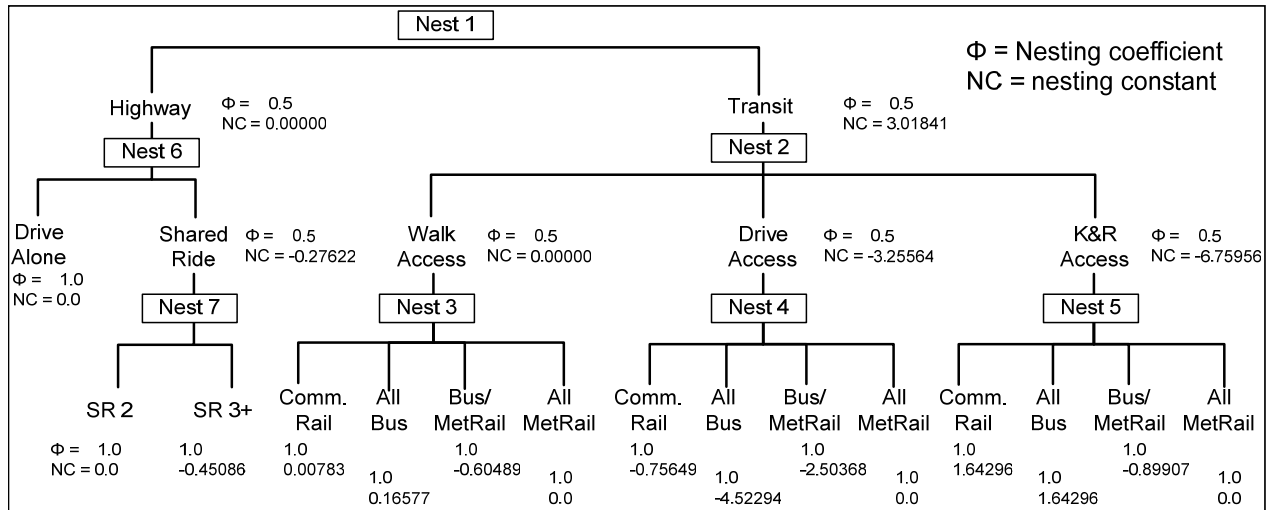
Nesting coefficients

The nesting coefficients (Φ) in a nested-logit mode choice model are a function of the underlying correlation between the unobserved components for pairs of alternatives in a nest, and they characterize the degree of substitutability between those alternatives. The values of the nesting constants should lie between 0 and 1, as indicated in Table 22. All the nesting coefficients in the TPB NL MC model have been set, by fiat, to 0.5. The TPB NL MC model has three layers of nests, but the bottom layer does not have nesting coefficients, so it has two layers of nests with nesting coefficients. The top-level equivalent of the nesting coefficients can be calculated by multiplying the nesting coefficient values of the two layers, i.e., $0.5 * 0.5 = 0.25$, which is in the range of what would be considered reasonable (See Figure 16).

Table 50 Interpretation of nesting coefficient values in nested-logit mode choice models

Nesting coefficient value	Implication
$0 < \Phi < 1$	The range of acceptable values for Φ . Decreasing values of Φ indicate increased substitution among alternatives in a nest.
$\Phi = 0$	Implies perfect correlation between pairs of alternatives in the nest
$\Phi = 1$	Zero correlation among mode pairs in the nest. This means the nested-logit (NL) model becomes a multinomial logit (MNL) model.
$\Phi > 1$	Reject the nested-logit model

Figure 16 Examples of possible values for nesting coefficients and nesting constants



Ref: O:\model_dev\nest_log\NestedChoice_Struct3.vsd

Nesting constants

As stated earlier, AECOM developed 20 production/attraction market segments, based on seven superdistricts. We have chosen to retain this same geographic market segmentation in our model. There is one nesting constant for each market segment (20), each travel mode (15), and each trip purpose (5). Calibrating the nested-logit mode choice model essentially consists of estimating these nesting constants. Details of the calibration process can be found in section 6.4 on page 78.

6.3.5 Other details

In past documentation, there was documentation regarding other details of the NL MC model, such as revised transit access coding conventions, transit path-building procedures, and the treatment of parking costs and terminal times.⁴⁸ It is intended to include this information in either the user’s guide and/or the network documentation.

6.4 Calibration process

To calibrate the TPB NLMC model, one assumes that the time and cost coefficients are known. The calibration consists of finding a set of nesting constants that allow the NLMC model to most closely replicate the observed market shares (known as “targets”). As mentioned in section 6.2 on page 69, an automated routine, implemented as a Fortran program named CALIBMS, is used to perform the calibration. Once one has run CALIBMS, one should ideally check the values of the output nesting constants to make sure that none of the constants are overly large. If one or more of the constants are overly large, their values can be manually overridden. For this particular calibration effort, due to time constraints, none of the calculated values were overridden. The NLMC calibration process was performed twice: first, using an observed, year-2007 trip table from the 2007/2008 COG/TPB

⁴⁸ Milone et al., TPB Travel Forecasting Model, Version 2.3: Specification, Validation, and User’s Guide, 6-10.

Household Travel Survey (HTS);⁴⁹ and second, using a simulated, year-2007 trip table.⁵⁰ Details of these two calibration efforts can be found in the cited memos.

6.4.1 Observed data and calibration targets

A “calibration target” is a control total representing the number of person trips (for an average weekday) for each trip purpose (5), travel mode (15), and geographic market segment (20). The following on-board transit surveys were used to develop trip targets:

- 2008 Metrorail Survey⁵¹
- 2008 Regional Bus Survey (supplemented by the Fairfax Connector Bus Survey)⁵²
- 2007-2008 On-Board Survey of Maryland Transit Administration (MTA) Riders, which would include survey information from riders of the Maryland Area Regional Commuter (MARC) train service⁵³
- 2005 Virginia Railway Express (VRE) Passenger Survey⁵⁴

Since the calibration year is 2007, it is preferable to have a survey from that year. In some cases this was not possible (e.g., no survey was conducted in 2007) or not desirable (e.g., a survey in another year was of better quality), or both. In the case of Metrorail, there was, in fact, a 2007 Metrorail Passenger Survey,⁵⁵ but it was believed that the 2008 survey had more complete information. For example, the 2008 survey, in contrast with the 2007 survey, included production-end mode of access to the first transit vehicle for every observation.⁵⁶ The 2008 Metrorail survey⁵⁷ was collected by WB&A, geocoded by Rummel, Klepper & Kahl, LLP (RK&K), and cleaned by Parsons Brinckerhoff (PB). The final survey

⁴⁹ Mark S. Moran to Ronald Milone, “Using CALIBMS and an observed trip table to calibrate the nested-logit mode choice model that is part of the TPB Version 2.3 travel model on the 3,722-TAZ area system,” Memorandum, January 19, 2011.

⁵⁰ Mark S. Moran to Ronald Milone, “Using CALIBMS and a simulated trip table to calibrate the nested-logit mode choice model that is part of the TPB Version 2.3 travel model on the 3,722-TAZ area system,” Memorandum, February 19, 2011.

⁵¹ WB&A Market Research, “2008 Metrorail Passenger Survey,” 2008.

⁵² Robert E. Griffiths, “2008 Regional Bus Survey: Preliminary Results” (presented at the Travel Forecasting Subcommittee of the TPB Technical Committee of the National Capital Region Transportation Planning Board, held at the Metropolitan Washington Council of Governments, Washington, D.C., May 22, 2009); NuStats, 2008 Regional Bus Survey: Draft Report (Austin, Texas: Metropolitan Washington Council of Governments (COG), June 2009); Clara Reschovsky, Analysis of 2008 Bus Survey Data, WMATA On-Board Survey, Internal Report (Washington, D.C.: Metropolitan Washington Council of Governments, National Capital Region Transportation Planning Board, June 30, 2010).

⁵³ NuStats, Baltimore 2007-2008 On-Board Study: Final Report (Austin, Texas: Maryland Transit Administration, December 2008).

⁵⁴ Virginia Railway Express, 2005 Passenger Survey (Virginia Railway Express, n.d.), http://www.vre.org/feedback/cs_survey/survey_results_index.htm.

⁵⁵ WB&A Market Research, 2007 Metrorail Passenger Survey Final Report (Washington Metropolitan Area Transit Authority, October 16, 2007).

⁵⁶ Mary Martchouk to Mark S. Moran, “Developing Transit Calibration Targets for 2007,” Memorandum, June 2, 2010, 5.

⁵⁷ WB&A Market Research, “2008 Metrorail Passenger Survey.”

included 35,966 records, which were expanded to 786,813 daily Metrorail trips (the average number of trips in September 2008).⁵⁸ Survey results were not factored to 2007 conditions, given the proximity of the two years.

Information about bus-only trips was obtained from the 2008 Regional Bus Survey (supplemented by the Fairfax Connector Bus Survey). Again, data was not explicitly factored to year-2007 conditions. Details can be found in a recent memo.⁵⁹ Commuter rail information was obtained from the 2007-2008 MTA survey (which included MARC riders) and the 2005 VRE survey (which included VRE riders). The MTA survey was collected by NuStats and provided to MWCOG by PB. The total number of MARC survey records after it was cleaned and geocoded by PB was 1,915, which were then expanded to 26,451 trips. Although VRE conducts a survey on an annual basis, the 2007 survey was “Deemed Statistically Invalid,” according to the VRE website (http://www.vre.org/feedback/cs_survey/survey_results_index.htm). We have used the 2005 survey and factored the results to year-2007 conditions.⁶⁰ The transit person trip control totals (“targets”) can be seen in Table 51.

Table 51 Transit person trip control totals (“targets”) for 2007, average weekday

	HBW (Peak)	HBS (Midday)	HBO (Midday)	NHBW (Midday)	NHBO (Midday)	TOTAL
WK-CR	1,851	21	210	0	400	2,483
PNR-CR	16,645	0	259	0	208	17,112
KNR-CR	1,473	0	197	0	217	1,887
ALL CR	19,970	21	666	0	825	21,482
WK-BUS	171,836	18,432	87,043	23,685	16,226	317,222
PNR-BUS	15,966	81	3,029	354	1,522	20,953
KNR-BUS	4,554	199	2,004	1,425	880	9,063
ALL BUS	192,356	18,712	92,077	25,465	18,628	347,238
WK-BUS/MR	132,144	2,486	23,694	12,417	3,960	174,701
PNR-BUS/MR	27,525	112	2,700	1,482	560	32,379
KNR-BUS/MR	9,248	136	1,731	1,211	1,003	13,329
ALL BUS/MR	168,916	2,733	28,125	15,110	5,524	220,408
WK-MR	194,164	4,854	46,905	56,578	16,428	318,928
PNR-MR	137,984	469	15,658	7,270	1,562	162,943
KNR-MR	42,791	145	4,437	4,378	1,832	53,582
ALL MR	374,939	5,468	66,999	68,226	19,822	535,454
GRAND TOTAL	756,181	26,934	187,867	108,801	44,798	1,124,582

Ref: O:\model_dev\nest_log\Mode_choice_targets.xlsx

⁵⁸ Martchouk to Moran, “Developing Transit Calibration Targets for 2007.”

⁵⁹ Mary Martchouk to Mark Moran, “Developing Bus-only Calibration Targets for 2007,” Memorandum, August 17, 2010.

⁶⁰ Martchouk to Moran, “Developing Transit Calibration Targets for 2007,” 8-9.

Whereas the transit person trip targets were developed from on-board transit surveys, the auto person targets were developed by undertaking a series of logical steps which made sense to TPB staff, but also required several weeks of effort. The steps were as follows:

- 1) A 2007 observed (2007/08 HTS) auto driver trip table was combined with a set of “residual” trip tables (trucks, visitor auto trips, etc.) and this was assigned to the highway network. The observed auto trips were adjusted so that regional VMT targets were matched reasonably.
- 2) The resulting auto person trip table resulting from the step 1 trip table was converted to auto person trips by occupant group and compressed to the 20 geographic market segments.
- 3) The NL MC model was calibrated to the auto person targets (from step 2) and the transit target figures.
- 4) The calibrated Version 2.3 four-step model was fully executed using the NL MC model developed in step 3. Trip generation and distribution adjustments were made to achieve a close match with the 2007/08 HTS and to match regional VMT targets.
- 5) Auto person trips by occupant group (resulting from step 4) were compressed to the 20 geographic markets segments and combined with the transit targets.
- 6) The NL MC model was re-calibrated to the auto person targets (from step 5) and the transit target figures.
- 7) The calibrated Version 2.3 four-step model was executed using the NL MC model developed in step 6.

The simulation resulting from step 7 resulted in the “final” Version 2.3 model simulation, which satisfied three desired conditions sought by TPB staff:

- 1) Simulated person trips reasonably matched observed 2007/08 HTS patterns by purpose;
- 2) Simulated transit trips matched the observed targets by purpose and market segment that were developed from available transit on-board surveys; and
- 3) Simulated VMT reasonably matched HPMS-based target figures for the region, and by jurisdiction using: 1) equilibrated highway speeds, 2) a reasonably well converged highway assignment process, and 3) a well calibrated mode choice model.

Aggregated control totals representing the auto person trip targets can be found in Table 52.

Table 52 Average weekday auto person trip control totals (“targets”) for 2007 used for the calibration to a simulated trip table

	HBW (Peak)	HBS (Midday)	HBO (Midday)	NHBW (Midday)	NHBO (Midday)	TOTAL
DRIVE ALONE	2,455,237	1,298,957	2,122,361	1,134,981	1,209,670	8,221,206
SR2	274,831	932,811	2,339,142	285,771	979,819	4,812,374
SR3+	14,822	594,619	1,767,426	10,785	639,960	3,027,612
TOTAL AUTO	2,744,890	2,826,387	6,228,929	1,431,537	2,829,449	16,061,192

Ref: O:\model_dev\nest_log\Mode_choice_targets.xlsx

One key point to remember is that the NL MC model in the Version 2.3 travel model was calibrated using different data sources from those used to calibrate the multinomial-logit (MNL) mode choice model in the Version 2.2 travel model. Thus the travel patterns in the calibration data are different. The Version 2.2 mode choice model was calibrated using the 1994 COG/TPB Household Travel Survey and validated using the 2000 Census Transportation Planning Package (CTPP). By contrast, the Version 2.3 mode choice model was calibrated to year-2007 conditions, with the primary data set being the 2008 Metrorail Survey. As for the Version 2.3 mode choice model, there was some debate over whether to use the 2007/2008 HTS or the most recent on-board transit surveys. It was decided to use the on-board transit surveys since they contained more observations. For example, the 2007/2008 HTS contained about 5,500 transit trip records⁶¹ (and this survey was twice the size of the 1994 HTS – 11,000 households vs. 4,800 households). By contrast, the transit on-board surveys provided about 51,000 transit trip records, of which about 35,000 were from the Metrorail Survey (see Table 53).

Table 53 Transit surveys used to calculate transit trip targets

Transit Survey	Submode Targets	Number of Records
2008 Metrorail Survey	Metrorail, Metrorail/Bus	34,852
2007 Bus Survey	Bus-only	10,959
2007 MARC Survey (MTA Baltimore Transit Survey)	Commuter Rail	1,594
2005 VRE Survey	Commuter Rail	3,646
Total	All	51,051

6.4.2 Calibration results

The calibration result shown in this section of the report come from the calibration to a simulated trip table, which was derived from the earlier calibration to an observed trip table. The automated calibration process, which involves running AEMS and CALIBMS 105 times (21 times for each trip purpose), takes about 22 hours on a standard workstation or the travel model server (TMS3). The output of the calibration process is the set of nesting constants, which are shown on Table 54, Table 55, Table 56, Table 57, and Table 58 on pages 83 through 85. A positive nesting constant has the effect of increasing trips in the given category and a negative nesting constant has the effect of decreasing trips in the given category. The values shown on these five tables are “top-level equivalent” nesting constants. However, the output from the CALIBMS procedure is represented in terms of lower-level equivalent constants, so one has to convert the lower-level values to top-level values. This conversion is currently done in an Excel spreadsheet (such as newSegSumm5purps2007.xlsx) and will also be explained in the next section of this chapter.

⁶¹ Mary Martchouk to Mark Moran, “Comparison of Transit Trips from 2007/2008 HTS to Transit Surveys,” Memorandum, August 17, 2010.

Table 54 Top-level equivalent nesting constants for HBW

		HBW - Top level equivalents of nest constants																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
		DC CORE/ URBAN-DC CORE	DC CORE/ URBAN-VA CORE	DC CORE/ URBAN- URBAN	DC CORE/ URBAN- OTHER	MD URBAN- DC CORE	MD URBAN- VA CORE	MD URBAN- URBAN	MD URBAN- OTHER	VA CORE/ URBAN-DC CORE	VA CORE/ URBAN-VA CORE	VA CORE/ URBAN- URBAN	VA CORE/ URBAN- OTHER	MD OTHER- DC CORE	MD OTHER- VA CORE	MD OTHER- URBAN	MD OTHER- OTHER	VA OTHER- DC CORE	VA OTHER- VA CORE	VA OTHER- URBAN	VA OTHER- OTHER
1	LOV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	HOV2	-1.2373	-1.2088	-1.1738	-1.2505	-1.2347	-1.2925	-1.1655	-1.1756	-1.2489	-1.1927	-1.1843	-1.2112	-1.3221	-1.2845	-1.2426	-1.1745	-1.7976	-1.6696	-1.5474	-1.2191
3	HOV3+	-2.0514	-2.0602	-2.0406	-2.3341	-2.0547	-2.1505	-1.9699	-2.0481	-2.1845	-2.0701	-2.0478	-2.1102	-2.1920	-2.1502	-2.1257	-1.9813	-3.7615	-3.7866	-3.6839	-2.4717
4	WLK CR	2.9161	3.9407	5.2177	0.7885	2.2962	1.8323	1.0848	-0.1373	0.8460	1.0296	3.8190	0.0412	0.1720	-0.9838	-0.4783	-1.1998	-1.3501	-1.1090	-1.3716	-2.4771
5	WLK BUS	2.6136	0.7366	3.9601	0.7266	0.4728	-0.6575	0.5293	-0.2223	1.3644	0.2036	0.7092	-1.3193	-0.2119	-0.3034	0.1314	-0.5983	-0.9143	-0.3156	-0.6768	-1.1177
6	WLK BU/MR	2.9284	3.0859	4.7860	0.8695	0.9706	0.6244	0.9650	-0.0254	3.5768	-0.0732	1.2265	-0.7446	-0.1758	-0.4065	0.0711	-0.5486	-0.0867	-0.3013	-0.3305	-1.2937
7	WLK METRO	3.2213	4.6853	6.9883	7.4975	3.3073	2.5647	2.1696	1.9533	7.5074	1.9697	5.5196	4.4812	2.1589	1.0342	2.0255	0.2422	3.4797	1.9378	2.5695	1.9226
8	PNR CR	1.0410	1.0972	1.6191	1.3121	-0.5183	-0.2641	-1.6925	-1.8233	0.9296	-1.6728	-1.2825	-3.0025	-1.1025	-1.7373	-2.1295	-3.1022	-2.6264	-1.6956	-2.2189	-6.1063
9	KNR CR	0.3513	-0.4627	0.5046	0.8276	-1.2335	-0.8393	-3.0152	-2.3639	-0.2687	-2.8912	-2.0860	-2.5228	-2.7122	-3.6714	-3.3801	-3.9116	-3.9573	-3.1684	-3.5541	-7.2176
10	PNR BUS	0.5789	1.0972	-0.2562	-0.8357	-1.6626	-0.2641	-2.5166	-1.6950	0.9903	-1.4544	-1.5842	-2.5163	-2.0470	0.0152	-1.2256	-2.2908	-1.4994	-0.8756	-1.4918	-4.7947
11	KNR BUS	-0.2600	-0.4627	-0.3818	-0.0966	-1.0442	-0.8393	-2.0351	-1.5809	-0.2687	-2.8912	-2.0860	-1.9280	-2.9044	-1.4405	-1.9399	-2.5935	-2.6978	-2.2161	-2.5437	-4.6573
12	PNR BU/MR	2.2924	1.7813	0.6305	-0.3977	1.1016	0.3409	-1.7479	-2.1359	1.7364	-1.6728	-0.9134	-3.0025	3.1906	1.3555	-1.1873	-2.7633	1.1888	-0.1222	-1.3622	-4.2974
13	KNR BU/MR	1.3605	1.8886	0.7249	-0.6837	1.3303	-0.8393	-1.3587	-2.2678	1.6927	-2.8912	-2.1671	-3.1947	-1.4744	-0.9531	-1.7471	-2.7091	-2.0806	-2.0111	-2.3193	-3.8485
14	PNR METRO	1.0039	1.1509	2.1708	1.3386	-0.4257	-0.1095	-1.3916	-1.3401	0.7509	-1.4077	-1.2872	-0.6704	-1.3044	-0.6828	-1.5301	-2.6314	-2.0833	-1.9962	-2.3114	-3.6625
15	KNR METRO	-0.7011	-0.5708	0.5232	0.4974	-1.4211	-0.7341	-2.0301	-2.5726	-0.3601	-2.8466	-1.9877	-1.9469	-1.6985	-1.3977	-1.5446	-2.2885	-1.8803	-1.7461	-1.7867	-2.0555

Ref: O:\model_dev\nest_log\calibms_2011-02sim\newSegSumm5purps2007.xlsx, sheet= N5TC2

Table 55 Top-level equivalent nesting constants for HBS

		HBS - Top level equivalents of nest constants																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
		DC CORE/ URBAN-DC CORE	DC CORE/ URBAN-VA CORE	DC CORE/ URBAN- URBAN	DC CORE/ URBAN- OTHER	MD URBAN- DC CORE	MD URBAN- VA CORE	MD URBAN- URBAN	MD URBAN- OTHER	VA CORE/ URBAN-DC CORE	VA CORE/ URBAN-VA CORE	VA CORE/ URBAN- URBAN	VA CORE/ URBAN- OTHER	MD OTHER- DC CORE	MD OTHER- VA CORE	MD OTHER- URBAN	MD OTHER- OTHER	VA OTHER- DC CORE	VA OTHER- VA CORE	VA OTHER- URBAN	VA OTHER- OTHER
1	LOV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	HOV2	-0.1067	-0.1106	-0.0842	-0.1099	-0.1179	0.0045	-0.0768	-0.0875	-0.1010	-0.0977	-0.0832	-0.0914	-0.1573	-0.1727	-0.1108	-0.0828	-0.1403	-0.1190	-0.1048	-0.0807
3	HOV3+	-0.2454	-0.2514	-0.2145	-0.2527	-0.2602	0.0206	-0.2038	-0.2187	-0.2393	-0.2332	-0.2131	-0.2255	-0.3254	-0.3420	-0.2551	-0.2125	-0.3014	-0.2630	-0.2479	-0.2097
4	WLK CR	-1.6547	-3.2143	-1.1110	-1.2957	0.2994	-0.0699	-1.6848	-3.3007	-1.0053	-3.0254	-1.7069	-3.1656	-1.8091	-2.6543	-1.2321	-1.8151	-0.2884	-11.8165	-1.9498	-2.5040
5	WLK BUS	-1.6442	-3.2143	-1.3870	-1.6824	-0.4861	-0.0699	-1.7266	-2.9404	-1.0053	-1.8409	-2.0972	-2.6095	-0.8879	-2.6543	-1.2632	-1.7862	0.2848	-5.5947	-2.2311	-2.2056
6	WLK BU/MR	-1.2448	-3.2143	-0.8419	-2.2850	0.5839	-0.0699	-0.8868	-3.3007	-1.0053	-3.0254	-1.8702	-3.1656	-0.8157	-1.1884	-1.5520	-2.5346	-0.2884	-11.8165	-1.8589	-14.2070
7	WLK METRO	-1.8116	-2.1558	-0.7601	-1.6639	0.3294	1.8663	-2.0870	-3.2845	0.2983	-3.0254	-0.8805	-3.1656	-1.8091	-2.6543	-0.7464	-2.5702	2.3383	-11.8165	-0.5857	-1.9623
8	PNR CR	-3.6023	-3.4763	-4.0023	-3.0532	-3.0255	-1.4560	-4.5490	-4.2247	-2.5222	-5.2540	-6.0554	-4.5693	-2.1625	-4.9739	-4.8733	-9.7387	-2.6338	-19.3122	-8.2282	-50.3497
9	KNR CR	-4.9010	-3.4763	-3.7618	-3.0532	-3.0255	-1.4560	-4.5490	-4.5083	-4.2238	-5.2540	-3.9828	-4.5693	-2.2278	-4.9739	-5.1257	-7.0447	-3.5877	-17.4614	-5.8996	-50.6211
10	PNR BUS	-3.6023	-3.4763	-4.0023	-3.0532	-3.0255	-1.4560	-4.5490	-4.2247	-2.5222	-5.2540	-6.0554	-4.5693	-0.0389	-4.9739	-4.8733	-6.7008	-2.6338	-15.1301	-8.2282	-45.3088
11	KNR BUS	-4.9010	-3.4763	-3.4497	-3.0532	-3.0255	-1.4560	-4.5490	-2.2594	-4.2238	-5.2540	-3.9828	-4.5693	-2.2278	-4.9739	-5.1257	-5.0313	-3.5877	-17.4614	-5.8996	-46.5106
12	PNR BU/MR	-3.6023	-3.4763	-2.5131	-3.0532	-3.0255	-1.4560	-4.5490	-4.2247	-2.5222	-5.2540	-6.0554	-4.5693	-0.8089	-4.9739	-4.8733	-9.7387	-0.1049	-19.3122	-8.2282	-50.3497
13	KNR BU/MR	-4.9010	-3.4763	-3.0824	-3.0532	-3.0255	-1.4560	-4.5490	-4.5083	0.4039	-5.2540	-3.9828	-4.5693	-0.8550	-4.9739	-3.7636	-7.0447	-3.5877	-17.4614	-5.8996	-50.6211
14	PNR METRO	-2.9834	-3.4763	-2.9666	-3.0532	-3.0255	-1.4560	-4.5490	-4.2247	-2.5222	-5.2540	-4.0544	-4.5693	-2.5470	-4.9739	-4.0843	-9.7387	-3.3382	-19.3122	-7.0097	-50.3497
15	KNR METRO	-4.7463	-3.4763	-4.4463	-3.0532	-3.0255	-1.4560	-4.5490	-4.5083	-4.2238	-5.2540	-3.9828	-4.5693	-2.5262	-4.9739	-5.0795	-7.0447	-3.5877	-17.4614	-5.8996	-50.6211

Ref: O:\model_dev\nest_log\calibms_2011-02sim\newSegSumm5purps2007.xlsx, sheet= N5TC2

Table 56 Top-level equivalent nesting constants for HBO

		HBO - Top level equivalents of nest constants																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
		DC CORE/ URBAN-DC CORE	DC CORE/ URBAN-VA CORE	DC CORE/ URBAN- URBAN	DC CORE/ URBAN- OTHER	MD URBAN- DC CORE	MD URBAN- VA CORE	MD URBAN- URBAN	MD URBAN- OTHER	VA CORE/ URBAN-DC CORE	VA CORE/ URBAN-VA CORE	VA CORE/ URBAN- URBAN	VA CORE/ URBAN- OTHER	MD OTHER- DC CORE	MD OTHER- VA CORE	MD OTHER- URBAN	MD OTHER- OTHER	VA OTHER- DC CORE	VA OTHER- VA CORE	VA OTHER- URBAN	VA OTHER- OTHER
1	LOV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	HOV2	0.0855	0.1206	0.1229	0.1148	0.0897	0.1224	0.1360	0.1419	0.0803	0.0971	0.1318	0.1264	0.0330	0.0601	0.0843	0.1458	0.0523	0.0652	0.0877	0.1516
3	HOV3+	-0.0291	0.0204	0.0240	0.0119	-0.0226	0.0226	0.0430	0.0506	-0.0362	-0.0123	0.0371	0.0290	-0.1074	-0.0645	-0.0323	0.0559	-0.0775	-0.0582	-0.0280	0.0642
4	WLK CR	0.1596	1.1418	-0.0319	0.5322	2.4595	1.2521	-0.2271	-1.2110	4.1938	-1.4094	-0.6159	-0.8356	4.3874	0.2679	-0.1332	-1.4465	2.8013	-0.0971	0.0857	-1.3372
5	WLK BUS	-0.0360	-1.1230	-0.1081	-0.7845	1.1105	1.4236	-0.5953	-1.2825	1.7413	-3.7868	-1.3901	-1.7924	1.1457	0.2679	-0.1086	-0.7166	2.2496	-1.1926	-0.8202	-1.1901
6	WLK BU/MR	0.4649	0.4564	0.0498	-0.5549	1.8945	1.4132	-0.1741	-1.1789	2.2964	-2.6757	0.1768	-1.2135	0.7793	-0.2582	-0.1652	-0.5420	2.1011	-1.0781	0.7106	-2.3282
7	WLK METRO	0.2879	1.4188	0.1656	0.5869	3.0647	1.1394	0.5422	-0.5796	4.9285	-0.8879	0.3963	0.9892	1.9885	1.1171	-0.2372	-0.9225	3.9224	1.1319	1.7912	-0.1876
8	PNR CR	-1.3083	-0.1367	-2.1108	-2.4497	-0.6348	-1.8431	-3.0701	-2.6558	0.0706	-4.5160	-4.4946	-5.1233	0.4292	-0.0539	-1.6136	-5.9462	-0.5202	-2.1644	-2.3699	-31.4801
9	KNR CR	-2.7325	-1.2980	-3.0359	1.2515	-1.6027	-1.8431	-4.5030	-4.2609	-1.0555	-4.5160	-4.6802	-3.8124	-1.1849	-0.2189	-1.8178	-6.5288	-1.1061	-3.2834	-2.6341	-32.1349
10	PNR BUS	-1.8983	-0.1367	-3.0142	-1.3441	-0.6348	-1.8431	-2.7680	-0.4543	0.0706	-4.5160	-4.4946	-5.1233	1.1478	-0.0539	-1.8960	-3.7307	0.9097	-3.2851	-2.5546	-29.4331
11	KNR BUS	-1.8206	-0.2227	-2.7028	-2.0674	-1.6027	-1.8431	-3.4090	-2.3542	-1.0555	-4.5160	-3.3694	-4.0044	-1.4528	-0.2189	-1.6556	-3.4095	-1.1061	-3.2834	-2.2198	-29.4732
12	PNR BU/MR	-1.0376	-0.1367	-1.6886	-2.4497	2.8794	-1.8431	-3.4225	-2.6558	0.6077	-4.5160	-2.2396	-5.1233	2.0465	3.1413	-1.9225	-14.8691	1.1444	-0.5306	-2.5003	-34.1520
13	KNR BU/MR	-0.8263	-1.2980	-2.8971	-2.2611	1.6873	-1.8431	-4.5030	-3.7138	1.9209	-4.5160	-4.6802	-3.8124	0.0766	0.8381	-1.9984	-5.0658	-0.0073	-0.9856	-2.1178	-31.1063
14	PNR METRO	-1.2717	-0.1367	-1.9606	-1.1225	-0.6998	-1.8431	-3.2253	-2.6558	0.0460	-4.5160	-3.1073	-2.3122	-0.6272	-0.2821	-2.2939	-4.4789	-0.7247	-2.1723	-2.1083	-18.5429
15	KNR METRO	-3.0721	-1.3202	-3.1839	-1.6204	-1.8165	-1.8431	-4.4968	-4.2610	-1.5135	-4.5160	-4.1193	-2.3754	-1.6812	-0.1466	-2.7620	-4.2698	-1.2386	-3.4445	-2.6056	-14.3304

Ref: O:\model_dev\nest_log\calibms_2011-02sim\newSegSumm5purps2007.xlsx, sheet= N5TC2

Table 57 Top-level equivalent nesting constants for NHW

		NHW - Top level equivalents of nest constants																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
		DC CORE/ URBAN-DC CORE	DC CORE/ URBAN-VA CORE	DC CORE/ URBAN- URBAN	DC CORE/ URBAN- OTHER	MD URBAN- DC CORE	MD URBAN- VA CORE	MD URBAN- URBAN	MD URBAN- OTHER	VA CORE/ URBAN-DC CORE	VA CORE/ URBAN-VA CORE	VA CORE/ URBAN- URBAN	VA CORE/ URBAN- OTHER	MD OTHER- DC CORE	MD OTHER- VA CORE	MD OTHER- URBAN	MD OTHER- OTHER	VA OTHER- DC CORE	VA OTHER- VA CORE	VA OTHER- URBAN	VA OTHER- OTHER
1	LOV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	HOV2	-2.8055	-2.2033	-2.0401	-2.0129	-3.0684	0.0119	-1.9931	-2.0419	-2.9508	-2.4554	-2.1919	-2.0221	-3.7109	-4.3061	-2.7127	-1.5481	-3.7921	-3.4097	-3.2857	-1.7002
3	HOV3+	-4.5215	-3.8684	-3.6275	-3.8088	-4.9456	0.0175	-3.5401	-3.7994	-4.7824	-4.1822	-3.8245	-3.7088	-5.9734	-6.8118	-4.8028	-3.2004	-6.6211	-6.1019	-5.7424	-3.4353
4	WLK CR	-1.7957	-0.4347	-0.4442	2.1231	-1.4691	1.6368	-1.8683	-0.4506	-1.9577	-1.8980	-1.7239	-1.0216	-1.4595	-1.6793	-1.6542	-0.5520	-0.9714	-3.3594	-1.9355	-1.9957
5	WLK BUS	-2.4126	-0.4347	-0.7631	-0.5921	-1.5772	1.6368	-1.8700	-0.1277	-1.9577	-2.3080	-2.0885	-2.2106	-2.0845	-1.6793	-1.5237	-0.3899	-2.0580	-4.0366	-3.0353	-2.0753
6	WLK BU/MR	-0.1813	1.7416	0.3490	0.4703	-0.3149	3.9114	-0.1981	-0.3630	-0.4042	-1.1647	-0.6747	-1.2760	-1.3185	-0.7761	-0.9161	-0.7676	-1.3382	-3.0730	-1.8494	-0.9064
7	WLK METRO	-1.7279	-0.2545	-0.2692	3.8796	-1.6320	1.4358	-2.1623	-1.2152	-1.7754	-1.8607	-1.6941	0.7174	-1.2983	-2.2104	-2.3620	-1.3233	0.0957	-2.8329	-0.1053	0.9697
8	PNR CR	-3.1428	-1.0072	-1.9671	1.6889	-3.2120	-1.6359	-4.1035	-3.4883	-2.3539	-3.1863	-3.9959	-0.8927	-3.8711	-4.0574	-4.1955	-6.0592	-3.3288	-4.7591	-5.3387	-9.4073
9	KNR CR	-3.9757	-1.5029	-2.6230	-0.4280	-4.5373	-1.6359	-4.2081	-3.7433	-3.9747	-6.0188	-5.9709	-2.7603	-4.4816	-4.0337	-3.7588	-3.0405	-3.8233	-5.1605	-5.3086	-9.2328
10	PNR BUS	-3.2779	-1.0072	-3.2906	0.3483	-3.2120	-1.6359	-4.9177	-3.4883	-2.3539	-3.1863	-3.9959	-1.8336	-3.8711	-4.0574	-3.1139	-4.9935	-3.4047	-5.3303	-5.3387	-6.8945
11	KNR BUS	-3.3005	-1.5029	-1.8146	-0.1703	-4.5373	-1.6359	-2.8464	-3.7433	-3.9747	-3.3338	-3.3789	-1.4071	-2.8020	-4.0337	-2.3183	-1.6666	-3.8233	-5.1605	-5.3086	-6.8062
12	PNR BU/MR	-2.0165	-0.5330	-1.9565	-0.0344	-0.6738	-1.6359	-2.2743	-3.4883	-0.1945	0.2412	-1.4943	-1.4850	0.8125	-4.0574	-1.4722	-9.5163	-0.5112	-1.3482	-2.7450	-11.2773
13	KNR BU/MR	-1.3883	-1.5029	-1.1803	-1.4008	-4.5373	-1.6359	-1.8904	-3.7433	-2.1049	-6.0188	-5.9709	-3.1883	-1.7388	-1.1878	-1.9136	-2.5232	-2.1001	-2.4245	-3.4718	-8.5794
14	PNR METRO	-3.2554	-0.9725	-1.7767	2.3558	-3.4574	-1.6359	-4.8383	-2.8657	-2.8537	-2.9367	-4.0031	-0.0644	-4.2775	-4.0120	-4.6572	-5.0156	-3.5749	-4.8436	-5.5133	-9.4073
15	KNR METRO	-4.3998	-1.4884	-3.1269	-0.1489	-4.5186	-1.6359	-5.9638	-3.1006	-4.0462	-6.3179	-6.2164	-3.9547	-4.6242	-4.2154	-4.7779	-5.3360	-3.7921	-5.0942	-5.1808	-9.2328

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Table 58 Top-level equivalent nesting constants for NHO

		NHO - Top level equivalents of nest constants																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
		DC CORE/ URBAN-DC CORE	DC CORE/ URBAN-VA CORE	DC CORE/ URBAN- URBAN	DC CORE/ URBAN- OTHER	MD URBAN- DC CORE	MD URBAN- VA CORE	MD URBAN- URBAN	MD URBAN- OTHER	VA CORE/ URBAN-DC CORE	VA CORE/ URBAN-VA CORE	VA CORE/ URBAN- URBAN	VA CORE/ URBAN- OTHER	MD OTHER- DC CORE	MD OTHER- VA CORE	MD OTHER- URBAN	MD OTHER- OTHER	VA OTHER- DC CORE	VA OTHER- VA CORE	VA OTHER- URBAN	VA OTHER- OTHER
1	LOV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	HOV2	-2.0615	0.0000	-1.0347	-0.9830	-2.3803	-0.0753	-1.0333	-0.6473	0.0000	-1.4447	-1.2033	-0.8165	-2.9338	0.1486	-1.2884	-0.4338	-3.2349	-2.2033	-1.4033	-0.4257
3	HOV3+	-3.0066	0.0000	-1.6746	-1.6584	-3.4509	-0.0767	-1.6273	-1.1477	0.0000	-2.3282	-1.9094	-1.3548	-4.2959	0.2306	-2.0708	-0.8272	-5.0754	-3.3319	-2.2639	-0.8111
4	WLK CR	-2.7482	6.4857	-1.0776	4.1198	-2.6954	1.1857	-2.0755	0.1898	6.7961	-2.4942	-1.5944	-3.0239	7.1771	1.8921	2.1134	-2.8393	-0.9797	-3.5572	-2.2724	-14.5565
5	WLK BUS	-2.9990	0.6058	-1.2815	-0.2865	-2.7396	1.1857	-1.9864	-0.5485	2.1162	-3.7703	-2.4462	-3.1768	-2.8660	1.8921	-1.7052	-1.0142	-0.9797	-3.4252	-3.0603	-14.0411
6	WLK BU/MR	-1.3259	6.2311	-0.5082	0.6550	-2.6957	1.1857	-1.2150	-0.2175	3.6908	-2.4942	-1.2285	-3.2101	-2.7241	1.8921	-1.1560	-2.4500	-0.4998	-2.1802	-0.7076	-22.0132
7	WLK METRO	-2.7994	6.6659	-0.9000	1.8135	-2.6796	1.7452	-2.4922	-2.1708	7.3810	-2.1764	-0.9068	-0.9488	-3.3906	3.0935	-2.6542	-2.6092	1.1024	-3.5572	-1.7970	-2.5030
8	PNR CR	-3.5714	2.8625	-2.5565	5.7776	-4.2549	-1.9767	-4.6150	-2.9793	2.8381	-3.8710	-3.1696	-3.1623	-1.7791	4.7469	-2.4142	-4.6814	-2.3138	-6.6297	-5.2989	-36.0059
9	KNR CR	-4.5134	3.5512	-2.9190	6.8226	-5.3206	-1.9767	-4.7988	-3.9217	0.7171	-4.1272	-3.8270	-5.6436	-3.3978	5.1994	-3.3017	-5.9445	-2.5988	-7.0999	-5.3659	-30.2675
10	PNR BUS	-3.4589	2.8625	-2.7969	-1.7296	-4.2549	-1.9767	-2.3809	-2.9793	2.8381	-3.8710	-3.1696	-3.1623	-4.4634	4.2784	-4.2209	-2.2288	-2.3138	-6.6297	-5.2989	-30.8539
11	KNR BUS	-3.1985	3.5512	-2.3453	-0.4502	-5.3206	-1.9767	-3.2786	-1.2625	0.7171	-4.1272	-3.8270	-2.8838	-3.6650	1.9646	-3.0444	-3.1916	-2.5988	-7.0999	-5.3659	-27.3685
12	PNR BU/MR	-2.0688	2.8625	-1.2953	-1.7296	-1.7862	-1.9767	-4.6150	-2.9793	3.7919	-3.8710	-3.1696	-3.1623	-2.0940	12.3974	-1.8001	-4.6814	-0.2822	-6.6297	-4.9682	-36.0059
13	KNR BU/MR	-3.2463	3.5512	-1.7528	-0.8774	-5.3206	-1.9767	-4.7988	-3.9217	5.1774	0.6756	-1.9140	-5.6436	-2.2166	1.9646	-1.4539	-5.9445	-0.1006	-7.0999	-5.3659	-30.2675
14	PNR METRO	-3.7236	3.1197	-3.7881	-1.5816	-4.7537	-1.9767	-4.6150	-2.9793	2.9585	-3.8711	-3.1696	-3.1623	-5.1861	0.7812	-5.2718	-4.6814	-2.4799	-6.4311	-4.4796	-36.0059
15	KNR METRO	-4.8851	3.6082	-3.3972	-1.5656	-5.2814	-1.9767	-5.3055	-3.9217	-0.1312	-4.8384	-5.3475	-5.6436	-5.7318	0.5530	-4.9563	-5.9445	-3.4626	-7.0999	-4.4577	-24.8263

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Top-level nesting constants are computed as follows:

Equation 6 Equation for calculating the top-level equivalent value of a nesting coefficient

$$\text{Higher-level constant} = \{(\text{lower-level nest constant}) \times (\text{higher-level nest coefficient}) + (\text{higher-level nest constant})\} \text{ and so on, up to the top nest level}$$

To help illustrate this, we will perform a sample calculation. Figure 17 shows a nested-logit mode choice model with the same structure as the TPB NLMC model. Nest 4 is the PNR or drive-access to transit nest. The figure shows hypothetical values for nesting coefficients and nesting constants, with all values being in lower-level equivalents (the same as what might come out of an automated mode choice calibration process such as CALIBMS). According to Figure 17, the lower-level nesting constant for the PNR bus/Metrorail choice is -2.50368. To convert this value to its upper-level equivalent, we multiply it by the nesting *coefficient* of the next higher level (the PNR nest, whose nesting coefficient value is 0.5). Then we add the nesting constant value of the PNR nest (-3.25564). Next, we multiply the result by the nesting coefficient of the next level up (the transit nest, whose nesting coefficient value is also 0.5). And finally, we add the nesting coefficient for the transit nest (3.01841), giving a result of 0.7647. This calculation can be seen below and on Figure 17.

Sample calculation:

$$\text{PNR BU/MR (top level)} = \{ (-2.50368) \times (0.5) + (-3.25564) \} \times (0.5) + (3.01841) = 0.7647$$

In addition, to calculate the implied minutes of impedance, we divide the top-level nesting constant value by the IVT coefficient, as shown in Equation 7.

Equation 7 Equation for calculating the implied minutes of impedance of a top-level nesting constant

$\text{Implied minutes of impedance} = (\text{top level const}) / \text{IVT coefficient}$

Thus, continuing with the example,

$$\text{Implied minutes of impedance} = 0.7647 / -0.02128 = 35.9 \text{ minutes.}$$

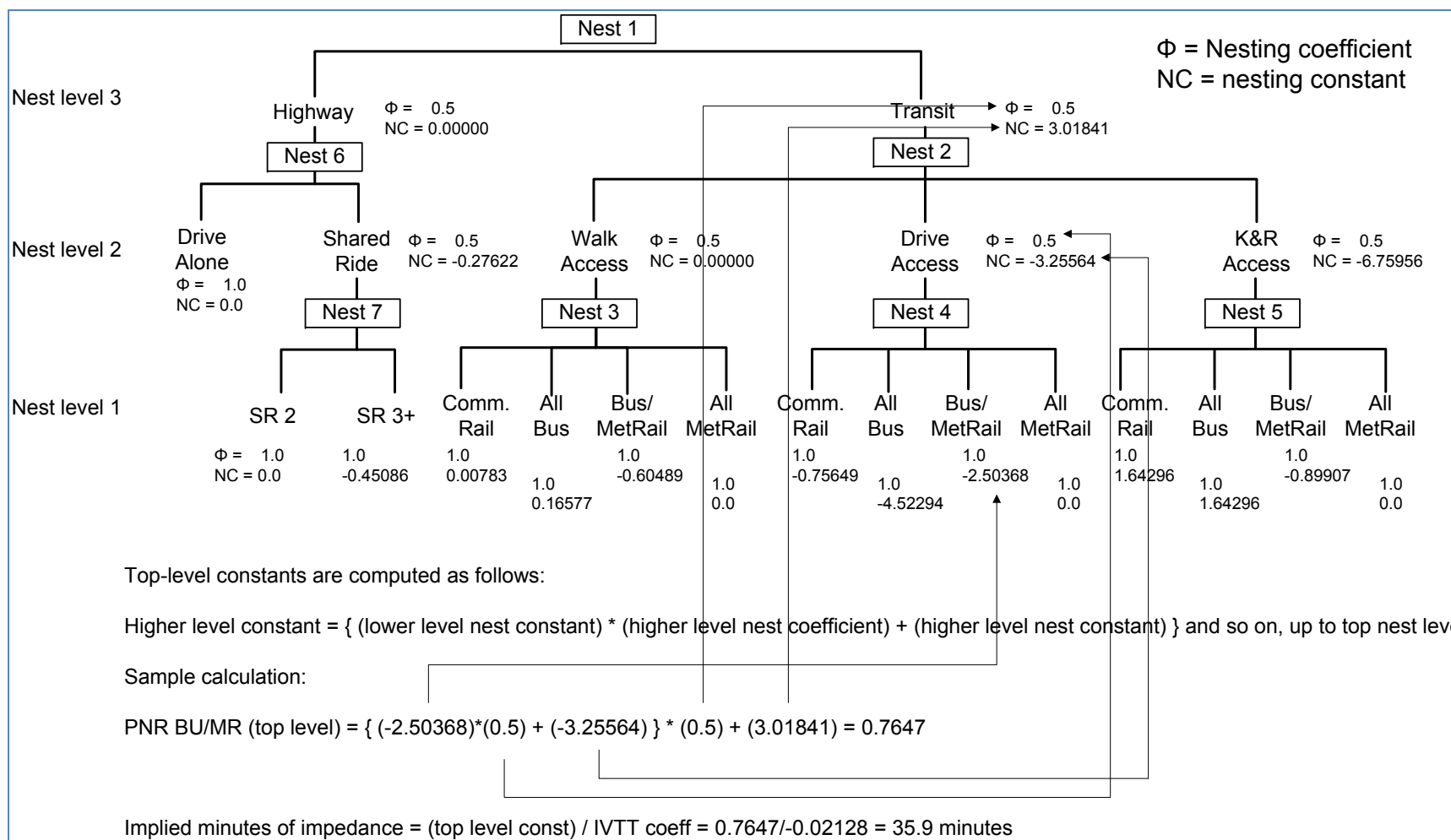


Figure 17 Example of calculating a top-level nesting constant from the lower-level nesting constants that come out of CALIBMS

6.5 Model application

The model was calibrated to year-2007 conditions, since the year 2007 is considered the base year for this model. The model was also applied for the year 2007. The NLMC model has the capability to perform transit assignments. In 2008, when TPB staff released the draft documentation for the Version 2.3 travel model on the 2,191-TAZ area system, TPB staff had performed transit assignments and had presented transit assignment results for the years 2002 and 2005.⁶² For this current effort on the 3,722-TAZ area system, however, TPB staff has not had the time to test the transit assignment, so no such results are reported in this chapter. Instead, we present some of the year-2007 estimated mode choice data from the year-2007 calibration to a simulated trip table.⁶³ Three summary tabulations can be found in Table 59, Table 60, and Table 61. Person trips by travel mode and trip purpose, summed for all 20 geographic market segments, can be found in Table 59. The total number of estimated daily person trips is 17,218,143. The total number of estimated transit person trips is 1,102,380, which is close to the control total shown in Table 51 (1,124,582) and Table 59 (1,124,587).

The primary difference between this current calibration effort (using a simulated year 2007 trip table) and the previous effort (using an observed year 2007 trip table),⁶⁴ is the fact that the 1.75 factor that had been applied to all non-work trips has been removed, since it is no longer needed to ensure that the travel model matches observed VMT. So, for example, the target or “observed” HBS total person trips has gone from 4.952 million to 2.853 million – a 42% drop, or the equivalent of a 1.74 scaling factor. Since no factor had been applied to it, HBW was largely unaffected: target total person trips went from 3.707 million to 3.501 million, a 6% drop, or the equivalent of a 1.05 scaling factor. In terms of total person trips across all five trip purposes, the “observed” value went from 27.515 million to 17.187 million, which corresponds to a 38% drop or the equivalent of a 1.60 scaling factor. The resultant effect on transit percents is similarly large. The “observed” HBS transit percent went from 0.5% to 0.9%, almost a doubling. The “observed” HBW transit percentage was only somewhat affected, going from 20.4% to 21.6%. As for the “observed” total (across five purposes) transit percent, this went from 4.1% to 6.5%.

⁶² Milone et al., *TPB Travel Forecasting Model, Version 2.3: Specification, Validation, and User’s Guide*, 6-39.

⁶³ Moran to Milone, “Using CALIBMS and a simulated trip table to calibrate the nested-logit mode choice model that is part of the TPB Version 2.3 travel model on the 3,722-TAZ area system.”

⁶⁴ Moran to Milone, “Using CALIBMS and an observed trip table to calibrate the nested-logit mode choice model that is part of the TPB Version 2.3 travel model on the 3,722-TAZ area system.”

Table 59 Person trips by travel mode and trip purpose, summed for all 20 geographic market segments

	Mode	HBW		HBS		HBO		NHW		NHO		ALL	
		Target	Model	Target	Model	Target	Model	Target	Model	Target	Model	Target	Model
All 20 Segments	DR ALONE	2,455,236	2,481,505	1,298,956	1,301,902	2,122,364	2,125,142	1,134,980	1,137,890	1,209,971	1,212,533	8,221,507	8,258,971
	SR2	274,830	277,693	932,811	934,947	2,339,141	2,342,197	285,773	286,541	980,080	982,013	4,812,635	4,823,391
	SR3+	14,822	14,964	594,621	595,988	1,767,427	1,769,730	10,783	10,811	640,180	641,907	3,027,833	3,033,400
	WK-CR	1,849	1,794	21	60	210	419	0	593	400	387	2,480	3,254
	WK-BUS	171,834	177,809	18,433	16,750	87,044	85,570	23,685	23,988	16,224	15,404	317,220	319,520
	WK-BU/MR	132,142	138,182	2,487	2,635	23,696	23,800	12,417	12,233	3,960	4,097	174,702	180,948
	WK-MR	194,165	155,343	4,853	4,683	46,904	45,481	56,579	55,455	16,428	14,954	318,929	275,917
	PNR-CR	16,647	17,357	0	93	260	788	0	84	208	288	17,115	18,610
	KNR-CR	1,472	1,531	0	126	197	293	0	162	216	373	1,885	2,485
	PNR-BUS	15,967	16,522	82	759	3,030	3,058	355	379	1,523	1,476	20,957	22,195
	KNR-BUS	4,553	4,786	199	344	2,004	2,483	1,426	1,404	880	1,129	9,062	10,147
	PNR-BU/MR	27,525	24,863	112	454	2,700	3,291	1,482	1,467	559	831	32,378	30,906
	KNR-BU/MR	9,248	9,730	136	248	1,733	2,014	1,210	1,205	1,003	1,109	13,330	14,305
	PNR-MR	137,984	143,144	469	486	15,657	15,796	7,271	7,306	1,563	1,793	162,944	168,524
KNR-MR	42,794	44,606	146	391	4,436	4,379	4,378	4,361	1,831	1,833	53,585	55,570	
Total Person	3,501,068	3,509,828	2,853,326	2,859,865	6,416,803	6,424,442	1,540,339	1,543,880	2,875,026	2,880,128	17,186,562	17,218,143	
Total Transit	756,180	735,666	26,938	27,029	187,871	187,372	108,803	108,638	44,795	43,674	1,124,587	1,102,380	
Transit Pct	21.6%	21.0%	0.9%	0.9%	2.9%	2.9%	7.1%	7.0%	1.6%	1.5%	6.5%	6.4%	

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Table 60 shows total person trips by market segment and Table 61 shows transit person trips by market segment.

Table 60 Total person trips by market segment

Market Segment	HBW		HBS		HBO		NHW		NHO		ALL	
	Target	Model	Target	Model	Target	Model	Target	Model	Target	Model	Target	Model
1	139,654	139,689	24,724	24,767	113,439	113,464	78,049	78,088	47,102	47,144	402,968	403,153
2	11,822	11,834	1,931	1,941	7,131	7,141	7,552	7,560	1,880	1,712	30,316	30,189
3	80,458	80,803	82,548	82,641	272,886	273,128	83,811	84,190	105,321	105,533	625,024	626,296
4	44,288	45,345	41,933	42,676	77,556	78,439	54,894	55,439	42,097	43,534	260,768	265,433
5	26,799	26,812	1,008	1,025	7,151	7,163	3,672	3,689	1,969	1,991	40,599	40,681
6	2,465	2,467	91	95	616	617	590	592	138	141	3,900	3,912
7	35,623	35,764	32,107	32,157	89,989	89,997	29,131	29,166	37,350	37,379	224,200	224,462
8	27,127	27,305	29,465	29,613	64,179	64,353	30,713	30,784	39,606	39,756	191,090	191,810
9	50,485	50,493	2,219	2,247	14,018	14,020	10,488	10,512	2,540	1,980	79,750	79,252
10	15,724	15,728	8,690	8,693	26,567	26,570	17,158	17,160	7,993	7,996	76,132	76,147
11	41,644	41,818	50,174	50,283	114,025	114,114	41,896	41,930	43,681	43,788	291,420	291,933
12	38,789	39,006	36,705	36,924	71,806	72,099	37,511	37,643	40,644	40,950	225,455	226,622
13	256,818	256,997	5,607	5,802	44,858	44,955	15,756	15,979	7,336	7,677	330,375	331,410
14	28,840	28,899	968	991	6,935	6,968	2,817	2,837	792	802	40,352	40,497
15	245,187	246,833	66,206	66,687	263,743	264,654	55,805	56,209	73,493	74,250	704,434	708,632
16	1,147,296	1,149,893	1,372,372	1,373,726	2,924,559	2,926,786	569,489	570,389	1,401,614	1,402,540	7,415,330	7,423,335
17	166,295	166,370	5,683	5,810	35,280	35,494	8,602	8,694	1,446	1,599	217,306	217,968
18	51,767	51,791	6,697	6,718	20,943	20,977	7,521	7,546	3,987	4,013	90,915	91,045
19	163,260	164,015	51,839	52,819	136,159	137,011	31,644	31,713	32,527	33,035	415,429	418,594
20	926,727	927,966	1,032,359	1,034,249	2,124,963	2,126,491	453,240	453,762	983,510	984,306	5,520,799	5,526,774
Total Person	3,501,068	3,509,828	2,853,326	2,859,865	6,416,803	6,424,442	1,540,339	1,543,880	2,875,026	2,880,128	17,186,562	17,218,143
Total Transit	756,180	735,666	26,938	27,029	187,871	187,372	108,803	108,638	44,795	43,674	1,124,587	1,102,380
Transit Pct	21.6%	21.0%	0.9%	0.9%	2.9%	2.9%	7.1%	7.0%	1.6%	1.5%	6.5%	6.4%

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Table 61 Transit person trips by market segment

Market Segment	HBW		HBS		HBO		NHW		NHO		ALL	
	Target	Model	Target	Model	Target	Model	Target	Model	Target	Model	Target	Model
1	121,156	121,158	2,516	2,520	32,693	32,700	29,816	29,854	9,430	9,442	195,611	195,674
2	10,475	10,404	145	145	3,142	3,125	4,281	4,292	1,880	1,480	19,923	19,445
3	71,016	70,310	6,941	6,946	41,914	41,942	24,992	25,105	11,535	11,557	156,398	155,860
4	20,938	18,352	1,238	1,257	5,028	5,049	6,633	6,323	2,681	2,761	36,518	33,742
5	20,376	20,131	202	204	3,493	3,466	2,089	2,100	467	472	26,627	26,374
6	1,753	1,740	32	32	183	182	192	192	35	36	2,195	2,183
7	15,410	15,280	900	899	6,656	6,628	2,084	2,088	1,014	1,015	26,064	25,909
8	6,056	5,947	390	391	2,659	2,663	1,901	1,906	1,056	1,061	12,062	11,968
9	46,277	45,426	197	198	7,689	7,521	5,427	5,440	2,540	1,585	62,130	60,168
10	7,160	7,062	247	252	938	930	2,977	2,977	586	585	11,908	11,807
11	20,454	18,764	1,397	1,386	5,681	5,647	4,626	4,632	2,260	2,250	34,418	32,679
12	5,473	4,803	466	476	1,991	1,965	1,703	1,687	374	373	10,007	9,304
13	122,128	118,564	377	399	11,153	11,045	4,701	4,750	966	1,014	139,325	135,771
14	14,072	13,958	27	29	1,436	1,433	493	498	295	297	16,323	16,214
15	68,062	66,482	1,779	1,791	16,478	16,534	3,984	4,018	2,077	2,099	92,380	90,924
16	42,095	42,034	5,444	5,449	21,809	21,826	4,505	4,512	3,970	3,974	77,823	77,795
17	76,030	71,562	218	216	7,192	7,079	3,220	3,177	753	808	87,413	82,841
18	21,412	20,816	21	29	1,061	1,052	676	677	123	126	23,293	22,701
19	41,081	39,128	597	600	6,262	6,189	1,838	1,791	871	885	50,649	48,591
20	24,756	23,746	3,804	3,811	10,413	10,396	2,665	2,620	1,882	1,857	43,520	42,429
Total Transit	756,180	735,666	26,938	27,029	187,871	187,372	108,803	108,638	44,795	43,674	1,124,587	1,102,380

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6.6 References

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Chapter 7 Time-of-Day Model

The time-of-day model for the Version 2.3 travel model apportions daily vehicle trips among four modeled time-of-day periods, prior to the traffic assignment step. This chapter presents the details of the model and the development of the peaking factors.

7.1 Model Structure

The time-of-day model, which follows the mode choice model, addresses the temporal dimension of travel. The model distributes daily trips by purpose and mode to specific periods of the day, in preparation for the traffic assignment step. The four modeled time periods considered in the Version 2.3 model are defined as the AM peak period (6 – 9 AM), the midday period (9 AM – 3 PM), the PM peak period (3 PM – 7 PM) and the nighttime/early morning period (7 PM – 6 AM). Note that the AM peak period is defined as being three hour long (as it was in Version 2.2), but the PM peak period is now defined as being four hours long (compared to three hours in Version 2.2).⁶⁵

The distribution of daily trips to specific time periods are made with time-in-motion factors developed from the 2007/2008 HTS. The factors, shown as Table 63, have been developed on the basis of purpose, mode, and directionality of the trip (with respect to the home-end and non-home ends of the trip).

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 Table 62.

Table 62 Version 2.3 Temporal Factors (Percentages) For Truck and Non-Modeled Travel Markets

Time Period	Travel Market							
	Comm. Vehicle	Medium Truck	Heavy Truck	X-X Auto Dr	Taxi Auto Dr	Tourist Auto Dr	School Auto Dr	Airport Auto Dr
AM	18.70	25.00	20.00	18.70	18.70	18.70	18.70	23.10
MD	32.63	45.00	50.00	32.63	32.63	32.63	32.63	36.57
PM	32.89	20.00	10.00	32.89	32.89	32.89	32.89	25.38
NT	15.78	10.00	20.00	15.78	15.78	15.78	15.78	14.95

Note: Medium & Heavy truck factors were updated as part of the truck modeling update

⁶⁵ Mark S. Moran to Ronald Milone, "Choosing the breakpoints for and duration of time-of-day periods used in the Version 2.3 travel model," Memorandum, October 21, 2010.

The temporal factors shown for medium and heavy trucks were recently updated as part of the revised truck modeling effort.⁶⁶ The remaining temporal factors were based on professional judgment. The directional splits for the above auto trips are 50/50 (all time periods). The directional X/I and IX split for external commercial and truck trips 70/30, 30/70, and 50/50, for the AM, PM, and off-peak periods, respectively.

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, TPB accounts for peak spreading issues in its travel model post-processor (also known as the mobile emissions post processor), where hourly volume and speed estimates are formulated.⁶⁷

⁶⁶ William G. Allen, *Development of a Model for Truck Trips* (Windsor, South Carolina: Prepared for the Metropolitan Washington Council of Governments/National Capital Region Transportation Planning Board, January 14, 2008).

⁶⁷ Hamid Humeida, "Emissions post processor used for the Air Quality Conformity Determination of the 2008 CLRP and the FY2009-2014 TIP," Memorandum, April 27, 2009; Ronald Milone and Hamid Humeida to Files, "Mobile Emissions Post-Processor Description and Results," Memorandum, May 26, 2009.

Table 63 Temporal travel distributions by purpose, mode, and direction

Purpose	Mode	Direction	AM	MD	PM	NT
HBW	Auto Driver	Home-NonHome	66.53	19.99	4.17	9.31
		NonHome-Home	1.41	8.16	70.77	19.66
	Drive Alone	Home-NonHome	67.06	19.69	3.89	9.36
		NonHome-Home	1.59	8.20	69.67	20.54
	Carpool Person	Home-NonHome	58.06	25.85	7.90	8.19
		NonHome-Home	0.25	8.69	75.95	15.11
Transit	Home-NonHome	74.63	16.70	0.81	7.86	
	NonHome-Home	0.19	2.78	79.88	17.15	
HBS	Auto Driver	Home-NonHome	15.43	41.71	28.17	14.69
		NonHome-Home	1.49	32.12	38.24	28.15
	Drive Alone	Home-NonHome	20.84	43.46	22.08	13.62
		NonHome-Home	2.10	33.17	39.24	25.49
	Carpool Person	Home-NonHome	6.38	37.49	40.09	16.04
		NonHome-Home	0.30	29.26	35.89	34.55
Transit	Home-NonHome	35.42	43.24	14.49	6.85	
	NonHome-Home	0.36	25.76	38.85	35.03	
HBO	Auto Driver	Home-NonHome	24.26	38.71	25.24	11.79
		NonHome-Home	6.96	27.53	35.58	29.93
	Drive Alone	Home-NonHome	22.43	42.19	23.05	12.33
		NonHome-Home	9.34	29.41	31.68	29.57
	Carpool Person	Home-NonHome	33.57	30.60	26.06	9.77
		NonHome-Home	2.37	22.94	45.92	28.77
Transit	Home-NonHome	41.28	41.23	13.20	4.29	
	NonHome-Home	0.52	23.33	43.54	32.61	
NHW	Auto Driver	Home-NonHome	12.33	43.14	38.80	5.73
		NonHome-Home	12.33	43.14	38.80	5.73
	Drive Alone	Home-NonHome	12.93	42.82	38.36	5.89
		NonHome-Home	12.93	42.82	38.36	5.89
	Carpool Person	Home-NonHome	12.46	41.92	39.87	5.75
		NonHome-Home	12.46	41.92	39.87	5.75
Transit	Home-NonHome	17.35	24.71	51.08	6.86	
	NonHome-Home	17.35	24.71	51.08	6.86	
NHO	Auto Driver	Home-NonHome	4.07	55.33	29.87	10.73
		NonHome-Home	4.07	55.33	29.87	10.73
	Drive Alone	Home-NonHome	4.92	57.58	28.17	9.33
		NonHome-Home	4.92	57.58	28.17	9.33
	Carpool Person	Home-NonHome	3.69	47.29	35.48	13.54
		NonHome-Home	3.69	47.29	35.48	13.54
Transit	Home-NonHome	5.92	39.82	45.49	8.77	
	NonHome-Home	5.92	39.82	45.49	8.77	

Ref: I:\ateam\docum\FY11\Ver2.3\modelDoc\01_calib\todcomp_2008HTS_V23.xlsx

Chapter 8 Traffic Assignment/Feedback

The traffic assignment step is used to load a trip table onto the highway network in order to produce network link flows and speeds. The traffic assignment process of the Version 2.3 model is detailed in this chapter.

8.1 Updated features

Table 64 compares how traffic assignment features have changed from Version 2.2 to Version 2.3. Following the table is 1) a brief discussion of some of these items, and 2) more detailed descriptions of some features.

Table 64 A comparison of traffic assignment features in the Version 2.2 and 2.3 travel models

Feature	Version 2.2	Version 2.3
Methodology	Static, user equilibrium traffic assignment	Same
Algorithm	Frank-Wolfe	Bi-conjugate Frank-Wolfe
Volume delay function	Conical	Same
Queuing delay function	Yes, sigmoid curve	None
User classes	5	6 (added commercial vehicles)
Time of day periods	AM, PM, off peak	AM, PM, midday, and off peak
Convergence criterion	60 user equilibrium iterations per time-of-day period	A relative gap of 10^{-3} (0.001) or 200 user equilibrium iterations, whichever is attained first
Speed feedback iterations	7 (pump prime, i1, i2, i3, i4, i5, i6)	5 (pump prime, i1, i2, i3, i4)
Two-step traffic assignment (see section 8.3 on page 99)	Yes	Yes
Double run of the travel model to address Northern Virginia HOV/HOT lane policy (see section 8.4 on page 102)	Yes	Yes
Number of zone-to-zone interchanges	$2,191^2 = 4,800,481$	$3,722^2 = 13,853,284$ (increased by a factor of 2.86 or 186%)
Free-flow capacity and speed lookup tables		Updated

The Version 2.3 travel model traffic assignment process uses a static, user-equilibrium traffic assignment, implemented with a bi-conjugate Frank-Wolfe traffic assignment. The bi-conjugate FW assignment is a new link-based algorithm offered by Citilabs in their traffic assignment module (HIGHWAY). In tests that TPB staff conducted in November and December of 2010, the bi-conjugate FW offered a 20% decrease in run times compared to the classic Frank-Wolfe. The Version 2.3 traffic assignment uses a conical volume delay function, but foregoes the queuing delay function that had been added to the Version 2.2 travel model (see discussion later in the chapter). Whereas the Version 2.2 traffic assignment process used five user classes, the Version 2.3 model uses six user classes (commercial vehicles is now its own user class). For the Version 2.2 traffic assignment, the convergence/stopping criterion was simply to stop after 60 user equilibrium (UE) iterations. In Version

2.3, there is a dual convergence/stopping criterion: attain a relative gap of 10^{-3} (0.001) or 200 user equilibrium iterations, whichever comes first. This means that the Version 2.3 traffic assignment reaches a more converged solution than was the case with Version 2.2 and it also means that the six user classes should be similarly converged. By contrast, in Version 2.2, since each user class went to 60 UE iterations, some of the five were more converged than others, as is shown later in this chapter.

The Version 2.3 traffic assignment continues to use both the two-step traffic assignment and the double run of the travel model to address Northern Virginia HOV/HOT lane policy, both of which are discussed in greater detail later in this chapter. The maximum TAZ number has increased from 2,191 to 3,722, a 70% increase. However, traffic assignment run times scale with the matrix size, so there has been an increase of 186% or a factor of 2.86. In the past, half of the model run time was spent on traffic assignment. Although we have not computed what this percentage is for the new model, we do know that a typical run time for the entire Version 2.2 travel model (traffic assignment and other steps) on our travel model server was about 18 hours and the new model takes about 58 hours (a factor of 3.2). This is due primarily to the increased size of the matrices, the increased convergence in traffic assignment, the addition of a sixth user class in traffic assignment, and the fact that we now use four time-of-day periods (up from the previous three). For reference when model run times are discussed, the specifications or “specs” of the travel model server used by the models development staff (TMS3) are shown in Table 65.

Table 65 Specs of travel model server tms3

Item	Spec
Processor name and speed	Intel Xeon W5580 CPU @ 3.20GHz
Number of processors in system	2
Active cores per processor	4
Total number of cores	8
L2 Cache	4 x 256 KB
System Bus Frequency	133 MHz
Memory	4.0 GB
Hard drive	Network attached storage (NAS, O drive), 1.99 TB
Operating system	Windows Server Standard, SP2, 32-bit

Ref: O:\model_dev\computer_specs_2011-01.xlsx

8.2 Model structure

The traffic assignment step is executed five times during a given model run. The first assignment is called the “pump prime” traffic assignment. The last four traffic assignments, which occur as part of the speed feedback loop, are called iteration 1, 2, 3, and 4. For each of the five traffic assignments, there are actually four individual traffic assignments, one for each time-of-day period:

- AM peak period (3 hours: 6:00 AM to 9:00 AM)
- Midday period (6 hours: 9:00 AM to 3:00 PM)
- PM peak period (4 hours: 3:00 PM to 7:00 PM)
- Night/early morning period (11 hours: 7:00 PM to 6:00 AM)

The trips loaded in each time period are comprised of all purposes, as allocated by the time-of-day model. The trip tables that are loaded to the network are segmented into six user classes:

1. Single-occupant vehicles (SOVs)
2. Two-occupant HOVs
3. Three-occupant HOVs
4. Commercial vehicles
5. Medium/heavy truck
6. Airport auto driver

In Version 2.2, there were only five user classes, since the commercial vehicles category was grouped with medium/heavy truck. The primary reason for distinguishing truck markets is to allow for the option of using passenger car equivalents (PCEs) in the traffic assignment process. The use of PCE's has not yet been implemented, but they will be considered in future developmental work.

8.3 Two-step traffic assignment

To better understand the two-step assignment, it is necessary to discuss its development as part of the Version 2.2 travel model. The Version 2.2 traffic assignment process prior to the fall of 2008 consisted of three separate assignment executions: AM peak period, PM peak period, and the off-peak period (See Figure 18). The stopping criterion used was a fixed number UE iterations per time period (i.e., 60). To respect the various highway path options and prohibitions in the Washington region, five separate markets or "user classes" (trip tables) were loaded during each assignment execution:

1. Single-occupant vehicles, including commercial vehicles (SOV),
2. 2-occupant vehicles (HOV2),
3. 3+occupant vehicles (HOV3+),
4. Trucks (medium and heavy), and
5. Airport passenger vehicles.

	# UE Iterations	Period	Trip Markets Assigned
Assignment 1	60	AM	1 SOV 2 HOV 2-Occ. 3 HOV 3+-Occ. 4 Trucks 5 Airport Pax
Assignment 2	60	PM	1 SOV 2 HOV 2-Occ. 3 HOV 3+-Occ. 4 Trucks 5 Airport Pax
Assignment 3	60	Off-Peak	1 SOV 2 HOV 2-Occ. 3 HOV 3+-Occ. 4 Trucks 5 Airport Pax

Figure 18 Traffic assignment in the Version 2.2 Travel Model prior to fall 2008: three assignments, each with five market segments (user classes), resulting in 180 user equilibrium iterations

Source: Ronald Milone and Mark Moran, "TPB Models Development Status Report" (Presentation at the Travel Forecasting Subcommittee presented at the Travel Forecasting Subcommittee, Washington, D.C., November 21, 2008).

This type of assignment is known as a multi-class assignment. Although separate link volumes are developed for each of the five markets, the final loaded links file ultimately contains total volumes, speeds, and volume-to-capacity (V/C) ratios for each time period. The Version 2.2 travel model includes a speed feedback loop. The AM and off-peak SOV restrained times resulting from the traffic assignment step are fed back into trip generation (via transit accessibility), trip distribution, and mode choice. In standard application of the travel model, the four-step process is executed a total of seven times, hence seven traffic assignments.⁶⁸ The first of these traffic assignments is known as the "pump prime" assignment, since it primes the pump, or gets the process started. The pump prime assignment uses free-flow link speeds (based on a lookup table) and exogenous mode choice percentages (i.e., the mode choice model is not run). In the six subsequent applications of the four-step model, congested link speeds are used and the mode choice model is executed. A link-level "method of successive averaging" (MSA) process is applied after each successive highway assignment process to ensure that highway volumes (and hence speeds) will stabilize. The MSA averaging is performed on the basis of total (non-segmented) link volumes, and is performed individually for each time period.

In the fall of 2008, as part of air quality conformity work, the traffic assignment process was modified to improve the assignment of HOV/HOT traffic on the Capital Beltway in Virginia and the I-395 Shirley

⁶⁸ The total number of all-or-nothing traffic assignments is 1,260 (= 7 speed feedback loops x 3 time-of-day periods x 60 UE iterations). Traffic assignment accounts for over half of the model run time.

Highway.⁶⁹ The previous process, describe above included three traffic assignments by time period with five user classes, resulting in 180 UE iterations per speed feedback iteration, or 1,260 UE iterations per model run. The revised process, shown in Figure 19, splits the AM traffic assignment into two parts: non-HOV 3+ (i.e., SOV, HOV2, trucks, and airport passengers) and HOV 3+. Similarly, the PM traffic assignment is also split into the same two parts: non-HOV 3+ and HOV3+. This new traffic assignment process is sometimes referred to as the “two-step assignment,” since it splits the AM and PM assignment each into two parts.⁷⁰ The result is five (not three) traffic assignments, with either four, one, or five user classes, depending on which assignment is being conducted. The fifth traffic assignment, representing the off-peak period, includes all five trip markets – it is only the AM and PM peak assignments where the non-HOV 3+ and HOV 3+ are split out. This results in 300 UE iterations per speed feedback iteration, or 2,100 UE iterations per model run (a 67% increase).

In the first step of the two-step assignment (assignments #1 and #3), non-HOV 3+ traffic (i.e., SOV, HOV 2, truck, and airport passenger trips) is assigned to all facilities (HOV and general purpose). In the second step, HOV 3+ traffic is assigned to HOT lanes and other facilities on the partially loaded network. The pre-assignment of non-HOV 3+ traffic results in congested link speeds for the general purpose lanes. This means that HOV 3+ traffic has a greater incentive to use HOV facilities, which results in improved HOV 3+ loadings on priority-use and general-use facilities.

⁶⁹ Ronald Milone and Mark Moran, “TPB Models Development Status Report” (presented at the Travel Forecasting Subcommittee of the TPB Technical Committee of the National Capital Region Transportation Planning Board, held at the Metropolitan Washington Council of Governments, Washington, D.C., November 21, 2008).

⁷⁰ Jinchul Park to Files, “Two Step Traffic Assignment for HOT Lane Modeling in 2008 CLRP,” Memorandum, December 2, 2008.

	# UE Iterations	Period	Trip Markets Assigned
Assignment 1	60	AM	1 SOV 2 HOV 2-Occ. 3 Trucks 4 Airport Pax
Assignment 2	60	AM	1 HOV 3+-Occ.
Assignment 3	60	PM	1 SOV 2 HOV 2-Occ. 3 Trucks 4 Airport Pax
Assignment 4	60	PM	1 HOV 3+-Occ.
Assignment 5	60	Off-Peak	1 SOV 2 HOV 2-Occ. 3 HOV 3+-Occ. 4 Trucks 5 Airport Pax

Figure 19 Traffic assignment in the Version 2.2 Travel Model after fall 2008: five assignments, with one, four, or five user classes, resulting in 300 user equilibrium iterations

Source: Ronald Milone and Mark Moran, “TPB Models Development Status Report” (Presentation at the Travel Forecasting Subcommittee presented at the Travel Forecasting Subcommittee, Washington, D.C., November 21, 2008).

The Version 2.3 travel model continues to use the same two-step assignment shown in Figure 19, except that there are six user classes, not five, as discussed in section 8.2 (Model structure) on page 98.

8.4 Double run of the travel model to address Northern Virginia HOV/HOT lane policy

The Version 2.2 travel model requires two model runs be performed for each scenario being modeled to address the stated policy of Virginia Department of Transportation (VDOT) that HOT facilities will not degrade the operations of HOV users. The “base run” captures the travel time for unimpeded flow of HOV traffic on HOT lanes, consistent with the stated operational policy. The “conformity run” or “final run” of the travel model substitutes the HOV skims obtained for the HOV skims that would otherwise be obtained by simply skimming the networks with HOT lanes in operation. Only the HOV skims are taken from the “base run.” Skims for all other modes are taken from the “conformity run.” Under this framework, the “base run” serves solely as a means for measuring times for HOV traffic on HOT facilities. This procedure, which is also called the “HOV 3+ skim substitution option,” is described on page 1-10 of the Version 2.2 documentation.⁷¹

Cambridge Systematics, Inc. (CS) has proposed eliminating the double run of the travel model to address Northern Virginia HOV/HOT lane policy by combining the two steps into one step. The consultant cites

⁷¹ Ronald Milone et al., *TPB Travel Forecasting Model, Version 2.2: Specification, Validation, and User’s Guide* (Washington, D.C.: Metropolitan Washington Council of Governments, National Capital Region Transportation Planning Board, March 1, 2008), 1-10.

the following benefits: less time needed for model runs and greater consistency in mode choice modeling.⁷² TPB staff is currently considering the pros and cons of eliminating the double run procedures, but has not chosen to eliminate it yet. Consequently, the double run of the travel model to address Northern Virginia HOV/HOT lane policy is still a part of the Version 2.3 travel model.

8.5 Convergence in traffic assignment

The convergence of the traffic assignment step for the Version 2.2 travel model is shown in Figure 20. This comes from a recent air quality conformity analysis.⁷³ The y-axis shows the relative gap, using a logarithmic scale, and the x-axis shows the number of UE iterations.

⁷² Ibid., 3-20.

⁷³ Ronald Milone and Meseret Seifu to Files, "Transmittal of Version 2.2 Travel Model files as per the October 21, 2009 Amendment to the 2009 CLRP/FY 2010-2015 TIP Air Quality Conformity Determination," Memorandum, October 29, 2009.

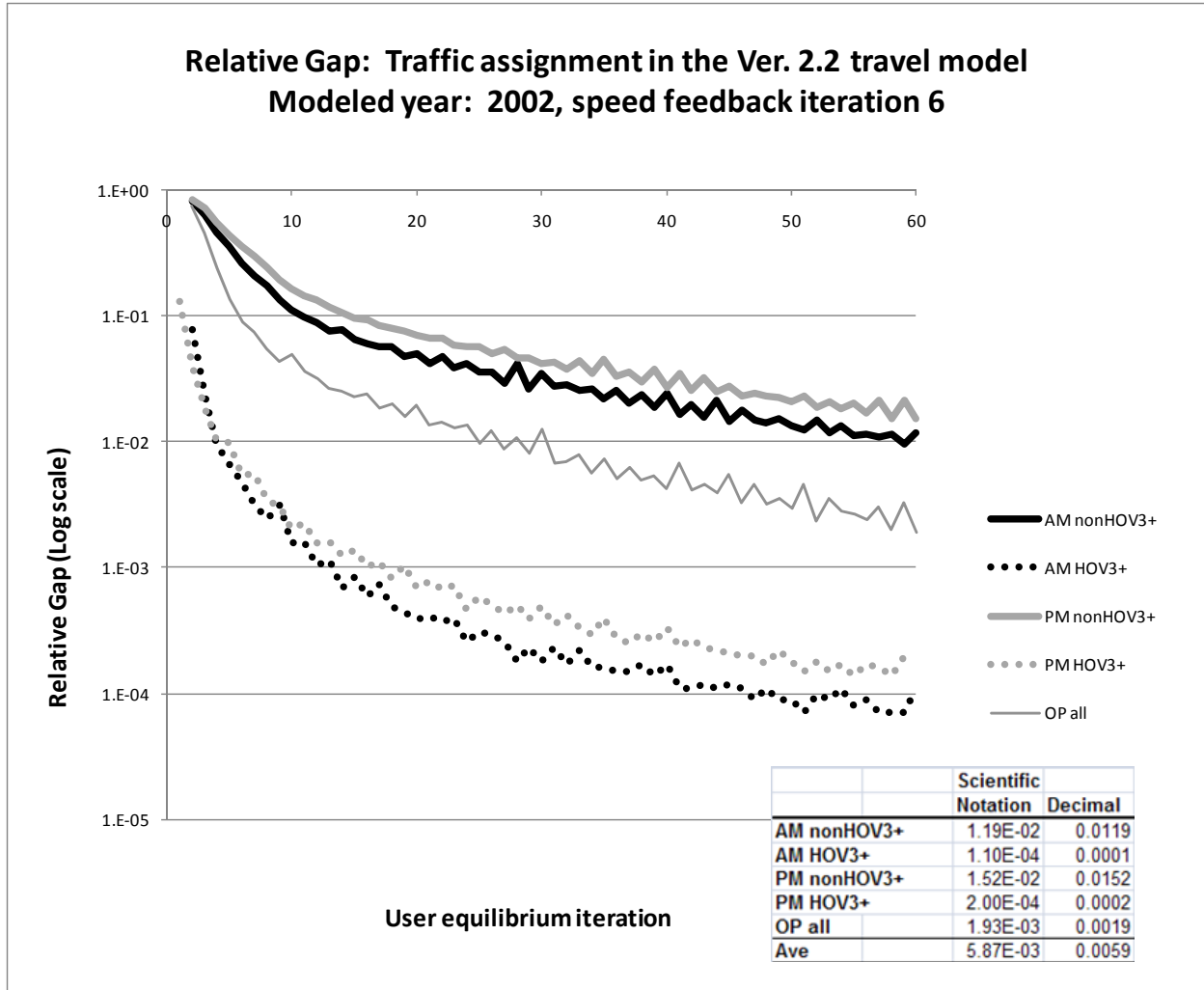


Figure 20 Relative gap by user equilibrium traffic assignment iteration: Version 2.2 Travel Model (final speed feedback iteration, i6)

Source: Transmittal of Version 2.2 Travel Model files as per the October 21, 2009 Amendment to the 2009 CLR/P/FY 2010-2015 TIP Air Quality Conformity Determination (O:\model_dev\Version2.2_Jan08_Conformity2010Amended_Xmittal\2002_Conf). Ref: I:\ateam\from_consults\modelScanTaskOrder\2008_cs\2010\trafficAssignRelGapByIterVer2.2_2010_LogScale.pdf.

The current Version 2.2 travel model is reaching the following traffic assignment relative gaps

- about 10^{-2} (ca. 0.01 to 0.02) for the AM and PM non-HOV 3+ assignments
- about 10^{-3} (ca. 0.002) for the off-peak assignment
- about 10^{-4} (ca. 0.0001 to 0.0002) for the AM and PM HOV 3+ assignments

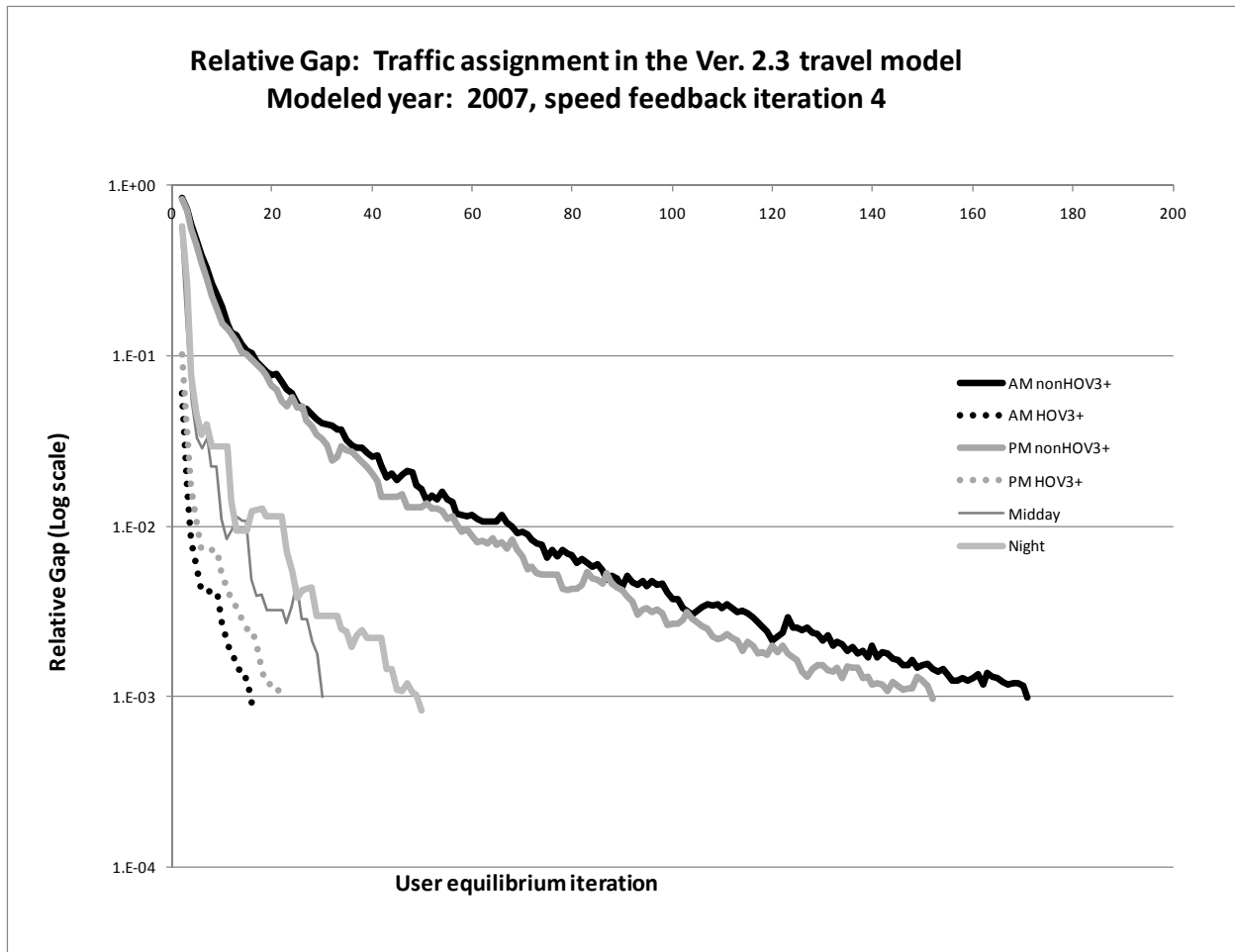


Figure 21 Relative gap by user equilibrium traffic assignment iteration: Version 2.3 Travel Model (final speed feedback iteration, i4)

Ref: O:\model_dev\trafficAssignRelGapByIterVer2.3_200ue.xlsx

By contrast, the Version 2.3 travel model is reaching the same level of convergence (a relative gap of 10^{-3} , or 0.001) for each of the six user classes. So, the Version 2.3 traffic assignment reaches a greater level of convergence than Version 2.2, and each of the six user classes is equally converged. In this case of the two HOV3+ assignments (AM and PM), it takes only about 20 UE iterations to reach a relative gap of 10^{-3} . In the case of the two peak-period non-HOV assignments, it takes about 150 to 170 UE iterations to reach a relative gap of 10^{-3} .

8.6 Removal of queuing delay function

The TPB, like most MPOs in the U.S., uses a static traffic assignment (STA), which means that demand is assumed to be constant during the specific assignment period (in TPB’s example: AM peak period, PM peak period, midday, and night). In a static traffic assignment model, link speeds are represented by volume-delay functions (VDFs), which capture the fact that as the link becomes more congested, the time to traverse the link goes up. STAs typically do not explicitly account for intersection (node) delay, however the link’s VDF can be viewed as implicitly including the sum of the link delay and intersection delay. Another well known limitation of STA models is that some of the loaded links may have assigned

volumes that are greater than the physical capacity of the given links, i.e., the volume-to-capacity ratio is greater than one.⁷⁴ One of the model enhancements done by TPB staff to minimize the number of overloaded links, particularly freeways and freeway ramps, was the introduction of a queuing delay function (QDF), such as that shown in Equation 8, which would act in conjunction with the VDF, but would be focused on intersection delay.

Equation 8 Queuing delay function (QDF): Sigmoid

$$t_D = a \frac{1}{1 + e^{-b(x-c)}}$$

where

t_D = delay time (minutes)

x = link demand to capacity ratio $\left(\frac{V}{C}\right)$

a = amplitude

b = slope

c = offset

The idea was to represent a phenomena that is not natively part of traditional STA models, namely that of queuing and traffic blockages, which result in reduced link speeds. TPB staff found that the addition of a QDF did, in fact, reduce the number of overloaded links. It also, however, may have resulted in some unintended consequences, such as unrealistically slow modeled speeds on freeways and an unrealistic shifting of volume from freeways to arterials, due to the way that QDFs were applied only to freeways and freeway ramps, but not to arterials and other types of roads. As noted by Cambridge Systematics, Inc. in a recent report, the queuing delay is not related to the length of the link, so it is possible for a very short link to have a very high level of queuing delay.⁷⁵

Here is a summary of some of the findings/conclusions from CS's recent report:

- The TPB model is the only one that CS encountered which applies queuing delay only to freeway links.
- The No-QDF scenario achieves approximately the same results without the need for a QDF while using a VDF that has been validated for the Washington region.
- The Akçelik function also shows some promise in achieving TPB's goals.
- The QDF may not be the most accurate way to capture the desired network constraints.
- CS recommended TPB staff consider using a newly calibrated set of link-based VDFs that reflect the breakdown in traffic at higher volumes. Using this approach, TPB could
 - Continue use of an expanded and/or re-calibrated conical function
 - Switch to an Akçelik curve

⁷⁴ Yi-Chang Chiu et al., *A Primer for Dynamic Traffic Assignment* (Transportation Research Board, 2010), http://www.nextrans.org/ADB30/UPLOAD/ssharma/dta_primer.pdf.

⁷⁵ Cambridge Systematics, Inc., *Fiscal Year 2010 Task Reports*, 3-7.

- Possibly employ different functional forms of VDFs on different facility types (e.g., conical functions for freeway versus Akçelik functions for surface streets).

From November 2010 to January 2011, TPB staff ran a series of test traffic assignments, some of which used Akçelik functions, such as that shown in Equation 9 and Equation 10. Staff tried implementing these curves as both function and lookup tables in the Cube Voyager scripts. However, it did not seem that the assigned volumes using the Akçelik function were any better at matching the observed volumes and the run times for the Akçelik function were considerably longer. Consequently, TPB staff decided to continue using the conical volume delay function, implemented as a lookup table, and to drop the use of the QDF. Tests conducted by TPB staff indicated that the elimination of the QDF was beneficial for improving the traffic assignment results. Hence, based on these findings and the consultant recommendations, the QDFs were removed.

Equation 9 Akçelik curve

$$t = t_0 + 0.25T \left[(x - 1) + \sqrt{(x - 1)^2 + \frac{8J_A x}{CT}} \right]$$

where

t = average travel time per unit distance (hours/mile)

t_0 = free-flow travel time per unit distance (hours/mile)

T = flow period, i. e. , the time interval in hours, during which an average arrival flow rate V persists

C = capacity

x = the degree of saturation, i. e. , V/C , or volume to capacity ratio

J = the delay parameter, a calibration parameter

Equation 10 Akçelik Delay Function (HCM 2000)

$$R = R_0 + D_0 + D_M + 0.25NT \left[(x - 1) + \sqrt{(x - 1)^2 + \frac{16J * x * L^2}{N^2 T^2}} \right]$$

where

R = link traversal time (hours)

R_0 = link traversal time under free flow conditions (hours)

D_0 = zero-flow control delay at signalized intersection (hours)

D_M = segment delay between signals- equals zero if no signals (hours)

N = number of signals (=1 if no signals)

T = expected duration of demand-Typically 1 hour (hours)

x = link demand to capacity ratio $\left(\frac{V}{C}\right)$

J = calibration parameter

L = link length (miles)

8.7 Volume Delay Functions

Volume delay functions (VDFs) are used to develop link speeds at the end of each loading pass. These functions represent 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. Like the Version 2.2 travel model, the Version 2.3 travel model uses conical volume delay functions (see Equation 11).⁷⁶

Equation 11 Conical VDF function (Spiess 1990)

$$\frac{t}{t_0} = f(x) = 2 + \sqrt{\alpha^2(1 - x)^2 + \beta^2} - \alpha(1 - x) - \beta$$

where

t = Congested link travel time

t_0 = Link free-flow travel time

$x = \frac{V}{C}$ = link volume to capacity ratio

α = slope of the function at $\frac{V}{C}=1$ (slope must be >1.0)

$$\beta = \frac{2\alpha - 1}{2\alpha - 2}$$

Table 66 shows, in tabular form, the conical VDFs used in the Version 2.3 travel model. There is a separate curve for each facility type, although ramps and freeways are assumed to have the same VDF.

⁷⁶ Heinz Spiess, "Conical Volume-Delay Functions," *Transportation Science* 24, no. 2 (May 1, 1990): 153-158, <http://transci.journal.informs.org/cgi/content/abstract/24/2/153>.

The conical VDFs are shown in graphical form in Figure 22 (for $V/C > 1$) and Figure 23 (for $V/C \leq 1$). In reality, no link would ever have a V/C ratio above one. However, in a typical regional travel model, V/C ratios above 1 do occur, so the VDF needs to account for this domain. Figure 23 shows the behavior of the Version 2.3 conical VDFs for large V/C ratios ($V/C > 1$). The curve for freeways is the steepest, followed by expressways, then major arterials, minor arterials, and collectors. A steeper curve means more sensitivity to high V/C ratios, forcing excess traffic off of these facilities. Figure 22 shows the behavior of the Version 2.3 conical VDFs for V/C s less than or equal to one. In this area of V/C ratio, the freeways show the least sensitivity to V/C ratio, but, as the V/C ratio approaches 1, the freeway VDFs have the steepest slope (a slope of 15).

In Figure 24, the vertical axis now shows congested speed (not ratio of congested to free-flow travel time). One can see that, for freeways, the congested speed drops to about 2 mph at a V/C ratio of 2.00.

Table 66 Conical volume-delay functions used in the Version 2.3 travel model: Tabular format

	Centroid (FT=0)	Freeway (FT=1)	Maj Art (FT=2)	Min Art (FT=3)	Collector (FT=4)	Exprw (FT=5)	Ramps (FT=6)
a		15	7	5.5	3	8	15
b		1.035714	1.083333	1.111111	1.25	1.071429	1.035714
v/c	t/t0	t/t0	t/t0	t/t0	t/t0	t/t0	t/t0
0	1.000	1.000	1.000	1.000	1.000	1.000	1.000
0.1	1.000	1.004	1.009	1.012	1.025	1.008	1.004
0.2	1.000	1.009	1.020	1.027	1.056	1.018	1.009
0.3	1.000	1.015	1.035	1.046	1.094	1.030	1.015
0.4	1.000	1.024	1.054	1.071	1.141	1.047	1.024
0.5	1.000	1.035	1.080	1.105	1.203	1.070	1.035
0.6	1.000	1.053	1.119	1.154	1.283	1.103	1.053
0.7	1.000	1.082	1.180	1.228	1.390	1.157	1.082
0.8	1.000	1.138	1.287	1.352	1.537	1.254	1.138
0.9	1.000	1.287	1.506	1.579	1.735	1.466	1.287
1	1.000	2.000	2.000	2.000	2.000	2.000	2.000
1.1	1.000	4.287	2.906	2.679	2.335	3.066	4.287
1.2	1.000	7.138	4.087	3.552	2.737	4.454	7.138
1.3	1.000	10.082	5.380	4.528	3.190	5.957	10.082
1.4	1.000	13.053	6.719	5.554	3.683	7.503	13.053
1.5	1.000	16.035	8.080	6.605	4.203	9.070	16.035
1.6	1.000	19.024	9.454	7.671	4.741	10.647	19.024
1.7	1.000	22.015	10.835	8.746	5.294	12.230	22.015
1.8	1.000	25.009	12.220	9.827	5.856	13.818	25.009
1.9	1.000	28.004	13.609	10.912	6.425	15.408	28.004
2	1.000	31.000	15.000	12.000	7.000	17.000	31.000
2.1	1.000	33.997	16.393	13.090	7.579	18.594	33.997
2.2	1.000	36.994	17.786	14.182	8.161	20.188	36.994
2.3	1.000	39.992	19.181	15.275	8.745	21.784	39.992
2.4	1.000	42.990	20.576	16.369	9.332	23.380	42.990
2.5	1.000	45.988	21.972	17.463	9.920	24.976	45.988
2.6	1.000	48.987	23.369	18.559	10.510	26.573	48.987
2.7	1.000	51.985	24.766	19.655	11.101	28.171	51.985
2.8	1.000	54.984	26.163	20.751	11.693	29.768	54.984
2.9	1.000	57.983	27.561	21.848	12.285	31.366	57.983
3	1.000	60.982	28.959	22.945	12.879	32.964	60.982
999.9	1.000	60.982	28.959	22.945	12.879	32.964	60.982

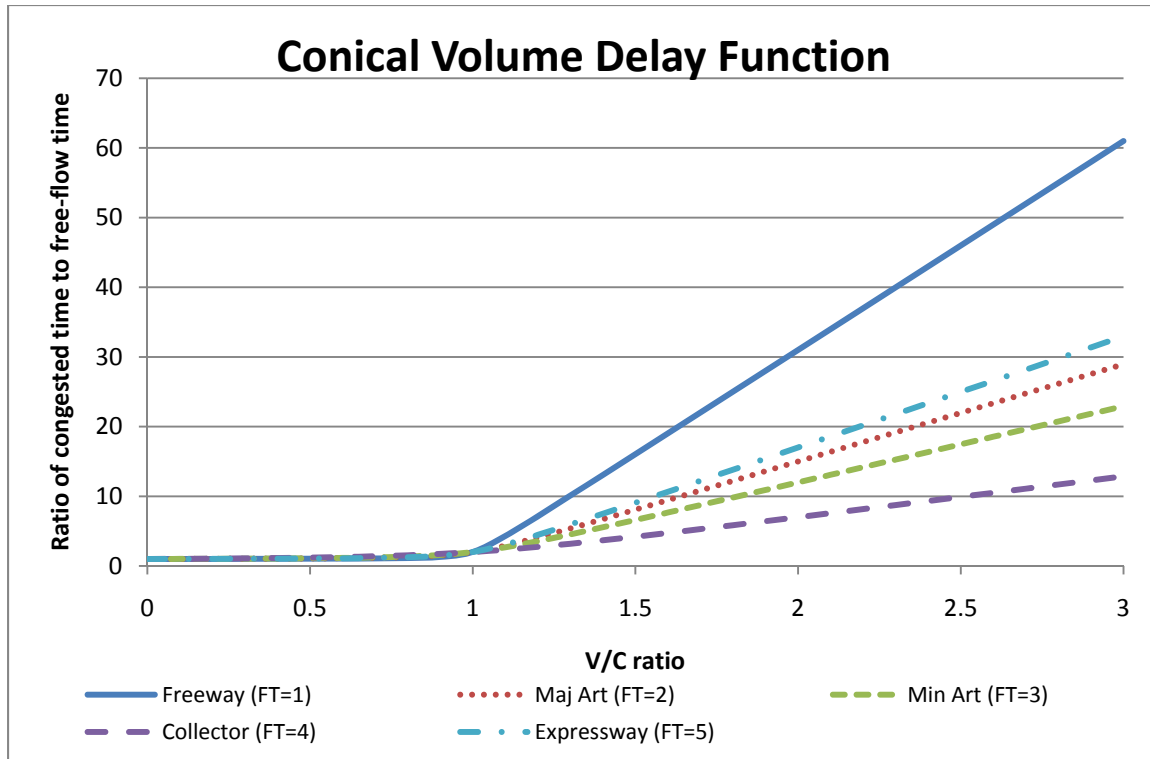


Figure 22 Conical volume-delay functions used in the Version 2.3 travel model: $V/C > 1$

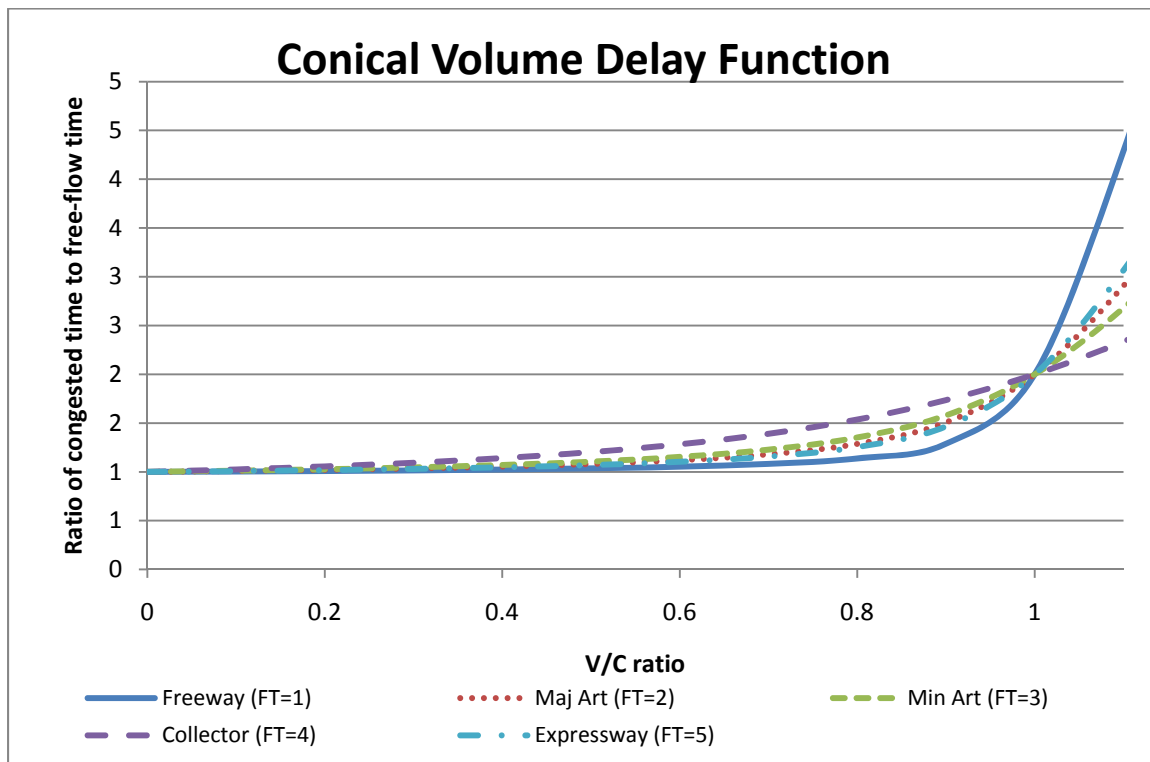


Figure 23 Conical volume-delay functions used in the Version 2.3 travel model: $V/C < 1$

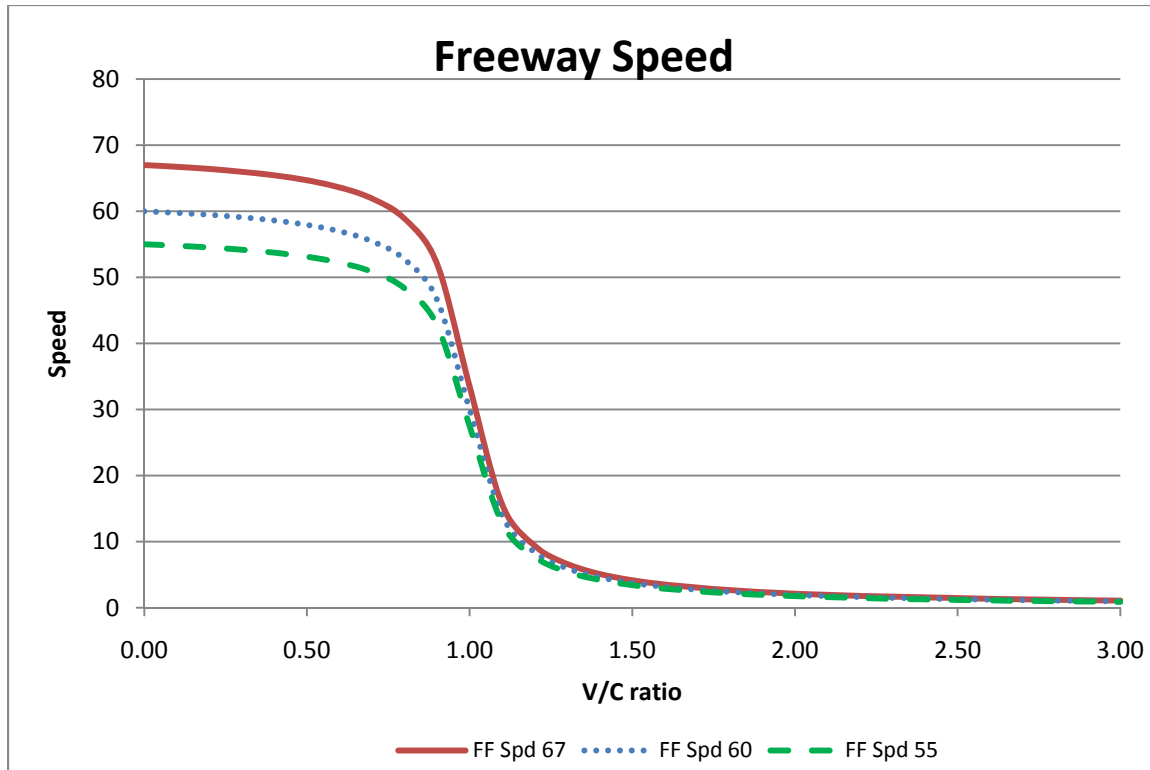


Figure 24 Freeway Speed

8.8 Speed and Capacity Tables

Two of the parameters that are necessary as inputs to the VDF are free-flow capacities and speeds. Free-flow capacity is defined as level-of-service (LOS) E capacity. The assumed free-flow speeds and capacities vary by facility type and area type. The Version 2.3 capacities and free flow capacities and speeds are defined in Table 67 and Table 68.

Table 67 Free Flow Capacities

	Area type					
	1	2	3	4	5	6
Freeways	2100	2100	2100	2100	2100	2200
Major Arterials	800	800	960	960	1260	1260
Minor Arterials	500	600	700	840	1000	1000
Collectors	500	500	600	700	700	800
Expressways	1100	1200	1200	1400	1600	1600

Table 68 Free Flow Speeds

	Area type					
	1	2	3	4	5	6
Freeways	55	55	60	60	67	67
Major Arterials	25	25	35	35	40	45
Minor Arterials	20	20	30	30	35	40
Collectors	20	20	25	25	25	30
Expressways	45	45	50	50	50	55

8.9 Peaking Factor Assumptions

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 of the period. 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 2.3 model requires peaking factors for the AM, midday, PM, and off-peak time periods. To arrive at regionally appropriate peaking factors, an analysis of total auto driver trips from the 2007/2008 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 show in Table 69.

Table 69 Peak Hour Percentage by Time Period based on Total Auto Driver Trips in Motion Distribution

Period	Pct. of Travel	Hours in Period	Peak Hour in Period	Peak Hour Pct
AM Peak (6:00-9:00)	18.7%	3	8:00-9:00 AM	41.7%
Midday (9:00-15:00)	32.63%	6	12:00 PM -1:00 PM	29.4%
PM Peak (15:00-19:00)	32.89%	4	5:00-6:00 PM	17.7%
All other hours	15.78%	11	8:00-9:00 PM	35.0%
Daily	100.00%	24	5:00-6:00 PM	9.7%

Chapter 9 Validation

This chapter presents highway and transit performance results of the Version 2.3 model for 2007. The model includes five speed-feedback iterations of the four-step model (pump prime, plus iterations 1 through 4). As mentioned in Chapter 8, there is a dual convergence/stopping criterion for traffic assignment: attain a relative gap of 10^{-3} (0.001) or 200 user equilibrium iterations, whichever comes first. A comparison of global demographic and travel-related statistics between the Version 2.3 model and the existing Version 2.2 model is also presented.

Another important validation test of any model is the assessment of results produced for a future year. This assessment has not yet been undertaken as of the writing of this report, but will need to be done before Version 2.3 is used in production.

While the model is comprised of the numerous calibrated parameters described earlier in this report, it also includes adjustments that were subsequently deemed necessary during initial validation tests of the model. These include trip generation adjustments and K-factors used in trip distribution. Prior experience has shown that these types of adjustments are sometimes necessary to address some observed travel patterns that are not explained well by the travel model. A detailed accounting of the adjustments is documented in Appendix A.

9.1 Validation summaries

Vehicle miles of travel (VMT) is a standard metric used to assess travel model performance. Simulated VMT is also essential for the estimation of mobile emissions. TPB consulted Highway Performance Monitoring System (HPMS) summaries reported by the local state DOTs to obtain “observed” VMT figures at the jurisdiction level. Care was taken to obtain VMT figures that excluded local facilities, which are not included in the regional highway network.

A summary of estimated and observed VMT for the Washington, D.C. Metropolitan Statistical Area (MSA) is shown in Table 70. The MSA area is comprised of 12 of the central jurisdictions within the larger 22-jurisdiction modeled study area. The table indicates that the model presently overestimates VMT in the MSA by 2 percent. Both the Maryland and Virginia portions of the MSA are overestimated by 1% and 2%, respectively. The District of Columbia is underestimated by 6%. Interestingly, this is the first time in recent memory that a TPB travel model has underestimated VMT in the District. It is not clear whether this result is attributed to the new model or to the development of the HPMS data itself.

Estimated and observed VMT for all jurisdictions within the modeled study area is shown in Table 71. The observed VMT figure of 156 million is well aligned with the VMT currently simulated by the Version 2.2 model. The simulated VMT for the region is about 1% higher than the observed figure, an excellent match overall. The table indicates that 9 of the 12 jurisdictions in the MSA match observed VMT figures within 10 percent of observed figures. Loudoun County, Prince William County, and Frederick County are overestimated by 10% or more. An explanation for the overestimation will require more investigation.

Table 70 2007 Estimated/Observed (HPMS) VMT for the Washington, DC MSA (in thousands)

State	Observed VMT	Estimated VMT	Difference	Pct. Difference
DC	8,272	7,739	-533	0.94
MD	56,366	56,677	310	1.01
VA	50,238	51,331	1,093	1.02
Total	114,876	115,746	870	1.02

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Note: VMT shown excludes local traffic

Jurisdictions in the MSA are:

District of Columbia, Montgomery County, Prince George's County, Arlington County, City of Alexandria, Fairfax County, Loudoun County, Prince William County, Frederick County, Charles County, Calvert County, Stafford County.

Table 71 Year 2007 Estimated and Observed VMT Summary by Jurisdiction (in thousands)

Jurisdiction	Observed VMT	Estimated VMT	Difference (E-O)	Ratio (E/O)
District of Columbia	8,272	7,739	-533	0.94
Montgomery County	19,890	20,307	418	1.02
Prince George's County	23,316	22,335	-981	0.96
Arlington County	4,392	4,215	-176	0.96
City of Alexandria	1,958	1,980	23	1.01
Fairfax County	26,799	25,888	-911	0.97
Loudoun County	5,260	6,407	1,147	1.22
Prince William County	8,000	8,769	769	1.10
Frederick County	7,842	9,172	1,330	1.17
Howard County	10,094	10,600	506	1.05
Anne Arundel County	15,330	15,369	39	1.00
Charles County	3,348	3,038	-311	0.91
Carroll County	3,395	4,397	1,002	1.30
Calvert County	1,971	1,824	-146	0.93
St. Mary's County	2,195	2,129	-66	0.97
King George County	789	711	-78	0.90
City of Fredericksburg	948	822	-126	0.87
Stafford County	3,829	4,071	242	1.06
Spotsylvania County	3,300	2,122	-1,177	0.64
Fauquier County	3,149	3,137	-12	1.00
Clarke County	770	1,009	240	1.31
Jefferson County	1,082	1,445	363	1.34
Total	155,927	157,488	1,561	1.01

Ref: O:\model_dev\Ver2.3.Hotel_22_1.0nw_200ue_adjpa_kFac2Br\Assignment_Summary\Jurisdictional_VMT.xlsx

Estimated and observed daily link volumes on pre-defined “screenlines” in the regional network are also important performance indicators of the regional model. Screenline locations currently analyzed by TPB

staff are shown on Figure 25 and Figure 26. The screenline performance of the Version 2.3 model is shown in Table 72. The table also indicates the total number of highway links crossing each screenline and the percentage of links with a coded daily ground count. Unfortunately, the table indicates that only 23% of all links crossing regional screenlines are coded with a ground count. The ground count coverage at the screenline level ranges from 8% to 59%. The minimal level of ground count coverage on screenline links indicates that the performance information is of limited value. Staff will look into collecting ground counts to improve coverage on screenlines. In the Version 2.2 model, the percentage was 37%.⁷⁷

A comparison of year-2007 estimated and observed trips by purpose and mode is shown in Table 73. The table includes two columns with observed transit data, one for the 2007/08 HTS and one for the numerous on-board transit surveys collected in or around 2007. The highway trips shown in both “observed” columns are based consistently on the HTS. Although the table is quite busy, a few key points can be made regarding transit performance. First, the total number of transit trips reported by the HTS and by the on-board surveys are within 6% of each other (1.126 million versus 1.063 million). The simulated transit trip total falls in between the two observed figures (1.082 million). However, the proportion of observed transit trips by purpose is different between the two observed sources. The work and non-work shares from the on-board surveys are about 0.67 and 0.33, respectively. By contrast, the corresponding shares from the HTS are 0.53 and 0.46. It is not clear why this difference in proportions exists, but the same share pattern was encountered in earlier Version 2.3 work on the 2,191-TAZ system, working with 2002 data. The Version 2.3 mode choice model was calibrated to targets established by the on-board surveys. Overall estimated regional transit percentage is about 4% less than the observed target percentage (6.30% versus 6.55%).

A global comparison of control totals (land use, demographic, and travel) from the Version 2.2 model and Version 2.3 model results is displayed in Table 74. A direct comparison of 2007 results was not possible as the Version 2.2 model has not been executed for that particular year. Instead, the nearest available Version 2.2 simulation years were used for the comparison (2005 and 2011). Staff offers the following observations from the comparison table:

- The 2007 land use used in the Version 2.3 simulation reflects a lower average household size than that reflected in the Version 2.2 land use (about 2.5 versus 2.6). This is because the 2007 “Pseudo Round 8.0” land use was informed by recent ACS data. The Round 8.0 Cooperative land use used in the Version 2.2 model is based on 2000 Census data.
- The 2007 external travel data used in the Version 2.3 model reflects actual 2007 traffic counts. The Version 2.2 external travel is based on earlier traffic count data.
- The proportion of transit trips between the travel models, by purpose, is different as noted above.
- The HBW car occupancies are notably lower in the Version 2.3 model, in comparison with that of Version 2.2. However, the *reverse* is true for the non-work purposes -- The 2007/08 HTS reports notably larger auto occupancies, for non-work purposes, particularly for the HBO purpose. Overall,

⁷⁷ Ronald Milone et al., *TPB Travel Forecasting Model, Version 2.2: Specification, Validation, and User's Guide* (Washington, D.C.: Metropolitan Washington Council of Governments, National Capital Region Transportation Planning Board, March 1, 2008), 9-5.

the Version 2.3 average auto occupancy is higher than that of the Version 2.2 model simulation (1.39 versus 1.26).

- The Version 2.3 motorized trip rate is about 7.35/HH, in contrast to the Version 2.2 model rate of about 10.2. This is a substantial difference and may be due, in part, to the lower average household size assumed in the Version 2.3 land activity inputs.
- Version 2.3 vehicle trip lengths are longer than those in the Version 2.2 model (67.3 miles/HH versus 64.8 shown for the 2005 Version 2.2 model).
- The VMT appears to track well in the comparison

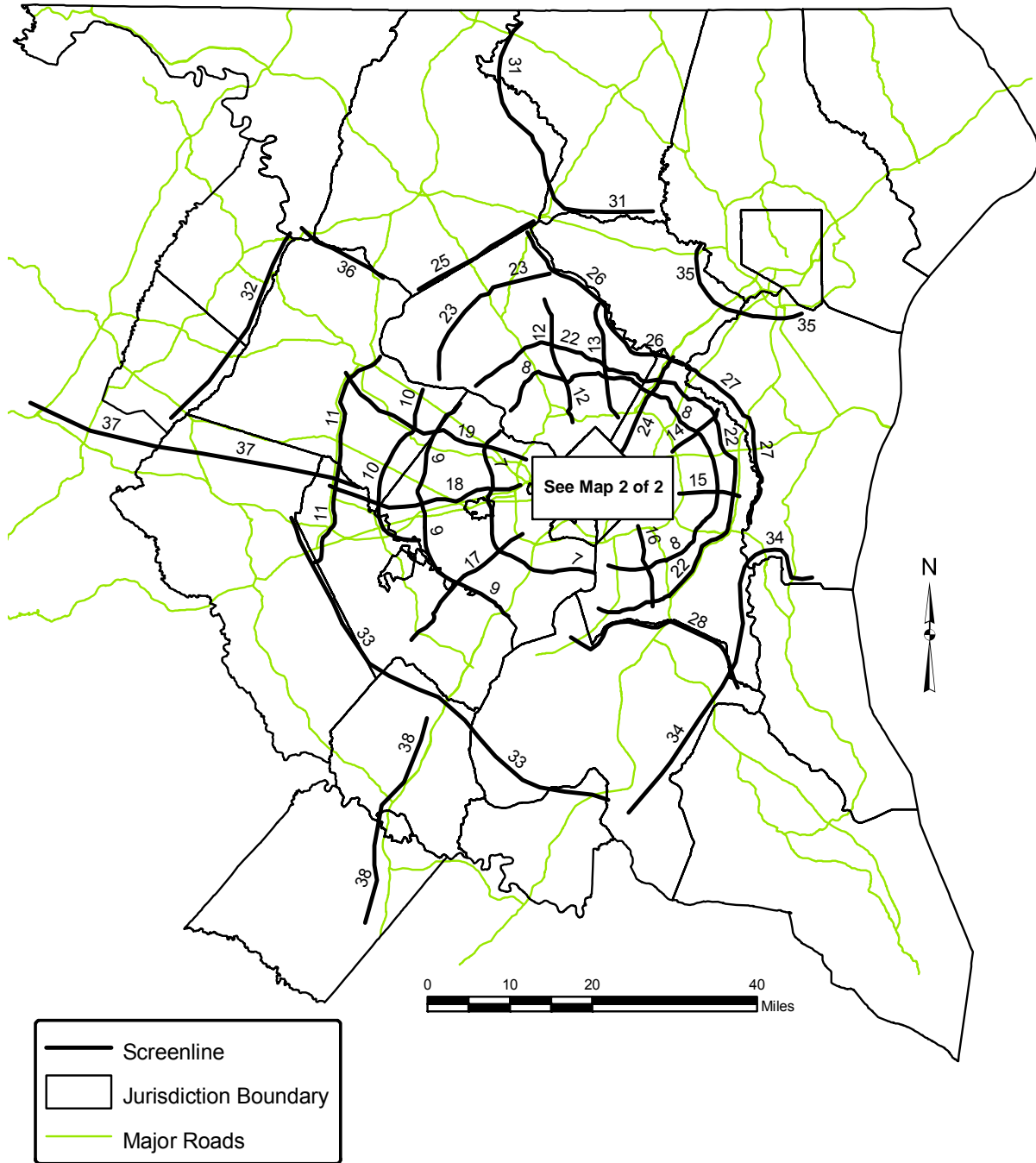


Figure 25 Highway Network Screen lines Map 1 of 2

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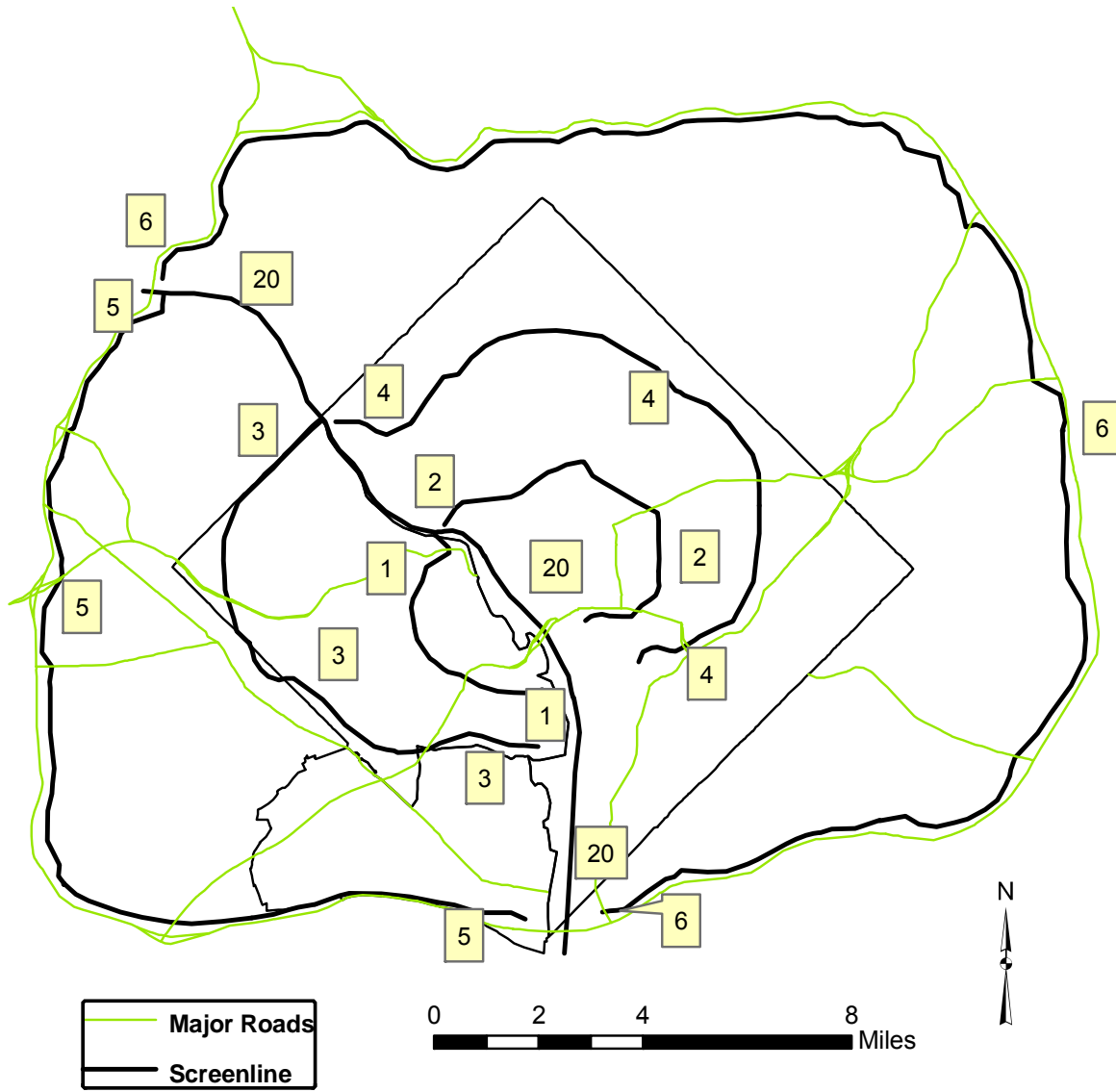


Figure 26 Highway Network Screen lines (Inside the Capital Beltway) Map 2 of 2

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Table 72 Year 2007 Estimated and Observed Daily Screenline Crossings

Screenline	Estimated	Observed	Est./Obs.	Screenline links	Screenline links with counts	Pct. links with counts
1	185,470	250,195	0.74	61	20	32.8%
2	283,722	308,354	0.92	80	19	23.8%
3	203,053	259,724	0.78	78	17	21.8%
4	347,367	362,914	0.96	108	24	22.2%
5	477,239	482,452	0.99	117	23	19.7%
6	565,309	651,694	0.87	189	34	18.0%
7	597,568	690,454	0.87	108	40	37.0%
8	1,014,071	922,408	1.10	166	26	15.7%
9	354,612	384,600	0.92	90	23	25.6%
10	69,571	93,094	0.75	37	4	10.8%
12	359,021	406,676	0.88	44	12	27.3%
13	301,638	257,888	1.17	24	6	25.0%
14	250,830	280,396	0.89	40	4	10.0%
15	203,780	213,416	0.95	16	2	12.5%
16	156,795	142,540	1.10	24	2	8.3%
17	113,708	169,674	0.67	84	20	23.8%
18	410,107	526,638	0.78	76	25	32.9%
19	261,540	360,572	0.73	82	29	35.4%
20	690,529	627,424	1.10	17	10	58.8%
22	516,746	553,576	0.93	224	29	12.9%
23	69,570	45,300	1.54	40	8	20.0%
24	322,624	313,268	1.03	66	6	9.1%
25	150,023	118,250	1.27	22	8	36.4%
26	94,601	41,688	2.27	28	10	35.7%
27	293,214	238,732	1.23	20	10	50.0%
28	34,182	28,824	1.19	24	4	16.7%
31	151,635	69,366	2.19	42	18	42.9%
32	66,666	41,628	1.60	20	4	20.0%
33	107,878	94,534	1.14	32	8	25.0%
34	120,449	103,624	1.16	56	12	21.4%
35	513,777	554,498	0.93	62	28	45.2%
36	20,267	7,002	2.89	12	4	33.3%
37	44,576	27,920	1.60	22	8	36.4%
38	118,446	154,332	0.77	50	12	24.0%
Total	9,470,586	9,783,655	0.97	2,199	509	23.1%

Ref: O:\model_dev\Ver2.3.Hotel_22_1.0nw_200ue_adjpa_kFac2Br\Assignment_Summary\Screenlines_2007_V23.xls

Table 73 Comparison of 2007 Estimated and Observed Trips Purpose and Mode

		Simulated	Observed - On-Board Surveys			Observed - 2007/08 HTS		
		Trips	Trips	Diff. (E- O)	Ratio (E/O)	Trips	Diff. (E-O)	Ratio (E/O)
HBW	Transit	723,490	756,439	-32,949	0.96	571,886	151,604	1.27
	Auto Person	2,778,101	2,744,890	33,211	1.01	2,949,583	-171,482	0.94
	Auto Driver	2,641,021	2,596,887	44,134	1.02	2,786,976	-145,955	0.95
	Motorized Person	3,501,590	3,501,330	260	1.00	3,521,469	-19,879	0.99
	Car Occupancy	1.05	1.06	-0.01	0.99	1.06	-0.01	0.99
	Pct. Transit	20.70%	21.60%	-0.90%	0.96	16.20%	4.50%	1.28
HBS	Transit	25,567	26,906	-1,339	0.95	70,250	-44,683	0.36
	Auto Person	2,827,991	2,826,387	1,604	1.00	2,811,845	16,146	1.01
	Auto Driver	1,939,547	1,935,254	4,293	1.00	1,934,278	5,269	1.00
	Motorized Person	2,853,558	2,853,293	265	1.00	2,882,095	-28,537	0.99
	Car Occupancy	1.46	1.46	0.00	1.00	1.45	0.01	1.01
	Pct. Transit	0.90%	0.94%	-0.04%	0.95	2.40%	-1.50%	0.38
HBO	Transit	184,390	188,675	-4,285	0.98	215,477	-31,087	0.86
	Auto Person	6,232,959	6,228,929	4,030	1.00	6,205,428	27,531	1.00
	Auto Driver	3,802,760	3,796,911	5,849	1.00	3,808,912	-6,152	1.00
	Motorized Person	6,417,348	6,417,605	-257	1.00	6,420,904	-3,556	1.00
	Car Occupancy	1.64	1.64	0.00	1.00	1.63	0.01	1.01
	Pct. Transit	2.90%	2.94%	-0.04%	0.99	3.40%	-0.50%	0.85
NHW	Transit	106,783	108,896	-2,113	0.98	139,584	-32,801	0.77
	Auto Person	1,433,349	1,431,537	1,812	1.00	1,471,529	-38,180	0.97
	Auto Driver	1,286,017	1,280,948	5,069	1.00	1,326,060	-40,043	0.97
	Motorized Person	1,540,132	1,540,433	-301	1.00	1,611,114	-70,982	0.96
	Car Occupancy	1.11	1.12	-0.01	0.99	1.11	0.00	1.00
	Pct. Transit	6.90%	7.07%	-0.17%	0.98	8.70%	-1.80%	0.79
NHO	Transit	42,073	44,854	-2,781	0.94	65,365	-23,292	0.64
	Auto Person	2,832,162	2,829,448	2,714	1.00	2,851,667	-19,505	0.99
	Auto Driver	1,883,574	1,882,425	1,149	1.00	1,904,312	-20,738	0.99
	Motorized Person	2,874,235	2,874,303	-68	1.00	2,917,033	-42,798	0.99
	Car Occupancy	1.50	1.50	0.00	1.00	1.50	0.00	1.00
	Pct. Transit	1.50%	1.56%	-0.06%	0.96	2.20%	-0.70%	0.68
TOTAL	Transit	1,082,302	1,125,770	-43,468	0.96	1,062,563	19,739	1.02
	Auto Person	16,104,562	16,061,191	43,371	1.00	16,290,052	-185,490	0.99
	Auto Driver	11,552,919	11,492,425	60,494	1.01	11,760,538	-207,619	0.98
	Motorized Person	17,186,863	17,186,964	-101	1.00	17,352,615	-165,752	0.99
	Car Occupancy	1.40	1.40	0.00	1.00	1.39	0.01	1.01
	Pct. Transit	6.30%	6.55%	-0.25%	0.96	6.10%	0.20%	1.03

Ref: O:\model_dev\Ver2.3.Hotel_22_1_0nw_200ue_adjpa_kFac2Br\summary\Compare_Mode_Choice_v2.xlsx

Table 74 Summary of Version 2.2 and Version 2.3 travel model output: Years 2005, 2007 and 2011

	Version 2.2 - 2011 CLRP 2005	Version 2.3 2007	Version 2.2 - 2011 CLRP 2011	V2.3- V2.2- 2005
1 Households	2,344,561	2,339,832	2,524,150	-4,729
2 Employment	3,700,075	3,801,935	3,982,448	101,860
3 HH Population	6,124,771	5,860,693	6,562,726	-264,078
4 HH & GQ Population	6,262,508	5,980,362	6,706,665	-282,146
5 Extl. Productions/ HBW Auto Person	296,405	294,506	328,893	-1,899
6 Extl. Productions/ HBS Auto Person	75,000	70,670	82,309	-4,330
7 Extl. Productions/ HBO Auto Person	206,939	226,003	230,075	19,064
8 Extl. Productions/ NHB Auto Person	78,096	87,025	85,912	8,929
9 Extl. Productions/ Auto Person Subtotal	656,440	678,204	727,189	21,764
10 Extl. Productions/ Medium Truck	3,965	5,986	4,405	2,021
11 Extl. Productions/ Heavy Truck	25,647	7,239	28,489	-18,408
12 Extl. Productions/ Truck Subtotal	29,612	13,225	32,894	-16,387
13 Extl. Attractions/ HBW Auto Person	182,548	183,126	201,047	578
14 Extl. Attractions/ HBS Auto Person	74,016	68,260	81,571	-5,756
15 Extl. Attractions/ HBO Auto Person	288,889	320,036	320,442	31,147
16 Extl. Attractions/ NHB Auto Person	78,087	87,006	85,902	8,919
17 Extl. Attractions/ Auto Person Subtotal	623,540	658,428	688,962	34,888
18 Extl. Attractions/ Medium Truck	3,965	5,986	4,405	2,021
19 Extl. Attractions/ Heavy Truck	25,647	7,239	28,489	-18,408
20 Extl. Attractions/ Truck Subtotal	29,612	13,225	32,894	-16,387
21 Inc. Grp 1 HHs	546,725	635,803	590,646	89,078
22 Inc. Grp 2 HHs	534,824	726,626	576,826	191,802
23 Inc. Grp 3 HHs	651,606	483,261	702,106	-168,345
24 Inc. Grp 4 HHs	611,405	494,175	654,570	-117,230
25 HHs Subtotal	2,344,560	2,339,865	2,524,149	-4,695
26 1- person HHs	594,601	664,559	645,373	69,958
27 2- person HHs	721,723	723,464	780,010	1,741
28 3- person HHs	411,997	392,846	442,560	-19,151
29 4+ person HHs	616,239	558,997	656,205	-57,242
30 HHs Subtotal	2,344,560	2,339,866	2,524,149	-4,694
31 0 Vehicle HHs	220,862	229,850	242,413	8,988
32 1 Vehicle HHs	772,416	779,487	837,490	7,071
33 2 Vehicle HHs	911,858	841,389	977,824	-70,469
34 3+ Vehicle HHs	439,423	489,139	466,423	49,716
35 HHs Subtotal	2,344,560	2,339,865	2,524,149	-4,695

	Version 2.2 - 2011 CLRP 2005	Version 2.3 2007	Version 2.2 - 2011 CLRP 2011	V2.3- V2.2- 2005
36 HBW Motorized Person Trips	4,425,947	3,501,590	4,756,097	-924,357
37 HBS Motorized Person Trips	3,404,738	2,853,558	3,650,705	-551,180
38 HBO Motorized Person Trips	10,480,364	6,417,348	11,215,274	-4,063,016
39 NHB Motorized Person Trips	5,795,249	4,414,367	6,216,076	-1,380,882
40 Total Motorized Person Trips	24,106,298	17,186,863	25,838,152	-6,919,435
41 Motorized Person Trips per HH	10.28	7.35	10.24	-2.93
42 Motorized Person Trips per capita	3.85	2.87	3.85	-0.98
43 Non-Motorized HBW Trips	186,955	117,196	207,633	-69,759
44 HBW Auto Driver Trips	3,417,806	2,641,021	3,684,230	-776,785
45 HBS Auto Driver Trips	2,695,175	1,939,547	2,904,137	-755,628
46 HBO Auto Driver Trips	7,684,037	3,802,760	8,239,272	-3,881,277
47 NHB Auto Driver Trips	4,419,748	3,169,591	4,763,290	-1,250,157
48 Total Auto Driver Trips	18,216,766	11,552,919	19,590,929	-6,663,847
49 HBW Auto Passenger Trips	419,737	137,080	461,494	-282,657
50 HBS Auto Passenger Trips	653,783	888,444	685,536	234,661
51 HBO Auto Passenger Trips	2,557,797	2,430,199	2,713,741	-127,598
52 NHB Auto Passenger Trips	1,218,207	1,095,920	1,289,772	-122,287
53 Total Auto Passenger Trips	4,849,524	4,551,643	5,150,543	-297,881
54 HBW Auto Occupancies	1.12	1.05	1.13	-0.07
55 HBS Auto Occupancies	1.24	1.46	1.24	0.22
56 HBO Auto Occupancies	1.33	1.64	1.33	0.31
57 NHB Auto Occupancies	1.28	1.35	1.27	0.07
58 Total Auto Occupancies	1.27	1.39	1.26	0.12
59 HBW Transit Trips	588,404	723,490	610,373	135,086
60 HBS Transit Trips	55,780	25,567	61,032	-30,213
61 HBO Transit Trips	238,530	184,390	262,261	-54,140
62 NHB Transit Trips	157,294	148,856	163,014	-8,438
63 Total Transit Trips	1,040,008	1,082,303	1,096,680	42,295
64 HBW Transit Percentage	13.29	20.66	12.83	7.37
65 HBS Transit Percentage	1.64	0.90	1.67	-0.74
66 HBO Transit Percentage	2.28	2.87	2.34	0.59
67 NHB Transit Percentage	2.71	3.37	2.62	0.66
68 Total Transit Percentage	4.31	6.30	4.24	1.99

	Version 2.2 - 2011 CLRP 2005	Version 2.3 2007	Version 2.2 - 2011 CLRP 2011	V2.3- V2.2- 2005
69 Medium Truck	328,595	508,142	356,288	179,547
70 Heavy Truck	168,507	156,458	182,503	-12,049
71 Misc. Auto Driver	636,646	652,181	685,415	15,535
72 Through (X-X) Auto&Comm.Veh	40,761	42,456	45,365	1,695
73 Through (X-X) Trucks	32,621	33,637	36,346	1,016
74 Airport Passenger Auto Drivers	49,386	60,678	56,814	11,292
75 Commercial Vehicles (Int/&Extl)	1,197,239	1,063,716	1,282,625	-133,523
76 Total Vehicle Trips	20,670,521	14,070,187	22,236,285	-6,600,334
77 Freeway VMT	58,798,950	68,426,769	61,635,302	9,627,819
78 Major Art VMT	57,217,037	52,415,706	59,734,047	-4,801,331
79 Minor Art VMT	19,990,859	18,037,239	21,750,767	-1,953,620
80 Collector VMT	8,417,414	10,020,437	8,966,940	1,603,023
81 Express. VMT	6,411,319	6,720,033	6,963,125	308,714
82 Ramp VMT	1,228,003	1,867,867	1,276,848	639,864
83 Total VMT	152,063,583	157,488,05	160,327,029	5,424,468
84 VMT per Capita	24.28	26.33	23.91	2.05
85 VMT per HH	64.86	67.31	63.52	2.45
86 VMT per Vehicle Trip	7.36	11.19	7.21	3.83

Ref: O:\model_dev\Ver2.3.Hotel_22_1.0nw_200ue_adjpa_kFac2Br\summary\Compare_Mode_Choice_v2.xlsx

Appendix A Model adjustment factors

Appendix A Model adjustment factors

The Version 2.3 travel model incorporates three sets of adjustment factors: one is applied following trip generation and two are applied to the trip distribution process.

1.1 Trip Generation

The first set of factors is applied to productions and attractions as shown in Table 1 and Table 2. Factors that are applied to productions and attractions are often called “p-mods” and “a-mods” since they modify the productions and attractions. In this case, we are using jurisdiction-level p-mods and a-mods.

Table 1 Jurisdictional Production Adjustment Factors

Jurisdiction	HBW	HBS	HBO	NNW	NHO
District of Columbia	1.00	0.85	1.20	1.00	1.00
Montgomery	0.95	1.00	1.05	1.00	1.00
Prince George's	1.00	0.88	0.97	1.00	1.00
Arlington	1.00	1.11	1.08	1.00	1.00
Alexandria	1.00	1.00	1.00	1.00	1.00
Fairfax	1.02	1.02	1.02	1.00	1.00
Loudoun	1.00	0.95	0.92	1.00	1.00
Prince William	1.04	1.15	0.94	1.00	1.00
Frederick	1.13	1.00	1.04	1.00	1.00
Howard	1.00	1.00	0.94	1.00	1.00
Anne Arundel	1.00	1.12	1.03	1.00	1.00
Charles	1.00	1.00	0.93	1.00	1.00
Carroll	1.00	1.00	0.92	1.00	1.00
Calvert	1.00	1.00	1.12	1.00	1.00
St. Mary's	1.36	1.00	1.00	1.00	1.00
King George's	1.00	1.00	1.00	1.00	1.00
Fredericksburg	1.00	1.00	1.00	1.00	1.00
Stafford	1.00	1.14	0.86	1.00	1.00
Spotsylvania	1.00	1.00	1.00	1.00	1.00
Fauquier	1.00	1.00	0.88	1.00	1.00
Clarke	1.00	1.00	1.00	1.00	1.00
Jefferson	1.00	1.00	1.00	1.00	1.00

Table 2 Jurisdictional Attraction Adjustment Factors

Jurisdiction	HBW	HBS	HBO	NNW	NHO
District of Columbia	1.10	0.60	0.90	1.10	0.80
Montgomery	1.02	1.07	1.10	0.90	1.13
Prince George's	1.08	0.78	0.77	1.00	0.77
Arlington	1.22	0.87	0.95	1.00	0.60
Alexandria	0.77	0.85	1.00	1.00	1.14
Fairfax	1.07	1.05	1.00	0.95	0.95
Loudoun	0.89	1.07	0.87	0.85	1.00
Prince William	1.11	1.05	0.96	1.00	1.00
Frederick	1.00	1.00	0.83	0.88	1.14
Howard	0.82	1.18	0.87	0.78	1.00
Anne Arundel	0.86	1.00	0.85	0.89	0.94
Charles	1.00	1.00	1.00	1.00	1.00
Carroll	1.00	1.51	0.94	1.00	1.24
Calvert	1.00	0.78	1.29	1.00	1.00
St. Mary's	1.40	1.00	0.80	1.49	1.00
King George's	1.00	1.00	1.00	1.00	1.00
Fredericksburg	1.00	1.00	1.00	1.00	1.00
Stafford	1.00	1.00	1.00	1.00	1.00
Spotsylvania	1.00	1.00	1.00	1.00	1.00
Fauquier	1.00	1.00	1.00	1.00	1.00
Clarke	1.00	1.00	1.00	1.00	1.00
Jefferson	1.00	1.00	1.00	1.00	1.00

1.2 Trip Distribution

Trip distribution has two sets of adjustment factors. The first set is used to address physical barrier effects on trip patterns, such as the Potomac River as shown in Table 3. The second set of adjustment factors addresses jurisdictional effects (e.g., school trips and shopping trips tend to remain in a given traveler’s residence jurisdiction). HBW k-factors are shown in Table 4, while all other purpose k-factors are presented in Table 5. These adjustment factors were developed by comparing estimated trip distribution results with the observed results from 2007/2008 HTS.

Appendix A Model adjustment factors

Table 3 K-Factors used in Trip Distribution to Calibrate Potomac River Crossings

HBW	DC/SubMD	SubVA	OuterMD	OuterVA
DC/SubMD	1.00	0.80	1.00	1.00
SubVA	0.90	1.00	0.50	1.00
OuterMD	1.00	0.70	1.00	0.50
OuterVA	0.70	1.00	0.30	1.00

HBS	DC/SubMD	SubVA	OuterMD	OuterVA
DC/SubMD	1.00	0.25	1.00	1.00
SubVA	0.25	1.00	0.50	1.00
OuterMD	1.00	1.00	1.00	1.00
OuterVA	1.00	1.00	1.00	1.00

HBO	DC/SubMD	SubVA	OuterMD	OuterVA
DC/SubMD	1.00	0.30	1.00	1.00
SubVA	0.70	1.00	0.30	1.00
OuterMD	1.00	1.00	1.00	1.00
OuterVA	1.00	1.00	1.00	1.00

NHW	DC/SubMD	SubVA	OuterMD	OuterVA
DC/SubMD	1.00	0.60	1.00	1.00
SubVA	0.60	1.00	0.50	1.00
OuterMD	1.00	1.00	1.00	1.00

NHO	DC/SubMD	SubVA	OuterMD	OuterVA
DC/SubMD	1.00	0.30	1.00	1.00
SubVA	0.30	1.00	0.50	1.00
OuterMD	1.00	0.40	1.00	0.50
OuterVA	1.00	1.00	1.00	1.00

Appendix A Model adjustment factors

Table 4 HBW K-Factors (Overrides to Potomac River Crossing K-Factors)

Interchange	HBW Factor
DC non-core to DC core	2
Mtg to DC core	2
Mtg to Mtg	1.8
PG to PG	1.5
Arl core to DC core	2.5
Arl non-core to DC core	1.7
Alx to DC core	1.6
Ffx to DC core	1.2
Ffx to Ffx	1.2

Table 5 Non-HBW Intra-Jurisdictional K-Factors

Interchange	HBS Factor	HBO Factor	NHW Factor	NHO Factor
DC to DC	2	2	1.5	2
Mtg to Mtg	2	2	2	1.5
PG to PG	2	2	1.5	1.5
Arl to Arl	1.5	2	1.5	1.5
Alx to Alx	1.5	2	1.5	1.5
Ffx to Ffx	2	2	2	2
Ldn to Ldn	1.5	2	1.5	1.5
PW to PW	1.5	2	1.5	1.5
Frd to Frd	1.5	2	1.5	1.5
Car to Car	1.5	2	1.5	1.5
How to How	1.5	2	1.5	1.5
Ann to Ann	1.5	2	1.5	1.5
Calv to Calv	1.5	1.5	1.5	1.5
StM to StM	1.5	1.5	1.5	1.5
Chs to Chs	1.5	1.5	1.5	1.5
Fau to Fau	1.5	1.5	1.5	1.5
Staf to Staf	2	1.5	1.5	1.5
Clrk to Clrk	1.5	1.5	1.5	1.5
Jef to Jef	1.5	1.5	1.5	1.5
Frbrg to Frbrg	1.5	1.5	1.5	1.5
Spots to Spots	1.5	1.5	1.5	1.5
KingG to KingG	1.5	1.5	1.5	1.5

Appendix B Year 2007 mode choice summary (final, i4, iteration)

HBW	Transit (Estimated, Observed, Est.-Obs., Est./Obs.)	B-1
HBW	Auto Person (Estimated, Observed, Est.-Obs., Est./Obs.)	B-3
HBW	Auto Driver (Estimated, Observed, Est.-Obs., Est./Obs.)	B-5
HBW	Motorized Person (Estimated, Observed, Est.-Obs., Est./Obs.)	B-7
HBW	Auto Occupancy (Estimated, Observed)	B-9
HBW	Percent Transit (Estimated, Observed)	B-10
<hr/>		
HBS	Transit	B-11
HBS	Auto Person	B-13
HBS	Auto Driver	B-15
HBS	Motorized Person	B-17
HBS	Auto Occupancy	B-19
HBS	Percent Transit	B-20
<hr/>		
HBO	Transit	B-21
HBO	Auto Person	B-23
HBO	Auto Driver	B-25
HBO	Motorized Person	B-27
HBO	Auto Occupancy	B-29
HBO	Percent Transit	B-30
<hr/>		
NHW	Transit	B-31
NHW	Auto Person	B-33
NHW	Auto Driver	B-35
NHW	Motorized Person	B-37
NHW	Auto Occupancy	B-39
NHW	Percent Transit	B-40
<hr/>		
NHO	Transit	B-41
NHO	Auto Person	B-43
NHO	Auto Driver	B-45
NHO	Motorized Person	B-47
NHO	Auto Occupancy	B-49
NHO	Percent Transit	B-50
<hr/>		
Total	Transit	B-51
Total	Auto Person	B-53
Total	Auto Driver	B-55
Total	Motorized Person	B-57
Total	Auto Occupancy	B-59
Total	Percent Transit	B-60

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Est Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	10606	5420	1554	535	1566	2307	581	1059	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	23631
2 DC NC	109761	38204	17374	7559	5788	9765	2603	4582	2	3	0	0	15	11	0	0	0	0	0	0	0	0	0	195668
3 MTG	65369	13296	40893	2542	3399	4108	670	1508	0	1	0	0	18	3	0	0	0	0	0	0	0	0	0	131808
4 PG	43512	18071	8653	14377	4653	5861	1157	1411	0	0	0	0	70	48	0	0	1	0	0	0	0	0	0	97814
5 ARLCR	2990	279	108	16	183	579	110	132	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4397
6 ARNCR	36500	3765	1379	207	4056	8699	2132	2525	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	59263
7 ALX	15949	1908	666	118	1896	4255	2728	1961	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	29485
8 FFX	40629	6088	2735	347	6891	12545	4491	13276	51	38	0	0	5	6	0	0	0	0	0	0	0	0	0	87101
9 LDN	3758	626	282	24	725	1076	112	400	399	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7402
10 PW	13988	3279	1414	281	3314	5393	1911	1631	28	960	0	0	11	6	0	0	0	0	0	0	0	1	0	32215
11 FRD	2348	337	752	24	152	148	20	206	0	0	1006	0	0	0	0	0	0	0	0	0	0	0	0	4992
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	8291	2255	1785	481	698	798	125	138	0	0	0	0	474	17	0	0	0	0	0	0	0	0	0	15062
14 AAR	9621	2570	1130	517	912	1037	164	208	0	0	0	0	32	70	0	0	0	0	0	0	0	0	0	16261
15 CAL	954	354	100	42	172	164	27	37	0	0	0	0	0	1	21	0	0	0	0	0	0	0	0	1873
16 STM	412	131	43	14	75	67	11	32	0	0	0	0	0	0	1	84	15	0	0	0	0	0	0	885
17 CHS	4883	1476	408	135	552	617	110	101	0	0	0	0	0	0	2	340	0	0	0	0	0	0	0	8624
18 FAU	136	51	18	2	49	65	28	59	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	412
19 STA	1214	298	96	12	367	458	129	395	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2989
20 CL/JF	148	76	66	6	45	55	10	201	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	607
21 SP/FB	867	216	27	1	307	441	186	767	0	72	0	0	0	0	0	0	0	0	1	0	3	0	0	2889
22 KGEO	29	12	1	1	9	13	7	35	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	111
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	371964	98709	79485	27242	35810	58450	17310	30666	482	1108	1006	0	626	163	22	87	356	0	2	0	3	0	0	723490

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Obs Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	8971	1819	2384	676	1241	1748	534	392	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17766
2 DC NC	73329	10080	5743	3118	2048	2886	2203	2347	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	101753
3 MTG	68163	7171	20600	1854	2227	3935	1775	264	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105987
4 PG	51978	7704	7154	9232	1509	2407	960	1252	0	219	0	0	0	0	0	0	0	0	0	0	0	0	0	82415
5 ARLCR	3459	0	0	0	0	613	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4071
6 ARNCR	26943	729	1524	880	3465	5298	827	971	204	0	0	0	0	0	0	0	0	105	0	0	0	0	0	40946
7 ALX	16729	2747	210	0	1669	3515	1515	814	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27200
8 FFX	54491	5729	1768	1446	8830	14842	3199	2529	238	0	0	0	0	0	0	0	0	0	0	0	0	0	0	93072
9 LDN	3915	586	200	0	256	259	518	0	259	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5993
10 PW	11808	3647	0	417	1352	3754	380	1236	0	385	0	0	0	0	0	0	0	0	0	0	0	0	0	22980
11 FRD	3499	957	2804	447	0	360	0	0	0	0	846	0	0	0	0	0	0	0	0	0	0	0	0	8914
12 CAR	551	417	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	968
13 HOW	8141	1067	276	260	0	1358	537	0	0	0	0	0	285	0	0	0	0	0	0	0	0	0	0	11922
14 AAR	15658	1395	2005	0	1924	479	72	1145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22679
15 CAL	2382	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2382
16 STM	459	0	0	1039	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1498
17 CHS	3814	0	297	348	264	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4723
18 FAU	1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1900
19 STA	1649	231	0	0	262	3168	0	506	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5816
20 CL/JF	1764	0	1106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2870
21 SP/FB	2415	0	0	0	418	0	1092	969	0	0	0	0	0	0	0	0	0	0	0	0	0	489	0	5383
22 KGEO	402	0	0	0	0	0	0	0	0	244	0	0	0	0	0	0	0	0	0	0	0	0	0	646
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	362420	44279	46070	19717	25466	44623	13612	12425	701	849	846	0	285	0	0	0	0	0	105	0	489	0	0	571886

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Difference (Est-Obs) Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1636	3601	-830	-141	324	559	47	666	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	5865
2 DC NC	36432	28124	11631	4441	3740	6880	400	2236	2	3	0	0	15	11	0	0	0	0	0	0	0	0	0	93915
3 MTG	-2794	6125	20293	688	1172	173	-1105	1245	0	1	0	0	18	3	0	0	0	0	0	0	0	0	0	25820
4 PG	-8466	10366	1499	5145	3144	3454	197	159	0	-219	0	0	70	48	0	0	1	0	0	0	0	0	0	15399
5 ARLCR	-469	279	108	16	183	-33	110	132	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	326
6 ARNCR	9556	3036	-145	-674	590	3401	1304	1554	-203	2	0	0	0	0	0	0	0	0	-105	0	0	0	0	18317
7 ALX	-780	-839	457	118	227	740	1213	1148	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2285
8 FFX	-13862	358	967	-1099	-1939	-2298	1293	10747	-187	38	0	0	5	6	0	0	0	0	0	0	0	0	0	-5971
9 LDN	-157	41	82	24	469	817	-407	400	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1409
10 PW	2180	-368	1414	-136	1962	1638	1531	394	28	575	0	0	11	6	0	0	0	0	0	0	1	0	0	9235
11 FRD	-1151	-620	-2053	-423	152	-213	20	206	0	0	160	0	0	0	0	0	0	0	0	0	0	0	0	-3922
12 CAR	-551	-417	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-968
13 HOW	150	1188	1509	222	698	-561	-412	138	0	0	0	0	189	17	0	0	0	0	0	0	0	0	0	3140
14 AAR	-6037	1175	-875	517	-1013	558	92	-937	0	0	0	0	32	70	0	0	0	0	0	0	0	0	0	-6418
15 CAL	-1429	354	100	42	172	164	27	37	0	0	0	0	0	1	21	0	0	0	0	0	0	0	0	-509
16 STM	-47	131	43	-1026	75	67	11	32	0	0	0	0	0	0	1	84	15	0	0	0	0	0	0	-613
17 CHS	1068	1476	111	-212	288	617	110	101	0	0	0	0	0	0	2	340	0	0	0	0	0	0	0	3901
18 FAU	-1764	51	18	2	49	65	28	59	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	-1488
19 STA	-434	66	96	12	105	-2710	129	-111	0	20	0	0	0	0	0	0	0	0	1	0	0	0	0	-2827
20 CL/JF	-1616	76	-1040	6	45	55	10	201	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2263
21 SP/FB	-1548	216	27	1	-110	441	-906	-202	0	72	0	0	0	0	0	0	0	0	1	0	-486	0	0	-2494
22 KGEO	-372	12	1	1	9	13	7	35	0	-241	0	0	0	0	0	0	0	0	0	0	0	0	0	-535
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	9544	54430	33414	7524	10344	13827	3698	18241	-219	160	259	0	341	0	0	0	0	0	-102	0	-485	0	0	151603

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Ratio (Est/Obs) Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.18	2.98	0.65	0.79	1.26	1.32	1.09	2.70	0.76	0.76	0	0	0.98	0.78	0	0	0	0	0	0	0	0	0	1.33
2 DC NC	1.50	3.79	3.03	2.42	2.83	3.38	1.18	1.95	2.33	2.86	0	0	14.53	10.87	0	0	0	0	0	0	0	0	0	1.92
3 MTG	0.96	1.85	1.99	1.37	1.53	1.04	0.38	5.72	0.22	0.87	0.05	0	18.40	2.89	0	0	0	0	0	0	0	0	0	1.24
4 PG	0.84	2.35	1.21	1.56	3.08	2.43	1.21	1.13	0	0.00	0	0	70.01	47.93	0	0	1.13	0	0	0	0	0	0	1.19
5 ARLCR	0.86	278.75	107.85	16.40	183.48	0.95	109.72	131.54	0.04	0.07	0	0	0	0	0	0	0	0	0	0	0	0	0	1.08
6 ARNCR	1.35	5.16	0.90	0.23	1.17	1.64	2.58	2.60	0.00	1.51	0	0	0	0	0	0	0	0	0	0	0	0	0	1.45
7 ALX	0.95	0.69	3.18	117.68	1.14	1.21	1.80	2.41	0.02	3.18	0	0	0	0	0	0	0	0	0	0	0	0	0	1.08
8 FFX	0.75	1.06	1.55	0.24	0.78	0.85	1.40	5.25	0.22	37.68	0	0	5.04	6.00	0	0	0	0	0	0	0.24	0	0	0.94
9 LDN	0.96	1.07	1.41	24.37	2.83	4.15	0.22	400.19	1.54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.24
10 PW	1.18	0.90	14.46	0.67	2.45	1.44	5.03	1.32	27.62	2.49	0.02	0	11.06	5.77	0	0	0	0	0	0	0.57	0	0	1.40
11 FRD	0.67	0.35	0.27	0.05	152.01	0.41	19.55	205.76	0	0	1.19	0	0.01	0	0	0	0	0	0	0	0	0	0	0.56
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	1.02	2.11	6.48	1.85	698.19	0.59	0.23	138.30	0	0.09	0	0	1.66	17.28	0	0	0	0	0	0	0	0	0	1.26
14 AAR	0.61	1.84	0.56	517.19	0.47	2.16	2.28	0.18	0	0.14	0	0	32.25	69.94	0	0	0	0	0	0	0	0	0	0.72
15 CAL	0.40	354.09	99.93	42.22	171.96	163.97	26.99	37.46	0	0	0	0	0	1.49	21.26	0.34	0	0	0	0	0	0	0	0.79
16 STM	0.90	130.69	43.38	0.01	75.20	66.73	11.16	32.14	0	0	0	0	0	0	0.87	84.19	14.94	0	0	0	0	0	0	0.59
17 CHS	1.28	1475.60	1.38	0.39	2.09	617.18	109.71	101.36	0	0	0	0	0.02	0.03	0	2.34	339.81	0	0	0	0	0	0	1.83
18 FAU	0.07	50.87	18.44	2.03	48.68	65.43	27.51	58.73	0	4.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0.22
19 STA	0.74	1.29	95.60	12.09	1.40	0.14	128.71	0.78	0	19.76	0	0	0	0	0	0	0	0	1.10	0	0	0	0	0.51
20 CL/JF	0.08	76.10	0.06	6.18	45.27	54.96	10.17	200.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.21
21 SP/FB	0.36	216.22	27.07	0.93	0.74	440.58	0.17	0.79	0	71.95	0	0	0	0	0	0	0	0	1.33	0	0.01	0	0	0.54
22 KGEO	0.07	12.05	1.38	0.59	9.26	13.38	6.59	34.93	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0.17
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	1.03	2.23	1.73	1.38	1.41	1.31	1.27	2.47	0.69	1.31	1.19	0	2.20	0	0	0	0	0	0.02	0	0.01	0	0	1.27

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Est Auto Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	5264	695	442	582	115	123	119	1103	53	11	2	0	29	70	1	1	13	0	0	0	0	0	0	8623
2 DC NC	13451	7770	6733	9793	936	921	638	6083	296	71	59	1	525	1153	35	23	205	4	1	1	1	0	0	48698
3 MTG	62463	29658	213775	30375	3293	7288	2599	23031	1087	309	4162	325	7287	5719	103	169	338	33	11	134	18	2	0	392179
4 PG	45619	41928	31743	161833	4197	8831	4475	14402	342	204	194	25	6384	14314	794	710	4937	11	7	4	12	15	0	340982
5 ARLCR	209	134	115	57	512	386	108	538	17	6	0	0	1	3	0	0	1	0	0	0	0	0	0	2085
6 ARNCR	8232	3900	3119	1387	4575	14506	4094	20105	525	264	15	0	32	79	2	7	21	10	5	1	4	0	0	60883
7 ALX	6684	3227	2142	1478	2342	6442	11279	19723	342	465	10	0	27	78	4	12	43	10	14	1	11	0	0	54332
8 FFX	63264	24382	25522	10952	12387	33949	26713	322803	20970	13845	266	11	327	791	52	175	344	685	331	158	302	12	0	558239
9 LDN	7626	4251	7597	2012	1702	4394	1954	53047	57065	3612	1611	84	346	397	11	40	63	717	81	1747	98	5	0	148459
10 PW	13629	6899	6867	3392	3210	8563	7480	57225	7022	84171	178	10	111	285	17	69	110	3451	1942	223	1003	41	0	205898
11 FRD	2865	2841	20965	2783	410	953	329	4055	1652	146	82026	5980	8313	3868	21	9	68	33	2	1065	3	0	0	138387
12 CAR	2351	1617	8396	1909	220	427	136	1353	236	24	8902	44961	5547	2746	16	4	43	6	0	139	0	0	0	79034
13 HOW	5952	5669	15387	10531	428	1055	457	2244	117	40	3930	1186	57082	17792	69	115	162	4	1	78	2	1	0	122302
14 AAR	11432	9933	11550	19979	854	2025	982	3440	126	85	848	232	16624	145902	1315	567	850	3	2	24	3	3	0	226780
15 CAL	3855	2653	1711	4864	267	629	359	1178	36	40	32	5	336	2900	19237	6096	2385	2	3	0	8	12	0	46608
16 STM	2883	1966	1054	3543	242	506	310	997	26	48	14	1	177	863	3999	52802	6264	4	13	0	28	64	0	75803
17 CHS	8058	5699	2576	10539	627	1406	875	2586	59	73	30	3	328	1488	1691	3123	31853	3	8	0	24	68	0	71117
18 FAU	1029	514	787	264	265	698	443	8991	2232	5902	48	2	15	23	2	16	17	10639	928	183	631	28	0	33658
19 STA	1491	916	905	647	361	1209	1137	9687	920	9363	22	0	11	51	17	107	113	1885	21886	61	10665	362	0	61817
20 CL/JF	487	295	2064	280	106	283	133	4388	4059	685	1468	78	309	160	0	0	1	357	15	17058	17	1	0	32245
21 SP/FB	570	322	187	306	148	615	620	6424	674	5432	16	0	0	10	22	118	152	1514	8237	51	32475	413	0	58309
22 KGEO	643	388	153	532	125	243	151	1070	95	876	0	0	11	47	39	139	334	199	1033	6	1352	4225	0	11661
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	268058		363790		37322		65391		97952		103834		103822		27447		48314		34520		46659		0	
		155658		278038		95453		564472		125673		52905		198736		64301		19570		20935		5252		278101

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Obs Auto Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	5805	3593	1007	208	0	1244	0	994	406	0	0	0	0	713	0	0	0	0	0	0	0	0	0	13969
2 DC NC	50843	34430	17466	15820	1301	5419	1893	10595	1493	534	0	0	539	3388	185	0	0	0	0	0	0	0	0	143906
3 MTG	39530	39568	248397	28269	3564	10921	1923	27200	2158	729	3411	0	9008	7305	0	0	0	0	459	838	0	0	0	423280
4 PG	46521	43929	45949	162926	1901	10596	3735	22256	1666	193	116	1123	6527	13585	0	0	4940	0	0	0	0	0	0	365963
5 ARLCR	102	613	613	0	204	451	0	1661	0	409	0	0	210	0	0	0	0	0	0	0	0	0	0	4263
6 ARNCR	18772	8124	4806	824	4333	17787	4325	21749	1793	533	0	0	0	329	108	0	0	0	337	0	0	0	0	83820
7 ALX	14403	4460	1934	1911	2084	7665	13007	13757	263	1397	0	0	0	367	0	0	0	0	0	0	0	0	0	61248
8 FFX	59747	22482	17652	5879	16868	38714	29299	316697	20559	19711	0	0	2562	238	424	0	336	815	1052	471	0	132	0	553637
9 LDN	5366	2556	4271	0	1174	2661	1066	63745	56929	2520	0	0	0	382	0	0	0	662	0	480	0	0	0	141814
10 PW	6173	8898	3699	3070	4264	7502	8581	80931	5416	82265	0	0	0	0	492	295	2907	2914	0	636	0	0	0	218043
11 FRD	1002	2564	26705	2634	168	260	229	1997	2587	298	87133	4749	3917	1211	0	0	0	0	0	468	0	0	0	135922
12 CAR	748	99	8582	2706	0	0	165	165	0	0	2233	41665	10974	6564	0	0	0	0	0	0	0	0	0	73901
13 HOW	5118	2753	15928	21838	260	325	601	2315	276	0	423	967	53184	21599	0	0	138	0	0	325	0	0	0	126048
14 AAR	9699	8250	7698	27723	1491	2309	1900	4521	0	203	0	801	19536	140775	610	81	0	0	0	144	0	0	0	225740
15 CAL	3155	1726	726	5342	239	1447	0	3039	0	362	0	0	1078	6363	14152	7449	487	0	0	0	0	0	0	45566
16 STM	1768	2753	459	3404	0	0	0	390	0	0	0	0	0	572	5100	56179	5356	0	0	0	0	0	0	75981
17 CHS	5188	4462	1508	14734	1057	2586	1769	5902	0	0	0	0	0	2044	1685	1257	30022	0	0	0	0	289	0	72503
18 FAU	549	0	566	0	0	883	431	9103	2092	6302	0	0	0	0	0	0	0	9722	0	0	214	0	0	29863
19 STA	1637	2124	857	131	0	774	1285	8791	0	11962	0	0	0	0	0	0	0	0	18199	536	10136	893	0	57326
20 CL/JF	534	0	562	0	0	0	0	3551	6898	0	3617	0	157	0	0	0	0	314	0	12528	0	297	0	28457
21 SP/FB	1955	916	787	1011	567	594	0	617	0	3194	0	0	0	0	0	0	0	258	6298	1622	32233	4828	0	54881
22 KGEO	286	0	0	0	0	0	0	328	0	804	0	0	0	366	0	244	1000	244	838	0	889	8452	0	13453
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	278902		410171		39475		70209		102535		96933		107692		22263		42573		30097		44109		0	
		194303		298427		112138		600307		131416		49305		205801		65703		14924		17412		14891		2949583

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Difference (Est-Obs) Auto Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	-541	-2897	-564	374	115	-1121	119	109	-353	11	2	0	29	-643	1	1	13	0	0	0	0	0	0	-5347
2 DC NC	-37392	-26661	-10733	-6027	-365	-4498	-1255	-4512	-1198	-463	59	1	-14	-2236	-150	23	205	4	1	1	0	0	0	-95208
3 MTG	22934	-9910	-34621	2105	-271	-3633	676	-4169	-1071	-420	752	325	-1721	-1586	103	169	338	33	-448	-704	18	2	0	-31101
4 PG	-903	-2000	-14206	-1093	2297	-1765	741	-7854	-1324	11	78	-1098	-143	729	794	710	-3	11	7	4	12	15	0	-24981
5 ARLCR	107	-479	-498	57	307	-66	108	-1123	17	-403	0	0	-209	3	0	0	1	0	0	0	0	0	0	-2178
6 ARNCR	-10540	-4225	-1687	563	242	-3281	-230	-1644	-1268	-269	15	0	32	-250	-106	7	21	10	-332	1	4	0	0	-22937
7 ALX	-7720	-1233	208	-433	258	-1223	-1729	5966	79	-932	10	0	27	-289	4	12	43	10	14	1	11	0	0	-6915
8 FFX	3517	1900	7869	5073	-4481	-4765	-2586	6106	411	-5866	266	11	-2235	553	-372	175	9	-130	-721	-314	302	-120	0	4603
9 LDN	2259	1694	3326	2012	528	1733	887	-10698	136	1092	1611	84	346	15	11	40	63	55	81	1267	98	5	0	6646
10 PW	7456	-1999	3168	322	-1054	1061	-1100	-23706	1607	1906	178	10	111	285	17	-423	-184	543	-972	223	367	41	0	-12145
11 FRD	1863	278	-5740	150	241	694	99	2058	-935	-152	-5107	1231	4396	2657	21	9	68	33	2	598	3	0	0	2466
12 CAR	1603	1517	-186	-797	220	427	-29	1188	236	24	6669	3296	-5427	-3818	16	4	43	6	0	139	0	0	0	5132
13 HOW	835	2916	-541	-11307	169	730	-143	-71	-158	40	3507	220	3898	-3807	69	115	24	4	1	-247	2	1	0	-3745
14 AAR	1733	1682	3852	-7744	-637	-283	-917	-1081	126	-118	848	-569	-2912	5127	704	487	850	3	2	-120	3	3	0	1040
15 CAL	700	927	985	-478	28	-819	359	-1861	36	-322	32	5	-741	-3463	5086	-1354	1897	2	3	0	8	12	0	1042
16 STM	1115	-787	595	139	242	506	310	606	26	48	14	1	177	291	-1101	-3377	908	4	13	0	28	64	0	-178
17 CHS	2870	1236	1068	-4195	-430	-1180	-894	-3316	59	73	30	3	328	-556	7	1866	1830	3	8	0	24	-222	0	-1386
18 FAU	480	514	220	264	265	-185	12	-112	140	-400	48	2	15	23	2	16	17	917	928	183	417	28	0	3795
19 STA	-146	-1208	48	516	361	435	-148	895	920	-2599	22	0	11	51	17	107	113	1885	3687	-475	529	-530	0	4491
20 CL/JF	-46	295	1503	280	106	283	133	837	-2839	685	-2149	78	151	160	0	0	1	43	15	4530	17	-296	0	3788
21 SP/FB	-1385	-594	-600	-704	-420	22	620	5807	674	2237	16	0	0	10	22	118	152	1256	1939	-1571	242	-4415	0	3428
22 KGEO	357	388	153	532	125	243	151	741	95	72	0	0	11	-320	39	-105	-666	-46	195	6	463	-4227	0	-1792
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	-10845	-38645	-46381	-20390	-2153	-16686	-4818	-35835	-4582	-5743	6901	3600	-3870	-7064	5184	-1402	5741	4647	4423	3524	2550	-9638	0	-171482

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Ratio (Est/Obs) Auto Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	0.91	0.19	0.44	2.80	115.06	0.10	118.75	1.11	0.13	10.83	2.16	0	29.42	0.10	0.86	1.28	12.64	0.40	0	0	0	0	0	0.62
2 DC NC	0.26	0.23	0.39	0.62	0.72	0.17	0.34	0.57	0.20	0.13	58.92	0.96	0.97	0.34	0.19	22.60	204.75	3.51	0.71	0.71	1.04	0.07	0	0.34
3 MTG	1.58	0.75	0.86	1.07	0.92	0.67	1.35	0.85	0.50	0.42	1.22	325.13	0.81	0.78	102.56	169.25	337.90	33.03	0.02	0.16	17.50	2.07	0	0.93
4 PG	0.98	0.95	0.69	0.99	2.21	0.83	1.20	0.65	0.21	1.06	1.67	0.02	0.98	1.05	794.36	710.15	1.00	10.99	6.70	4.02	11.65	15.19	0	0.93
5 ARLCR	2.05	0.22	0.19	56.71	2.50	0.85	107.60	0.32	16.71	0.02	0.27	0	0.00	2.65	0	0.10	0.59	0.17	0.03	0	0.01	0	0	0.49
6 ARNCR	0.44	0.48	0.65	1.68	1.06	0.82	0.95	0.92	0.29	0.50	14.76	0.05	32.02	0.24	0.02	6.77	20.85	9.77	0.02	1.35	4.36	0.05	0	0.73
7 ALX	0.46	0.72	1.11	0.77	1.12	0.84	0.87	1.43	1.30	0.33	10.32	0.06	26.71	0.21	4.43	11.62	43.30	9.83	14.22	1.23	10.69	0.40	0	0.89
8 FFX	1.06	1.08	1.45	1.86	0.73	0.88	0.91	1.02	1.02	0.70	265.90	10.79	0.13	3.32	0.12	174.70	1.03	0.84	0.31	0.33	302.47	0.09	0	1.01
9 LDN	1.42	1.66	1.78	2011.60	1.45	1.65	1.83	0.83	1.00	1.43	1610.95	84.34	346.43	1.04	10.59	39.53	62.99	1.08	80.51	3.64	98.46	5.00	0	1.05
10 PW	2.21	0.78	1.86	1.11	0.75	1.14	0.87	0.71	1.30	1.02	177.98	9.70	110.73	284.91	17.09	0.14	0.37	1.19	0.67	222.89	1.58	40.73	0	0.94
11 FRD	2.86	1.11	0.79	1.06	2.43	3.67	1.43	2.03	0.64	0.49	0.94	1.26	2.12	3.19	20.93	9.47	67.84	32.79	1.85	2.28	2.74	0.12	0	1.02
12 CAR	3.14	16.27	0.98	0.71	220.16	427.47	0.82	8.18	235.53	23.80	3.99	1.08	0.51	0.42	16.25	3.68	43.47	6.27	0.25	138.80	0.23	0.10	0	1.07
13 HOW	1.16	2.06	0.97	0.48	1.65	3.24	0.76	0.97	0.43	40.39	9.30	1.23	1.07	0.82	68.66	114.92	1.18	3.84	0.94	0.24	1.63	0.61	0	0.97
14 AAR	1.18	1.20	1.50	0.72	0.57	0.88	0.52	0.76	125.87	0.42	847.96	0.29	0.85	1.04	2.15	7.04	849.62	3.29	2.06	0.17	3.42	2.91	0	1.00
15 CAL	1.22	1.54	2.36	0.91	1.12	0.43	358.54	0.39	36.48	0.11	31.63	5.02	0.31	0.46	1.36	0.82	4.89	1.78	3.14	0.27	8.16	11.72	0	1.02
16 STM	1.63	0.71	2.30	1.04	241.75	506.06	309.69	2.55	26.07	47.79	14.00	1.12	176.88	1.51	0.78	0.94	1.17	4.17	12.57	0.07	28.47	63.94	0	1.00
17 CHS	1.55	1.28	1.71	0.72	0.59	0.54	0.49	0.44	59.47	72.64	29.85	3.21	328.14	0.73	1.00	2.48	1.06	3.05	8.40	0.20	24.05	0.23	0	0.98
18 FAU	1.87	513.75	1.39	263.92	265.47	0.79	1.03	0.99	1.07	0.94	48.18	2.11	14.74	22.95	2.37	15.84	16.50	1.09	928.31	183.38	2.95	28.25	0	1.13
19 STA	0.91	0.43	1.06	4.94	361.19	1.56	0.88	1.10	920.38	0.78	22.33	0.10	10.89	50.58	17.00	106.55	112.52	1884.71	1.20	0.11	1.05	0.41	0	1.08
20 CL/JF	0.91	295.25	3.68	280.47	106.35	283.11	132.52	1.24	0.59	685.40	0.41	78.20	1.96	159.71	0.05	0	1.01	1.14	14.84	1.36	16.69	0.00	0	1.13
21 SP/FB	0.29	0.35	0.24	0.30	0.26	1.04	620.44	10.41	674.32	1.70	16.01	0	0	10.20	22.39	118.21	152.17	5.87	1.31	0.03	1.01	0.09	0	1.06
22 KGEO	2.25	388.12	153.09	532.00	125.24	243.17	150.93	3.26	94.90	1.09	0.27	0	10.93	0.13	38.52	0.57	0.33	0.81	1.23	6.40	1.52	0.50	0	0.87
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	0.96	0.80	0.89	0.93	0.95	0.85	0.93	0.94	0.96	1.07	0.96	1.07	0.96	0.97	1.23	0.98	1.13	1.31	1.15	1.20	0.35	0	0	0.94

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Est Auto Driver

ORIGIN	DESTINATION																							TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1 DC CR	4950	664	434	573	110	121	116	1077	52	11	2	0	29	69	1	1	13	0	0	0	0	0	0	8222	
2 DC NC	12783	7438	6525	9523	889	900	622	5919	290	71	59	1	513	1117	35	22	203	4	1	1	1	0	0	46916	
3 MTG	59381	28382	202789	29046	3131	6958	2491	21824	1051	304	3975	319	6933	5447	102	164	332	33	11	132	18	2	0	372825	
4 PG	43303	40153	30198	154294	3975	8457	4288	13794	335	201	191	25	6079	13616	775	687	4734	11	7	4	12	15	0	325154	
5 ARLCR	199	130	111	56	482	367	103	513	16	6	0	0	1	3	0	0	1	0	0	0	0	0	0	1987	
6 ARNCR	7974	3764	3001	1358	4345	13840	3906	19163	506	260	15	0	32	78	2	7	21	10	5	1	4	0	0	58291	
7 ALX	6495	3127	2054	1442	2242	6210	10783	18770	328	451	10	0	27	77	4	11	43	10	14	1	11	0	0	52112	
8 FFX	60808	23409	24404	10556	11842	32459	25800	307500	20075	13335	262	11	321	766	52	170	340	662	326	155	298	12	0	533564	
9 LDN	7076	3969	7265	1918	1557	4032	1848	50145	54610	3488	1552	84	336	380	11	38	62	692	80	1676	97	5	0	140920	
10 PW	12782	6510	6055	3012	2998	7987	7106	53596	6717	80604	171	10	99	249	17	66	107	3306	1873	217	969	40	0	194492	
11 FRD	2716	2722	19641	2663	385	904	315	3797	1572	142	77762	5661	7744	3615	21	9	67	32	2	1010	3	0	0	130781	
12 CAR	2219	1548	7854	1826	207	406	131	1273	227	24	8375	42805	5205	2577	16	4	43	6	0	132	0	0	0	74877	
13 HOW	5647	5411	14545	10029	406	1009	438	2133	115	39	3713	1133	54248	16870	68	110	157	4	1	76	2	1	0	116153	
14 AAR	10797	9433	10877	18957	805	1926	933	3261	122	83	802	225	15684	138473	1253	539	812	3	2	24	3	3	0	215016	
15 CAL	3627	2523	1617	4619	250	598	341	1120	36	39	31	5	318	2725	18305	5774	2247	2	3	0	8	11	0	44200	
16 STM	2693	1868	995	3356	225	480	294	947	25	45	14	1	168	808	3774	50179	5894	4	12	0	28	61	0	71874	
17 CHS	7598	5428	2439	10033	590	1338	834	2459	58	71	30	3	312	1405	1608	2968	30299	3	8	0	312	24	65	0	67572
18 FAU	911	462	718	239	230	614	413	8305	2117	5627	47	2	14	21	2	15	16	10159	888	176	603	27	0	31608	
19 STA	1370	854	675	514	334	1120	1041	8705	866	8914	20	0	8	38	17	103	109	1785	20966	59	10187	348	0	58033	
20 CL/JF	458	283	1920	269	96	257	123	4012	3789	643	1384	75	286	150	0	0	1	335	14	16315	16	1	0	30428	
21 SP/FB	518	299	131	246	135	564	556	5667	626	5134	15	0	0	8	22	114	147	1420	7865	49	31053	396	0	54964	
22 KGEO	622	378	139	507	119	230	138	939	89	825	0	0	11	45	37	133	318	185	983	6	1283	4046	0	11036	
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	254928		344384		35353		62623		93621		98432		98366		26120		45966		33062		44620		5035	0	2641021
		148753		265033		90780		534920		120317		50359		188537		61115		18663		20035		5035			

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Obs Auto Driver

ORIGIN	DESTINATION																							TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1 DC CR	4503	3125	1007	208	0	1244	0	994	406	0	0	0	0	713	0	0	0	0	0	0	0	0	0	12199	
2 DC NC	44933	30820	17282	15512	1111	5419	1893	10595	1493	534	0	0	185	3388	185	0	0	0	0	0	0	0	0	133350	
3 MTG	36895	35934	234258	26938	3261	10921	1923	26316	2158	729	3205	0	9008	7305	0	0	0	0	459	838	0	0	0	400148	
4 PG	42614	40389	44049	146699	1901	9520	3735	21188	1666	193	116	1123	6527	11943	0	0	4940	0	0	0	0	0	0	336603	
5 ARLCR	0	613	613	0	204	226	0	1661	0	409	0	0	210	0	0	0	0	0	0	0	0	0	0	3935	
6 ARNCR	17066	7611	4806	824	4231	16742	4117	21749	1674	533	0	0	0	329	108	0	0	0	337	0	0	0	0	80127	
7 ALX	13055	4460	1934	1911	1876	6246	11793	13644	263	1397	0	0	0	367	0	0	0	0	0	0	0	0	0	56945	
8 FFX	54721	20650	17652	5879	16368	36649	28601	304653	18464	19158	0	0	2562	238	424	0	336	815	1052	471	0	132	0	528823	
9 LDN	4525	2556	4271	0	662	2661	1066	61475	54536	2227	0	0	0	382	0	0	0	662	0	480	0	0	0	135504	
10 PW	5455	8065	2645	2016	3628	6307	6690	80184	5416	77978	0	0	0	0	0	492	295	2907	2914	0	636	0	0	205628	
11 FRD	1002	2564	25580	2634	168	260	229	1997	2587	298	81840	3913	3917	1211	0	0	0	0	0	0	468	0	0	128668	
12 CAR	583	99	8406	2706	0	0	165	165	0	0	2134	38696	10593	5601	0	0	0	0	0	0	0	0	0	69149	
13 HOW	4781	2753	15720	21598	260	325	601	2315	276	0	423	967	51539	21599	0	0	138	0	0	325	0	0	0	123618	
14 AAR	9137	7689	6698	26774	1491	2309	1900	4521	0	203	0	801	19536	133973	610	81	0	0	0	144	0	0	0	215866	
15 CAL	3155	1726	726	5342	239	724	0	3039	0	362	0	0	1078	6363	14152	7449	487	0	0	0	0	0	0	44842	
16 STM	1768	2753	459	3404	0	0	0	390	0	0	0	0	0	572	4127	50930	5356	0	0	0	0	0	0	69759	
17 CHS	5188	4462	1160	13570	1057	2586	1769	5273	0	0	0	0	0	2044	1685	1257	27711	0	0	0	0	289	0	68052	
18 FAU	549	0	566	0	0	883	431	8827	1816	6135	0	0	0	0	0	0	0	9291	0	0	214	0	0	28712	
19 STA	1637	2124	857	131	0	506	1285	7845	0	11456	0	0	0	0	0	0	0	0	16184	536	9022	893	0	52476	
20 CL/JF	534	0	562	0	0	0	0	3356	5698	0	3617	0	157	0	0	0	0	0	314	0	12314	0	297	0	26848
21 SP/FB	1955	916	787	1011	567	594	0	617	0	2458	0	0	0	0	0	0	0	258	5808	1622	31616	4828	0	53038	
22 KGEO	286	0	0	0	0	0	0	328	0	804	0	0	0	366	0	244	1000	244	838	0	889	7684	0	12684	
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	254344		390036		37024		66198		96451		91335		105312		21290		40262		27592		42377		14122	0	2786976
		179309		277156		104120		581135		124874		45500		196395		60453		14493		17197		14122			

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Difference (Est-Obs) Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	447	-2461	-573	365	110	-1123	116	83	-354	11	2	0	29	-644	1	1	13	0	0	0	0	0	0	-3977
2 DC NC	-32150	-23382	-10757	-5990	-221	-4519	-1271	-4676	-1204	-463	59	1	329	-2271	-150	22	203	4	1	1	1	0	0	-86434
3 MTG	22486	-7552	-31469	2108	-130	-3963	569	-4492	-1107	-425	770	319	-2075	-1858	102	164	332	33	-448	-706	18	2	0	-27323
4 PG	689	-236	-13851	7594	2075	-1063	553	-7394	-1331	8	75	-1098	-449	1673	775	687	-206	11	7	4	12	15	0	-11450
5 ARLCR	199	-483	-502	56	277	141	103	-1148	16	-403	0	0	-209	3	0	0	1	0	0	0	0	0	0	-1948
6 ARNCR	-9092	-3847	-1805	534	114	-2902	-210	-2586	-1168	-274	15	0	32	-251	-106	7	21	10	-332	1	4	0	0	-21835
7 ALX	-6560	-1333	120	-470	366	-35	-1010	5126	66	-945	10	0	27	-290	4	11	43	10	14	1	11	0	0	-4834
8 FFX	6087	2759	6752	4677	-4526	-4190	-2801	2847	1611	-5823	262	11	-2240	528	-372	170	5	-153	-726	-316	298	-120	0	4741
9 LDN	2551	1413	2994	1918	894	1372	781	-11331	74	1261	1552	84	336	-2	11	38	62	29	80	1196	97	5	0	5416
10 PW	7327	-1555	3411	996	-631	1680	416	-26588	1301	2626	171	10	99	249	17	-426	-187	399	-1041	217	333	40	0	-11136
11 FRD	1714	158	-5940	29	217	644	86	1800	-1015	-155	-4077	1748	3827	2403	21	9	67	32	2	542	3	0	0	2113
12 CAR	1636	1449	-552	-880	207	406	-34	1108	227	24	6241	4109	-5389	-3024	16	4	43	6	0	132	0	0	0	5729
13 HOW	865	2659	-1176	-11569	146	684	-163	-182	-161	39	3291	166	2709	-4729	68	110	20	4	1	-249	2	1	0	-7465
14 AAR	1660	1744	4179	-7817	-686	-383	-966	-1260	122	-121	802	-577	-3853	4500	642	459	812	3	2	-120	3	3	0	-851
15 CAL	471	797	891	-723	12	-126	341	-1919	36	-323	31	5	-760	-3638	4153	-1676	1760	2	3	0	8	11	0	-643
16 STM	925	-885	536	-48	225	480	294	557	25	45	14	1	168	236	-353	-750	539	4	12	0	28	61	0	2115
17 CHS	2410	965	1278	-3537	-467	-1247	-935	-2815	58	71	30	3	312	-639	-77	1711	2588	3	8	0	24	-224	0	-480
18 FAU	362	462	152	239	230	-269	-18	-522	301	-508	47	2	14	21	2	15	16	867	888	176	389	27	0	2895
19 STA	-267	-1271	-183	383	334	614	-244	860	866	-2542	20	0	8	38	17	103	109	1785	4782	-477	1165	-544	0	5556
20 CL/JF	-75	283	1358	269	96	257	123	655	-1908	643	-2233	75	129	150	0	0	1	20	14	4002	16	-296	0	3579
21 SP/FB	-1437	-617	-656	-764	-432	-30	556	5050	626	2676	15	0	0	8	22	114	147	1162	2057	-1573	-563	-4432	0	1926
22 KGEO	335	378	139	507	119	230	138	611	89	21	0	0	11	-321	37	-111	-682	-59	145	6	395	-3637	0	-1648
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	584	-30556	-45652	-12123	-1671	-13340	-3575	-46215	-2830	-4558	7097	4859	-6946	-7858	4830	662	5704	4170	5470	2838	2243	-9088	0	-145954

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Ratio (Est/Obs) Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.10	0.21	0.43	2.76	109.95	0.10	116.00	1.08	0.13	10.82	2.16	0	29.17	0.10	0.86	1.28	12.62	0.40	0	0	0	0	0	0.67
2 DC NC	0.28	0.24	0.38	0.61	0.80	0.17	0.33	0.56	0.19	0.13	58.62	0.96	2.78	0.33	0.19	22.41	202.50	3.51	0.71	0.71	1.04	0.07	0	0.35
3 MTG	1.61	0.79	0.87	1.08	0.96	0.64	1.30	0.83	0.49	0.42	1.24	318.56	0.77	0.75	101.93	164.14	331.90	32.55	0.02	0.16	17.50	2.07	0	0.93
4 PG	1.02	0.99	0.69	1.05	2.09	0.89	1.15	0.65	0.20	1.04	1.64	0.02	0.93	1.14	774.83	686.90	0.96	10.97	6.70	4.02	11.63	15.02	0	0.97
5 ARLCR	198.90	0.21	0.18	55.80	2.36	1.62	102.72	0.31	16.16	0.02	0.27	0	0.00	2.61	0	0.10	0.59	0.17	0.03	0	0.01	0	0	0.50
6 ARNCR	0.47	0.49	0.62	1.65	1.03	0.83	0.95	0.88	0.30	0.49	14.76	0.05	31.87	0.24	0.02	6.74	20.80	9.67	0.02	1.35	4.36	0.05	0	0.73
7 ALX	0.50	0.70	1.06	0.75	1.20	0.99	0.91	1.38	1.25	0.32	10.32	0.06	26.61	0.21	4.43	11.43	42.99	9.64	14.14	1.23	10.68	0.40	0	0.92
8 FFX	1.11	1.13	1.38	1.80	0.72	0.89	0.90	1.01	1.09	0.70	262.44	10.79	0.13	3.22	0.12	170.30	1.01	0.81	0.31	0.33	297.80	0.09	0	1.01
9 LDN	1.56	1.55	1.70	1917.72	2.35	1.52	1.73	0.82	1.00	1.57	1552.02	83.86	336.49	1.00	10.52	37.88	62.03	1.04	79.66	3.49	97.45	4.99	0	1.04
10 PW	2.34	0.81	2.29	1.49	0.83	1.27	1.06	0.67	1.24	1.03	171.39	9.68	99.13	248.72	16.84	0.13	0.36	1.14	0.64	217.45	1.52	40.25	0	0.95
11 FRD	2.71	1.06	0.77	1.01	2.29	3.48	1.37	1.90	0.61	0.48	0.95	1.45	1.98	2.98	20.78	9.26	66.74	31.58	1.85	2.16	2.74	0.12	0	1.02
12 CAR	3.81	15.58	0.93	0.67	206.95	406.39	0.79	7.70	226.56	23.70	3.92	1.11	0.49	0.46	16.09	3.66	42.54	6.09	0.25	132.22	0.23	0.10	0	1.08
13 HOW	1.18	1.97	0.93	0.46	1.56	3.10	0.73	0.92	0.42	39.42	8.78	1.17	1.05	0.78	67.53	110.07	1.14	3.77	0.94	0.23	1.63	0.61	0	0.94
14 AAR	1.18	1.23	1.62	0.71	0.54	0.83	0.49	0.72	122.37	0.41	802.25	0.28	0.80	1.03	2.05	6.69	811.58	3.27	2.06	0.17	3.42	2.89	0	1.00
15 CAL	1.15	1.46	2.23	0.86	1.05	0.83	340.89	0.37	35.55	0.11	30.90	5.02	0.29	0.43	1.29	0.78	4.61	1.75	3.11	0.27	8.08	11.33	0	0.99
16 STM	1.52	0.68	2.17	0.99	224.96	480.04	294.30	2.43	25.49	45.33	13.79	1.12	167.54	1.41	0.91	0.99	1.10	4.07	12.44	0.07	28.07	61.20	0	1.03
17 CHS	1.46	1.22	2.10	0.74	0.56	0.52	0.47	0.47	57.98	70.54	29.51	3.21	312.13	0.69	0.95	2.36	1.09	3.04	8.38	0.20	23.91	0.23	0	0.99
18 FAU	1.66	462.02	1.27	239.00	229.67	0.70	0.96	0.94	1.17	0.92	47.22	2.11	14.30	21.00	2.37	15.37	16.30	1.09	888.21	175.97	2.81	27.41	0	1.10
19 STA	0.84	0.40	0.79	3.92	334.07	2.21	0.81	1.11	866.01	0.78	19.84	0.10	7.70	38.03	16.75	102.72	109.28	1784.79	1.30	0.11	1.13	0.39	0	1.11
20 CL/JF	0.86	282.85	3.42	268.74	96.26	257.01	123.46	1.20	0.67	642.94	0.38	74.82	1.82	149.81	0.05	0	1.01	1.06	14.47	1.32	16.45	0.00	0	1.13
21 SP/FB	0.27	0.33	0.17	0.24	0.24	0.95	556.02	9.19	625.51	2.09	14.80	0	0	8.23	22.07	113.58	147.24	5.50	1.35	0.03	0.98	0.08	0	1.04
22 KGEO	2.17	378.38	139.08	506.96	119.21	230.40	138.23	2.86	88.77	1.03	0.27	0	10.70	0.12	37.24	0.54	0.32	0.76	1.17	6.33	1.44	0.53	0	0.87
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	1.00	0.83	0.88	0.96	0.95	0.87	0.95	0.92	0.97	0.96	1.08	1.11	0.93	0.96	1.23	1.01	1.14	1.29	1.20	1.17	0.36	0	0	0.95

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Est Motr Psn

ORIGIN	DESTINATION																							TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1 DC CR	15870	6115	1996	1117	1681	2430	700	2162	53	12	2	0	30	71	1	1	13	0	0	0	0	0	0	32253	
2 DC NC	123212	45974	24107	17352	6724	10687	3241	10666	298	74	59	1	540	1163	35	23	205	4	1	1	1	0	0	244366	
3 MTG	127832	42954	254668	32917	6692	11396	3269	24539	1087	310	4162	325	7306	5721	103	169	338	33	11	134	18	2	0	523987	
4 PG	89130	59999	40396	176210	8850	14692	5632	15813	342	204	194	25	6454	14362	794	710	4938	11	7	4	12	15	0	438796	
5 ARLCR	3198	413	223	73	695	965	217	669	17	6	0	0	1	3	0	0	1	0	0	0	0	0	0	6482	
6 ARNCR	44732	7664	4498	1594	8631	23205	6226	22630	525	266	15	0	32	79	2	7	21	10	5	1	4	0	0	120146	
7 ALX	22633	5135	2808	1596	4238	10697	14007	21684	342	468	10	0	27	78	4	12	43	10	14	1	11	0	0	83817	
8 FFX	103894	30470	28256	11299	19278	46493	31204	336079	21021	13882	266	11	332	797	52	175	344	685	331	158	303	12	0	645341	
9 LDN	11384	4877	7878	2036	2427	5470	2065	53448	57464	3612	1611	84	346	397	11	40	63	717	81	1747	98	5	0	155861	
10 PW	27617	10178	8281	3673	6524	13956	9391	58856	7050	85131	178	10	122	291	17	69	110	3451	1942	223	1004	41	0	238113	
11 FRD	5213	3178	21717	2807	562	1101	348	4261	1652	146	83032	5980	8313	3868	21	9	68	33	2	1065	3	0	0	143379	
12 CAR	2351	1617	8396	1909	220	427	136	1353	236	24	8902	44961	5547	2746	16	4	43	6	0	139	0	0	0	79034	
13 HOW	14244	7924	17172	11012	1126	1853	582	2382	117	40	3930	1186	57556	17809	69	115	162	4	1	78	2	1	0	137364	
14 AAR	21053	12502	12680	20496	1766	3062	1146	3648	126	86	848	232	16657	145972	1315	567	850	3	2	24	3	3	0	243041	
15 CAL	4809	3007	1810	4907	439	793	386	1215	36	40	32	5	336	2901	19259	6096	2385	2	3	0	8	12	0	48481	
16 STM	3295	2097	1097	3557	317	573	321	1029	26	48	14	1	177	863	4000	52886	6279	4	13	0	28	64	0	76688	
17 CHS	12940	7174	2984	10674	1179	2023	985	2687	59	73	30	3	328	1488	1691	3126	32192	3	8	0	24	68	0	79741	
18 FAU	1165	565	805	266	314	763	471	9049	2232	5907	48	2	15	23	2	16	17	10639	928	183	631	28	0	34070	
19 STA	2706	1214	1001	659	728	1667	1266	10082	920	9383	22	0	11	51	17	107	113	1885	21887	61	10665	362	0	64806	
20 CL/JF	635	371	2130	287	152	338	143	4589	4059	685	1468	78	309	160	0	0	1	357	15	17058	17	1	0	32852	
21 SP/FB	1438	538	214	307	455	1056	806	7192	674	5504	16	0	0	10	22	118	152	1514	8239	51	32478	413	0	61198	
22 KGEO	673	400	154	533	135	257	158	1105	95	879	0	0	11	47	39	139	334	199	1033	6	1352	4225	0	11772	
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	640022		443274		73131		82701		98434		104840		104448		27469		64388		48670		34522		46662	0	3501590
		254366		305279		153903		595138		126780		52905		198899		64388		19570		20935		5252			

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Obs Motr Psn

ORIGIN	DESTINATION																							TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1 DC CR	14776	5411	3391	884	1241	2992	534	1387	406	0	0	0	0	713	0	0	0	0	0	0	0	0	0	31735	
2 DC NC	124172	44510	23209	18937	3349	8305	4097	12942	1493	534	0	0	539	3388	185	0	0	0	0	0	0	0	0	245660	
3 MTG	107692	46740	268996	30123	5791	14856	3698	27463	2158	729	3411	0	9008	7305	0	0	0	0	459	838	0	0	0	529267	
4 PG	98499	51633	53103	172158	3409	13003	4695	23509	1666	412	116	1123	6527	13585	0	0	4940	0	0	0	0	0	0	448378	
5 ARLCR	3561	613	613	0	204	1064	0	1661	0	409	0	0	210	0	0	0	0	0	0	0	0	0	0	8334	
6 ARNCR	45715	8853	6330	1704	7798	23085	5152	22720	1996	533	0	0	0	329	108	0	0	0	442	0	0	0	0	124766	
7 ALX	31133	7207	2144	1911	3753	11180	14523	14571	263	1397	0	0	0	367	0	0	0	0	0	0	0	0	0	88448	
8 FFX	114238	28211	19420	7325	25698	53556	32497	319226	20797	19711	0	0	2562	238	424	0	336	815	1052	471	0	132	0	646709	
9 LDN	9282	3142	4471	0	1430	2920	1585	63745	57188	2520	0	0	0	382	0	0	0	662	0	480	0	0	0	147807	
10 PW	17982	12546	3699	3486	5616	11257	8961	82168	5416	82651	0	0	0	0	0	492	295	2907	2914	0	636	0	0	241023	
11 FRD	4501	3521	29509	3081	168	620	229	1997	2587	298	87979	4749	3917	1211	0	0	0	0	0	0	468	0	0	144836	
12 CAR	1299	516	8582	2706	0	0	165	165	0	0	2233	41665	10974	6564	0	0	0	0	0	0	0	0	0	74869	
13 HOW	13258	3819	16204	22097	260	1683	1137	2315	276	0	423	967	53469	21599	0	0	138	0	0	325	0	0	0	137970	
14 AAR	25357	9646	9703	27723	3415	2788	1972	5666	0	203	0	801	19536	140775	610	81	0	0	0	144	0	0	0	248419	
15 CAL	5538	1726	726	5342	239	1447	0	3039	0	362	0	0	1078	6363	14152	7449	487	0	0	0	0	0	0	47948	
16 STM	2227	2753	459	4443	0	0	0	390	0	0	0	0	0	572	5100	56179	5356	0	0	0	0	0	0	77480	
17 CHS	9002	4462	1805	15081	1321	2586	1769	5902	0	0	0	0	0	2044	1685	1257	30022	0	0	0	0	289	0	77226	
18 FAU	2449	0	566	0	0	883	431	9103	2092	6302	0	0	0	0	0	0	0	9722	0	0	214	0	0	31762	
19 STA	3286	2356	857	131	262	3942	1285	9297	0	11962	0	0	0	0	0	0	0	0	18199	536	10136	893	0	63142	
20 CL/JF	2298	0	1668	0	0	0	0	3551	6898	0	3617	0	157	0	0	0	0	314	0	12528	0	297	0	31327	
21 SP/FB	4371	916	787	1011	985	594	1092	1586	0	3194	0	0	0	0	0	0	0	258	6298	1622	32722	4828	0	60264	
22 KGEO	688	0	0	0	0	0	0	328	0	1048	0	0	0	366	0	244	1000	244	838	0	889	8452	0	14099	
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	641323		456241		64941		83821		103235		97779		107977		22263		42573		30202		44597		0	0	3521469
		238582		318144		156761		612731		132265		49305		205801		65703		14924		17412		14891			

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Difference (Est-Obs) Motorized Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1094	703	-1395	233	440	-563	166	775	-352	12	2	0	30	-642	1	1	13	0	0	0	0	0	0	518
2 DC NC	-960	1464	898	-1585	3375	2382	-856	-2276	-1195	-460	59	1	1	-2225	-150	23	205	4	1	1	1	0	0	-1294
3 MTG	20140	-3785	-14328	2794	901	-3460	-429	-2924	-1071	-420	752	325	-1702	-1584	103	169	338	33	-448	-704	18	2	0	-5281
4 PG	-9369	8366	-12707	4052	5441	1689	938	-7695	-1324	-207	78	-1098	-73	777	794	710	-2	11	7	4	12	15	0	-9582
5 ARLCR	-362	-200	-390	73	491	-99	217	-992	17	-403	0	0	-209	3	0	0	1	0	0	0	0	0	0	-1852
6 ARNCR	-984	-1189	-1832	-111	832	120	1074	-90	-1471	-267	15	0	32	-250	-106	7	21	10	-437	1	4	0	0	-4620
7 ALX	-8500	-2072	665	-316	485	-484	-516	7113	79	-929	10	0	27	-289	4	12	43	10	14	1	11	0	0	-4630
8 FFX	-10345	2259	8836	3974	-6421	-7063	-1293	16853	225	-5829	266	11	-2230	559	-372	175	9	-130	-721	-314	303	-120	0	-1368
9 LDN	2102	1735	3408	2036	998	2550	481	-10298	275	1092	1611	84	346	15	11	40	63	55	81	1267	98	5	0	8054
10 PW	9636	-2367	4582	186	908	2699	430	-23312	1634	2481	178	10	122	291	17	-423	-184	543	-972	223	368	41	0	-2909
11 FRD	712	-342	-7792	-273	393	481	119	2264	-935	-152	-4947	1231	4396	2657	21	9	68	33	2	598	3	0	0	-1456
12 CAR	1052	1100	-186	-797	220	427	-29	1188	236	24	6669	3296	-5427	-3818	16	4	43	6	0	139	0	0	0	4165
13 HOW	985	4104	968	-11086	867	169	-555	67	-158	40	3507	220	4086	-3789	69	115	24	4	1	-247	2	1	0	-606
14 AAR	-4304	2857	2977	-7227	-1650	275	-825	-2018	126	-118	848	-569	-2879	5197	704	487	850	3	2	-120	3	3	0	-5378
15 CAL	-729	1281	1084	-435	200	-655	386	-1824	36	-322	32	5	-741	-3462	5107	-1353	1897	2	3	0	8	12	0	533
16 STM	1068	-656	638	-886	317	573	321	638	26	48	14	1	177	291	-1101	-3293	923	4	13	0	28	64	0	-792
17 CHS	3938	2712	1179	-4407	-142	-563	-784	-3214	59	73	30	3	328	-556	7	1868	2170	3	8	0	24	-222	0	2515
18 FAU	-1284	565	239	266	314	-120	40	-54	140	-395	48	2	15	23	2	16	17	917	928	183	417	28	0	2308
19 STA	-580	-1142	143	528	466	-2275	-19	785	920	-2579	22	0	11	51	17	107	113	1885	3688	-475	529	-530	0	1664
20 CL/JF	-1663	371	463	287	152	338	143	1038	-2839	685	-2149	78	151	160	0	0	1	43	15	4530	17	-296	0	1525
21 SP/FB	-2933	-378	-573	-703	-530	462	-286	5606	674	2309	16	0	0	10	22	118	152	1256	1940	-1571	-244	-4415	0	934
22 KGEO	-15	400	154	533	135	257	158	776	95	-169	0	0	11	-320	39	-105	-666	-46	195	6	463	-4227	0	-2327
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	-1301		-12967		8191		-1120		-4802		7061		-3529		5206		6097		4320		2065		0	
		15785		-12865		-2858		-17594		-5484		3600		-6901		-1315		4647		3524		-9638		-19879

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Ratio (Est/Obs) Motorized Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.07	1.13	0.59	1.26	1.35	0.81	1.31	1.56	0.13	11.59	2.16	0	30.40	0.10	0.86	1.28	12.64	0.40	0	0	0	0	0	1.02
2 DC NC	0.99	1.03	1.04	0.92	2.01	1.29	0.79	0.82	0.20	0.14	58.92	0.96	1.00	0.34	0.19	22.60	204.75	3.51	0.71	0.71	1.04	0.07	0	0.99
3 MTG	1.19	0.92	0.95	1.09	1.16	0.77	0.88	0.89	0.50	0.42	1.22	325.13	0.81	0.78	102.56	169.25	337.90	33.03	0.02	0.16	17.50	2.07	0	0.99
4 PG	0.90	1.16	0.76	1.02	2.60	1.13	1.20	0.67	0.21	0.50	1.67	0.02	0.99	1.06	794.36	710.15	1.00	10.99	6.70	4.02	11.65	15.19	0	0.98
5 ARLCR	0.90	0.67	0.36	73.11	3.40	0.91	217.32	0.40	16.75	0.02	0.27	0	0.00	2.65	0	0.10	0.59	0.17	0.03	0	0.01	0	0	0.78
6 ARNCR	0.98	0.87	0.71	0.94	1.11	1.01	1.21	1.00	0.26	0.50	14.76	0.05	32.02	0.24	0.02	6.77	20.85	9.77	0.01	1.35	4.36	0.05	0	0.96
7 ALX	0.73	0.71	1.31	0.83	1.13	0.96	0.96	1.49	1.30	0.33	10.32	0.06	26.71	0.21	4.43	11.62	43.30	9.83	14.22	1.23	10.69	0.40	0	0.95
8 FFX	0.91	1.08	1.45	1.54	0.75	0.87	0.96	1.05	1.01	0.70	265.90	10.79	0.13	3.35	0.12	174.70	1.03	0.84	0.31	0.33	302.71	0.09	0	1.00
9 LDN	1.23	1.55	1.76	2035.97	1.70	1.87	1.30	0.84	1.00	1.43	1610.95	84.34	346.43	1.04	10.59	39.53	62.99	1.08	80.51	3.64	98.46	5.00	0	1.05
10 PW	1.54	0.81	2.24	1.05	1.16	1.24	1.05	0.72	1.30	1.03	178.00	9.70	121.79	290.68	17.09	0.14	0.37	1.19	0.67	222.89	1.58	40.73	0	0.99
11 FRD	1.16	0.90	0.74	0.91	3.34	1.78	1.52	2.13	0.64	0.49	0.94	1.26	2.12	3.19	20.93	9.47	67.84	32.79	1.85	2.28	2.74	0.12	0	0.99
12 CAR	1.81	3.13	0.98	0.71	220.16	427.47	0.82	8.18	235.53	23.80	3.99	1.08	0.51	0.42	16.25	3.68	43.47	6.27	0.25	138.80	0.23	0.10	0	1.06
13 HOW	1.07	2.07	1.06	0.50	4.34	1.10	0.51	1.03	0.43	40.48	9.30	1.23	1.08	0.82	68.66	114.92	1.18	3.84	0.94	0.24	1.63	0.61	0	1.00
14 AAR	0.83	1.30	1.31	0.74	0.52	1.10	0.58	0.64	125.87	0.42	847.96	0.29	0.85	1.04	2.15	7.04	849.62	3.29	2.06	0.17	3.42	2.91	0	0.98
15 CAL	0.87	1.74	2.49	0.92	1.84	0.55	385.53	0.40	36.48	0.11	31.63	5.02	0.31	0.46	1.36	0.82	4.89	1.78	3.14	0.27	8.16	11.72	0	1.01
16 STM	1.48	0.76	2.39	0.80	316.95	572.79	320.85	2.64	26.07	47.79	14.00	1.12	176.88	1.51	0.78	0.94	1.17	4.17	12.57	0.07	28.47	63.94	0	0.99
17 CHS	1.44	1.61	1.65	0.71	0.89	0.78	0.56	0.46	59.47	72.64	29.85	3.21	328.16	0.73	1.00	2.49	1.07	3.05	8.40	0.20	24.05	0.23	0	1.03
18 FAU	0.48	564.62	1.42	265.95	314.15	0.86	1.09	0.99	1.07	0.94	48.18	2.11	14.74	22.95	2.37	15.84	16.50	1.09	928.31	183.38	2.95	28.25	0	1.07
19 STA	0.82	0.52	1.17	5.03	2.78	0.42	0.99	1.08	920.38	0.78	22.33	0.10	10.89	50.58	17.00	106.55	112.52	1884.71	1.20	0.11	1.05	0.41	0	1.03
20 CL/JF	0.28	371.35	1.28	286.65	151.62	338.07	142.69	1.29	0.59	685.40	0.41	78.20	1.96	159.71	0.05	0	1.01	1.14	14.84	1.36	16.69	0.00	0	1.05
21 SP/FB	0.33	0.59	0.27	0.30	0.46	1.78	0.74	4.53	674.32	1.72	16.01	0	0	10.20	22.39	118.21	152.17	5.87	1.31	0.03	0.99	0.09	0	1.02
22 KGEO	0.98	400.17	154.47	532.59	134.50	256.55	157.52	3.36	94.90	0.84	0.27	0	10.93	0.13	38.52	0.57	0.33	0.81	1.23	6.40	1.52	0.50	0	0.83
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	1.00		0.97		1.13		0.99		0.95		1.07		0.97		1.23		1.14		1.31		1.14		0	
		1.07		0.96		0.98		0.97		0.96		1.07		0.97		0.98		1.31		1.20		0.35		0.99

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Est Auto Occ.

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.06	1.05	1.02	1.02	1.05	1.01	1.02	1.02	1.02	1.00	1.00	0	1.01	1.02	1.00	1.00	1.00	1.00	0	0	0	0	0	1.05
2 DC NC	1.05	1.04	1.03	1.03	1.05	1.02	1.03	1.03	1.02	1.00	1.01	1.00	1.02	1.03	1.00	1.01	1.01	1.00	1.00	1.00	1.00	1.00	0	1.04
3 MTG	1.05	1.04	1.05	1.05	1.05	1.05	1.04	1.06	1.03	1.02	1.05	1.02	1.05	1.05	1.01	1.03	1.02	1.01	1.00	1.01	1.00	1.00	0	1.05
4 PG	1.05	1.04	1.05	1.05	1.06	1.04	1.04	1.04	1.02	1.02	1.01	1.00	1.05	1.05	1.03	1.03	1.04	1.00	1.00	1.00	1.00	1.01	0	1.05
5 ARLCR	1.05	1.03	1.04	1.02	1.06	1.05	1.05	1.05	1.03	1.01	1.00	0	1.00	1.02	0	1.00	1.00	1.00	1.00	0	1.00	0	0	1.05
6 ARNCR	1.03	1.04	1.04	1.02	1.05	1.05	1.05	1.05	1.04	1.02	1.00	1.00	1.00	1.02	1.00	1.00	1.00	1.01	1.00	1.00	1.00	1.00	0	1.04
7 ALX	1.03	1.03	1.04	1.03	1.04	1.04	1.05	1.05	1.04	1.03	1.00	1.00	1.00	1.02	1.00	1.02	1.01	1.02	1.01	1.00	1.00	1.00	0	1.04
8 FFX	1.04	1.04	1.05	1.04	1.05	1.05	1.04	1.05	1.04	1.04	1.01	1.00	1.02	1.03	1.00	1.03	1.01	1.04	1.02	1.01	1.02	1.00	0	1.05
9 LDN	1.08	1.07	1.05	1.05	1.09	1.09	1.06	1.06	1.04	1.04	1.04	1.01	1.03	1.04	1.01	1.04	1.02	1.04	1.01	1.04	1.01	1.00	0	1.05
10 PW	1.07	1.06	1.13	1.13	1.07	1.07	1.05	1.07	1.05	1.04	1.04	1.00	1.12	1.15	1.01	1.05	1.03	1.04	1.04	1.03	1.04	1.01	0	1.06
11 FRD	1.05	1.04	1.07	1.05	1.06	1.05	1.04	1.07	1.05	1.03	1.05	1.06	1.07	1.07	1.01	1.02	1.02	1.04	1.00	1.05	1.00	1.00	0	1.06
12 CAR	1.06	1.04	1.07	1.05	1.06	1.05	1.04	1.06	1.04	1.00	1.06	1.05	1.07	1.07	1.01	1.01	1.02	1.03	1.00	1.05	1.00	1.00	0	1.06
13 HOW	1.05	1.05	1.06	1.05	1.06	1.05	1.04	1.05	1.02	1.02	1.06	1.05	1.05	1.05	1.02	1.04	1.03	1.02	1.00	1.03	1.00	1.00	0	1.05
14 AAR	1.06	1.05	1.06	1.05	1.06	1.05	1.05	1.05	1.03	1.03	1.06	1.03	1.06	1.05	1.05	1.05	1.05	1.01	1.00	1.01	1.00	1.01	0	1.05
15 CAL	1.06	1.05	1.06	1.05	1.07	1.05	1.05	1.05	1.03	1.03	1.02	1.00	1.06	1.06	1.05	1.06	1.06	1.02	1.01	1.00	1.01	1.03	0	1.05
16 STM	1.07	1.05	1.06	1.06	1.07	1.05	1.05	1.05	1.02	1.05	1.02	1.00	1.06	1.07	1.06	1.05	1.06	1.02	1.01	1.00	1.01	1.04	0	1.05
17 CHS	1.06	1.05	1.06	1.05	1.06	1.05	1.05	1.05	1.03	1.03	1.01	1.00	1.05	1.06	1.05	1.05	1.05	1.00	1.00	1.00	1.01	1.04	0	1.05
18 FAU	1.13	1.11	1.10	1.10	1.16	1.14	1.07	1.08	1.05	1.05	1.02	1.00	1.03	1.09	1.00	1.03	1.01	1.05	1.05	1.04	1.05	1.03	0	1.06
19 STA	1.09	1.07	1.34	1.26	1.08	1.08	1.09	1.11	1.06	1.05	1.13	1.00	1.41	1.33	1.01	1.04	1.03	1.06	1.04	1.03	1.05	1.04	0	1.07
20 CL/JF	1.06	1.04	1.08	1.04	1.10	1.10	1.07	1.09	1.07	1.07	1.06	1.05	1.08	1.07	1.00	0	1.00	1.07	1.03	1.05	1.01	1.00	0	1.06
21 SP/FB	1.10	1.08	1.43	1.24	1.09	1.09	1.12	1.13	1.08	1.06	1.08	0	0	1.24	1.01	1.04	1.03	1.07	1.05	1.04	1.05	1.04	0	1.06
22 KGEO	1.03	1.03	1.10	1.05	1.05	1.06	1.09	1.14	1.07	1.06	1.00	0	1.02	1.04	1.03	1.04	1.05	1.07	1.05	1.01	1.05	1.04	0	1.06
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	1.05	1.05	1.06	1.05	1.06	1.04	1.06	1.05	1.04	1.05	1.05	1.06	1.05	1.05	1.05	1.05	1.05	1.04	1.04	1.05	1.04	0	1.05	

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Obs Auto Occ.

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.29	1.15	1.00	1.00	0	1.00	0	1.00	1.00	0	0	0	0	1.00	0	0	0	0	0	0	0	0	0	1.15
2 DC NC	1.13	1.12	1.01	1.02	1.17	1.00	1.00	1.00	1.00	1.00	0	0	2.92	1.00	1.00	0	0	0	0	0	0	0	0	1.08
3 MTG	1.07	1.10	1.06	1.05	1.09	1.00	1.00	1.03	1.00	1.00	1.06	0	1.00	1.00	0	0	0	1.00	1.00	0	0	0	0	1.06
4 PG	1.09	1.09	1.04	1.11	1.00	1.11	1.00	1.05	1.00	1.00	1.00	1.00	1.00	1.14	0	0	1.00	0	0	0	0	0	0	1.09
5 ARLCR	101.84	1.00	1.00	0	1.00	2.00	0	1.00	0	1.00	0	0	1.00	0	0	0	0	0	0	0	0	0	0	1.08
6 ARNCR	1.10	1.07	1.00	1.00	1.02	1.06	1.05	1.00	1.07	1.00	0	0	0	1.00	1.00	0	0	0	1.00	0	0	0	0	1.05
7 ALX	1.10	1.00	1.00	1.00	1.11	1.23	1.10	1.01	1.00	1.00	0	0	0	1.00	0	0	0	0	0	0	0	0	0	1.08
8 FFX	1.09	1.09	1.00	1.00	1.03	1.06	1.02	1.04	1.11	1.03	0	0	1.00	1.00	1.00	0	1.00	1.00	1.00	1.00	0	1.00	0	1.05
9 LDN	1.19	1.00	1.00	0	1.77	1.00	1.00	1.04	1.04	1.13	0	0	0	1.00	0	0	0	1.00	0	1.00	0	1.00	0	1.05
10 PW	1.13	1.10	1.40	1.52	1.18	1.19	1.28	1.01	1.00	1.05	0	0	0	0	0	1.00	1.00	1.00	1.00	0	1.00	0	0	1.06
11 FRD	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.06	1.21	1.00	1.00	0	0	0	0	0	1.00	0	0	0	1.06
12 CAR	1.28	1.00	1.02	1.00	0	0	1.00	1.00	0	0	1.05	1.08	1.04	1.17	0	0	0	0	0	0	0	0	0	1.07
13 HOW	1.07	1.00	1.01	1.01	1.00	1.00	1.00	1.00	1.00	0	1.00	1.00	1.03	1.00	0	0	1.00	0	0	1.00	0	0	0	1.02
14 AAR	1.06	1.07	1.15	1.04	1.00	1.00	1.00	1.00	0	1.00	0	1.00	1.00	1.05	1.00	1.00	0	0	0	1.00	0	0	0	1.05
15 CAL	1.00	1.00	1.00	1.00	1.00	2.00	0	1.00	0	1.00	0	0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0	0	1.02
16 STM	1.00	1.00	1.00	1.00	0	0	0	1.00	0	0	0	0	0	1.00	1.24	1.10	1.00	0	0	0	0	0	0	1.09
17 CHS	1.00	1.00	1.30	1.09	1.00	1.00	1.00	1.12	0	0	0	0	0	1.00	1.00	1.08	0	0	0	0	0	1.00	0	1.07
18 FAU	1.00	0	1.00	0	0	1.00	1.00	1.03	1.15	1.03	0	0	0	0	0	0	0	1.05	0	0	1.00	0	0	1.04
19 STA	1.00	1.00	1.00	1.00	0	1.53	1.00	1.12	0	1.04	0	0	0	0	0	0	0	0	1.12	1.00	1.12	1.00	0	1.09
20 CL/JF	1.00	0	1.00	0	0	0	0	1.06	1.21	0	1.00	0	1.00	0	0	0	0	1.00	0	1.02	0	1.00	0	1.06
21 SP/FB	1.00	1.00	1.00	1.00	1.00	1.00	0	1.00	0	1.30	0	0	0	0	0	0	0	1.00	1.08	1.00	1.02	1.00	0	1.03
22 KGEO	1.00	0	0	0	0	0	0	1.00	0	1.00	0	0	0	1.00	0	1.00	1.00	1.00	0	1.00	1.10	0	0	1.06
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	1.10	1.08	1.05	1.08	1.07	1.08	1.03	1.06	1.05	1.06	1.08	1.02	1.05	1.05	1.09	1.06	1.03	1.09	1.01	1.04	1.05	0	1.06	

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Est Pct. Tran

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	66.8	88.6	77.8	47.9	93.2	94.9	83.0	49.0	1.4	6.6	0	0	3.2	1.1	0	0	0	0	0	0	0	0	0	73.3
2 DC NC	89.1	83.1	72.1	43.6	86.1	91.4	80.3	43.0	0.8	3.9	0	0	2.7	0.9	0	0	0	0	0	0	0	0	0	80.1
3 MTG	51.1	31.0	16.1	7.7	50.8	36.0	20.5	6.1	0.0	0.3	0.0	0	0.3	0.1	0	0	0	0	0	0	0	0	0	25.2
4 PG	48.8	30.1	21.4	8.2	52.6	39.9	20.5	8.9	0	0.1	0	0	1.1	0.3	0	0	0.0	0	0	0	0	0	0	22.3
5 ARLCR	93.5	67.5	48.4	22.4	26.4	60.0	50.5	19.7	0.2	1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	67.8
6 ARNCR	81.6	49.1	30.7	13.0	47.0	37.5	34.2	11.2	0.1	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	49.3
7 ALX	70.5	37.2	23.7	7.4	44.7	39.8	19.5	9.0	0.0	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	35.2
8 FFX	39.1	20.0	9.7	3.1	35.7	27.0	14.4	4.0	0.2	0.3	0	0	1.5	0.8	0	0	0	0	0	0	0	0.1	0	13.5
9 LDN	33.0	12.8	3.6	1.2	29.9	19.7	5.4	0.7	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.7
10 PW	50.7	32.2	17.1	7.6	50.8	38.6	20.3	2.8	0.4	1.1	0.0	0	9.1	2.0	0	0	0	0	0	0	0.1	0	0	13.5
11 FRD	45.0	10.6	3.5	0.9	27.1	13.4	5.6	4.8	0	0	1.2	0	0.0	0	0	0	0	0	0	0	0	0	0	3.5
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
13 HOW	58.2	28.5	10.4	4.4	62.0	43.1	21.5	5.8	0	0.2	0	0	0.8	0.1	0	0	0	0	0	0	0	0	0	11.0
14 AAR	45.7	20.6	8.9	2.5	51.6	33.9	14.3	5.7	0	0.2	0	0	0.2	0.0	0	0	0	0	0	0	0	0	0	6.7
15 CAL	19.8	11.8	5.5	0.9	39.2	20.7	7.0	3.1	0	0	0	0	0	0.1	0.1	0.0	0	0	0	0	0	0	0	3.9
16 STM	12.5	6.2	4.0	0.4	23.7	11.6	3.5	3.1	0	0	0	0	0	0	0.0	0.2	0.2	0	0	0	0	0	0	1.2
17 CHS	37.7	20.6	13.7	1.3	46.8	30.5	11.1	3.8	0	0	0	0	0.0	0.0	0	0.1	1.1	0	0	0	0	0	0	10.8
18 FAU	11.6	9.0	2.3	0.8	15.5	8.6	5.8	0.6	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.2
19 STA	44.9	24.5	9.6	1.8	50.4	27.5	10.2	3.9	0	0.2	0	0	0	0	0	0	0	0.0	0	0	0	0	0	4.6
20 CL/JF	23.3	20.5	3.1	2.2	29.9	16.3	7.1	4.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.8
21 SP/FB	60.3	40.2	12.6	0.3	67.6	41.7	23.1	10.7	0	1.3	0	0	0	0	0	0	0	0.0	0	0	0.0	0	0	4.7
22 KGEO	4.4	3.0	0.9	0.1	6.9	5.2	4.2	3.2	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9
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	58.1	38.8	17.9	8.9	49.0	38.0	20.9	5.2	0.5	0.9	1.0	0	0.6	0.1	0.1	0.1	0.7	0	0.0	0	0.0	0	0	20.7

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBW Trips MODE: Obs Pct. Tran

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	60.7	33.6	70.3	76.5	100.0	58.4	100.0	28.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56.0
2 DC NC	59.1	22.6	24.7	16.5	61.1	34.7	53.8	18.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41.4
3 MTG	63.3	15.3	7.7	6.2	38.5	26.5	48.0	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.0
4 PG	52.8	14.9	13.5	5.4	44.3	18.5	20.4	5.3	0	53.2	0	0	0	0	0	0	0	0	0	0	0	0	0	18.4
5 ARLCR	97.1	0	0	0	0	57.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48.9
6 ARNCR	58.9	8.2	24.1	51.6	44.4	22.9	16.1	4.3	10.2	0	0	0	0	0	0	0	0	23.7	0	0	0	0	0	32.8
7 ALX	53.7	38.1	9.8	0	44.5	31.4	10.4	5.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30.8
8 FFX	47.7	20.3	9.1	19.7	34.4	27.7	9.8	0.8	1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14.4
9 LDN	42.2	18.6	4.5	0	17.9	8.9	32.7	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.1
10 PW	65.7	29.1	0	11.9	24.1	33.4	4.2	1.5	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	9.5
11 FRD	77.7	27.2	9.5	14.5	0	58.1	0	0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	0	0	6.2
12 CAR	42.4	80.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.3
13 HOW	61.4	27.9	1.7	1.2	0	80.7	47.2	0	0	0	0	0	0.5	0	0	0	0	0	0	0	0	0	0	8.6
14 AAR	61.8	14.5	20.7	0	56.4	17.2	3.7	20.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.1
15 CAL	43.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.0
16 STM	20.6	0	0	23.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.9
17 CHS	42.4	0	16.4	2.3	20.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.1
18 FAU	77.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.0
19 STA	50.2	9.8	0	0	100.0	80.4	0	5.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.2
20 CL/JF	76.8	0	66.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.2
21 SP/FB	55.3	0	0	0	42.4	0	100.0	61.1	0	0	0	0	0	0	0	0	0	0	0	0	1.5	0	0	8.9
22 KGEO	58.4	0	0	0	0	0	0	0	0	0	23.3	0	0	0	0	0	0	0	0	0	0	0	0	4.6
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	56.5	18.6	10.1	6.2	39.2	28.5	16.2	2.0	0.7	0.6	0.9	0	0.3	0	0	0	0	0	0.3	0	1.1	0	0	16.2

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Est Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	462	606	130	11	21	195	37	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1489
2 DC NC	2019	4065	1366	473	43	609	170	94	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8840
3 MTG	212	158	4857	90	7	11	0	1	0	2	0	0	3	0	0	0	0	0	0	0	0	0	0	5341
4 PG	255	341	446	1722	16	66	22	4	0	1	0	0	8	6	0	0	1	0	0	0	0	0	0	2889
5 ARLCR	25	3	1	0	4	148	11	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	201	
6 ARNCR	179	13	2	0	84	1060	158	267	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1766	
7 ALX	44	1	0	0	8	185	324	188	0	2	0	0	0	0	0	0	0	0	0	0	0	0	752	
8 FFX	72	14	30	23	3	139	111	1651	5	74	2	0	10	4	0	5	24	0	0	0	0	0	2167	
9 LDN	2	0	0	0	0	0	0	22	105	21	0	0	0	0	0	0	0	0	0	0	0	0	150	
10 PW	12	33	76	55	8	90	62	629	45	389	4	0	24	15	1	9	50	0	0	0	0	0	1502	
11 FRD	0	0	0	0	0	0	0	0	0	0	134	0	0	0	0	0	0	0	0	0	0	0	134	
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	
13 HOW	0	0	1	4	0	0	0	3	0	2	0	0	44	2	0	0	0	0	0	0	0	0	57	
14 AAR	4	0	0	5	0	0	0	12	0	4	0	0	1	7	0	0	0	0	0	0	0	0	34	
15 CAL	1	0	0	0	0	0	0	1	0	1	0	0	0	0	5	0	0	0	0	0	0	0	8	
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	0	0	0	0	0	0	11	
17 CHS	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	111	0	0	0	0	0	0	112	
18 FAU	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	
19 STA	0	0	0	0	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	
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	
21 SP/FB	0	0	0	0	0	0	0	66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	66	
22 KGEO	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	
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	
TOTAL	3287	5234	6910	2384	194	2502	895	3023	156	500	139	0	91	35	7	23	187	0	0	0	1	0	25567	

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Obs Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1117	1221	510	215	0	1049	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4111	
2 DC NC	13476	13727	1150	3146	191	787	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32476	
3 MTG	4654	1179	5153	0	0	0	109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11095	
4 PG	1494	1270	181	3969	181	245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7340	
5 ARLCR	420	0	204	0	0	450	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1074	
6 ARNCR	889	204	0	0	210	2530	0	413	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4245	
7 ALX	645	0	0	0	207	225	566	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1644	
8 FFX	1131	0	0	0	0	915	0	1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3676	
9 LDN	0	80	0	0	0	191	0	0	259	0	0	0	0	0	0	0	0	0	0	0	0	0	530	
10 PW	0	0	0	0	0	318	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	318	
11 FRD	224	0	0	0	0	0	0	0	0	0	382	0	0	0	0	0	0	0	0	0	0	0	606	
12 CAR	0	0	0	0	0	0	0	0	0	0	0	639	0	0	0	0	0	0	0	0	0	0	639	
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	
14 AAR	72	0	0	0	72	0	0	0	0	0	0	0	0	1124	0	0	0	0	0	0	0	0	1268	
15 CAL	239	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	239	
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	526	0	0	0	0	0	0	526	
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	
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	
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	
20 CL/JF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	463	463	
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	
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	
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	
TOTAL	24360	17680	7197	7329	861	6710	676	2043	259	0	382	639	0	1124	0	526	0	0	0	0	463	0	70250	

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Difference (Est-Obs) Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	-655	-615	-380	-204	21	-854	37	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2622
2 DC NC	-11457	-9662	217	-2673	-148	-179	170	94	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	-23637
3 MTG	-4442	-1021	-296	90	7	11	-109	1	0	2	0	0	3	0	0	0	0	0	0	0	0	0	0	-5753
4 PG	-1239	-929	265	-2247	-165	-179	22	4	0	1	0	0	8	6	0	0	1	0	0	0	0	0	0	-4451
5 ARLCR	-395	3	-204	0	4	-301	11	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-873
6 ARNCR	-710	-191	2	0	-126	-1470	158	-146	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	-2480
7 ALX	-601	1	0	0	-200	-40	-243	188	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	-892
8 FFX	-1058	14	30	23	3	-777	111	21	5	74	2	0	10	4	0	5	24	0	0	0	0	0	0	-1509
9 LDN	2	-80	0	0	0	-191	0	22	-154	21	0	0	0	0	0	0	0	0	0	0	0	0	0	-380
10 PW	12	33	76	55	8	-228	62	629	45	389	4	0	24	15	1	9	50	0	0	0	0	0	0	1184
11 FRD	-224	0	0	0	0	0	0	0	0	0	-249	0	0	0	0	0	0	0	0	0	0	0	0	-472
12 CAR	0	0	0	0	0	0	0	0	0	0	0	-639	0	0	0	0	0	0	0	0	0	0	0	-639
13 HOW	0	0	1	4	0	0	0	3	0	2	0	0	44	2	0	0	0	0	0	0	0	0	0	57
14 AAR	-68	0	0	5	-72	0	0	12	0	4	0	0	1	-1117	0	0	0	0	0	0	0	0	0	-1234
15 CAL	-238	0	0	0	0	0	0	1	0	1	0	0	0	0	5	0	0	0	0	0	0	0	0	-231
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-517	1	0	0	0	0	0	0	0	-516
17 CHS	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	111	0	0	0	0	0	0	112
18 FAU	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
19 STA	0	0	0	0	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	-463	0	-439
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	66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	66
22 KGEO	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
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	-21073	-12445	-287	-4945	-667	-4208	219	980	-104	-243	-639	-1090	0	-503	0	0	0	0	0	0	-462	0	0	-44683

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Ratio (Est/Obs) Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	0.41	0.50	0.26	0.05	21.34	0.19	36.74	26.38	0	0.15	0	0	0	0	0	0	0	0	0	0	0	0	0	0.36
2 DC NC	0.15	0.30	1.19	0.15	0.22	0.77	170.23	93.93	0	0.97	0	0	0.32	0.03	0	0	0.11	0	0	0	0	0	0	0.27
3 MTG	0.05	0.13	0.94	90.25	7.34	10.83	0.00	1.04	0	1.55	0	0	2.61	0.11	0	0	0	0	0	0	0	0	0	0.48
4 PG	0.17	0.27	2.46	0.43	0.09	0.27	21.86	4.48	0	0.93	0	0	8.23	6.10	0	0	0.95	0	0	0	0	0	0	0.39
5 ARLCR	0.06	2.67	0.00	0	3.79	0.33	10.63	10.16	0	0.07	0	0	0	0	0	0	0	0	0	0	0	0	0	0.19
6 ARNCR	0.20	0.06	2.42	0	0.40	0.42	158.36	0.65	0	2.73	0	0	0	0	0	0	0	0	0	0	0	0	0	0.42
7 ALX	0.07	1.04	0.17	0	0.04	0.82	0.57	188.11	0	1.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0.46
8 FFX	0.06	14.17	30.42	23.49	3.07	0.15	110.50	1.01	5.08	73.80	1.68	0	10.16	4.34	0.41	4.54	23.58	0	0	0	0.22	0	0	0.59
9 LDN	1.78	0	0	0	0	0	0	22.06	0.41	21.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0.28
10 PW	12.29	32.68	76.48	54.60	7.79	0.28	61.96	629.42	45.31	388.94	3.73	0	23.91	14.90	0.91	9.02	50.23	0	0	0	0.46	0	0	4.72
11 FRD	0.00	0	0.03	0	0	0	0	0.26	0	0.27	0.35	0	0	0	0	0	0	0	0	0	0	0	0	0.22
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	0.27	0	0.87	4.28	0	0	0	2.69	0	2.40	0	0	44.32	2.21	0	0	0	0	0	0	0	0	0	57.04
14 AAR	0.06	0.27	0.28	5.23	0	0.14	0.03	11.90	0	3.92	0	0	1.46	0.01	0	0	0	0	0	0	0	0	0	0.03
15 CAL	0.00	0.06	0.01	0	0	0.03	0.01	0.69	0	0.70	0	0	0	0	5.20	0.17	0	0	0	0	0	0	0	0.03
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04	0.02	1.15	0	0	0	0	0	0	0.02
17 CHS	0.15	0	0	0.03	0	0.01	0	0.63	0	0.70	0	0	0	0	0	0	110.92	0	0	0	0	0	0	112.44
18 FAU	0	0	0	0	0	0	0	10.97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10.97
19 STA	0	0	0	0	0	0	0	23.84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05
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	65.52	0	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	65.60
22 KGEO	0	0	0	0	0	0	0	12.39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12.39
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	0.13	0.30	0.96	0.33	0.23	0.37	1.32	1.48	0.60	0	0.36	0	0	0.03	0	0.04	0	0	0	0	0.00	0	0	0.36

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Est Auto Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	4132	3576	999	478	129	777	313	1285	33	12	0	0	13	26	0	0	5	1	0	0	0	0	0	11780
2 DC NC	18126	56935	17116	17092	681	4710	2473	9760	263	132	4	0	532	834	0	0	200	6	0	0	0	0	0	128863
3 MTG	2786	11887	384439	20417	69	615	126	2437	114	6	2242	316	4341	2313	0	0	73	0	0	1	0	0	0	432183
4 PG	2953	15579	20655	252871	234	1986	2577	7262	108	91	1	1	5253	8808	17	51	7375	3	0	0	0	0	0	325824
5 ARLCR	108	117	37	28	409	1715	310	877	20	12	0	0	0	2	0	1	0	0	0	0	0	0	0	3635
6 ARNCR	2066	2564	787	816	3279	45202	7051	22003	317	216	9	0	7	56	0	0	56	1	0	0	0	0	0	84429
7 ALX	742	1088	152	762	687	7652	24244	17016	120	279	0	0	2	30	0	0	113	0	0	0	0	0	0	52889
8 FFX	3605	5963	3481	4811	1612	20467	18963	436010	8137	7713	178	0	106	466	0	0	935	72	3	4	39	0	0	512566
9 LDN	374	596	675	530	123	1306	543	17414	96541	1047	3848	72	55	108	0	0	110	157	0	1480	3	0	0	124982
10 PW	293	427	150	426	160	1789	2112	28326	1466	190415	49	0	7	37	0	0	175	1533	113	7	260	0	0	227745
11 FRD	6	18	7781	29	5	52	7	678	2094	5	88767	4733	1290	114	0	0	0	0	0	41	0	0	0	105620
12 CAR	0	0	834	15	0	1	0	28	55	0	1867	73851	1849	128	0	0	0	0	0	0	0	0	0	78629
13 HOW	27	227	4253	5890	2	22	8	136	10	0	854	1886	108207	13137	0	0	9	0	0	0	0	0	0	134668
14 AAR	252	1108	1871	12119	47	376	383	1179	29	25	6	27	13036	238006	256	43	422	0	0	0	0	0	0	269185
15 CAL	105	417	224	3347	26	207	307	841	8	20	0	0	50	1585	26429	4777	1527	0	0	0	0	0	0	39869
16 STM	1	2	2	169	2	14	42	99	0	1	0	0	0	3	269	41267	4417	0	0	0	0	0	0	46288
17 CHS	39	117	33	1500	18	159	335	975	15	20	0	4	14	168	860	62907	0	0	0	0	0	1	0	67166
18 FAU	40	54	53	46	5	57	32	2207	481	3407	6	0	0	0	0	2	19889	129	22	187	0	0	0	26616
19 STA	219	368	171	376	47	525	704	6671	79	15683	0	0	0	7	0	1	67	570	28916	0	10149	29	0	64582
20 CL/JF	1	1	894	0	1	12	1	848	5829	221	2305	64	98	4	0	0	179	0	15940	0	0	0	0	26400
21 SP/FB	16	9	40	11	15	173	228	3297	33	4653	0	0	0	0	0	0	1	157	1846	0	44382	3	0	54863
22 KGEO	1	2	0	51	1	19	46	530	0	886	0	0	0	0	4	203	2533	33	456	0	974	3469	0	9209
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	35893		444645		7551		60805		115751		100137		134849		27142		80929		31463		55994		0	2827991
		101057		321783		87837		559880		224844		80950		265678		47203		22601		17494		3502		

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Obs Auto Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	2838	1430	307	0	0	1592	185	607	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6959
2 DC NC	7544	59229	21130	14845	104	5249	829	4882	353	0	922	0	104	860	0	0	338	0	0	0	0	0	0	116389
3 MTG	1746	9733	390946	7614	1231	528	205	4056	124	1860	1499	0	3666	2088	0	0	872	0	143	0	0	0	0	426311
4 PG	2044	5943	16486	264755	0	414	109	2301	184	181	271	0	3476	14329	389	286	14859	0	0	0	0	197	0	326223
5 ARLCR	0	105	0	0	653	1708	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2466
6 ARNCR	1660	1142	639	102	990	52856	7768	16804	225	0	93	0	407	0	0	0	0	0	0	0	0	0	0	82686
7 ALX	890	710	338	952	133	4248	35604	12769	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55643
8 FFX	1021	119	1872	748	928	10907	9474	462099	13969	14519	0	0	0	132	0	0	132	0	553	0	0	0	0	516473
9 LDN	240	0	382	0	0	968	0	21997	99367	1997	0	0	0	0	0	0	0	0	288	382	0	0	0	125621
10 PW	0	0	0	0	0	415	1643	24819	211	200299	0	0	0	0	0	0	0	3112	726	0	759	197	0	232180
11 FRD	0	0	5223	260	0	0	229	0	1133	0	92776	5217	180	260	0	0	0	0	0	0	0	0	0	105279
12 CAR	0	571	417	860	0	0	0	0	99	0	1779	74013	2569	380	0	0	0	0	0	0	0	0	0	80688
13 HOW	208	338	3044	3845	0	0	163	0	0	0	0	1639	115444	7336	0	0	0	0	0	0	0	0	0	132017
14 AAR	0	281	0	19261	0	72	0	228	0	203	0	2164	12826	232241	801	0	401	0	0	0	0	0	0	268478
15 CAL	0	0	1125	5156	0	0	255	3151	0	0	0	0	0	3369	25478	1734	2777	0	0	0	0	0	0	43045
16 STM	0	0	0	0	0	390	0	390	0	0	0	0	0	884	526	37296	4538	0	0	0	0	0	0	44025
17 CHS	579	0	840	6282	0	0	1265	0	0	0	0	0	0	609	222	3427	57974	0	0	0	0	0	0	71198
18 FAU	0	0	0	0	0	0	0	1039	1711	4503	0	0	0	0	0	0	0	15448	577	0	0	0	0	23278
19 STA	0	0	0	0	0	268	0	494	0	1743	0	0	0	0	0	0	0	47504	0	14462	0	0	0	64470
20 CL/JF	0	0	0	0	0	0	0	148	1009	0	831	0	0	0	0	0	0	79	0	18088	0	0	0	20155
21 SP/FB	0	0	0	0	0	0	0	0	0	2121	0	0	0	0	0	0	0	0	3978	0	57282	0	0	63381
22 KGEO	0	0	0	0	0	0	0	0	0	179	0	0	0	122	0	0	0	0	817	0	1289	2472	0	4878
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	18770		442749		4039		57729		118385		98172		138267		27416		81891		54586		73791		0	2811845
		79599		324680		79616		555783		227605		83034		263016		42743		18638		18471		2866		

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Difference (Est-Obs) Auto Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1293	2146	691	478	129	-815	129	677	33	12	0	0	13	26	0	0	5	1	0	0	0	0	0	4820
2 DC NC	10583	-2294	-4014	2246	577	-539	1643	4878	-90	132	-918	0	428	-26	0	0	-137	6	0	0	0	0	0	12474
3 MTG	1041	2155	-6507	12803	-1162	86	-79	-1620	-10	-1854	743	316	675	226	0	0	-800	0	-143	1	0	0	5871	
4 PG	909	9637	4169	-11884	234	1572	2468	4961	-76	-90	-270	1	1777	-5522	-372	-235	-7484	3	0	0	0	-197	-399	
5 ARLCR	108	13	37	28	-245	7	310	877	20	12	0	0	2	0	0	1	0	0	0	0	0	0	1169	
6 ARNCR	406	1421	148	714	2289	-7653	-718	5199	92	216	-84	0	7	-351	0	0	56	1	0	0	0	0	1743	
7 ALX	-148	379	-185	-190	555	3404	-11360	4247	120	279	0	0	2	30	0	0	113	0	0	0	0	0	-2754	
8 FFX	2584	5844	1609	4063	683	9560	9489	-26089	-5831	-6806	178	0	106	335	0	0	803	72	-550	4	39	0	-3907	
9 LDN	134	596	293	530	123	339	543	-4583	-2827	-950	3848	72	55	108	0	0	110	157	-288	1098	3	0	-639	
10 PW	293	427	150	426	160	1375	469	3508	1255	-9884	49	0	7	37	0	0	175	-1579	-612	7	-500	-197	-4434	
11 FRD	6	18	2559	-230	5	52	-223	678	961	5	-4010	-484	1109	-146	0	0	0	0	0	0	41	0	342	
12 CAR	0	-570	417	-845	0	1	0	28	-45	0	88	-162	-720	-252	0	0	0	0	0	0	0	0	-2059	
13 HOW	-181	-111	1209	2045	2	22	-155	136	10	0	854	247	-7237	5801	0	0	9	0	0	0	0	0	2651	
14 AAR	252	827	1871	-7143	47	304	383	952	29	-178	6	-2137	210	5766	-545	43	22	0	0	0	0	0	708	
15 CAL	105	417	-901	-1810	26	207	52	-2310	8	20	0	0	50	-1784	951	3043	-1250	0	0	0	0	0	-3175	
16 STM	1	2	2	169	2	-376	42	-291	0	1	0	0	0	0	-881	-257	3971	-121	0	0	0	0	2263	
17 CHS	-540	117	-807	-4782	18	159	-930	975	15	20	0	0	4	-595	-53	-2567	4933	0	0	0	0	1	-4032	
18 FAU	40	54	53	46	5	57	32	1168	-1230	-1096	6	0	0	0	0	0	2	4440	-449	22	187	0	3338	
19 STA	219	368	171	376	47	257	704	6177	79	13940	0	0	0	7	0	1	67	570	-18587	0	-4313	29	112	
20 CL/JF	1	1	894	0	1	12	1	700	4821	221	1474	64	98	4	0	0	0	101	0	-2149	0	0	6244	
21 SP/FB	16	9	40	11	15	173	228	3297	33	2532	0	0	0	0	0	0	1	157	-2132	0	-12899	3	-8518	
22 KGEO	1	2	0	51	1	19	46	530	0	707	0	0	0	-122	4	203	2533	33	-361	0	-314	997	4331	
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	
TOTAL	17124		1896	3512		8221	3076	4097	-2634	1965	-2083	-3417	2662	-273	4460	-962	3962	-23122	-17797	637			16146	

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Ratio (Est/Obs) Auto Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.46	2.50	3.25	477.98	129.46	0.49	1.70	2.12	33.36	12.39	0	0	13.02	26.20	0	0	5.15	0.57	0	0	0	0	1.69	
2 DC NC	2.40	0.96	0.81	1.15	6.55	0.90	2.98	2.00	0.74	131.56	0.00	0	5.12	0.97	0.03	0	0.59	6.15	0	0	0	0	1.11	
3 MTG	1.60	1.22	0.98	2.68	0.06	1.16	0.62	0.60	0.92	0.00	1.50	315.89	1.18	1.11	0	0	0.08	0.34	0	0.65	0	0	1.01	
4 PG	1.44	2.62	1.25	0.96	233.98	4.80	23.54	3.16	0.59	0.50	0.00	1.25	1.51	0.61	0.04	0.18	0.50	2.78	0	0	0	0	1.00	
5 ARLCR	108.00	1.12	36.84	27.90	0.63	1.00	309.81	876.94	19.58	11.51	0.09	0	0.13	1.56	0	0	1.43	0.03	0	0	0	0	1.47	
6 ARNCR	1.24	2.24	1.23	8.01	3.31	0.86	0.91	1.31	1.41	216.26	0.10	0	7.08	0.14	0	0	55.58	0.71	0	0	0	0	1.02	
7 ALX	0.83	1.53	0.45	0.80	5.17	1.80	0.68	1.33	120.18	278.92	0.43	0	1.59	30.20	0	0.16	113.18	0.48	0	0	0.02	0	0.95	
8 FFX	3.53	50.14	1.86	6.44	1.74	1.88	2.00	0.94	0.58	0.53	178.06	0.37	105.88	3.54	0	0.41	7.10	72.04	0.00	3.51	39.46	0	0.99	
9 LDN	1.56	596.37	1.77	530.01	123.38	1.35	542.67	0.79	0.97	0.52	3848.35	71.58	54.55	107.84	0	0	110.02	156.84	0.00	3.87	2.94	0	0.99	
10 PW	292.62	426.80	150.25	426.45	159.70	4.31	1.29	1.14	6.96	0.95	48.68	0	7.37	36.60	0	0	175.00	0.49	0.16	7.08	0.34	0	0.98	
11 FRD	5.66	17.94	1.49	0.11	4.83	52.44	0.03	678.09	1.85	5.06	0.96	0.91	7.16	0.44	0	0	0	0.18	0	41.18	0	0	1.00	
12 CAR	0	0.00	2.00	0.02	0.10	1.11	0	27.80	0.55	0.03	1.05	1.00	0.72	0.34	0	0	0	0	0	0.18	0	0	0.97	
13 HOW	0.13	0.67	1.40	1.53	2.22	21.93	0.05	136.03	9.96	0.05	853.97	1.15	0.94	1.79	0	0	9.06	0	0	0.20	0	0	1.02	
14 AAR	252.43	3.95	1870.68	0.63	46.52	5.23	383.22	5.18	29.03	0.12	6.01	0.01	1.02	1.02	0.32	43.39	1.05	0	0	0	0	1.00		
15 CAL	104.78	416.91	0.20	0.65	25.64	206.61	1.21	0.27	7.77	20.38	0	0	50.29	0.47	1.04	2.75	0.55	0	0	0	0	0	0.93	
16 STM	0.68	2.29	1.56	168.99	1.89	0.04	41.79	0.25	0	1.01	0	0	0.14	0.00	0.51	1.11	0.97	0	0	0	0	0.27	1.05	
17 CHS	0.07	116.87	0.04	0.24	18.11	158.77	0.26	975.48	15.01	20.03	0	0	3.77	0.02	0.76	0.25	1.09	0.02	0	0	0	1.18	0.94	
18 FAU	40.44	54.23	52.68	45.94	4.58	57.08	31.68	2.12	0.28	0.76	6.08	0	0.12	0.09	0	0	1.90	1.29	0.22	21.59	186.69	0	1.14	
19 STA	219.29	367.79	170.95	375.77	47.05	1.96	703.80	13.51	79.09	9.00	0.03	0	0.36	6.60	0	0.63	67.17	570.15	0.61	0	0.70	29.09	1.00	
20 CL/JF	1.30	1.07	893.69	0.44	0.96	11.96	1.40	5.72	5.78	221.32	2.77	64.15	97.52	3.66	0	0	0	2.28	0	0.88	0	0	1.31	
21 SP/FB	15.91	9.15	39.67	11.22	14.50	172.95	228.1332	296.94	32.57	2.19	0	0	0	0	0	0	0.99	156.64	0.46	0	0.77	2.82	0.87	
22 KGEO	1.27	1.76	0.49	50.81	1.49	18.80	46.24	529.95	0.11	4.95	0	0	0	0	3.62	203.272533	0.08	33.28	0.56	0	0.76	1.40	1.89	
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	
TOTAL	1.91		1.00	0.99	1.87		1.05	1.01	0.98	0.99	1.02	0.97	0.98	1.01	0.99	1.10	0.99	1.21	0.58	0.95	0.76	1.22	1.01	

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Est Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	2835	2447	666	337	88	525	210	850	21	8	0	0	9	17	0	0	3	0	0	0	0	0	0	8016
2 DC NC	12374	39056	11505	11833	455	3140	1631	6356	161	84	3	0	337	529	0	0	132	3	0	0	0	0	0	87599
3 MTG	1971	8258	264935	14062	49	429	89	1615	72	4	1525	218	2926	1560	0	0	51	0	0	1	0	0	0	297763
4 PG	2057	10807	13728	174369	160	1341	1711	4668	62	57	1	1	3473	5867	12	36	5022	1	0	0	0	0	0	223373
5 ARLCR	75	81	25	20	280	1173	209	583	12	7	0	0	0	1	0	0	1	0	0	0	0	0	0	2469
6 ARNCR	1439	1778	548	579	2258	31194	4827	14937	201	143	7	0	6	40	0	0	39	0	0	0	0	0	0	57996
7 ALX	515	753	108	533	469	5250	16688	11511	74	184	0	0	1	21	0	0	78	0	0	0	0	0	0	36188
8 FFX	2536	4175	2430	3371	1111	14131	13011	300080	5559	5294	122	0	76	313	0	0	636	49	2	3	28	0	0	352926
9 LDN	264	425	464	367	84	884	365	11799	66686	717	2599	49	36	69	0	0	72	107	0	1009	2	0	0	85997
10 PW	212	324	108	309	108	1210	1410	18862	970	131608	33	0	5	24	0	0	118	1047	79	5	178	0	0	156609
11 FRD	4	13	4993	20	3	33	4	392	1302	2	61068	3218	818	73	0	0	0	0	0	28	0	0	0	71972
12 CAR	0	0	534	10	0	0	0	14	29	0	1243	51091	1211	83	0	0	0	0	0	0	0	0	0	54216
13 HOW	21	165	2875	4046	2	15	5	86	6	0	574	1290	74839	8980	0	0	6	0	0	0	0	0	0	92911
14 AAR	176	759	1207	8177	31	241	241	694	14	14	4	17	8638	163935	174	29	279	0	0	0	0	0	0	184630
15 CAL	72	279	139	2216	17	130	189	492	3	11	0	0	30	1044	18250	3225	981	0	0	0	0	0	0	27078
16 STM	0	2	1	110	1	9	25	56	0	0	0	0	2	178	28441	2840	0	0	0	0	0	0	0	31665
17 CHS	28	85	21	1022	12	102	215	601	8	12	0	0	2	9	116	589	43438	0	0	0	0	0	1	46261
18 FAU	29	39	35	31	3	39	21	1388	309	2244	4	0	0	0	0	0	1	13664	88	15	126	0	0	18036
19 STA	149	247	107	249	30	334	445	4095	42	10369	0	0	0	4	0	0	44	368	20058	0	6970	20	0	43531
20 CL/JF	1	1	501	0	1	6	1	470	3546	131	1464	38	52	2	0	0	0	113	0	11005	0	0	0	17330
21 SP/FB	11	6	18	7	9	102	133	1841	15	2846	0	0	0	0	0	0	1	90	1245	0	30714	2	0	37040
22 KGEO	1	1	0	31	1	9	25	277	0	504	0	0	0	0	2	131	1591	18	302	0	642	2405	0	5940
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	24770	69704	304949	221699	5168	60298	41454	79091	68646	154237	55922	92459	182574	18732	32453	55333	15461	21774	12066	38662	2428	0	0	1939547

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Obs Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	2156	1136	307	0	0	1592	92	515	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5797
2 DC NC	5172	46469	13943	11698	104	4290	661	3263	261	0	0	0	104	522	0	0	338	0	0	0	0	0	0	86824
3 MTG	1600	7316	280027	5307	615	528	205	2986	124	620	982	0	1200	949	0	0	436	0	143	0	0	0	0	303038
4 PG	1934	4689	11292	186487	0	414	109	2068	184	181	271	0	1866	10325	389	286	9436	0	0	0	0	197	0	230129
5 ARLCR	0	105	0	0	0	429	1386	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1919
6 ARNCR	1560	1041	639	102	990	40854	5631	12339	112	0	93	0	0	204	0	0	0	0	0	0	0	0	0	63564
7 ALX	491	444	338	532	133	2672	28771	8808	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42189
8 FFX	238	119	1635	748	928	7423	7150	309449	9130	7309	0	0	0	0	0	0	132	0	553	0	0	0	0	344814
9 LDN	240	0	382	0	0	777	0	14521	64895	998	0	0	0	0	0	0	0	0	144	382	0	0	0	82340
10 PW	0	0	0	0	0	415	1325	13342	211	125283	0	0	0	0	0	0	0	1171	309	0	759	98	0	142913
11 FRD	0	0	3071	130	0	0	229	0	811	0	69153	3606	180	130	0	0	0	0	0	0	0	0	0	77310
12 CAR	0	190	208	290	0	0	0	0	0	0	657	49361	1579	380	0	0	0	0	0	0	0	0	0	52665
13 HOW	208	338	2231	3187	0	0	163	0	0	0	0	0	1201	81939	4068	0	0	0	0	0	0	0	0	93335
14 AAR	0	281	0	12696	0	72	0	228	0	203	0	1082	5074	165242	801	0	401	0	0	0	0	0	0	186079
15 CAL	0	0	375	3452	0	0	255	980	0	0	0	0	0	2414	17025	1002	1703	0	0	0	0	0	0	27206
16 STM	0	0	0	0	0	390	0	390	0	0	0	0	0	0	526	26183	2054	0	0	0	0	0	0	29545
17 CHS	289	0	492	4906	0	0	790	0	0	0	0	0	0	609	222	1929	39822	0	0	0	0	0	0	49059
18 FAU	0	0	0	0	0	0	0	1039	1158	3631	0	0	0	0	0	0	0	11847	577	0	0	0	0	18253
19 STA	0	0	0	0	0	268	0	363	0	1743	0	0	0	0	0	0	0	0	27267	0	8370	0	0	38010
20 CL/JF	0	0	0	0	0	0	0	148	544	0	617	0	0	0	0	0	0	79	0	13435	0	0	0	14822
21 SP/FB	0	0	0	0	0	0	0	0	0	1333	0	0	0	0	0	0	0	0	3488	0	35822	0	0	40643
22 KGEO	0	0	0	0	0	0	0	0	0	179	0	0	0	122	0	0	0	0	573	0	1002	1948	0	3823
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	13887	62126	314940	229534	3199	61081	45381	370439	77429	141481	71773	55250	91942	184966	18963	29401	54322	13097	33053	13817	45954	2243	0	1934278

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Difference (Est-Obs) Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	679	1312	359	337	88	-1067	118	335	21	8	0	0	9	17	0	0	3	0	0	0	0	0	0	2219
2 DC NC	7203	-7412	-2438	134	351	-1149	970	3094	-101	84	3	0	233	7	0	0	-206	3	0	0	0	0	0	775
3 MTG	371	942	-15092	8755	-567	-100	-1371	-52	-616	543	218	1726	611	0	0	-385	0	-143	1	0	0	0	-5275	
4 PG	123	6118	2437	-12119	160	927	1602	2600	-122	-124	-270	1	1606	-4458	-377	-250	-4413	1	0	0	0	-197	-6756	
5 ARLCR	75	-23	25	20	-148	-213	209	583	12	7	0	0	0	1	0	0	1	0	0	0	0	0	550	
6 ARNCR	-120	738	-91	477	1268	-9660	-804	2597	89	143	-87	0	6	-164	0	0	39	0	0	0	0	0	-5569	
7 ALX	24	309	-230	1	336	2578	-12083	2703	74	184	0	0	1	21	0	0	78	0	0	0	0	0	-6001	
8 FFX	2298	4056	796	2623	182	6708	5860	-9370	-3571	-2016	122	0	76	313	0	0	504	49	-551	3	28	0	8113	
9 LDN	24	425	82	367	84	108	365	-2722	1791	-282	2599	49	36	69	0	0	72	107	-144	627	2	0	3657	
10 PW	212	324	108	309	108	795	85	5520	759	6325	33	0	5	24	0	0	118	-124	-230	5	-581	-98	13696	
11 FRD	4	13	1922	-110	3	33	-226	392	491	2	-8085	-388	638	-57	0	0	0	0	0	28	0	0	-5338	
12 CAR	0	-190	326	-279	0	0	0	14	29	0	586	1730	-368	-297	0	0	0	0	0	0	0	0	1551	
13 HOW	-187	-172	644	859	2	15	-157	86	6	0	574	89	-7100	4912	0	0	6	0	0	0	0	0	-424	
14 AAR	176	478	1207	-4518	31	169	241	466	14	-190	4	-1065	3564	-1306	-627	29	-121	0	0	0	0	0	-1449	
15 CAL	72	279	-236	-1236	17	130	-66	-488	3	11	0	0	30	-1371	1225	2223	-722	0	0	0	0	0	-128	
16 STM	0	2	1	110	1	-382	25	-334	0	0	0	0	0	2	-349	2258	785	0	0	0	0	0	2121	
17 CHS	-262	85	-472	-3884	12	102	-575	601	8	12	0	2	-600	-1340	3616	0	0	0	0	0	0	1	-2798	
18 FAU	29	39	35	31	3	39	21	349	-849	-1387	4	0	0	0	0	0	1	1816	-490	15	126	0	-217	
19 STA	149	247	107	249	30	66	445	3733	42	8626	0	0	0	4	0	0	44	368	-7208	0	-1399	20	5522	
20 CL/JF	1	1	501	0	1	6	1	322	3002	131	848	38	52	2	0	0	0	34	0	-2430	0	0	2508	
21 SP/FB	11	6	18	7	9	102	133	1841	15	1512	0	0	0	0	0	0	1	90	-2243	0	-5108	2	-3604	
22 KGEO	1	1	0	31	1	9	25	277	0	325	0	0	0	-122	2	131	1591	18	-271	0	-360	457	2116	
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	
TOTAL	10882		-9991		1969		-3927		1661		-3127		517		-232		1011		-11279		-7291		5268	
		7578		-7835		-783		11228		12756		671		-2391		3052		2364		-1751		185		

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Ratio (Est/Obs) Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.31	2.16	2.17	337.33	87.51	0.33	2.28	1.65	20.56	8.13	0	0	8.58	16.85	0	0	3.47	0.32	0	0	0	0	1.38	
2 DC NC	2.39	0.84	0.83	1.01	4.38	0.73	2.47	1.95	0.61	84.03	2.87	0	3.25	1.01	0.02	0	0.39	3.41	0	0	0	0	1.01	
3 MTG	1.23	1.13	0.95	2.65	0.08	0.81	0.43	0.54	0.58	0.01	1.55	217.92	2.44	1.64	0	0	0.12	0.19	0	0.52	0	0	0.98	
4 PG	1.06	2.30	1.22	0.94	159.78	3.24	15.63	2.26	0.34	0.32	0.00	0.85	1.86	0.57	0.03	0.13	0.53	1.23	0	0	0	0	0.97	
5 ARLCR	74.94	0.78	25.03	19.70	0.65	0.85	209.43	583.43	12.17	7.42	0.06	0	0.12	1.11	0	0	1.03	0.02	0	0	0	0	1.29	
6 ARNCR	0.92	1.71	0.86	5.68	2.28	0.76	0.86	1.21	1.79	142.82	0.07	0	5.57	0.20	0	0	39.39	0.44	0	0	0	0	0.91	
7 ALX	1.05	1.70	0.32	1.00	3.53	1.96	0.58	1.31	73.93	184.06	0.30	0	1.36	21.35	0	0.14	78.15	0.28	0	0	0.02	0	0.86	
8 FFX	10.66	35.11	1.49	4.51	1.20	1.90	1.82	0.97	0.61	0.72	121.56	0.25	76.02	313.47	0	0.27	4.83	49.22	0.00	2.63	28.46	0	1.02	
9 LDN	1.10	425.11	1.21	367.26	83.56	1.14	365.33	0.81	1.03	0.722598.75	48.58	36.18	69.43	0	0	0	71.55	107.12	0.00	2.64	1.97	0	1.04	
10 PW	211.99	323.89	108.31	308.77	107.56	2.92	1.06	1.41	4.60	1.05	32.86	0	4.91	24.20	0	0	117.62	0.89	0.26	5.20	0.23	0	1.10	
11 FRD	4.11	12.78	1.63	0.16	3.20	33.15	0.02	391.79	1.61	1.83	0.88	0.89	4.54	0.56	0	0	0	0.09	0	28.48	0	0	0.93	
12 CAR	0	0	0	2.56	0.04	0.02	0.43	0	13.78	29.12	0	1.89	1.04	0.77	0.22	0	0	0	0	0.15	0	0	1.03	
13 HOW	0.10	0.49	1.29	1.27	1.64	14.95	0.03	86.47	5.86	0.03	574.16	1.07	0.91	2.21	0	0	6.17	0	0	0.18	0	0	1.00	
14 AAR	176.33	2.701206.58	0.64	30.63	3.35	241.21	3.05	13.99	0.07	3.91	0.02	1.70	0.99	0.22	28.59	0.70	0	0	0	0	0	0	0.99	
15 CAL	71.67	279.47	0.37	0.64	16.52	129.91	0.74	0.50	3.48	11.06	0	0	30.36	0.43	1.07	3.22	0.58	0	0	0	0	0	1.00	
16 STM	0.46	1.52	0.70	109.74	1.23	0.02	25.45	0.14	0	0.41	0	0	0.04	1.82	0.34	1.09	1.38	0	0	0	0	0.18	1.07	
17 CHS	0.10	85.15	0.04	0.21	11.91	102.14	0.27	601.17	7.58	11.83	0	0	2.12	0.01	0.52	0.31	1.09	0	0	0	0	0.81	0.94	
18 FAU	29.33	39.01	35.02	30.85	3.14	39.03	20.96	1.34	0.27	0.62	4.06	0	0.08	0.06	0	0	1.21	1.15	0.15	14.94	126.38	0	0.99	
19 STA	149.04	247.49	106.89	248.84	29.84	1.24	444.50	11.30	41.97	5.95	0.02	0	0.24	4.16	0	0.43	43.64	367.77	0.74	0	0.83	20.28	1.15	
20 CL/JF	1.01	0.66	501.30	0.18	0.53	5.92	0.56	3.17	6.52	130.56	2.37	37.89	52.00	1.76	0	0	0	1.43	0	0.82	0	0	1.17	
21 SP/FB	10.53	6.08	17.82	7.33	8.60	102.41	133.191841.49	14.78	2.13	0	0	0	0	0	0	0	0.56	89.98	0.36	0	0.86	2.01	0.91	
22 KGEO	0.82	1.16	0.16	31.44	0.78	9.42	24.57	276.53	0.05	2.82	0	0	0	0	2.29	131.081590.72	17.69	0.53	0	0.64	1.23	0	1.55	
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	
TOTAL	1.78		0.97		1.62		0.91		1.02		0.96		1.01		0.99		1.02		1.18		0.66		1.00	
		1.12		0.97		0.99		1.03		1.09		1.01		0.99		1.10		1.18		0.87		1.08		

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Est Motr Psn

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	4594	4182	1129	489	151	972	350	1311	33	13	0	0	13	26	0	0	5	1	0	0	0	0	0	13269
2 DC NC	20145	61000	18482	17565	723	5319	2643	9854	263	133	4	0	532	834	0	0	201	6	0	0	0	0	0	137703
3 MTG	2998	12046	389296	20507	77	626	127	2438	114	7	2242	316	4344	2313	0	0	73	0	0	1	0	0	0	437524
4 PG	3208	15921	21100	254593	250	2052	2599	7267	108	92	1	1	5261	8814	17	51	7376	3	0	0	0	0	0	328713
5 ARLCR	133	120	38	28	412	1864	320	887	20	12	0	0	0	2	0	0	1	0	0	0	0	0	0	3836
6 ARNCR	2245	2576	789	816	3363	46262	7209	22270	317	219	9	0	7	56	0	0	56	1	0	0	0	0	0	86195
7 ALX	786	1090	153	762	695	7837	24568	17204	120	281	0	0	2	30	0	0	113	0	0	0	0	0	0	53641
8 FFX	3677	5978	3511	4834	1615	20606	19073	437661	8143	7787	180	0	116	471	0	5	958	72	3	4	40	0	0	514733
9 LDN	376	596	675	530	123	1306	543	17436	96646	1068	3848	72	55	108	0	0	110	157	0	1480	3	0	0	125132
10 PW	305	459	227	481	167	1879	2174	28956	1511	190804	52	0	31	52	1	9	225	1533	113	7	260	0	0	229248
11 FRD	6	18	7781	29	5	52	7	678	2094	5	88900	4733	1290	114	0	0	0	0	0	41	0	0	0	105754
12 CAR	0	0	834	15	0	1	0	28	55	0	1867	73851	1849	128	0	0	0	0	0	0	0	0	0	78629
13 HOW	28	227	4253	5894	2	22	8	139	10	2	854	1886	108251	13139	0	0	9	0	0	0	0	0	0	134725
14 AAR	257	1108	1871	12124	47	376	383	1191	29	29	6	27	13037	238013	256	43	422	0	0	0	0	0	0	269220
15 CAL	105	417	224	3347	26	207	307	842	8	21	0	0	50	1585	26434	4777	1527	0	0	0	0	0	0	39877
16 STM	1	2	2	169	2	14	42	99	0	1	0	0	0	3	269	41276	4418	0	0	0	0	0	0	46299
17 CHS	39	117	33	1500	18	159	335	976	15	21	0	0	4	14	168	860	63018	0	0	0	0	1	0	67278
18 FAU	40	54	53	46	5	57	32	2218	481	3407	6	0	0	0	0	2	19889	129	22	187	0	0	0	26626
19 STA	219	368	171	376	47	525	704	6695	79	15683	0	0	0	7	0	1	67	570	28916	0	10149	29	0	64606
20 CL/JF	1	1	894	0	1	12	1	848	5829	221	2305	64	98	4	0	0	179	0	15940	0	0	0	0	26400
21 SP/FB	16	9	40	11	15	173	228	3362	33	4653	0	0	0	0	0	0	1	157	1846	0	44382	3	0	54928
22 KGEO	1	2	0	51	1	19	46	542	0	886	0	0	0	0	4	203	2533	33	456	0	974	3469	0	9221
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	39181	106292	451555	324167	7745	90339	61700	115907	115907	100276	80950	134940	265713	27149	47226	81115	22601	31463	17494	55995	3502	0	0	2853558

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Obs Motr Psn

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	3955	2651	817	215	0	2640	185	607	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11070
2 DC NC	21020	72956	22279	17991	295	6037	829	4882	353	0	922	0	104	860	0	0	338	0	0	0	0	0	0	148866
3 MTG	6400	10912	396099	7614	1231	528	314	4056	124	1860	1499	0	3666	2088	0	0	872	0	143	0	0	0	0	437406
4 PG	3538	7213	16667	268724	181	659	109	2301	184	181	271	0	3476	14329	389	286	14859	0	0	0	0	197	0	333563
5 ARLCR	420	105	204	0	653	2158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3540
6 ARNCR	2549	1346	639	102	1200	55386	7768	17216	225	0	93	0	407	0	0	0	0	0	0	0	0	0	0	86932
7 ALX	1535	710	338	952	340	4473	36170	12769	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57287
8 FFX	2152	119	1872	748	928	11823	9474	463729	13969	14519	0	0	0	132	0	0	132	0	553	0	0	0	0	520149
9 LDN	240	80	382	0	0	1159	0	21997	99626	1997	0	0	0	0	0	0	0	0	288	382	0	0	0	126151
10 PW	0	0	0	0	0	733	1643	24819	211	200299	0	0	0	0	0	0	0	3112	726	0	759	197	0	232498
11 FRD	224	0	5223	260	0	0	229	0	1133	0	93159	5217	180	260	0	0	0	0	0	0	0	0	0	105884
12 CAR	0	571	417	860	0	0	0	0	99	0	1779	74652	2569	380	0	0	0	0	0	0	0	0	0	81327
13 HOW	208	338	3044	3845	0	0	163	0	0	0	0	0	1639	115444	7336	0	0	0	0	0	0	0	0	132017
14 AAR	72	281	0	19261	72	72	0	228	0	203	0	2164	12826	233365	801	0	401	0	0	0	0	0	0	269746
15 CAL	239	0	1125	5156	0	0	255	3151	0	0	0	0	0	3369	25478	1734	2777	0	0	0	0	0	0	43283
16 STM	0	0	0	0	0	390	0	390	0	0	0	0	0	884	526	37823	4538	0	0	0	0	0	0	44552
17 CHS	579	0	840	6282	0	0	1265	0	0	0	0	0	0	609	222	3427	57974	0	0	0	0	0	0	71198
18 FAU	0	0	0	0	0	0	0	1039	1711	4503	0	0	0	0	0	0	0	15448	577	0	0	0	0	23278
19 STA	0	0	0	0	0	268	0	494	0	1743	0	0	0	0	0	0	0	47504	0	14925	0	0	0	64933
20 CL/JF	0	0	0	0	0	0	0	148	1009	0	831	0	0	0	0	0	0	79	0	18088	0	0	0	20155
21 SP/FB	0	0	0	0	0	0	0	0	0	2121	0	0	0	0	0	0	0	0	3978	0	57282	0	0	63381
22 KGEO	0	0	0	0	0	0	0	0	0	179	0	0	0	122	0	0	0	0	817	0	1289	2472	0	4878
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	43130	97279	449946	332009	4901	86326	58405	557826	118644	227605	98554	83672	138267	264140	43269	81891	18638	54586	18471	74254	2866	0	0	2882095

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Difference (Est-Obs) Motorized Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	639	1531	312	274	151	-1669	166	704	33	13	0	0	13	26	0	0	5	1	0	0	0	0	0	2199
2 DC NC	-875	-11956	-3798	-426	429	-718	1814	4972	-90	133	-918	0	429	-26	0	0	-137	6	0	0	0	0	0	-11162
3 MTG	-3401	1134	-6803	12893	-1154	97	-187	-1619	-10	-1853	743	316	677	226	0	0	-800	0	-143	1	0	0	118	
4 PG	-330	8708	4434	-14131	69	1393	2490	4966	-76	-89	-270	1	1785	-5515	-372	-235	-7483	3	0	0	0	-197	-4851	
5 ARLCR	-287	15	-167	28	-241	-294	320	887	20	12	0	0	0	2	0	0	1	0	0	0	0	0	296	
6 ARNCR	-304	1230	150	714	2163	-9124	-559	5054	92	219	-84	0	7	-351	0	0	56	1	0	0	0	0	-736	
7 ALX	-749	380	-185	-190	355	3363	-11603	4435	120	281	0	0	2	30	0	0	113	0	0	0	0	0	-3646	
8 FFX	1525	5859	1639	4087	686	8783	9600	-26068	-5826	-6732	180	0	116	339	0	5	827	72	-550	4	40	0	-5416	
9 LDN	136	517	293	530	123	147	543	-4561	-2981	-929	3848	72	55	108	0	0	110	157	-288	1098	3	0	-1019	
10 PW	305	459	227	481	167	1146	531	4137	1300	-9495	52	0	31	52	1	9	225	-1579	-612	7	-499	-197	-3250	
11 FRD	-218	18	2559	-230	5	52	-223	678	961	5	-4258	-484	1109	-146	0	0	0	0	0	41	0	0	-130	
12 CAR	0	-570	417	-845	0	1	0	28	-45	0	88	-801	-720	-252	0	0	0	0	0	0	0	0	-2698	
13 HOW	-181	-111	1210	2049	2	22	-155	139	10	2	854	247	-7193	5803	0	0	9	0	0	0	0	0	2708	
14 AAR	185	827	1871	-7138	-25	304	383	963	29	-174	6	-2137	211	4648	-545	43	22	0	0	0	0	0	-526	
15 CAL	-133	417	-901	-1810	26	207	52	-2309	8	21	0	0	50	-1784	956	3043	-1250	0	0	0	0	0	-3407	
16 STM	1	2	2	169	2	-376	42	-291	0	1	0	0	0	-881	-257	3454	-120	0	0	0	0	0	1747	
17 CHS	-540	117	-807	-4782	18	159	-930	976	15	21	0	4	-595	-53	-2567	5044	0	0	0	0	0	1	-3920	
18 FAU	40	54	53	46	5	57	32	1179	-1230	-1096	6	0	0	0	0	2	4440	-449	22	187	0	0	3348	
19 STA	219	368	171	376	47	257	704	6201	79	13940	0	0	0	7	0	1	67	570	-18587	0	-4775	29	-327	
20 CL/JF	1	1	894	0	1	12	1	700	4821	221	1474	64	98	4	0	0	101	0	-2149	0	0	0	6244	
21 SP/FB	16	9	40	11	15	173	228	3362	33	2532	0	0	0	0	0	0	157	-2132	0	-12899	3	0	-8453	
22 KGEO	1	2	0	51	1	19	46	542	0	707	0	0	0	-122	4	203	2533	33	-361	0	-314	997	4343	
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	
TOTAL	-3949	9013	1609	-7843	2845	4013	3295	5077	-2737	1722	-3326	-2722	1572	-267	3957	-775	3962	-23122	-976	-18259	637	0	-28537	

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Ratio (Est/Obs) Motorized Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.16	1.58	1.38	2.28	150.80	0.37	1.90	2.16	33.36	12.54	0	0	13.02	26.20	0	0	5.15	0.57	0	0	0	0	1.20	
2 DC NC	0.96	0.84	0.83	0.98	2.45	0.88	3.19	2.02	0.74	132.53	0.00	0	5.12	0.97	0.03	0	0.59	6.15	0	0	0	0	0.93	
3 MTG	0.47	1.10	0.98	2.69	0.06	1.18	0.40	0.60	0.92	0.00	1.50	315.89	1.18	1.11	0	0	0.08	0.34	0	0.65	0	0	1.00	
4 PG	0.91	2.21	1.27	0.95	1.38	3.11	23.74	3.16	0.59	0.51	0.00	1.25	1.51	0.62	0.04	0.18	0.50	2.78	0	0	0	0	0.99	
5 ARLCR	0.32	1.15	0.18	27.90	0.63	0.86	320.44	887.10	19.58	11.58	0.09	0	0.13	1.56	0	0	1.43	0.03	0	0	0	0	1.08	
6 ARNCR	0.88	1.91	1.23	8.01	2.80	0.84	0.93	1.29	1.41	218.99	0.10	0	7.08	0.14	0	0	55.58	0.71	0	0	0	0	0.99	
7 ALX	0.51	1.54	0.45	0.80	2.04	1.75	0.68	1.35	120.18	280.77	0.43	0	1.59	30.20	0	0.16	113.18	0.48	0	0	0.02	0	0.94	
8 FFX	1.71	50.26	1.88	6.47	1.74	1.74	2.01	0.94	0.58	0.54	179.74	0.37	116.04	3.57	0.41	4.95	7.28	72.04	0.00	3.51	39.68	0	0.99	
9 LDN	1.57	7.50	1.77	530.01	123.38	1.13	542.67	0.79	0.97	0.533848	35	71.58	54.55	107.84	0	0	110.02	156.84	0.00	3.87	2.94	0	0.99	
10 PW	304.91	459.48	226.73	481.05	167.49	2.56	1.32	1.17	7.17	0.95	52.41	0	31.28	51.50	0.91	9.02	225.23	0.49	0.16	7.08	0.34	0	0.99	
11 FRD	0.03	17.94	1.49	0.11	4.83	52.44	0.03	678.35	1.85	5.33	0.95	0.91	7.16	0.44	0	0	0	0.18	0	41.18	0	0	1.00	
12 CAR	0	0.00	2.00	0.02	0.10	1.11	0	27.80	0.55	0.03	1.05	0.99	0.72	0.34	0	0	0	0	0	0.18	0	0	0.97	
13 HOW	0.13	0.67	1.40	1.53	2.22	21.93	0.05	138.72	9.96	2.45	853.97	1.15	0.94	1.79	0	0	9.06	0	0	0.20	0	0	1.02	
14 AAR	3.57	3.951870	0.96	0.63	0.65	5.23	383.25	5.23	29.03	0.14	6.01	0.01	1.02	1.02	0.32	43.39	1.05	0	0	0	0	1.00		
15 CAL	0.44	416.97	0.20	0.65	25.64	206.64	1.21	0.27	7.77	21.08	0	0	50.29	0.47	1.04	2.75	0.55	0	0	0	0	0	0.92	
16 STM	0.68	2.29	1.56	168.99	1.89	0.04	41.79	0.25	0	1.01	0	0	0.14	0.00	0.51	1.09	0.97	0	0	0	0.27	0	1.04	
17 CHS	0.07	116.87	0.04	0.24	18.11	158.78	0.26	976.11	15.01	20.73	0	0	3.77	0.02	0.76	0.25	1.09	0.02	0	0	0	1.18	0.94	
18 FAU	40.44	54.23	52.68	45.94	4.58	57.08	31.68	2.13	0.28	0.76	6.08	0	0.12	0.09	0	0	1.90	1.29	0.22	21.59	186.69	0	1.14	
19 STA	219.29	367.79	170.95	375.77	47.05	1.96	703.80	13.56	79.09	9.00	0.03	0	0.36	6.60	0	0.63	67.17	570.15	0.61	0	0.68	29.09	0.99	
20 CL/JF	1.30	1.07	893.69	0.44	0.96	11.96	1.40	5.72	5.78	221.32	2.77	64.15	97.52	3.66	0	0	0	2.28	0	0.88	0	0	1.31	
21 SP/FB	15.91	9.15	39.67	11.22	14.50	172.95	228.133362	4.6	32.57	2.19	0	0	0	0	0	0	0.99	156.64	0.46	0	0.77	2.82	0.87	
22 KGEO	1.27	1.76	0.49	50.81	1.49	18.80	46.24	542.34	0.11	4.95	0	0	0	0.00	3.62	203.272533	0.8	33.28	0.56	0	0.76	1.40	1.89	
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	
TOTAL	0.91	1.09	1.00	0.98	1.58	1.05	1.06	1.01	0.98	0.99	1.02	0.97	0.98	1.01	0.99	1.09	0.99	1.21	0.58	0.95	0.75	1.22	0.99	

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Est Auto Occ.

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.46	1.46	1.50	1.42	1.48	1.48	1.49	1.51	1.62	1.52	0	0	1.52	1.55	0	0	1.48	1.78	0	0	0	0	0	1.47
2 DC NC	1.46	1.46	1.49	1.44	1.50	1.50	1.52	1.54	1.64	1.57	1.31	0	1.58	1.58	1.50	0	1.52	1.80	0	0	0	0	0	1.47
3 MTG	1.41	1.44	1.45	1.45	1.43	1.43	1.43	1.51	1.58	1.50	1.47	1.45	1.48	1.48	0	0	1.42	1.79	0	1.25	0	0	0	1.45
4 PG	1.44	1.44	1.50	1.45	1.46	1.48	1.51	1.56	1.73	1.59	1.53	1.47	1.51	1.50	1.42	1.42	1.47	2.26	0	0	0	0	0	1.46
5 ARLCR	1.44	1.44	1.47	1.42	1.46	1.46	1.48	1.50	1.61	1.55	1.50	0	1.08	1.41	0	0	1.39	1.50	0	0	0	0	0	1.47
6 ARNCR	1.44	1.44	1.44	1.41	1.45	1.45	1.46	1.47	1.58	1.51	1.33	0	1.27	1.41	0	0	1.41	1.61	0	0	0	0	0	1.46
7 ALX	1.44	1.45	1.41	1.43	1.46	1.46	1.45	1.48	1.63	1.52	1.43	0	1.17	1.41	0	1.14	1.45	1.71	0	0	1.00	0	0	1.46
8 FFX	1.42	1.43	1.43	1.43	1.45	1.45	1.46	1.45	1.46	1.46	1.46	1.48	1.39	1.49	0	1.52	1.47	1.46	1.27	1.33	1.39	0	0	1.45
9 LDN	1.42	1.40	1.46	1.44	1.48	1.48	1.49	1.48	1.45	1.46	1.48	1.47	1.51	1.55	0	0	1.54	1.46	1.50	1.47	1.49	0	0	1.45
10 PW	1.38	1.32	1.39	1.38	1.48	1.48	1.50	1.50	1.51	1.45	1.48	0	1.50	1.51	0	0	1.49	1.46	1.43	1.36	1.46	0	0	1.45
11 FRD	1.38	1.40	1.56	1.45	1.51	1.58	1.69	1.73	1.61	2.77	1.45	1.47	1.58	1.56	0	0	2.00	0	1.45	0	0	0	0	1.47
12 CAR	0	1.50	1.56	1.47	5.00	2.58	0	2.02	1.87	0.03	1.50	1.45	1.53	1.55	0	0	0	0	1.20	0	0	0	0	1.45
13 HOW	1.31	1.37	1.48	1.46	1.35	1.47	1.48	1.57	1.70	1.67	1.49	1.46	1.45	1.46	0	0	1.47	0	0	1.11	0	0	0	1.45
14 AAR	1.43	1.46	1.55	1.48	1.52	1.56	1.59	1.70	2.08	1.85	1.54	1.56	1.51	1.45	1.47	1.52	1.51	0	0	0	0	0	0	1.46
15 CAL	1.46	1.49	1.60	1.51	1.55	1.59	1.63	1.71	2.23	1.84	0	0	1.66	1.52	1.45	1.48	1.56	0	0	0	0	0	0	1.47
16 STM	1.48	1.51	2.23	1.54	1.54	1.62	1.64	1.76	0	2.46	0	0	3.50	1.75	1.52	1.45	1.56	0	0	0	0	1.50	0	1.46
17 CHS	1.41	1.37	1.58	1.47	1.52	1.55	1.56	1.62	1.98	1.69	0	0	1.78	1.60	1.45	1.46	1.45	0.02	0	0	0	1.46	0	1.45
18 FAU	1.38	1.39	1.50	1.49	1.46	1.46	1.51	1.59	1.56	1.52	1.50	0	1.50	1.50	0	0	1.57	1.46	1.47	1.45	1.48	0	0	1.48
19 STA	1.47	1.49	1.60	1.51	1.58	1.57	1.58	1.63	1.88	1.51	1.50	0	1.50	1.59	0	1.47	1.54	1.55	1.44	0	1.46	1.43	0	1.48
20 CL/JF	1.29	1.62	1.78	2.44	1.81	2.02	2.50	1.80	1.64	1.70	1.57	1.69	1.88	2.08	0	0	0	1.59	0	1.45	0	0	0	1.52
21 SP/FB	1.51	1.50	2.23	1.53	1.69	1.69	1.71	1.79	2.20	1.63	0	0	0	0	0	0	1.77	1.74	1.48	0	1.45	1.40	0	1.48
22 KGEO	1.55	1.52	3.06	1.62	1.91	2.00	1.88	1.92	2.20	1.76	0	0	0	0.05	1.58	1.55	1.59	1.88	1.51	0	1.52	1.44	0	1.55
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	1.45	1.45	1.46	1.45	1.46	1.46	1.47	1.46	1.46	1.46	1.45	1.46	1.46	1.45	1.45	1.46	1.46	1.46	1.45	1.45	1.45	1.44	0	1.46

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Obs Auto Occ.

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.32	1.26	1.00	0	0	1.00	2.00	1.18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.20
2 DC NC	1.46	1.27	1.52	1.27	1.00	1.22	1.26	1.50	1.35	0	921.84	0	1.00	1.65	0	0	1.00	0	0	0	0	0	0	1.34
3 MTG	1.09	1.33	1.40	1.43	2.00	1.00	1.00	1.36	1.00	3.00	1.53	0	3.05	2.20	0	0	2.00	0	1.00	0	0	0	0	1.41
4 PG	1.06	1.27	1.46	1.42	0	1.00	1.00	1.11	1.00	1.00	1.00	0	1.86	1.39	1.00	1.00	1.57	0	0	0	0	1.00	0	1.42
5 ARLCR	0	1.00	0	0	1.52	1.23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.29
6 ARNCR	1.06	1.10	1.00	1.00	1.00	1.29	1.38	1.36	2.00	0	1.00	0	0	2.00	0	0	0	0	0	0	0	0	0	1.30
7 ALX	1.81	1.60	1.00	1.79	1.00	1.59	1.24	1.45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.32
8 FFX	4.29	1.00	1.15	1.00	1.00	1.47	1.32	1.49	1.53	1.99	0	0	0	131.73	0	0	1.00	0	1.00	0	0	0	0	1.50
9 LDN	1.00	0	1.00	0	0	1.25	0	1.51	1.53	2.00	0	0	0	0	0	0	0	0	2.00	1.00	0	0	0	1.53
10 PW	0	0	0	0	0	1.00	1.24	1.86	1.00	1.60	0	0	0	0	0	0	0	2.66	2.35	0	1.00	2.00	0	1.62
11 FRD	0	0	1.70	2.00	0	0	1.00	0	1.40	0	1.34	1.45	1.00	2.00	0	0	0	0	0	0	0	0	0	1.36
12 CAR	0	3.00	2.00	2.97	0	0	0	0	99.39	0	2.71	1.50	1.63	1.00	0	0	0	0	0	0	0	0	0	1.53
13 HOW	1.00	1.00	1.36	1.21	0	0	1.00	0	0	0	0	0	1.36	1.41	1.80	0	0	0	0	0	0	0	0	1.41
14 AAR	0	1.00	0	1.52	0	1.00	0	1.00	0	1.00	0	2.00	2.53	1.41	1.00	0	1.00	0	0	0	0	0	0	1.44
15 CAL	0	0	3.00	1.49	0	0	1.00	3.22	0	0	0	0	0	1.40	1.50	1.73	1.63	0	0	0	0	0	0	1.58
16 STM	0	0	0	0	0	1.00	0	1.00	0	0	0	0	0	883.86	1.00	1.42	2.21	0	0	0	0	0	0	1.49
17 CHS	2.00	0	1.71	1.28	0	0	1.60	0	0	0	0	0	0	1.00	1.00	1.78	1.46	0	0	0	0	0	0	1.45
18 FAU	0	0	0	0	0	0	0	1.00	1.48	1.24	0	0	0	0	0	0	0	1.30	1.00	0	0	0	0	1.28
19 STA	0	0	0	0	0	1.00	0	1.36	0	1.00	0	0	0	0	0	0	0	0	1.74	0	1.73	0	0	1.70
20 CL/JF	0	0	0	0	0	0	0	1.00	1.86	0	1.35	0	0	0	0	0	0	1.00	0	1.35	0	0	0	1.36
21 SP/FB	0	0	0	0	0	0	0	0	0	1.59	0	0	0	0	0	0	0	0	1.14	0	1.60	0	0	1.56
22 KGEO	0	0	0	0	0	0	0	0	0	1.00	0	0	0	1.00	0	0	0	0	1.43	0	1.29	1.27	0	1.28
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	1.35	1.28	1.41	1.41	1.26	1.30	1.27	1.50	1.53	1.61	1.37	1.50	1.50	1.42	1.45	1.45	1.51	1.42	1.65	1.34	1.61	1.28	0	1.45

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Est Pct. Tran

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	10.1	14.5	11.5	2.3	14.2	20.1	10.5	2.0	0	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	11.2
2 DC NC	10.0	6.7	7.4	2.7	5.9	11.4	6.4	1.0	0	0.7	0	0	0.1	0.0	0	0	0.1	0	0	0	0	0	0	6.4
3 MTG	7.1	1.3	1.2	0.4	9.6	1.7	0.3	0.0	0	21.0	0	0	0.1	0.0	0	0	0	0	0	0	0	0	0	1.2
4 PG	7.9	2.1	2.1	0.7	6.5	3.2	0.8	0.1	0	1.0	0	0	0.2	0.1	0	0	0.0	0	0	0	0	0	0	0.9
5 ARLCR	18.7	2.2	2.0	0	0.9	8.0	3.3	1.1	0	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	5.2
6 ARNCR	8.0	0.5	0.3	0	2.5	2.3	2.2	1.2	0	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	2.0
7 ALX	5.6	0.1	0.1	0	1.1	2.4	1.3	1.1	0	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	1.4
8 FFX	2.0	0.2	0.9	0.5	0.2	0.7	0.6	0.4	0.1	0.9	0.9	0	8.8	0.9	100.0	91.7	2.5	0	0	0	0.6	0	0	0.4
9 LDN	0.5	0	0	0	0	0	0	0.1	0.1	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
10 PW	4.0	7.1	33.7	11.4	4.7	4.8	2.8	2.2	3.0	0.2	7.1	0	76.4	28.9	100.0	100.0	22.3	0	0	0	0.2	0	0	0.7
11 FRD	1.4	0	0.0	0	0	0	0	0.0	0	5.1	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0.1
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
13 HOW	1.0	0	0.0	0.1	0	0	0	1.9	0	98.0	0	0	0.0	0.0	0	0	0	0	0	0	0	0	0	0.0
14 AAR	1.6	0.0	0.0	0.0	0	0.0	0.0	1.0	0	13.5	0	0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0.0
15 CAL	0.7	0.0	0.0	0	0	0.0	0.0	0.1	0	3.3	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
17 CHS	0.4	0	0	0.0	0	0.0	0	0.1	0	3.4	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0.2
18 FAU	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
19 STA	0	0	0	0	0	0	0	0.4	0	0	0	0	0	0	0.4	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	1.9	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
22 KGEO	0	0	0	0	0	0	0	2.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
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	8.4	4.9	1.5	0.7	2.5	2.8	1.4	0.5	0.1	0.2	0.1	0	0.1	0.0	0.0	0.0	0.2	0	0	0	0.0	0	0	0.9

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBS Trips MODE: Obs Pct. Tran

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	28.2	46.0	62.4	100.0	0	39.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37.1
2 DC NC	64.1	18.8	5.2	17.5	64.8	13.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.8
3 MTG	72.7	10.8	1.3	0	0	0	34.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.5
4 PG	42.2	17.6	1.1	1.5	100.0	37.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.2
5 ARLCR	100.0	0	100.0	0	0	20.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30.3
6 ARNCR	34.9	15.1	0	0	17.5	4.6	0	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.9
7 ALX	42.0	0	0	0	60.9	5.0	1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.9
8 FFX	52.5	0	0	0	0	7.7	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7
9 LDN	0	100.0	0	0	0	16.5	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4
10 PW	0	0	0	0	0	43.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
11 FRD	100.0	0	0	0	0	0	0	0	0	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0.6
12 CAR	0	0	0	0	0	0	0	0	0	0	0	0.9	0	0	0	0	0	0	0	0	0	0	0	0.8
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	100.0	0	0	0	100.0	0	0	0	0	0	0	0	0	0.5	0	0	0	0	0	0	0	0	0	0.5
15 CAL	100.0	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	1.4	0	0	0	0	0	0	0	1.2
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	56.5	18.2	1.6	2.2	17.6	7.8	1.2	0.4	0.2	0	0.4	0.8	0	0.4	0	1.2	0	0	0	0	0.6	0	0	2.4

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Est Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	4197	4014	525	68	470	774	178	220	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10447
2 DC NC	28456	29619	5665	1698	1695	2832	848	861	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	71687
3 MTG	5044	2400	23808	610	248	174	15	136	0	60	0	5	0	0	0	0	0	0	0	0	0	0	0	32501
4 PG	8790	5554	3056	7846	694	752	261	231	0	49	0	0	27	10	0	0	1	0	0	0	0	0	0	27272
5 ARLCR	580	55	15	1	65	477	55	68	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1317
6 ARNCR	6433	498	86	7	679	4209	682	895	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	13510
7 ALX	2029	189	23	1	150	913	1895	547	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	5763
8 FFX	5003	543	150	45	413	1910	1246	5769	9	340	1	0	4	1	6	4	6	0	0	0	11	0	0	15462
9 LDN	210	14	3	0	12	30	2	120	256	70	0	0	0	0	0	0	0	0	0	0	0	0	0	717
10 PW	250	132	165	90	42	165	142	1035	55	968	1	0	7	3	11	8	12	0	0	0	21	0	0	3107
11 FRD	6	1	1	0	2	1	0	5	0	4	369	0	0	0	0	0	0	0	0	0	0	0	0	389
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	109	24	28	20	16	10	0	98	0	46	0	0	187	2	0	0	0	0	0	0	0	0	0	541
14 AAR	367	67	20	22	87	57	6	363	0	64	0	0	6	20	0	0	0	0	0	0	0	0	0	1080
15 CAL	8	2	0	0	2	2	0	3	0	2	0	0	0	0	20	0	0	0	0	0	0	0	0	39
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	29	2	0	0	0	0	0	0	32
17 CHS	88	14	1	1	34	27	6	31	0	20	0	0	0	0	0	31	0	248	0	0	0	0	0	470
18 FAU	0	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
19 STA	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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
21 SP/FB	0	0	0	0	0	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
22 KGEO	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
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	61571	43126	33546	10410	4609	12332	5338	10438	321	1672	372	0	236	37	37	42	271	0	0	0	32	0	0	184390

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Obs Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	3850	4640	619	0	382	1050	0	0	191	0	0	0	0	215	0	0	0	0	0	0	0	0	0	10946
2 DC NC	32523	50046	3518	4528	281	1933	295	406	922	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94451
3 MTG	13185	3484	13506	1994	918	437	549	124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34197
4 PG	9453	7084	1483	16013	608	653	0	895	0	0	0	0	608	0	0	0	0	0	0	0	0	0	0	36798
5 ARLCR	1146	0	0	0	0	204	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1350
6 ARNCR	6581	1304	209	0	225	2639	0	880	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11837
7 ALX	1518	449	0	0	210	0	1573	178	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3928
8 FFX	7616	767	905	0	0	821	119	3409	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13638
9 LDN	651	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	731
10 PW	996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	996
11 FRD	255	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	255
12 CAR	0	0	0	0	417	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	417
13 HOW	883	673	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1555
14 AAR	216	688	0	0	0	0	0	0	0	0	0	0	0	2565	0	0	0	0	0	0	0	0	0	3469
15 CAL	498	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	498
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	412	0	0	0	0	0	0	412
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	79369	69214	20240	22535	3041	7737	2536	5891	1113	0	0	0	608	2780	0	0	412	0	0	0	0	0	0	215477

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Difference (Est-Obs) Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	348	-626	-94	68	88	-277	178	220	-191	1	0	0	0	-215	0	0	0	0	0	0	0	0	0	-499
2 DC NC	-4067	-20426	2146	-2830	1414	899	554	456	-922	12	0	0	0	0	0	0	0	0	0	0	0	0	0	-22765
3 MTG	-8140	-1084	10302	-1384	-670	-263	-534	11	0	60	0	0	5	0	0	0	0	0	0	0	0	0	0	-1696
4 PG	-664	-1530	1573	-8167	86	99	261	-664	0	49	0	0	-581	10	0	0	1	0	0	0	0	0	0	-9526
5 ARLCR	-566	55	15	1	65	273	55	68	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	-33
6 ARNCR	-148	-806	-123	7	455	1571	682	15	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	1673
7 ALX	511	-260	23	1	-60	913	322	369	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	1835
8 FFX	-2613	-224	-755	45	413	1089	1127	2360	9	340	1	0	4	1	6	4	6	0	0	0	11	0	0	1824
9 LDN	-441	-66	3	0	12	30	2	120	256	70	0	0	0	0	0	0	0	0	0	0	0	0	0	-14
10 PW	-746	132	165	90	42	165	142	1035	55	968	1	0	7	3	11	8	12	0	0	0	21	0	0	2111
11 FRD	-249	1	1	0	2	1	0	5	0	4	369	0	0	0	0	0	0	0	0	0	0	0	0	134
12 CAR	0	0	0	0	-417	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-417
13 HOW	-773	-648	28	20	16	10	0	98	0	46	0	0	187	2	0	0	0	0	0	0	0	0	0	-1014
14 AAR	151	-621	20	22	87	57	6	363	0	64	0	0	6	-2545	0	0	0	0	0	0	0	0	0	-2389
15 CAL	-490	2	0	0	2	2	0	3	0	2	0	0	0	0	20	0	0	0	0	0	0	0	0	-459
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	29	2	0	0	0	0	0	0	32
17 CHS	88	14	1	1	34	27	6	31	0	20	0	0	0	0	0	-163	0	0	0	0	0	0	0	58
18 FAU	0	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
19 STA	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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
21 SP/FB	0	0	0	0	0	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
22 KGEO	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
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	-17798	-26088	13306	-12125	1568	4595	2802	4547	-792	0	0	0	-372	-2743	0	-141	0	0	0	0	0	0	0	-31087

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Ratio (Est/Obs) Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.09	0.87	0.85	68.32	1.23	0.74	178.16	220.09	0	0.73	0	0	0	0	0	0	0	0	0	0	0	0	0	0.95
2 DC NC	0.87	0.59	1.61	0.38	6.03	1.47	2.88	2.12	0	11.71	0	0	0.20	0	0	0	0	0	0	0	0	0	0	0.76
3 MTG	0.38	0.69	1.76	0.31	0.27	0.40	0.03	1.09	0	60.44	0.05	0	5.28	0.13	0	0	0	0	0	0	0	0	0	0.95
4 PG	0.93	0.78	2.06	0.49	1.14	1.15	261.39	0.26	0	49.47	0	0	0.04	9.97	0	0	1.32	0	0	0	0	0	0	0.74
5 ARLCR	0.51	54.69	15.17	1.03	65.19	2.33	55.40	67.81	0	0.63	0	0	0	0	0	0	0	0	0	0	0	0	0	0.98
6 ARNCR	0.98	0.38	0.41	7.17	3.02	1.60	681.70	1.02	0	20.55	0	0	0	0	0	0	0	0	0	0	0	0	0	1.14
7 ALX	1.34	0.42	23.29	1.46	0.72	912.96	1.20	3.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.47
8 FFX	0.66	0.71	0.17	45.27	412.81	2.33	10.48	1.69	9.16	340.00	0.78	0	3.57	1.23	5.68	4.30	6.49	0	0.06	0	10.85	0	0	1.13
9 LDN	0.32	0.17	3.30	0.02	11.85	29.69	2.25	119.85	256.27	70.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0.98
10 PW	0.25	132.05	164.78	89.72	41.50	164.77	141.54	1035.06	55.27	967.87	1.49	0	7.39	3.10	10.77	7.97	12.46	0	0.13	0	21.13	0	0	3.12
11 FRD	0.02	0.70	1.38	0	1.56	0.82	0.02	5.28	0	3.53	369.18	0	0	0	0	0	0	0	0	0	0	0	0	1.52
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	0.12	0.04	27.97	20.31	15.60	9.67	0.41	98.27	0	46.28	0	0	186.93	2.23	0	0	0	0	0	0	0	0	0	0.35
14 AAR	1.70	0.10	19.61	21.93	87.45	56.81	6.42	363.16	0	64.33	0	0	6.22	0.01	0.21	0	0	0	0	0	0	0	0	0.31
15 CAL	0.02	1.51	0.14	0	2.34	1.73	0.34	2.94	0	1.92	0	0	0	0	19.68	0.09	0	0	0	0	0	0	0	0.08
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.69	29.39	2.16	0	0	0	0	0	0	32.24
17 CHS	88.21	13.90	1.22	0.79	33.57	27.08	5.94	31.11	0	19.60	0	0	0	0	0	0.25	0.60	0	0	0	0	0	0	1.14
18 FAU	0.41	0	0	0	0	0	0	17.76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.17
19 STA	0	0	0	0	0	0	0	6.58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.58
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	0.01	0.01	0.02	28.17	0	0.14	0	0	0	0	0	0	0	0	0	0	0	0	0	28.35
22 KGEO	0	0	0	0	0	0	0	3.74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.74
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	0.78	0.62	1.66	0.46	1.52	1.59	2.11	1.77	0.29	0	0	0	0.39	0.01	0	0	0.66	0	0	0	0	0	0	0.86

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Est Auto Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	14014	11130	1819	829	300	1313	747	2513	56	19	0	0	15	25	0	0	8	3	6	0	2	0	0	32799
2 DC NC	66828	187537	33962	26564	2585	9650	6500	20049	493	240	27	2	651	831	33	6	246	27	93	1	48	2	0	356376
3 MTG	15172	48730	886150	41834	918	3891	1476	13491	693	114	7260	1873	10274	5368	93	23	351	59	207	410	292	18	0	1038697
4 PG	18834	84099	61260	512589	1882	7359	10206	24870	461	408	20	28	10755	16340	1670	867	12078	38	261	0	138	123	0	764286
5 ARLCR	141	505	168	65	1547	3008	529	1392	39	25	0	0	0	0	0	0	1	4	0	3	0	0	0	7426
6 ARNCR	6472	10975	3493	1929	16464	90337	13784	37152	813	684	4	0	6	30	1	2	28	29	154	1	147	4	0	182509
7 ALX	3554	5450	1013	1852	3384	13059	57406	27841	320	818	0	0	2	17	2	7	67	14	196	0	163	8	0	115173
8 FFX	21267	30868	14460	12447	8593	44750	46755	934338	21637	21433	128	11	96	307	46	60	628	1397	4390	283	4896	257	0	1169045
9 LDN	1913	2496	1905	954	498	2263	1167	32487	208192	2108	2003	133	25	54	1	0	43	923	246	8312	391	9	0	266124
10 PW	1314	1712	530	555	559	2505	3224	44695	2928	331725	8	0	1	8	1	0	30	6027	9721	135	6912	233	0	412823
11 FRD	164	322	23332	130	124	588	179	5465	7257	71	184897	8699	3097	273	0	0	1	14	1	3130	1	0	0	237746
12 CAR	12	38	6224	108	13	60	12	536	391	2	4568	137187	6340	314	0	0	0	0	0	72	0	0	0	155878
13 HOW	441	1919	13950	10083	69	288	178	1416	119	11	1854	4997	227344	18702	16	1	40	1	2	105	2	1	0	281541
14 AAR	1975	6059	8163	22486	497	1818	1744	5626	263	149	62	160	24499	453257	3514	210	430	4	25	3	14	9	0	530966
15 CAL	216	515	302	1819	99	361	561	1517	15	30	0	0	35	1475	88650	2214	766	0	2	0	1	10	0	98589
16 STM	124	271	61	1498	81	286	702	1421	14	21	0	0	5	85	4608	78547	8150	0	14	0	20	254	0	96162
17 CHS	642	1430	464	5119	301	1205	2290	6462	114	175	0	0	31	109	1793	2861	112048	3	24	0	23	831	0	135923
18 FAU	48	41	19	10	12	50	33	2599	724	3175	2	0	0	2	0	0	3	41673	1255	177	639	20	0	50483
19 STA	40	31	29	5	33	158	235	2977	39	4673	0	0	0	0	0	0	1	820	86608	0	13491	359	0	109498
20 CL/JF	3	11	1582	2	8	34	6	2159	8311	315	1092	20	86	2	0	0	0	502	0	41324	1	0	0	55456
21 SP/FB	16	10	31	0	27	158	220	3105	22	2571	0	0	0	0	0	0	0	234	10092	0	97939	118	0	114543
22 KGEO	1	4	1	29	3	16	45	557	1	693	0	0	0	0	3	12	384	45	2225	0	1683	15216	0	20918
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	153192		1058915		37996		147999		252903		201925		283260		100431		135301		115525		126807		0	6232959
		394151		640909		183156		1172667		369462		153111		497200		84810		51813		53953		17471		

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Obs Auto Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	6359	6924	577	645	0	1000	713	928	0	0	0	0	382	349	0	0	0	0	0	0	0	0	0	17876
2 DC NC	52490	205127	43700	12685	423	5921	2551	11689	2307	169	0	0	196	630	185	0	353	0	0	0	185	0	0	338612
3 MTG	13775	44043	921835	19289	303	1408	1310	15607	3807	620	4654	476	6388	3353	0	0	232	0	0	0	1860	0	0	1038960
4 PG	14408	57502	64165	555349	0	5275	5901	6425	1495	681	0	532	7921	23459	5711	0	11760	0	0	0	0	0	0	760585
5 ARLCR	0	209	105	0	630	1631	204	539	0	0	0	0	0	225	0	0	0	0	0	0	0	0	0	3544
6 ARNCR	14435	7302	2613	407	6386	115407	8868	27250	206	210	0	0	556	0	0	0	522	102	0	0	0	0	0	184266
7 ALX	4032	3769	946	709	1074	8825	67718	24992	399	0	0	0	0	1100	0	0	0	266	0	0	0	0	0	113829
8 FFX	13491	11056	11896	4337	1261	36090	340001027792	20097	17297	980	0	236	383	0	0	0	0	0	1106	942	238	0	0	1181200
9 LDN	2082	464	2449	0	0	2751	929	33112	222103	549	1757	0	0	293	0	0	0	1676	0	256	0	0	0	268420
10 PW	676	465	1883	186	318	6288	3962	41437	4198	358818	0	0	0	0	0	197	0	1813	653	0	0	0	0	420893
11 FRD	450	1431	14174	505	322	0	360	627	701	0	200636	12452	4260	2912	0	0	0	0	0	0	395	0	0	239227
12 CAR	0	0	2271	915	0	0	0	99	0	0	1769	144267	5689	490	0	0	0	0	0	0	0	0	0	155501
13 HOW	1070	838	8149	9880	0	689	163	673	0	0	163	2395	242333	13234	0	0	138	570	0	0	0	0	0	280293
14 AAR	612	6364	12994	22934	72	448	72	2236	0	0	372	0	22521	458392	1930	0	679	0	0	0	0	0	0	529626
15 CAL	995	512	0	1605	0	0	0	0	0	0	0	0	239	3063	88837	2994	512	0	0	0	0	0	0	98758
16 STM	230	448	0	2174	0	0	0	0	0	0	0	0	0	526	6793	81100	5996	0	459	0	0	0	0	97726
17 CHS	1718	3254	289	13259	695	809	1443	436	251	0	0	0	145	797	1731	3076	108502	0	0	0	289	289	0	136984
18 FAU	0	577	334	0	215	0	0	2008	2764	3514	0	0	0	0	0	0	0	38959	0	2646	0	0	0	51018
19 STA	0	0	131	0	131	451	0	914	0	6312	0	0	0	0	0	0	0	0	69227	0	33048	0	0	110215
20 CL/JF	0	0	157	0	0	0	0	732	5110	79	655	0	79	0	0	0	0	0	0	46227	0	0	0	53038
21 SP/FB	0	0	297	0	1135	0	0	734	0	3640	0	0	0	0	0	0	617	0	0	12776	617	83727	258	103801
22 KGEO	0	164	0	0	0	0	0	118	0	0	0	0	0	0	0	0	0	0	2545	0	3339	14891	0	21058
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	126823		1088965		12965		128195		263438		210984		290942		105187		128695		86767		122686		0	6205428
		350450		644878		186994		1198349		391888		160123		509206		87983		43386		51083		15439		

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Difference (Est-Obs) Auto Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	7655	4206	1242	184	300	313	35	1585	56	19	0	0	-367	-324	0	0	8	3	6	0	2	0	0	14923
2 DC NC	14338	-17590	-9738	13879	2162	3730	3949	8360	-1814	71	27	2	455	200	-151	6	-107	27	93	1	-136	2	0	17765
3 MTG	1397	4687	-35685	22546	615	2482	166	-2116	-3114	-506	2606	1397	3886	2015	93	23	119	59	207	410	-1568	18	0	-263
4 PG	4426	26597	-2905	-42759	1882	2084	4305	18444	-1035	-272	20	-504	2834	-7119	-4041	867	318	38	261	0	138	123	0	3700
5 ARLCR	141	295	63	65	917	1377	324	853	39	25	0	0	0	-225	0	0	0	1	4	0	3	0	0	3882
6 ARNCR	-7963	3673	880	1522	10078	-25071	4916	9901	606	474	4	0	-550	30	1	2	-494	-73	154	1	147	4	0	-1756
7 ALX	-478	1682	67	1143	2310	4234	-10312	2849	-79	818	0	0	2	-1083	2	7	67	-252	196	0	163	8	0	1344
8 FFX	7776	19813	2564	8110	7332	8659	12755	-93454	1540	4136	-852	11	-140	-76	46	60	628	1397	3284	-660	4659	257	0	-12155
9 LDN	-169	2032	-544	954	498	-488	238	-625	-13911	1560	246	133	25	-239	1	0	43	-753	246	8056	391	9	0	-2296
10 PW	638	1246	-1353	369	241	-3783	-738	3258	-1270	-27093	8	0	1	8	1	-197	30	4214	9068	135	6912	233	0	-8070
11 FRD	-286	-1110	9158	-374	-199	588	-182	4837	6556	71	-15738	-3753	-1163	-2638	0	0	1	14	1	2735	1	0	0	-1481
12 CAR	12	38	3953	-807	13	60	12	437	391	2	2799	-7080	651	-176	0	0	0	0	0	72	0	0	0	378
13 HOW	-629	1080	5801	202	69	-401	15	744	119	11	1691	2602	-14989	5469	16	1	-98	-569	2	105	2	1	0	1247
14 AAR	1363	-305	-4831	-447	425	1370	1672	3390	263	149	-310	160	1978	-5136	1584	210	-249	4	25	3	14	9	0	1340
15 CAL	-779	2	302	214	99	361	561	1517	15	30	0	0	-204	-1589	-188	-780	254	0	2	0	1	10	0	-170
16 STM	-106	-177	61	-676	81	286	702	1421	14	21	0	0	5	-442	-2186	-2553	2154	0	-445	0	20	254	0	-1564
17 CHS	-1075	-1824	174	-8141	-394	396	847	6025	-136	175	0	0	-114	-688	63	-215	3546	3	24	0	-267	542	0	-1060
18 FAU	48	-536	-315	10	-204	50	33	591	-2039	-339	2	0	0	2	0	0	3	2714	1255	-2469	639	20	0	-535
19 STA	40	31	-103	5	-98	-293	235	2063	39	-1639	0	0	0	0	0	1	820	17380	0	-19557	359	0	0	-717
20 CL/JF	3	11	1424	2	8	34	6	1427	3201	237	437	20	7	2	0	0	0	502	0	-4903	1	0	0	2418
21 SP/FB	16	10	-266	0	-1107	158	220	2371	22	-1069	0	0	0	0	0	-617	0	234	-2684	-617	14212	-140	0	10741
22 KGEO	1	-160	1	29	3	16	45	439	1	693	0	0	0	0	3	12	384	45	-319	0	-1656	324	0	-139
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	26370	43701	-30050	-3969	25031	19803	-10535	-22426	-9060	-7012	-7682	-12006	-4756	-3173	6606	8427	28758	2870	4121	2033	0	0	0	27531

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Ratio (Est/Obs) Auto Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	2.20	1.61	3.15	1.29	300.06	1.31	1.05	2.71	55.98	19.09	0.03	0	0.04	0.07	0.18	0.31	7.51	2.63	6.47	0	2.12	0	0	1.83
2 DC NC	1.27	0.91	0.78	2.09	6.12	1.63	2.55	1.72	0.21	1.42	26.60	1.86	3.32	1.32	0.18	5.97	0.70	27.17	92.89	0.78	0.26	1.52	0	1.05
3 MTG	1.10	1.11	0.96	2.17	3.03	2.76	1.13	0.86	0.18	0.18	1.56	3.94	1.61	1.60	92.96	22.89	1.51	59.14	206.55	409.96	0.16	17.81	0	1.00
4 PG	1.31	1.46	0.95	0.921881	1.77	1.40	1.73	3.87	0.31	0.60	20.11	0.05	1.36	0.70	0.29	867.28	1.03	37.55	260.56	0	137.68	122.96	0	1.00
5 ARLCR	141.33	2.41	1.60	64.61	2.46	1.84	2.59	2.58	38.55	25.07	0	0	0.03	0.00	0	0	0.30	0.61	4.35	0	2.86	0.06	0	2.10
6 ARNCR	0.45	1.50	1.34	4.74	2.58	0.78	1.55	1.36	3.94	3.26	4.11	0	0.01	29.76	0.84	1.79	0.05	0.28	154.04	1.48	146.79	4.49	0	0.99
7 ALX	0.88	1.45	1.07	2.61	3.15	1.48	0.85	1.11	0.80	818.15	0	0	1.61	0.02	2.10	7.47	66.74	0.05	195.53	0.04	163.30	8.19	0	1.01
8 FFX	1.58	2.79	1.22	2.87	6.82	1.24	1.38	0.91	1.08	1.24	0.13	10.75	0.41	0.80	45.53	59.64	628.041397	4.2	3.97	0.30	20.59	256.69	0	0.99
9 LDN	0.92	5.38	0.78	954.30	497.79	0.82	1.26	0.98	0.94	3.84	1.14	133.10	25.17	0.18	1.33	0.20	43.03	0.55	245.65	32.50	391.25	9.13	0	0.99
10 PW	1.94	3.68	0.28	2.99	1.76	0.40	0.81	1.08	0.70	0.92	8.33	0.15	0.66	8.48	0.69	0.00	30.21	3.32	14.88	135.036911	7.5	233.30	0	0.98
11 FRD	0.36	0.22	1.65	0.26	0.38	587.87	0.50	8.71	10.35	71.01	0.92	0.70	0.73	0.09	0.09	0	0.66	13.81	1.21	7.92	1.47	0	0	0.99
12 CAR	11.74	37.79	2.74	0.12	13.41	59.89	12.04	5.40	391.43	1.81	2.58	0.95	1.11	0.64	0	0	0	0.25	0	72.41	0	0	0	1.00
13 HOW	0.41	2.29	1.71	1.02	69.36	0.42	1.09	2.11	119.20	11.20	11.40	2.09	0.94	1.41	16.29	1.48	0.29	0.00	1.53	105.05	2.45	0.75	0	1.00
14 AAR	3.23	0.95	0.63	0.98	6.90	4.06	24.23	2.52	263.05	149.20	0.17	159.80	1.09	0.99	1.82	210.10	0.63	4.08	25.00	3.11	13.82	8.92	0	1.00
15 CAL	0.22	1.00	302.47	1.13	99.21	360.97	561.191517	0.8	15.17	29.82	0	0	0.15	0.48	1.00	0.74	1.49	0.33	1.72	0	0.77	9.93	0	1.00
16 STM	0.54	0.60	61.01	0.69	80.63	286.19	702.151420	0.72	14.22	21.17	0	0	4.70	0.16	0.68	0.97	1.36	0.12	0.03	0	20.17	254.46	0	0.98
17 CHS	0.37	0.44	1.60	0.39	0.43	1.49	1.59	14.81	0.46	174.68	0	0	0.21	0.14	1.04	0.93	1.03	2.78	23.69	0	0.08	2.87	0	0.99
18 FAU	47.65	0.07	0.06	10.24	0.06	50.31	32.99	1.29	0.26	0.90	1.96	0.03	0.45	1.77	0.03	0	2.90	1.071254	9.6	0.07	639.42	20.14	0	0.99
19 STA	40.07	30.72	0.22	4.93	0.25	0.35	234.88	3.26	38.94	0.74	0	0	0	0.18	0	0.14	1.18	819.82	1.25	0	0.41	358.95	0	0.99
20 CL/JF	2.67	10.94	10.06	1.64	8.09	34.24	5.65	2.95	1.63	4.01	1.67	20.14	1.09	2.17	0	0	501.51	0.42	0.89	0.74	0	0	0	1.05
21 SP/FB	15.86	9.58	0.10	0.39	0.02	157.69	220.03	4.23	22.22	0.71	0	0	0	0.02	0	0	234.00	0.79	0	1.17	0.46	0	0	1.10
22 KGEO	0.84	0.02	0.55	28.73	3.45	16.05	45.47	4.72	1.36	693.33	0	0	0.02	0.19	2.62	11.62	383.90	45.47	0.87	0	0.50	1.02	0	0.99
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	1.21	1.12	0.97	0.99	2.93	0.98	1.15	0.98	0.96	0.94	0.96	0.96	0.97	0.98	0.95	0.96	1.05	1.19	1.33	1.06	1.13	0	0	1.00

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Est Auto Driver

ORIGIN	DESTINATION																							TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1 DC CR	8518	6774	1089	517	182	781	439	1470	32	12	0	0	10	16	0	0	5	2	4	0	1	0	0	19850	
2 DC NC	40636	114636	20454	16392	1543	5670	3769	11569	277	145	17	1	384	494	21	4	151	15	57	1	30	1	0	216268	
3 MTG	9564	30256	544183	25631	568	2369	884	7822	397	69	4374	1124	6197	3212	57	14	212	34	124	238	172	11	0	637513	
4 PG	11556	51925	36104	315072	1130	4313	5930	13940	251	238	13	18	6415	9816	1005	516	7371	20	154	0	83	72	0	465941	
5 ARLCR	88	308	101	40	951	1817	316	824	22	15	0	0	0	0	0	0	0	0	3	0	2	0	0	4487	
6 ARNCR	4059	6752	2114	1189	10261	55415	8371	22379	468	411	3	0	4	19	1	1	17	17	93	1	88	3	0	111666	
7 ALX	2216	3347	600	1140	2107	7999	34964	16640	179	486	0	0	1	11	1	5	41	8	116	0	96	5	0	69963	
8 FFX	13311	19177	8744	7574	5391	27786	28533	569871	13112	13018	79	7	60	188	29	36	384	832	2594	165	2840	151	0	713882	
9 LDN	1170	1521	1139	579	303	1368	692	19410	128076	1274	1214	80	16	32	1	0	26	555	144	4998	223	5	0	162827	
10 PW	818	1055	317	346	336	1488	1878	26142	1717	204422	5	0	0	5	0	0	19	3644	5832	80	4067	137	0	252312	
11 FRD	96	185	12871	77	66	311	94	2728	3980	38	113598	5276	1748	156	0	0	0	0	8	1	1855	1	0	143086	
12 CAR	7	21	3249	57	7	30	6	265	195	1	2671	84807	3566	171	0	0	0	0	0	41	0	0	0	95095	
13 HOW	273	1170	8308	6126	41	166	101	763	64	6	1105	3038	140155	11358	10	1	24	1	1	60	2	0	0	172771	
14 AAR	1165	3583	4577	13386	282	1004	947	2929	135	80	36	94	14456	278568	2130	122	254	2	14	2	8	5	0	323779	
15 CAL	117	286	149	1020	52	183	280	736	7	15	0	0	18	862	54821	1326	437	0	1	0	0	6	0	60316	
16 STM	61	134	29	759	39	137	329	680	7	11	0	0	2	41	2676	48317	4575	0	8	0	11	148	0	57964	
17 CHS	363	829	239	3060	166	646	1240	3347	59	95	0	0	17	62	1084	1729	69267	2	14	0	13	494	0	82723	
18 FAU	30	26	12	6	7	30	19	1384	411	1854	1	0	0	1	0	0	2	25594	754	106	378	12	0	30626	
19 STA	24	18	13	3	17	78	119	1515	19	2713	0	0	0	0	0	1	487	53511	0	8212	218	0	0	66948	
20 CL/JF	1	5	728	1	4	15	2	1010	4360	159	598	11	40	1	0	0	0	0	280	0	25423	0	0	0	32638
21 SP/FB	5	3	9	0	12	65	98	1430	9	1341	0	0	0	0	0	0	0	127	6012	0	60419	71	0	69601	
22 KGEO	0	2	0	13	2	7	20	249	1	331	0	0	0	0	1	7	208	23	1272	0	964	9403	0	12502	
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	94078		645030		23465		89029		153778		123713		173088		61839		82997		70706		77610		0		
		242012		392988		111678		707104		226735		94455		305014		52078		31651		32970		10743		3802760	

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Obs Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	3799	5043	577	430	0	700	713	713	0	0	0	0	382	349	0	0	0	0	0	0	0	0	0	12705
2 DC NC	33984	117670	26270	10268	423	4076	1734	6887	1775	169	0	0	196	423	185	0	92	0	0	0	185	0	0	204337
3 MTG	10983	28524	563417	15426	303	1081	1310	12097	3337	0	2729	476	4446	2423	0	0	232	0	0	0	620	0	0	647404
4 PG	9285	38281	36521	326207	0	2721	2359	4722	929	681	0	351	5104	15367	3753	0	5923	0	0	0	0	0	0	452204
5 ARLCR	0	209	105	0	420	1180	204	427	0	0	0	0	0	225	0	0	0	0	0	0	0	0	0	2770
6 ARNCR	8491	4871	2205	204	3202	72730	6414	19143	206	210	0	0	556	0	0	0	522	102	0	0	0	0	0	118856
7 ALX	3143	1836	762	343	528	7513	43536	16648	399	0	0	0	0	367	0	0	0	266	0	0	0	0	0	75340
8 FFX	9777	7902	7954	4337	808	24462	21753	625837	14802	12689	980	0	236	383	0	0	0	0	553	471	119	0	0	733063
9 LDN	1938	464	2449	0	0	1675	929	21504	120655	256	586	0	0	293	0	0	0	1676	0	256	0	0	0	152678
10 PW	465	465	1461	186	318	4198	1833	23908	3144	212660	0	0	0	0	0	98	0	1392	555	0	0	0	0	250683
11 FRD	450	1208	7933	505	322	0	360	627	701	0	121398	6331	2524	1347	0	0	0	0	0	0	395	0	0	144101
12 CAR	0	0	1409	706	0	0	0	99	0	0	0	984	84806	3696	490	0	0	0	0	0	0	0	0	92191
13 HOW	397	838	5590	6337	0	413	163	673	0	0	163	1147	143757	9933	0	0	138	570	0	0	0	0	0	170119
14 AAR	409	3478	7698	14600	72	448	72	857	0	0	372	0	13902	291531	1523	0	679	0	0	0	0	0	0	335640
15 CAL	498	256	0	1366	0	0	0	0	0	0	0	0	239	1606	49297	2517	256	0	0	0	0	0	0	56035
16 STM	230	448	0	1648	0	0	0	0	0	0	0	0	0	263	2960	50085	4437	0	459	0	0	0	0	60529
17 CHS	1531	2207	289	7754	695	587	186	436	251	0	0	0	145	500	1731	2375	67361	0	0	0	145	145	0	86340
18 FAU	0	577	334	0	215	0	0	2008	1158	2632	0	0	0	0	0	0	0	25028	0	1323	0	0	0	33276
19 STA	0	0	131	0	131	451	0	783	0	4422	0	0	0	0	0	0	0	0	41803	0	18880	0	0	66602
20 CL/JF	0	0	157	0	0	0	0	732	3202	79	522	0	79	0	0	0	0	0	0	30054	0	0	0	34825
21 SP/FB	0	0	297	0	1135	0	0	734	0	2117	0	0	0	0	0	0	308	0	7705	308	52653	129	0	65387
22 KGEO	0	164	0	0	0	0	0	118	0	0	0	0	0	0	0	0	0	0	1735	0	2366	9444	0	13827
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	85380		665562		8572		81567		150559		127732		175260		59448		79640		52809		74968		0	
		214442		390316		122235		738953		235915		93111		325500		55383		29033		32808		9718		3808912

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Difference (Est-Obs) Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	4719	1731	512	87	182	81	-274	757	32	12	0	0	-372	-334	0	0	5	2	4	0	1	0	0	7144
2 DC NC	6651	-3034	-5816	6124	1120	1594	2034	4682	-1498	-24	17	1	188	72	-163	4	59	15	57	1	-154	1	0	11930
3 MTG	-1419	1732	-19234	10206	265	1288	-426	-4275	-2940	69	1645	648	1750	789	57	14	-20	34	124	238	-448	11	0	-9891
4 PG	2271	13644	-417	-11135	1130	1592	3570	9218	-678	-442	13	-334	1311	-5551	-2747	516	1448	20	154	0	83	72	0	13737
5 ARLCR	88	99	-4	40	531	637	112	397	22	15	0	0	0	-225	0	0	0	0	3	0	2	0	0	1717
6 ARNCR	-4433	1881	-91	985	7059	-17315	1957	3236	262	201	3	0	-552	19	1	1	-504	-84	93	1	88	3	0	-7190
7 ALX	-927	1511	-162	798	1579	487	-8573	-7	-220	486	0	0	1	-356	1	5	41	-258	116	0	96	5	0	-5376
8 FFX	3535	11274	790	3237	4583	3324	6780	-55966	-1690	329	-901	7	-175	-194	29	36	384	832	2041	-306	2721	151	0	-19180
9 LDN	-768	1058	-1310	579	303	-307	-238	-2094	7422	1019	629	80	16	-260	1	0	26	-1121	144	4742	223	5	0	10149
10 PW	353	590	-1144	160	18	-2710	45	2235	-1427	-8238	5	0	0	5	0	-98	19	2252	5277	80	4067	137	0	1629
11 FRD	-354	-1023	4938	-428	-256	311	-267	2101	3279	38	-7800	-1055	-776	-1191	0	0	0	8	1	1460	1	0	0	-1015
12 CAR	7	21	1840	-649	7	30	6	165	195	1	1687	1	-129	-319	0	0	0	0	0	41	0	0	0	2905
13 HOW	-124	332	2718	-212	41	-247	-62	91	64	6	942	1891	-3603	1425	10	1	-114	-569	1	60	2	0	0	2652
14 AAR	756	106	-3122	-1214	210	555	875	2072	135	80	-336	94	554	-12963	607	122	-424	2	14	2	8	5	0	-11861
15 CAL	-381	30	149	-346	52	183	280	736	7	15	0	0	-221	-744	5523	-1191	181	0	1	0	0	6	0	4281
16 STM	-169	-314	29	-889	39	137	329	680	7	11	0	0	2	-222	-284	-1768	138	0	-452	0	11	148	0	-2565
17 CHS	-1168	-1379	-50	-4694	-530	59	1054	2910	-192	95	0	0	-128	-439	-646	-646	1905	2	14	0	-131	349	0	-3616
18 FAU	30	-552	-323	6	-208	30	19	-624	-747	-778	1	0	0	1	0	0	2	566	754	-1217	378	12	0	-2649
19 STA	24	18	-118	3	-114	-373	119	732	19	-1709	0	0	0	0	0	0	1	487	11708	0	-10668	218	0	346
20 CL/JF	1	5	571	1	4	15	2	278	1158	80	76	11	-39	1	0	0	0	280	0	-4631	0	0	0	-2187
21 SP/FB	5	3	-288	0	-1122	65	98	696	9	-776	0	0	0	0	0	-308	0	127	-1694	-308	7766	-58	0	4214
22 KGEO	0	-162	0	13	2	7	20	131	1	331	0	0	0	0	1	7	208	23	-463	0	-1403	-42	0	-1326
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	8698	27570	-20532	2672	14892	-10557	7462	-31849	3219	-4019	1345	-20486	2391	-2172	3356	-3305	3356	2618	17897	163	2642	1025	0	-6152

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Ratio (Est/Obs) Auto Driver

ORIGIN	DESTINATION																							TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1 DC CR	2.24	1.34	1.89	1.20	181.51	1.12	0.62	2.06	32.19	11.84	0.02	0	0.02	0.04	0.12	0.20	4.79	1.53	4.15	0	1.40	0	0	1.56	
2 DC NC	1.20	0.97	0.78	1.60	3.65	1.39	2.17	1.68	0.16	0.86	16.74	1.22	1.96	1.17	0.11	3.78	1.64	15.40	57.09	0.52	0.16	0.96	0	1.06	
3 MTG	0.87	1.06	0.97	1.66	1.87	2.19	0.67	0.65	0.12	69.30	1.60	2.36	1.39	1.33	57.44	14.40	0.92	33.99	123.99	238.49	0.28	11.06	0	0.98	
4 PG	1.24	1.36	0.99	0.97	1130.06	1.59	2.51	2.95	0.27	0.35	12.76	0.05	1.26	0.64	0.27	516.11	1.24	20.09	153.52	0	82.92	72.29	0	1.03	
5 ARLCR	88.34	1.47	0.96	39.99	2.26	1.54	1.55	1.93	21.96	14.98	0	0	0.02	0.00	0	0	0.20	0.33	2.64	0	1.78	0.04	0	1.62	
6 ARNCR	0.48	1.39	0.96	5.84	3.20	0.76	1.31	1.17	2.27	1.96	2.68	0	0.01	18.74	0.56	1.11	0.03	0.17	93.27	0.98	87.64	2.87	0	0.94	
7 ALX	0.71	1.82	0.79	3.33	3.99	1.06	0.80	1.00	0.45	486.19	0	0	1.02	0.03	1.36	4.51	41.18	0.03	116.27	0.02	95.85	5.07	0	0.93	
8 FFX	1.36	2.43	1.10	1.75	6.67	1.14	1.31	0.91	0.89	1.03	0.08	6.93	0.26	0.49	28.85	36.44	384.37	832.31	4.69	0.35	23.88	150.89	0	0.97	
9 LDN	0.60	3.28	0.47	579.25	303.31	0.82	0.74	0.90	1.06	4.98	2.07	79.78	16.01	0.11	0.82	0.13	26.48	0.33	143.86	19.54	222.62	5.34	0	1.07	
10 PW	1.76	2.27	0.22	1.86	1.06	0.35	1.02	1.09	0.55	0.96	5.34	0.10	0.44	5.32	0.46	0.00	19.35	2.62	10.51	80.20	4067.29	137.29	0	1.01	
11 FRD	0.21	0.15	1.62	0.15	0.20	310.90	0.26	4.35	5.68	37.88	0.94	0.83	0.69	0.12	0.06	0	0.42	7.52	0.62	4.70	0.86	0	0	0.99	
12 CAR	7.02	20.93	2.31	0.08	7.09	30.17	6.40	2.66	195.43	0.87	2.71	1.00	0.96	0.35	0	0	0	0.13	0	41.10	0	0	0	1.03	
13 HOW	0.69	1.40	1.49	0.97	40.70	0.40	0.62	1.13	63.69	6.07	6.80	2.65	0.97	1.14	9.99	0.95	0.17	0.00	0.91	60.07	1.51	0.46	0	1.02	
14 AAR	2.85	1.03	0.59	0.92	3.92	2.24	13.16	3.42	134.51	80.26	0.10	93.87	1.04	0.96	1.40	122.08	0.37	2.15	13.66	1.72	7.66	5.20	0	0.96	
15 CAL	0.24	1.12	148.77	0.75	51.74	182.50	280.08	735.97	7.35	15.34	0	0	0.07	0.54	1.11	0.53	1.71	0.18	0.98	0	0.47	5.86	0	1.08	
16 STM	0.27	0.30	29.19	0.46	39.21	137.03	329.30	679.97	7.21	10.63	0	0	2.45	0.16	0.90	0.96	1.03	0.06	0.02	0	10.80	147.72	0	0.96	
17 CHS	0.24	0.38	0.83	0.39	0.24	1.10	6.66	7.67	0.23	94.72	0	0	0.12	0.12	0.63	0.73	1.03	1.52	13.53	0	0.09	3.41	0	0.96	
18 FAU	29.89	0.04	0.03	6.42	0.03	30.07	19.03	0.69	0.35	0.70	1.23	0.02	0.28	1.10	0.02	0	1.78	1.02	754.01	0.08	377.81	12.10	0	0.92	
19 STA	23.64	18.41	0.10	3.08	0.13	0.17	118.74	1.93	18.87	0.61	0	0	0.11	0	0.09	0.76	487.33	1.28	0	0.43	218.40	0	0	1.01	
20 CL/JF	1.20	4.57	4.63	0.61	3.65	15.06	2.30	1.38	1.36	2.02	1.15	10.88	0.50	1.06	0	0	0.279.77	0.25	0.85	0.48	0	0	0	0.94	
21 SP/FB	5.49	2.85	0.03	0.09	0.01	65.27	97.52	1.95	9.11	0.63	0	0	0	0	0	0	126.61	0.78	0	1.15	0.55	0	0	1.06	
22 KGEO	0.19	0.01	0.14	12.87	1.64	6.79	19.81	2.11	0.59	330.83	0	0	0	0	0.09	1.39	6.80	208.33	23.36	0.73	0	0.41	1.00	0	0.90
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	1.10	1.13	0.97	1.01	2.74	0.91	1.09	0.96	1.02	0.96	0.97	1.01	0.99	0.94	1.04	0.94	1.04	1.09	1.34	1.00	1.11	1.11	0	1.00	

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Est Motr Psn

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	18211	15144	2343	897	770	2087	926	2733	56	20	0	0	15	25	0	0	8	3	6	0	2	0	0	43246
2 DC NC	95284	217156	39627	28262	4280	12482	7348	20910	493	252	27	2	652	831	33	6	246	27	93	1	48	2	0	428063
3 MTG	20217	51130	909958	42444	1166	4065	1491	13626	693	174	7260	1873	10279	5368	93	23	351	59	207	410	292	18	0	1071198
4 PG	27624	89654	64315	520436	2576	8111	10467	25100	461	458	20	28	10782	16350	1670	867	12079	38	261	0	138	123	0	791557
5 ARLCR	721	559	183	66	1612	3485	584	1460	39	26	0	0	0	0	0	0	0	1	4	0	3	0	0	8743
6 ARNCR	12905	11473	3579	1937	17144	94546	14465	38046	813	705	4	0	6	30	1	2	28	29	154	1	147	4	0	196019
7 ALX	5584	5640	1036	1854	3534	13972	59301	28388	320	832	0	0	2	17	2	7	67	14	196	0	163	8	0	120936
8 FFX	26270	31412	14610	12492	9005	46660	48000	940107	21646	21773	129	11	100	308	51	64	635	1397	4390	283	4907	257	0	1184507
9 LDN	2123	2510	1908	954	510	2293	1169	32607	208448	2179	2003	133	25	54	1	0	43	923	246	8312	391	9	0	266841
10 PW	1564	1844	695	645	600	2669	3366	45730	2983	332693	10	0	8	12	11	8	43	6027	9722	135	6933	233	0	415930
11 FRD	170	322	23334	130	125	589	179	5470	7257	75	185266	8699	3097	273	0	0	1	14	1	3130	1	0	0	238134
12 CAR	12	38	6224	108	13	60	12	536	391	2	4568	137187	6340	314	0	0	0	0	0	72	0	0	0	155878
13 HOW	551	1943	13978	10103	85	297	178	1515	119	57	1854	4997	227531	18705	16	1	40	1	2	105	2	1	0	282082
14 AAR	2342	6126	8182	22508	584	1875	1751	5989	263	214	62	160	24505	453277	3514	210	430	4	25	3	14	9	0	532046
15 CAL	224	516	303	1819	102	363	562	1520	15	32	0	0	35	1475	88669	2214	766	0	2	0	1	10	0	98627
16 STM	124	271	61	1498	81	286	702	1421	14	21	0	0	5	85	4608	78576	8153	0	14	0	20	254	0	96194
17 CHS	730	1443	465	5120	334	1232	2296	6493	114	194	0	0	31	109	1793	2861	112296	3	24	0	23	831	0	136393
18 FAU	48	41	19	10	12	50	33	2616	724	3175	2	0	0	2	0	0	3	41673	1255	177	639	20	0	50501
19 STA	40	31	29	5	33	158	235	2984	39	4673	0	0	0	0	0	0	1	820	86608	0	13491	359	0	109504
20 CL/JF	3	11	1582	2	8	34	6	2159	8311	315	1092	20	86	2	0	0	0	502	0	41324	1	0	0	55456
21 SP/FB	16	10	31	0	27	158	220	3133	22	2571	0	0	0	0	0	0	0	234	10092	0	97939	118	0	114571
22 KGEO	1	4	1	29	3	16	45	561	1	693	0	0	0	0	3	12	384	45	2225	0	1683	15216	0	20922
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	214763	437276	1092461	651320	42606	195488	153337	253224	371133	202296	283496	153111	497237	100468	84852	135572	51813	115525	126839	17471	0	0	0	6417348

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Obs Motr Psn

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	10209	11564	1196	645	382	2050	713	928	191	0	0	0	382	564	0	0	0	0	0	0	0	0	0	28822
2 DC NC	85013	255172	47219	17214	704	7854	2846	12095	3229	169	0	0	196	630	185	0	353	0	0	0	185	0	0	433063
3 MTG	26960	47527	935341	21283	1222	1845	1860	15731	3807	620	4654	476	6388	3353	0	0	232	0	0	0	1860	0	0	1073157
4 PG	23861	64587	65648	571362	608	5928	5901	7321	1495	681	0	532	8529	23459	5711	0	11760	0	0	0	0	0	0	797383
5 ARLCR	1146	209	105	0	630	1835	204	539	0	0	0	0	0	225	0	0	0	0	0	0	0	0	0	4894
6 ARNCR	21016	8606	2822	407	6611	118046	8868	28130	206	210	0	0	556	0	0	0	522	102	0	0	0	0	0	196102
7 ALX	5551	4218	946	709	1284	8825	69291	25169	399	0	0	0	0	1100	0	0	0	266	0	0	0	0	0	117758
8 FFX	21107	11823	12801	4337	1261	36911	341191031201	20097	17297	980	0	236	383	0	0	0	0	0	1106	942	238	0	0	1194839
9 LDN	2733	543	2449	0	0	2751	929	33112	222103	549	1757	0	0	293	0	0	0	1676	0	256	0	0	0	269150
10 PW	1672	465	1883	186	318	6288	3962	41437	4198	358818	0	0	0	0	0	197	0	1813	653	0	0	0	0	421889
11 FRD	705	1431	14174	505	322	0	360	627	701	0	200636	12452	4260	2912	0	0	0	0	0	0	395	0	0	239481
12 CAR	0	0	2271	915	417	0	0	99	0	0	1769	144267	5689	490	0	0	0	0	0	0	0	0	0	155917
13 HOW	1953	1511	8149	9880	0	689	163	673	0	0	163	2395	242333	13234	0	0	138	570	0	0	0	0	0	281849
14 AAR	828	7052	12994	22934	72	448	72	2236	0	0	372	0	22521	460958	1930	0	679	0	0	0	0	0	0	533095
15 CAL	1493	512	0	1605	0	0	0	0	0	0	0	0	239	3063	88837	2994	512	0	0	0	0	0	0	99256
16 STM	230	448	0	2174	0	0	0	0	0	0	0	0	0	526	6793	81100	5996	0	459	0	0	0	0	97726
17 CHS	1718	3254	289	13259	695	809	1443	436	251	0	0	0	145	797	1731	3076	108914	0	0	0	289	289	0	137395
18 FAU	0	577	334	0	215	0	0	2008	2764	3514	0	0	0	0	0	0	0	38959	0	2646	0	0	0	51018
19 STA	0	0	131	0	131	451	0	914	0	6312	0	0	0	0	0	0	0	0	69227	0	33048	0	0	110215
20 CL/JF	0	0	157	0	0	0	0	732	5110	79	655	0	79	0	0	0	0	0	0	46227	0	0	0	53038
21 SP/FB	0	0	297	0	1135	0	0	734	0	3640	0	0	0	0	0	617	0	0	12776	617	83727	258	0	103801
22 KGEO	0	164	0	0	0	0	0	118	0	0	0	0	0	0	0	0	0	0	2545	0	3339	14891	0	21058
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	206192	419664	1109206	667414	16006	194731	130731	264551	391888	210984	160123	291550	511987	105187	87983	129107	43386	86767	51083	122686	15439	0	0	6420904

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Difference (Est-Obs) Motorized Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	8002	3580	1147	253	388	37	213	1805	-135	20	0	0	-367	-539	0	0	8	3	6	0	2	0	0	14423
2 DC NC	10271	-38016	-7592	11049	3576	4629	4502	8816	-2736	83	27	2	455	200	-151	6	-107	27	93	1	-136	2	0	-5000
3 MTG	-6743	3603	-25383	21162	-55	2220	-368	-2104	-3114	-446	2606	1397	3891	2015	93	23	119	59	207	410	-1568	18	0	-1959
4 PG	3763	25067	-1333	-50926	1968	2183	4566	17780	-1035	-223	20	-504	2253	-7109	-4041	867	319	38	261	0	138	123	0	-5826
5 ARLCR	-424	350	78	66	982	1650	380	920	39	26	0	0	0	-225	0	0	0	1	4	0	3	0	0	3849
6 ARNCR	-8110	2867	757	1529	10533	-23500	5597	9916	606	495	4	0	-550	30	1	2	-494	-73	154	1	147	4	0	-84
7 ALX	33	1422	90	1144	2250	5147	-9990	3218	-79	832	2	7	-1083	2	7	67	-252	196	0	163	8	0	0	3178
8 FFX	5163	19589	1809	8155	7745	9748	13882	-91094	1549	4476	-851	11	-136	-74	51	64	635	1397	3284	-660	4669	257	0	-10332
9 LDN	-610	1967	-541	954	510	-458	240	-505	-13655	1630	246	133	25	-239	1	0	43	-753	246	8056	391	9	0	-2310
10 PW	-108	1378	-1188	459	283	-3618	-597	4294	-1215	-26125	10	0	8	12	11	-189	43	4214	9068	135	6933	233	0	-5959
11 FRD	-535	-1109	9159	-374	-197	589	-182	4843	6556	75	-15369	-3753	-1163	-2638	0	0	1	14	1	2735	1	0	0	-1347
12 CAR	12	38	3953	-807	-404	60	12	437	391	2	2799	-7080	651	-176	0	0	0	0	0	72	0	0	0	-39
13 HOW	-1402	432	5829	223	85	-392	16	842	119	57	1691	2602	-14802	5471	16	1	-98	-569	2	105	2	1	0	233
14 AAR	1514	-926	-4812	-425	512	1426	1679	3753	263	214	-310	160	1984	-7681	1584	210	-249	4	25	3	14	9	0	-1048
15 CAL	-1269	4	303	214	102	363	562	1520	15	32	0	0	-204	-1589	-168	-780	254	0	2	0	1	10	0	-629
16 STM	-106	-177	61	-676	81	286	702	1421	14	21	0	0	5	-442	-2185	-2524	2157	0	-445	0	20	254	0	-1532
17 CHS	-987	-1810	176	-8140	-361	423	853	6057	-136	194	0	0	-114	-688	63	-215	3382	3	24	0	-267	542	0	-1002
18 FAU	48	-536	-315	10	-204	50	33	608	-2039	-339	2	0	0	2	0	0	3	2714	1255	-2469	639	20	0	-517
19 STA	40	31	-103	5	-98	-293	235	2069	39	-1639	0	0	0	0	0	1	820	17380	0	-19557	359	0	0	-711
20 CL/JF	3	11	1424	2	8	34	6	1427	3201	237	437	20	7	2	0	0	0	502	0	-4903	1	0	0	2418
21 SP/FB	16	10	-266	0	-1107	158	220	2399	22	-1069	0	0	0	0	0	-617	0	234	-2684	-617	14212	-140	0	10770
22 KGEO	1	-160	1	29	3	16	45	443	1	693	0	0	0	0	3	12	384	45	-319	0	-1656	324	0	-136
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	8572	17612	-16744	-16094	26599	757	22606	-21136	-11327	-20755	-8688	-7012	-8054	-14749	-4719	-3131	6465	8427	28758	2870	4153	2033	0	-3556

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Ratio (Est/Obs) Motorized Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.78	1.31	1.96	1.39	2.02	1.02	1.30	2.95	0.29	19.82	0.03	0	0.04	0.04	0.18	0.31	7.51	2.63	6.47	0	2.12	0	0	1.50
2 DC NC	1.12	0.85	0.84	1.64	6.08	1.59	2.58	1.73	0.15	1.49	26.60	1.86	3.32	1.32	0.18	5.97	0.70	27.17	92.89	0.78	0.26	1.52	0	0.99
3 MTG	0.75	1.08	0.97	1.99	0.95	2.20	0.80	0.87	0.18	0.28	1.56	3.94	1.61	1.60	92.96	22.89	1.51	59.14	206.55	409.96	0.16	17.81	0	1.00
4 PG	1.16	1.39	0.98	0.91	4.24	1.37	1.77	3.43	0.31	0.67	20.11	0.05	1.26	0.70	0.29	867.28	1.03	37.55	260.56	0	137.68	122.96	0	0.99
5 ARLCR	0.63	2.67	1.75	65.64	2.56	1.90	2.86	2.71	38.55	25.70	0	0	0.03	0.00	0	0	0.30	0.61	4.35	0	2.86	0.06	0	1.79
6 ARNCR	0.61	1.33	1.27	4.75	2.59	0.80	1.63	1.35	3.94	3.36	4.11	0	0.01	29.76	0.84	1.79	0.05	0.28	154.04	1.48	146.79	4.49	0	1.00
7 ALX	1.01	1.34	1.10	2.61	2.75	1.58	0.86	1.13	0.80	832.48	0	0	1.61	0.02	2.10	7.47	66.74	0.05	195.53	0.04	163.30	8.19	0	1.03
8 FFX	1.24	2.66	1.14	2.88	7.14	1.26	1.41	0.91	1.08	1.26	0.13	10.75	0.42	0.81	51.21	63.94	634.531397.42	3.97	0.30	20.63	256.69	0	0	0.99
9 LDN	0.78	4.62	0.78	954.32	509.64	0.83	1.26	0.98	0.94	3.97	1.14	133.10	25.17	0.18	1.33	0.20	43.03	0.55	245.65	32.50	391.25	9.13	0	0.99
10 PW	0.94	3.96	0.37	3.47	1.89	0.42	0.85	1.10	0.71	0.93	9.82	0.15	8.05	11.58	11.46	0.04	42.67	3.32	14.88	135.036932.88	233.30	0	0.99	
11 FRD	0.24	0.23	1.65	0.26	0.39	588.69	0.50	8.72	10.35	74.54	0.92	0.70	0.73	0.09	0.09	0	0.66	13.81	1.21	7.92	1.47	0	0	0.99
12 CAR	11.74	37.79	2.74	0.12	0.03	59.89	12.04	5.40	391.43	1.81	2.58	0.95	1.11	0.64	0	0	0	0.25	0	72.41	0	0	0	1.00
13 HOW	0.28	1.29	1.72	1.02	84.96	0.43	1.10	2.25	119.20	57.48	11.40	2.09	0.94	1.41	16.29	1.48	0.29	0.00	1.53	105.05	2.45	0.75	0	1.00
14 AAR	2.83	0.87	0.63	0.98	8.11	4.18	24.32	2.68	263.05	213.53	0.17	159.80	1.09	0.98	1.82	210.10	0.63	4.08	25.00	3.11	13.82	8.92	0	1.00
15 CAL	0.15	1.01	302.61	1.13	101.55	362.70	561.531520.02	15.17	31.74	0	0	0	0.15	0.48	1.00	0.74	1.49	0.33	1.72	0	0.77	9.93	0	0.99
16 STM	0.54	0.60	61.01	0.69	80.63	286.19	702.151420.72	14.22	21.17	0	0	0	4.70	0.16	0.68	0.97	1.36	0.12	0.03	0	20.17	254.46	0	0.98
17 CHS	0.43	0.44	1.61	0.39	0.48	1.52	1.59	14.88	0.46	194.28	0	0	0.21	0.14	1.04	0.93	1.03	2.78	23.69	0	0.08	2.87	0	0.99
18 FAU	48.06	0.07	0.06	10.24	0.06	50.31	32.99	1.30	0.26	0.90	1.96	0.03	0.45	1.77	0.03	0	2.90	1.071254.96	0.07	639.42	20.14	0	0	0.99
19 STA	40.07	30.72	0.22	4.93	0.25	0.35	234.88	3.26	38.94	0.74	0	0	0	0.18	0	0.14	1.18	819.82	1.25	0	0.41	358.95	0	0.99
20 CL/JF	2.67	10.94	10.06	1.64	8.09	34.24	5.65	2.95	1.63	4.01	1.67	20.14	1.09	2.17	0	0	501.51	0.42	0.89	0.74	0	0	0	1.05
21 SP/FB	15.86	9.58	0.10	0.39	0.02	157.70	220.05	4.27	22.22	0.71	0	0	0	0.02	0	0	234.00	0.79	0	1.17	0.46	0	0	1.10
22 KGEO	0.84	0.02	0.55	28.73	3.45	16.05	45.47	4.75	1.36	693.33	0	0	0.02	0.19	2.62	11.62	383.90	45.47	0.87	0	0.50	1.02	0	0.99
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	1.04	1.04	0.98	0.98	2.66	1.00	1.17	0.98	0.96	0.95	0.96	0.96	0.97	0.97	0.96	0.96	1.05	1.19	1.33	1.06	1.13	0	0	1.00

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Est Auto Occ.

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.65	1.64	1.67	1.60	1.65	1.68	1.70	1.71	1.74	1.61	1.50	0	1.59	1.61	1.50	1.55	1.57	1.72	1.56	0	1.51	0	0	1.65
2 DC NC	1.64	1.64	1.66	1.62	1.68	1.70	1.72	1.73	1.78	1.66	1.59	1.52	1.70	1.68	1.56	1.58	1.63	1.76	1.63	1.50	1.59	1.58	0	1.65
3 MTG	1.59	1.61	1.63	1.63	1.62	1.64	1.67	1.72	1.74	1.64	1.66	1.67	1.66	1.67	1.62	1.59	1.65	1.74	1.67	1.72	1.70	1.61	0	1.63
4 PG	1.63	1.62	1.70	1.63	1.67	1.71	1.72	1.78	1.83	1.71	1.58	1.60	1.68	1.66	1.66	1.68	1.64	1.87	1.70	0	1.66	1.70	0	1.64
5 ARLCR	1.60	1.64	1.67	1.62	1.63	1.66	1.67	1.69	1.76	1.67	0	0	1.50	1.68	0	0	1.50	1.85	1.65	0	1.61	1.50	0	1.65
6 ARNCR	1.59	1.63	1.65	1.62	1.60	1.63	1.65	1.66	1.74	1.66	1.53	0	1.55	1.59	1.50	1.61	1.58	1.66	1.65	1.51	1.67	1.56	0	1.63
7 ALX	1.60	1.63	1.69	1.62	1.61	1.63	1.64	1.67	1.79	1.68	0	0	1.58	1.59	1.54	1.66	1.62	1.68	1.68	2.00	1.70	1.62	0	1.65
8 FFX	1.60	1.61	1.65	1.64	1.59	1.61	1.64	1.64	1.65	1.65	1.61	1.55	1.60	1.63	1.58	1.64	1.63	1.68	1.69	1.71	1.72	1.70	0	1.64
9 LDN	1.64	1.64	1.67	1.65	1.64	1.65	1.69	1.67	1.63	1.65	1.65	1.67	1.57	1.67	1.62	1.54	1.63	1.66	1.71	1.66	1.76	1.71	0	1.63
10 PW	1.61	1.62	1.67	1.61	1.66	1.68	1.72	1.71	1.71	1.62	1.56	1.50	1.50	1.59	1.50	1.50	1.56	1.65	1.67	1.68	1.70	1.70	0	1.64
11 FRD	1.72	1.74	1.81	1.70	1.88	1.89	1.90	2.00	1.82	1.87	1.63	1.65	1.77	1.75	1.50	0	1.57	1.84	1.95	1.69	1.71	0	0	1.66
12 CAR	1.67	1.81	1.92	1.89	1.89	1.99	1.88	2.03	2.00	2.08	1.71	1.62	1.78	1.84	0	0	0	1.92	0	1.76	0	0	0	1.64
13 HOW	1.62	1.64	1.68	1.65	1.70	1.73	1.77	1.86	1.87	1.85	1.68	1.65	1.62	1.65	1.63	1.56	1.66	1.85	1.68	1.75	1.62	1.63	0	1.63
14 AAR	1.70	1.69	1.78	1.68	1.76	1.81	1.84	1.92	1.96	1.86	1.71	1.70	1.69	1.63	1.65	1.72	1.69	1.90	1.83	1.81	1.80	1.72	0	1.64
15 CAL	1.85	1.80	2.03	1.78	1.92	1.98	2.00	2.06	2.06	1.94	0	0	1.96	1.71	1.62	1.67	1.75	1.83	1.76	0	1.64	1.69	0	1.63
16 STM	2.04	2.02	2.09	1.98	2.06	2.09	2.13	2.09	1.97	1.99	0	0	1.92	2.06	1.72	1.63	1.78	2.00	1.82	0	1.87	1.72	0	1.66
17 CHS	1.77	1.73	1.94	1.67	1.82	1.87	1.85	1.93	1.95	1.84	0	0	1.82	1.76	1.65	1.65	1.62	1.83	1.75	0	1.71	1.68	0	1.64
18 FAU	1.59	1.60	1.67	1.60	1.67	1.67	1.73	1.88	1.76	1.71	1.59	1.50	1.61	1.61	1.50	0	1.63	1.63	1.66	1.67	1.69	1.66	0	1.65
19 STA	1.70	1.67	2.19	1.60	1.92	2.03	1.98	1.96	2.06	1.72	0	0	0	1.64	0	1.56	1.55	1.68	1.62	0	1.64	1.64	0	1.64
20 CL/JF	2.23	2.39	2.17	2.69	2.22	2.27	2.46	2.14	1.91	1.98	1.83	1.85	2.16	2.05	0	0	0	1.79	1.68	1.63	1.54	0	0	1.70
21 SP/FB	2.89	3.36	3.61	4.33	2.22	2.42	2.26	2.17	2.44	1.92	0	0	0	0.02	0	0	0	1.85	1.68	0	1.62	1.65	0	1.65
22 KGEO	4.42	2.28	3.93	2.23	2.10	2.36	2.30	2.24	2.31	2.10	0	0	0.02	2.11	1.88	1.71	1.84	1.95	1.75	0	1.75	1.62	0	1.67
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	1.63	1.63	1.64	1.63	1.62	1.64	1.66	1.66	1.64	1.63	1.63	1.62	1.64	1.63	1.62	1.63	1.63	1.64	1.63	1.64	1.63	1.63	0	1.64

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Obs Auto Occ.

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.67	1.37	1.00	1.50	0	1.43	1.00	1.30	0	0	0	0	1.00	1.00	0	0	0	0	0	0	0	0	0	1.41
2 DC NC	1.54	1.74	1.66	1.24	1.00	1.45	1.47	1.70	1.30	1.00	0	0	1.00	1.49	1.00	0	3.83	0	0	0	1.00	0	0	1.66
3 MTG	1.25	1.54	1.64	1.25	1.00	1.30	1.00	1.29	1.14	620.00	1.71	1.00	1.44	1.38	0	0	1.00	0	0	0	3.00	0	0	1.60
4 PG	1.55	1.50	1.76	1.70	0	1.94	2.50	1.36	1.61	1.00	0	1.52	1.55	1.53	1.52	0	1.99	0	0	0	0	0	0	1.68
5 ARLCR	0	1.00	1.00	0	1.50	1.38	1.00	1.26	0	0	0	0	0	1.00	0	0	0	0	0	0	0	0	0	1.28
6 ARNCR	1.70	1.50	1.18	2.00	1.99	1.59	1.38	1.42	1.00	1.00	0	0	1.00	0	0	0	1.00	1.00	0	0	0	0	0	1.55
7 ALX	1.28	2.05	1.24	2.07	2.04	1.17	1.56	1.50	1.00	0	0	0	0	3.00	0	0	0	1.00	0	0	0	0	0	1.51
8 FFX	1.38	1.40	1.50	1.00	1.56	1.48	1.56	1.64	1.36	1.36	1.00	0	1.00	1.00	0	0	0	0	2.00	2.00	2.00	0	0	1.61
9 LDN	1.07	1.00	1.00	0	0	1.64	1.00	1.54	1.84	2.14	3.00	0	0	1.00	0	0	0	1.00	0	1.00	0	0	0	1.76
10 PW	1.45	1.00	1.29	1.00	1.00	1.50	2.16	1.73	1.34	1.69	0	0	0	0	0	2.00	0	1.30	1.18	0	0	0	0	1.68
11 FRD	1.00	1.19	1.79	1.00	1.00	0	1.00	1.00	1.00	0	1.65	1.97	1.69	2.16	0	0	0	0	0	1.00	0	0	0	1.66
12 CAR	0	0	1.61	1.30	0	0	0	1.00	0	0	1.80	1.70	1.54	1.00	0	0	0	0	0	0	0	0	0	1.69
13 HOW	2.69	1.00	1.46	1.56	0	1.67	1.00	1.00	0	0	1.00	2.09	1.69	1.33	0	0	1.00	1.00	0	0	0	0	0	1.65
14 AAR	1.50	1.83	1.69	1.57	1.00	1.00	1.00	2.61	0	0	1.00	0	1.62	1.57	1.27	0	1.00	0	0	0	0	0	0	1.58
15 CAL	2.00	2.00	0	1.17	0	0	0	0	0	0	0	1.00	1.91	1.80	1.19	2.00	0	0	0	0	0	0	0	1.76
16 STM	1.00	1.00	0	1.32	0	0	0	0	0	0	0	0	2.00	2.30	1.62	1.35	0	1.00	0	0	0	0	0	1.61
17 CHS	1.12	1.47	1.00	1.71	1.00	1.38	7.75	1.00	1.00	0	0	0	1.00	1.59	1.00	1.30	1.61	0	0	0	2.00	2.00	0	1.59
18 FAU	0	1.00	1.00	0	1.00	0	0	1.00	2.39	1.34	0	0	0	0	0	0	0	1.56	0	2.00	0	0	0	1.53
19 STA	0	0	1.00	0	1.00	1.00	0	1.17	0	1.43	0	0	0	0	0	0	0	0	1.66	0	1.75	0	0	1.65
20 CL/JF	0	0	1.00	0	0	0	0	1.00	1.60	1.00	1.25	0	1.00	0	0	0	0	0	0	1.54	0	0	0	1.52
21 SP/FB	0	0	1.00	0	1.00	0	0	1.00	0	1.72	0	0	0	0	0	2.00	0	0	1.66	2.00	1.59	2.00	0	1.59
22 KGEO	0	1.00	0	0	0	0	0	1.00	0	0	0	0	0	0	0	0	0	0	1.47	0	1.41	1.58	0	1.52
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	1.49	1.63	1.64	1.65	1.51	1.53	1.57	1.62	1.75	1.66	1.65	1.72	1.66	1.56	1.77	1.59	1.62	1.49	1.64	1.56	1.64	1.59	0	1.63

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Est Pct. Tran

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	23.0	26.5	22.4	7.6	61.0	37.1	19.2	8.1	0	3.7	0	0	0	0	0	0	0	0	0	0	0	0	0	24.2
2 DC NC	29.9	13.6	14.3	6.0	39.6	22.7	11.5	4.1	0	4.6	0	0	0.0	0	0	0	0	0	0	0	0	0	0	16.7
3 MTG	25.0	4.7	2.6	1.4	21.3	4.3	1.0	1.0	0	34.7	0.0	0	0.1	0.0	0	0	0	0	0	0	0	0	0	3.0
4 PG	31.8	6.2	4.8	1.5	27.0	9.3	2.5	0.9	0	10.8	0	0	0.2	0.1	0	0	0.0	0	0	0	0	0	0	3.4
5 ARLCR	80.4	9.8	8.3	1.6	4.0	13.7	9.5	4.6	0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	15.1
6 ARNCR	49.8	4.3	2.4	0.4	4.0	4.5	4.7	2.4	0	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	6.9
7 ALX	36.3	3.4	2.2	0.1	4.3	6.5	3.2	1.9	0	1.7	0	0	0	0	0	0	0	0	0	0	0	0	0	4.8
8 FFX	19.0	1.7	1.0	0.4	4.6	4.1	2.6	0.6	0.0	1.6	0.6	0	3.6	0.4	11.1	6.7	1.0	0	0.0	0	0.2	0	0	1.3
9 LDN	9.9	0.5	0.2	0.0	2.3	1.3	0.2	0.4	0.1	3.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3
10 PW	16.0	7.2	23.7	13.9	6.9	6.2	4.2	2.3	1.9	0.3	15.2	0	91.8	26.8	94.0	97.1	29.2	0	0.0	0	0.3	0	0	0.7
11 FRD	3.6	0.2	0.0	0	1.2	0.1	0.0	0.1	0	4.7	0.2	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
13 HOW	19.8	1.2	0.2	0.2	18.4	3.3	0.2	6.5	0	80.5	0	0	0.1	0.0	0	0	0	0	0	0	0	0	0	0.2
14 AAR	15.7	1.1	0.2	0.1	15.0	3.0	0.4	6.1	0	30.1	0	0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0.2
15 CAL	3.5	0.3	0.0	0	2.3	0.5	0.1	0.2	0	6.0	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
17 CHS	12.1	1.0	0.3	0.0	10.0	2.2	0.3	0.5	0	10.1	0	0	0	0	0.0	0.0	0.2	0	0	0	0	0	0	0.3
18 FAU	0.9	0	0	0	0	0	0	0.7	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	0.2	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	0.9	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	0.7	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	28.7	9.9	3.1	1.6	10.8	6.3	3.5	0.9	0.1	0.5	0.2	0	0.1	0.0	0.0	0.2	0	0.0	0	0.0	0	0	0	2.9

Year: 2007 Estimate/Observed Trips
 Purpose: Internal HBO Trips MODE: Obs Pct. Tran

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	37.7	40.1	51.8	0	100.0	51.2	0	0	100.0	0	0	0	0	38.1	0	0	0	0	0	0	0	0	0	38.0
2 DC NC	38.3	19.6	7.5	26.3	40.0	24.6	10.4	3.4	28.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.8
3 MTG	48.9	7.3	1.4	9.4	75.2	23.7	29.5	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.2
4 PG	39.6	11.0	2.3	2.8	100.0	11.0	0	12.2	0	0	0	0	7.1	0	0	0	0	0	0	0	0	0	0	4.6
5 ARLCR	100.0	0	0	0	0	11.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27.6
6 ARNCR	31.3	15.2	7.4	0	3.4	2.2	0	3.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.0
7 ALX	27.4	10.7	0	0	16.3	0	2.3	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.3
8 FFX	36.1	6.5	7.1	0	0	2.2	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1
9 LDN	23.8	14.6	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	59.6	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	36.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
12 CAR	0	0	0	0	100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3
13 HOW	45.2	44.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6
14 AAR	26.1	9.8	0	0	0	0	0	0	0	0	0	0	0	0.6	0	0	0	0	0	0	0	0	0	0.7
15 CAL	33.3	0	0	0	0	0	0	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
17 CHS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0	0	0	0	0.3
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	38.5	16.5	1.8	3.4	19.0	4.0	1.9	0.5	0.4	0	0	0	0.2	0.5	0	0	0.3	0	0	0	0	0	0	3.4

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Est Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	17057	10293	2155	1225	1812	2893	1167	893	0	23	0	0	2	2	1	0	1	0	0	0	1	0	0	37524
2 DC NC	12727	7492	2688	1158	964	1450	545	399	0	13	0	0	1	0	0	0	0	0	0	0	0	0	0	27437
3 MTG	3299	991	7967	169	284	220	73	116	0	16	0	0	2	0	0	0	0	0	0	0	0	0	0	13138
4 PG	2710	602	262	883	159	131	53	59	0	14	0	0	0	1	0	0	0	0	0	0	0	0	0	4873
5 ARLCR	1768	326	119	25	381	1044	315	153	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	4134
6 ARNCR	3024	532	208	37	1503	1779	673	499	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8263
7 ALX	1212	154	73	16	276	546	960	201	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	3445
8 FFX	2087	175	138	50	340	629	391	1820	3	69	2	0	8	2	3	2	8	0	0	0	2	0	0	5729
9 LDN	173	4	4	0	28	30	5	21	28	5	0	0	0	0	0	0	0	0	0	0	0	0	0	297
10 PW	282	17	21	13	39	48	36	89	2	60	1	0	2	1	1	0	2	0	0	0	1	0	0	613
11 FRD	8	1	2	0	1	0	0	0	0	0	161	0	0	0	0	0	0	0	0	0	0	0	0	174
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	191	25	22	5	14	12	4	14	0	3	0	0	5	0	0	0	0	0	0	0	0	0	0	294
14 AAR	372	39	21	7	22	16	7	38	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	525
15 CAL	8	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	12
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	1	0	0	0	0	0	0	0	13
17 CHS	147	24	8	0	9	7	1	6	0	2	0	0	0	0	1	62	0	0	0	0	0	0	0	266
18 FAU	2	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
19 STA	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
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	1	0	0	0	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
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	45067	20674	13689	3588	5832	8805	4231	4351	33	227	164	0	20	6	5	15	73	0	0	0	3	0	0	106783

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Obs Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	20489	10258	8777	8295	531	4109	2045	4804	332	1233	234	0	533	203	495	0	1514	215	253	0	308	0	0	64627
2 DC NC	10416	2822	833	1582	250	523	113	1742	0	396	0	0	0	0	239	0	0	0	268	0	0	0	0	19185
3 MTG	6150	2309	2989	808	0	296	0	0	0	0	0	0	0	0	0	0	0	0	0	283	0	0	0	12835
4 PG	3344	1795	793	2036	614	496	0	279	0	417	0	0	0	0	0	0	348	0	0	0	0	0	0	10122
5 ARLCR	280	909	0	614	355	1649	359	856	256	147	0	0	0	0	0	0	0	0	0	0	0	0	0	5425
6 ARNCR	4914	1386	703	688	426	608	418	1056	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10199
7 ALX	1388	0	0	0	285	0	583	184	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2440
8 FFX	4830	988	0	0	238	504	215	970	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7744
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	751	0	0	240	417	0	403	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1810
11 FRD	0	0	130	0	0	0	0	0	0	0	382	0	0	0	0	0	0	0	0	0	0	0	0	512
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	232	0	0	0	181	0	0	0	0	0	0	0	0	285	0	0	0	0	0	0	0	0	0	698
14 AAR	1988	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1988
15 CAL	0	0	0	0	0	366	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	366
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	148	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	148
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	582	499	0	0	0	402	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1484
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	54763	21718	14225	14023	3121	9368	3732	10294	588	2193	616	0	818	203	733	0	1861	215	521	283	308	0	0	139584

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Difference (Est-Obs) Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	-3432	34	-6622	-7069	1281	-1216	-878	-3911	-332	-1210	-234	0	-530	-201	-494	0	-1513	-215	-253	0	-308	0	0	-27103
2 DC NC	2310	4670	1854	-425	714	927	433	-1343	0	-383	0	0	1	0	-238	0	0	0	-268	0	0	0	0	8251
3 MTG	-2852	-1318	4978	-639	284	-75	73	116	0	16	0	0	2	0	0	0	0	0	0	-283	0	0	0	302
4 PG	-635	-1193	-531	-1154	-455	-365	53	-220	0	-402	0	0	0	1	0	0	-348	0	0	0	0	0	0	-5248
5 ARLCR	1487	-583	119	-589	26	-604	-44	-703	-256	-145	0	0	0	0	0	0	0	0	0	0	0	0	0	-1291
6 ARNCR	-1890	-854	-494	-650	1077	1171	255	-558	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	-1936
7 ALX	-176	154	73	16	-9	546	377	17	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	1005
8 FFX	-2743	-813	138	50	102	126	176	850	3	69	2	0	8	2	3	2	8	0	0	0	2	0	0	-2015
9 LDN	173	4	4	0	28	30	5	21	28	5	0	0	0	0	0	0	0	0	0	0	0	0	0	297
10 PW	282	-733	21	13	-201	-369	36	-314	2	60	1	0	2	1	1	0	2	0	0	0	1	0	0	-1197
11 FRD	8	1	-128	0	1	0	0	0	0	0	-221	0	0	0	0	0	0	0	0	0	0	0	0	-338
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	-41	25	22	5	-167	12	4	14	0	3	0	0	-280	0	0	0	0	0	0	0	0	0	0	-404
14 AAR	-1617	39	21	7	22	16	7	38	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	-1463
15 CAL	8	1	0	0	1	-366	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	-354
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	1	0	0	0	0	0	0	13
17 CHS	-1	24	8	0	9	7	1	6	0	2	0	0	0	0	0	1	62	0	0	0	0	0	0	118
18 FAU	2	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
19 STA	-582	-499	0	0	0	-402	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1473
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	1	0	0	0	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
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	-9696		-536	-10435	2711	-564	498	-5943	-555	-1967	-452	0	-797	-197	-728	0	-1788	-215	-521	-283	-306	0	0	-32801

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Ratio (Est/Obs) Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	0.83	1.00	0.25	0.15	3.41	0.70	0.57	0.19	0	0.02	0	0	0.00	0.01	0.00	0.03	0.00	0	0	0	0.00	0	0	0.58
2 DC NC	1.22	2.65	3.23	0.73	3.85	2.77	4.84	0.23	0	0.03	0	0	1.13	0.20	0.00	0	0.11	0	0	0	0.10	0	0	1.43
3 MTG	0.54	0.43	2.67	0.21	284.25	0.74	73.39	116.01	0	15.62	0.05	0	1.82	0.02	0.05	0	0.05	0	0	0	0	0	0	1.02
4 PG	0.81	0.34	0.33	0.43	0.26	0.26	53.39	0.21	0	0.03	0	0	0.31	0.50	0.01	0	0.00	0	0	0	0	0	0	0.48
5 ARLCR	6.31	0.36	119.17	0.04	1.07	0.63	0.88	0.18	0	0.02	0	0	0	0	0	0	0	0	0	0	0	0	0	0.76
6 ARNCR	0.62	0.38	0.30	0.05	3.53	2.92	1.61	0.47	0	7.67	0	0	0	0	0	0	0	0	0	0	0	0	0	0.81
7 ALX	0.87	153.56	72.76	15.83	0.97	545.77	1.65	1.09	0	8.34	0	0	0	0	0	0	0	0	0	0	0	0	0	1.41
8 FFX	0.43	0.18	138.40	49.89	1.43	1.25	1.82	1.88	2.96	68.96	2.30	0	7.51	2.47	2.71	1.52	7.77	0	0.01	0	1.65	0	0	0.74
9 LDN	173.33	4.20	4.10	0.02	27.62	29.58	4.62	20.58	27.87	5.42	0	0	0	0	0	0	0	0	0	0	0	0	0	297.34
10 PW	281.50	0.02	20.80	13.02	0.16	0.11	36.24	0.22	1.87	59.52	0.68	0	2.09	0.92	0.71	0.43	2.20	0	0	0	0.53	0	0	0.34
11 FRD	8.29	0.68	0.01	0	0.74	0.48	0.09	0.38	0	0.11	0.42	0	0	0	0	0	0	0	0	0	0	0	0	0.34
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	0.82	24.68	21.69	4.57	0.08	11.78	3.78	14.39	0	3.03	0	0	0.02	0	0	0	0	0	0	0	0	0	0	0.42
14 AAR	0.19	39.13	21.26	7.28	21.65	16.17	6.61	37.92	0	3.44	0	0	0	0.21	0	0	0	0	0	0	0	0	0	0.26
15 CAL	8.17	1.32	0.40	0.01	0.51	0.00	0.10	0.30	0	0.08	0	0	0	0	0.56	0	0	0	0	0	0	0	0	0.03
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12.29	0.88	0	0	0	0	0	0	13.17
17 CHS	0.99	23.68	7.96	0.38	8.87	6.90	1.30	6.11	0	1.75	0	0	0	0	0	0.64	61.67	0	0	0	0	0	0	1.79
18 FAU	1.87	0	0.01	0	0.02	0.03	0.13	8.74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10.80
19 STA	0.00	0	0	0	0	0	0.01	10.07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
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	0.67	0	0	0	0	0	0	22.81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.48
22 KGEO	0	0	0	0	0	0	0	0.48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.48
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	0.82		0.96	0.26	1.87	0.94	1.13	0.42	0.06	0.10	0.27	0	0.02	0.03	0.01	0	0.04	0	0.00	0	0.01	0	0	0.77

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Est Auto Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	32536	17933	4235	7920	1382	2762	2266	5274	447	799	362	84	537	1544	173	112	611	127	232	52	167	14	0	79570
2 DC NC	15614	27574	7802	12350	927	2327	2098	5027	432	710	422	107	871	2045	199	119	684	120	209	57	154	13	0	79862
3 MTG	3185	9758	147642	12070	654	2174	1274	8486	1015	903	3241	655	3160	3047	171	103	414	227	219	257	179	13	0	198847
4 PG	6744	13225	12062	104993	729	1895	2595	4783	386	764	534	242	3959	8825	774	390	2623	129	247	74	193	34	0	166199
5 ARLCR	1277	1528	774	835	3732	4873	1620	3091	208	386	46	10	45	132	16	11	56	34	61	13	44	3	0	18794
6 ARNCR	2538	3185	2105	1958	4445	17373	3899	10281	680	1105	120	23	121	330	38	25	140	105	164	37	117	7	0	48798
7 ALX	2113	2402	1245	2524	1567	4051	16861	10107	429	1353	86	19	106	324	55	40	240	87	227	29	155	12	0	44029
8 FFX	3554	4865	7593	4592	2771	10081	9763	217243	10283	9812	463	90	411	801	112	86	464	924	910	242	615	33	0	285709
9 LDN	211	356	826	326	167	611	380	10203	35818	1294	311	36	66	95	8	8	36	269	66	364	55	3	0	51507
10 PW	461	640	793	695	330	1040	1255	9465	1225	51464	68	13	61	151	23	20	94	915	1528	71	750	29	0	71094
11 FRD	317	391	3250	533	45	118	84	530	383	87	42311	1435	866	514	19	14	48	41	31	639	27	2	0	51686
12 CAR	79	103	693	251	10	24	19	109	47	19	1441	24862	791	400	9	6	19	9	8	78	7	1	0	28983
13 HOW	436	944	3423	4198	39	127	117	501	84	75	795	748	28298	6536	59	38	122	29	29	71	25	4	0	46695
14 AAR	1214	2042	3296	9097	113	318	329	932	131	185	507	400	6838	81823	475	145	424	53	84	67	74	13	0	108558
15 CAL	151	186	174	779	15	37	53	117	11	28	19	9	62	472	12716	1229	430	7	15	4	15	14	0	16543
16 STM	94	104	95	365	10	22	35	81	9	21	12	5	37	138	1205	36025	885	7	22	3	38	59	0	39273
17 CHS	468	671	427	2632	49	137	228	456	40	101	45	18	125	423	429	906	24390	25	57	9	61	132	0	31829
18 FAU	98	95	184	108	28	88	74	890	273	949	34	7	24	44	7	7	23	7219	184	56	145	7	0	10545
19 STA	177	163	179	204	47	133	177	801	66	1503	25	6	24	70	13	19	51	181	10751	7	2762	69	0	17428
20 CL/JF	41	45	225	63	11	31	24	236	371	74	539	65	67	57	3	3	8	56	7	9353	7	0	0	11284
21 SP/FB	123	115	138	151	33	91	117	523	52	713	21	5	20	59	12	32	51	134	2617	6	18703	100	0	23816
22 KGEO	11	10	10	28	3	6	9	29	3	31	1	0	3	11	12	53	115	7	71	0	105	1783	0	2303
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	71440		197170		17105		43279		52392		51404		46492		16527		31930		17739		24398		0	1433349
		86335		166671		48319		289165		72378		28839		107841		39390		10702		11487		2345		

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Obs Auto Person

ORIGIN	DESTINATION																							TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1 DC CR	23314	19425	7405	8717	999	7006	4446	9518	2108	1619	0	0	325	1899	0	263	1456	0	735	0	0	164	0	89400	
2 DC NC	12463	31539	10983	13981	799	2534	957	6541	520	204	0	0	268	1442	477	0	979	0	420	0	439	0	0	84546	
3 MTG	4974	6210	162322	14785	0	2363	807	6768	1132	186	5283	457	2367	2536	0	0	268	0	332	0	0	0	0	210790	
4 PG	4867	8294	13400	104237	236	1182	505	4376	660	280	0	0	4499	11419	375	230	3324	0	0	0	0	0	0	157883	
5 ARLCR	1211	1106	645	546	1190	1639	1267	4844	0	1551	0	0	0	0	0	0	0	0	1204	0	0	0	0	15202	
6 ARNCR	3781	1687	1565	1308	2579	21229	4569	15016	226	1484	0	0	0	178	0	0	145	0	863	0	0	0	0	54627	
7 ALX	2162	1515	584	1006	988	3999	18562	6910	798	796	0	0	706	371	0	0	366	0	298	0	0	0	0	39060	
8 FFX	10793	7853	11499	3598	3620	11614	7305	216786	11043	15599	611	0	54	281	239	236	1390	701	1401	522	1347	0	0	306489	
9 LDN	1725	339	671	986	0	694	285	9504	36892	1149	0	0	0	0	0	0	0	0	261	79	0	0	0	52585	
10 PW	965	349	738	193	932	1549	971	15410	806	48415	0	0	0	0	0	0	0	0	593	1272	0	374	164	0	72732
11 FRD	0	0	3147	950	0	0	0	0	0	298	46248	1140	1200	0	0	0	0	0	0	0	538	0	0	0	53520
12 CAR	0	0	678	0	0	0	0	0	0	0	0	0	1523	21085	1070	1313	0	0	0	0	0	0	0	0	25669
13 HOW	163	847	1566	2109	0	0	540	210	0	0	0	0	705	1627	32455	8277	0	0	391	0	0	0	0	0	48890
14 AAR	942	604	2043	8490	169	578	0	191	0	362	0	0	1257	5932	87657	764	263	0	0	0	0	0	0	0	109252
15 CAL	617	0	0	512	0	0	0	673	0	0	0	0	0	239	624	12369	758	249	0	0	0	0	0	0	16040
16 STM	263	0	0	689	0	0	0	522	0	0	0	0	0	0	0	1340	38847	1134	0	0	0	0	0	0	42795
17 CHS	596	492	268	3852	0	265	679	0	0	0	0	0	0	401	0	1401	22353	0	0	0	0	0	0	0	30305
18 FAU	275	0	0	0	0	0	0	686	352	287	0	0	0	0	0	0	0	0	3946	118	0	0	0	0	5664
19 STA	1308	804	0	0	1204	131	0	1962	0	1231	0	0	0	0	0	0	0	0	118	8932	0	3066	118	0	18875
20 CL/JF	0	0	0	0	0	0	0	0	0	489	0	0	546	0	0	0	0	0	0	0	2272	541	0	0	3848
21 SP/FB	0	561	0	0	567	541	546	337	0	131	0	0	0	0	0	0	0	0	2791	0	21072	1009	0	0	27556
22 KGEO	286	164	0	0	0	0	0	0	0	164	0	0	0	0	0	0	0	597	0	0	1322	3265	0	0	5799
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	70704		217511		13283		41439		55026		54916		25565		49115		116398		15564		41997		32652	0	1471529
		81789		165958		55324		300253		73757		25565		116398		41997		5358		18628		3410		4721	

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Difference (Est-Obs) Auto Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	9222	-1492	-3171	-797	383	-4243	-2180	-4243	-1661	-820	362	84	212	-355	173	-151	-845	127	-503	52	167	-150	0	-9830
2 DC NC	3151	-3965	-3180	-1631	128	-207	1141	-1514	-88	506	422	107	604	602	-278	119	-296	120	-211	57	-285	13	0	-4685
3 MTG	-1789	3548	-14680	-2715	654	-189	467	1718	-117	717	-2042	199	793	510	171	103	146	227	-113	257	179	13	0	-11942
4 PG	1877	4931	-1338	756	493	712	2090	407	-273	484	534	242	-540	-2594	399	160	-702	129	247	74	193	34	0	8316
5 ARLCR	66	422	129	289	2542	3234	353	-1753	208	-1165	46	10	45	132	16	11	56	34	-1143	13	44	3	0	3592
6 ARNCR	-1244	1499	541	650	1866	-3856	-669	-4735	454	-378	120	23	121	152	38	25	-4	105	-699	37	117	7	0	-5829
7 ALX	-49	886	661	1519	579	52	-1701	3196	-369	557	86	19	-600	-46	55	40	-126	87	-71	29	155	12	0	4969
8 FFX	-7239	-2987	-3905	994	-849	-1533	2458	457	-760	-5786	-148	90	357	520	-126	-150	-926	223	-492	-279	-732	33	0	-20780
9 LDN	-1514	17	155	-660	167	-83	95	699	-1074	144	311	36	66	95	8	8	36	269	-195	285	55	3	0	-1079
10 PW	-503	291	56	502	-602	-509	283	-5945	419	3049	68	13	61	151	23	20	94	322	256	71	376	-135	0	-1638
11 FRD	317	391	103	-417	45	118	84	530	383	-210	-3938	295	-334	514	19	14	48	41	31	102	27	2	0	-1835
12 CAR	79	103	15	251	10	24	19	109	47	19	-82	3777	-279	-914	9	6	19	9	8	78	7	1	0	3314
13 HOW	274	96	1857	2089	39	127	-424	291	84	75	90	-879	-4158	-1741	59	38	-269	29	29	71	25	4	0	-2195
14 AAR	272	1437	1253	607	-56	-261	329	741	131	-177	507	-857	906	-5834	-289	-118	424	53	84	67	74	13	0	-695
15 CAL	-466	186	174	267	15	37	53	-555	11	28	19	9	-177	-153	347	471	181	7	15	4	15	14	0	503
16 STM	-170	104	95	-324	10	22	35	-441	9	21	12	5	37	138	-135	-2823	-249	7	22	3	38	59	0	-3523
17 CHS	-127	178	159	-1220	49	-127	-451	456	40	101	45	18	125	22	429	-494	2037	25	57	9	61	132	0	1523
18 FAU	-177	95	184	108	28	88	74	204	-79	662	34	7	24	44	7	7	23	3273	66	56	145	7	0	4881
19 STA	-1131	-641	179	204	-1157	2	177	-1161	66	272	25	6	24	70	13	19	51	62	1819	7	-304	-49	0	-1448
20 CL/JF	41	45	225	63	11	31	24	236	-119	74	-7	65	67	57	3	3	8	56	7	7081	-534	0	0	7436
21 SP/FB	123	-446	138	151	-535	-449	-429	185	52	582	21	5	20	59	12	32	51	134	-174	6	-2369	-909	0	-3740
22 KGEO	-275	-154	10	28	3	6	9	29	3	-133	1	0	3	11	12	53	-482	7	71	0	-1216	-1482	0	-3496
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	737		-20341		3822		1840		-2634		-3512		-2623		963		-722		-889		-3762		0	
		4545		714		-7004		-11088		-1379		3274		-8557		-2608		5344		8077		-2376		-38181

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Ratio (Est/Obs) Auto Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.40	0.92	0.57	0.91	1.38	0.39	0.51	0.55	0.21	0.49	362.19	83.74	1.65	0.81	172.64	0.43	0.42	126.55	0.32	51.68	167.49	0.09	0	0.89
2 DC NC	1.25	0.87	0.71	0.88	1.16	0.92	2.19	0.77	0.83	3.48	422.11	106.92	3.26	1.42	0.42	119.13	0.70	119.66	0.50	56.96	0.35	13.17	0	0.94
3 MTG	0.64	1.57	0.91	0.82	653.94	0.92	1.58	1.25	0.90	4.86	0.61	1.44	1.33	1.20	170.91	103.29	1.55	226.94	0.66	257.43	179.00	13.11	0	0.94
4 PG	1.39	1.59	0.90	1.01	3.09	1.60	5.14	1.09	0.59	2.73	534.19	242.32	0.88	0.77	2.06	1.70	0.79	128.54	246.93	73.96	193.43	33.66	0	1.05
5 ARLCR	1.05	1.38	1.20	1.53	3.14	2.97	1.28	0.64	208.18	0.25	46.09	9.63	45.02	131.76	16.24	10.87	56.25	33.71	0.05	12.75	43.63	3.21	0	1.24
6 ARNCR	0.67	1.89	1.35	1.50	1.72	0.82	0.85	0.68	3.01	0.74	120.28	23.28	121.28	1.86	38.21	24.90	0.97	104.87	0.19	37.03	116.97	7.39	0	0.89
7 ALX	0.98	1.59	2.13	2.51	1.59	1.01	0.91	1.46	0.54	1.70	85.52	18.51	0.15	0.87	54.60	39.97	0.66	86.61	0.76	28.55	154.83	11.50	0	1.13
8 FFX	0.33	0.62	0.66	1.28	0.77	0.87	1.34	1.00	0.93	0.63	0.76	89.58	7.65	2.85	0.47	0.36	0.33	1.32	0.65	0.46	0.46	32.62	0	0.93
9 LDN	0.12	1.05	1.23	0.33	166.63	0.88	1.33	1.07	0.97	1.13	310.80	35.51	65.68	95.00	8.42	7.64	35.93	268.83	0.25	4.63	54.66	2.73	0	0.98
10 PW	0.48	1.83	1.08	3.60	0.35	0.67	1.29	0.61	1.52	1.06	68.22	13.39	61.23	151.48	23.16	19.57	94.13	1.54	1.20	71.00	2.00	0.18	0	0.98
11 FRD	316.92	391.04	1.03	0.56	44.66	118.45	84.32	530.33	382.61	0.29	0.91	1.26	0.72	514.46	19.23	13.81	47.67	40.60	31.22	1.19	27.44	1.74	0	0.97
12 CAR	78.65	103.13	1.02	251.02	9.65	23.59	19.29	108.55	46.92	18.81	0.95	1.18	0.74	0.30	9.17	6.31	19.40	9.33	7.56	77.65	7.17	0.54	0	1.13
13 HOW	2.68	1.11	2.19	1.99	38.70	126.58	0.22	2.39	83.80	75.45	1.13	0.46	0.87	0.79	58.55	37.62	0.31	28.83	28.68	70.88	25.45	3.66	0	0.96
14 AAR	1.29	3.38	1.61	1.07	0.67	0.55	329.35	4.88	130.67	0.51	506.78	0.32	1.15	0.93	0.62	0.55	424.37	53.49	83.60	66.60	73.59	12.61	0	0.99
15 CAL	0.24	185.59	174.19	1.52	15.05	36.55	52.96	0.17	10.92	27.82	19.32	8.94	0.26	0.76	1.03	1.62	1.73	7.39	14.81	3.76	14.80	14.06	0	1.03
16 STM	0.36	103.79	95.11	0.53	9.83	22.29	35.06	0.16	8.76	21.26	12.28	5.47	36.65	138.30	0.90	0.93	0.78	7.35	22.42	2.80	37.70	59.36	0	0.92
17 CHS	0.79	1.36	1.60	0.68	49.32	0.52	0.34	455.78	40.21	100.99	44.88	17.94	124.50	1.06	428.75	0.65	1.09	24.58	56.85	9.02	61.09	132.12	0	1.05
18 FAU	0.36	95.47	184.18	108.36	27.68	88.22	73.76	1.30	0.77	3.31	33.95	7.23	24.00	44.29	6.54	7.07	23.44	1.83	1.56	55.52	145.16	6.96	0	1.86
19 STA	0.14	0.20	178.63	203.93	0.04	1.01	176.56	0.41	66.09	1.22	24.97	5.85	24.18	70.46	12.50	19.32	51.47	1.53	1.20	7.28	0.90	0.59	0	0.92
20 CL/JF	40.64	44.81	224.92	62.79	10.76	31.04	23.98	236.05	0.76	73.53	0.99	65.27	66.52	57.31	3.07	2.67	8.24	55.54	7.46	4.12	0.01	0.33	0	2.93
21 SP/FB	122.92	0.20	137.69	150.56	0.06	0.17	0.21	1.55	51.99	5.44	20.80	4.92	20.39	59.21	11.69	31.56	51.46	134.03	0.94	6.29	0.89	0.10	0	0.86
22 KGEO	0.04	0.06	10.26	27.93	2.66	6.12	9.30	29.25	2.77	0.19	1.29	0.41	3.18	10.57	11.88	52.68	0.19	6.92	71.43	0.34	0.08	0.55	0	0.40
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	1.01		0.91		1.29		1.04		0.95		0.94		1.13		0.95		1.06		0.98		0.95		0	
		1.06		1.00		0.87		0.96		0.98		1.13		0.93		0.94		2.00		3.37		0.50		0.97

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Est Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	29589	16192	3756	7586	1291	2492	1936	4698	318	699	207	45	461	1261	131	57	529	73	155	21	86	5	0	71588
2 DC NC	13947	25334	7092	11913	839	2066	1741	4424	292	615	248	59	756	1697	149	56	604	61	125	20	66	4	0	72107
3 MTG	2938	8931	133445	10528	535	1857	905	6192	610	534	2434	476	2664	2160	83	33	2229	106	96	125	65	3	0	174943
4 PG	6462	12453	10090	99141	671	1685	2089	3281	157	421	235	118	3323	7282	588	210	2229	45	105	22	64	12	0	150685
5 ARLCR	1168	1385	672	785	3377	4390	1415	2750	155	335	28	5	35	101	12	5	47	21	44	5	24	1	0	16761
6 ARNCR	2327	2907	1832	1856	4076	16067	3441	9248	519	985	64	10	89	246	25	10	118	63	114	14	58	2	0	44069
7 ALX	1926	2192	1003	2366	1437	3743	15149	9075	285	1184	39	6	67	224	38	21	214	47	166	11	86	5	0	39285
8 FFX	3410	4713	6131	3743	2607	9700	8691	194149	9057	8813	212	30	220	400	43	23	304	649	612	107	315	9	0	253936
9 LDN	140	276	485	139	126	489	233	8144	34495	1042	217	12	23	31	1	1	11	192	26	287	17	0	0	46387
10 PW	399	578	458	415	281	928	985	7756	969	49871	21	3	20	54	6	4	42	796	1371	31	547	13	0	65549
11 FRD	160	220	2264	232	37	67	34	209	258	27	39678	1212	559	241	5	3	14	15	9	479	7	0	0	45729
12 CAR	35	48	442	114	7	10	6	30	15	4	1161	23960	622	227	2	1	5	2	2	39	1	0	0	26734
13 HOW	373	794	2752	3523	37	91	62	229	30	25	511	622	26682	5750	26	12	55	10	9	32	7	1	0	41631
14 AAR	969	1614	2208	7475	105	229	189	408	44	66	239	244	5958	76316	352	59	238	17	28	24	22	4	0	96811
15 CAL	103	124	74	572	13	22	28	37	2	8	5	2	26	339	12225	1059	335	2	4	1	4	6	0	14991
16 STM	39	45	27	194	7	10	14	18	1	5	3	1	11	55	1051	34357	709	2	6	0	12	33	0	36600
17 CHS	384	542	208	2219	47	106	160	234	11	42	13	5	55	236	336	727	23379	8	21	2	22	93	0	28848
18 FAU	54	59	83	40	19	60	38	548	194	821	12	2	8	14	2	2	7	6971	148	36	102	3	0	9223
19 STA	109	114	76	89	34	96	114	476	24	1329	7	1	7	24	3	5	20	145	10462	2	2613	62	0	15811
20 CL/JF	18	17	105	19	5	12	9	93	283	31	396	34	30	21	1	0	2	35	2	9086	2	0	0	10200
21 SP/FB	64	59	48	51	21	51	63	245	16	524	5	1	5	17	3	10	19	96	2495	1	18169	90	0	22054
22 KGEO	4	4	3	10	1	2	3	7	0	13	0	0	1	3	5	30	84	3	63	0	91	1745	0	2074
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	64618		173254		15575		37305		47735		45734		41624		15088		29186		16061		22379		0	1286017
		78602		153010		44174		252251		67393		26847		96699		36684		9359		10345		2092		

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Obs Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	19279	14717	6825	8432	659	5906	3933	8302	1221	478	0	0	0	1485	0	0	970	0	131	0	0	164	0	72503
2 DC NC	10238	28866	10535	13000	799	2534	957	6145	520	204	0	0	130	1442	477	0	979	0	122	0	131	0	0	77080
3 MTG	4842	5903	150383	13746	0	2363	807	5998	1132	186	5059	457	2367	2536	0	0	0	332	0	0	0	0	0	196111
4 PG	4676	7685	12914	95023	236	878	505	4376	660	280	0	0	3913	10168	375	0	2014	0	0	0	0	0	0	143704
5 ARLCR	765	1106	645	546	1190	1639	1267	3475	0	619	0	0	0	0	0	0	0	0	0	0	0	0	0	11251
6 ARNCR	3566	1574	1565	905	1951	18578	3874	14375	226	638	0	0	178	0	0	145	0	863	0	0	0	0	0	48438
7 ALX	1861	1515	584	1006	869	3122	17940	6642	588	796	0	0	706	371	0	0	366	0	298	0	0	0	0	36664
8 FFX	8845	7186	10852	3598	2134	11143	6623	196971	9401	14508	611	0	54	281	239	236	1390	701	1039	327	1347	0	0	277485
9 LDN	1275	339	461	986	0	694	285	8126	32178	1149	0	0	0	0	0	0	0	0	261	79	0	0	0	45833
10 PW	0	349	738	193	0	1070	971	14146	806	46103	0	0	0	0	0	0	0	593	799	0	129	164	0	66062
11 FRD	0	0	2661	950	0	0	0	0	0	298	44478	974	882	0	0	0	0	0	0	0	538	0	0	50781
12 CAR	0	0	678	0	0	0	0	0	0	0	1134	18976	1070	1024	0	0	0	0	0	0	0	0	0	22881
13 HOW	163	709	1566	1763	0	0	540	210	0	0	386	1627	31766	8277	0	0	391	0	0	0	0	0	0	47398
14 AAR	661	604	2043	6800	169	578	0	191	0	362	0	967	5932	80814	764	263	0	0	0	0	0	0	0	100149
15 CAL	617	0	0	512	0	0	0	673	0	0	0	0	239	624	12369	758	249	0	0	0	0	0	0	16040
16 STM	0	0	0	459	0	0	0	522	0	0	0	0	0	0	1340	34552	1134	0	0	0	0	0	0	38007
17 CHS	109	492	0	2965	0	265	679	0	0	0	0	0	0	401	0	1401	19875	0	0	0	0	0	0	26187
18 FAU	0	0	0	0	0	0	0	686	352	287	0	0	0	0	0	0	0	3397	0	0	0	0	0	4722
19 STA	0	384	0	0	0	0	0	858	0	1231	0	0	0	0	0	0	0	0	6958	0	2161	118	0	11710
20 CL/JF	0	0	0	0	0	0	0	0	489	0	546	0	0	0	0	0	0	0	0	2272	541	0	0	3848
21 SP/FB	0	253	0	0	567	541	0	337	0	131	0	0	0	0	0	0	0	0	2493	0	18908	594	0	23825
22 KGEO	286	164	0	0	0	0	0	0	0	164	0	0	0	0	0	0	597	0	0	0	903	3265	0	5380
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	57185		202449		8574		38382		47572		52215		47059		15564		28111		13296		24119		0	1326060
		71849		150884		49312		272033		67435		23001		107600		37210		4691		3215		4306		

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Difference (Est-Obs) Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	10310	1475	-3068	-847	632	-3414	-1997	-3604	-903	221	207	45	461	-224	131	57	-441	73	24	21	86	-159	0	-915
2 DC NC	3709	-3532	-3443	-1087	40	-469	784	-1721	-228	411	248	59	626	254	-328	56	-375	61	3	20	-65	4	0	-4973
3 MTG	-1904	3028	-16938	-3218	535	-506	98	194	-522	348	-2626	19	297	-376	83	33	222	106	-236	125	65	3	0	-21168
4 PG	1786	4768	-2824	4118	435	807	1584	-1095	-502	141	235	118	-590	-2886	213	210	214	45	105	22	64	12	0	6982
5 ARLCR	403	279	27	239	2187	2752	148	-725	155	-284	28	5	35	101	12	5	47	21	44	5	24	1	0	5510
6 ARNCR	-1239	1333	267	951	2125	-2511	-433	-5127	293	346	64	10	89	68	25	10	-27	63	-749	14	58	2	0	-4369
7 ALX	64	677	419	1360	568	621	-2791	2433	-303	388	39	6	-639	-146	38	21	-152	47	-132	11	86	5	0	2621
8 FFX	-5435	-2473	-4721	145	473	-1443	2067	-2822	-344	-5695	-400	30	166	119	-196	-213	-1086	-51	-427	-220	-1032	9	0	-23549
9 LDN	-1135	-63	23	-847	126	-205	-53	18	2317	-107	217	12	23	31	1	1	11	192	-235	209	17	0	0	554
10 PW	399	229	-279	223	281	-142	14	-6391	163	3768	21	3	20	54	6	4	42	203	572	31	418	-151	0	-512
11 FRD	160	220	-398	-718	37	67	34	209	258	-271	-4800	238	-322	241	5	3	14	15	9	-59	7	0	0	-5052
12 CAR	35	48	-236	114	7	10	6	30	15	4	28	4984	-448	-796	2	1	5	2	2	39	1	0	0	3853
13 HOW	210	84	1185	1761	37	91	-478	19	30	25	125	-1005	-5083	-2527	26	12	-336	10	9	32	7	1	0	-5767
14 AAR	308	1010	166	675	-64	-349	189	217	44	-296	239	-723	26	-4498	-412	-204	238	17	28	24	22	4	0	-3339
15 CAL	-513	124	74	60	13	22	28	-636	2	8	5	2	-212	-285	-144	301	86	2	4	1	4	6	0	-1050
16 STM	39	45	27	-265	7	10	14	-503	1	5	3	1	11	55	-289	-195	-425	2	6	0	12	33	0	-1407
17 CHS	274	50	208	-746	47	-159	-519	234	11	42	13	5	55	-165	336	-673	3503	8	21	2	22	93	0	2661
18 FAU	54	59	83	40	19	60	38	-138	-158	534	12	2	8	14	2	2	7	3573	148	36	102	3	0	4500
19 STA	109	-270	76	89	34	96	114	-382	24	98	7	1	7	24	3	5	20	145	3504	2	452	-56	0	4101
20 CL/JF	18	17	105	19	5	12	9	93	-206	31	-150	34	30	21	1	0	2	35	2	6814	-539	0	0	6352
21 SP/FB	64	-194	48	51	-546	-489	63	-93	16	393	5	1	5	17	3	10	19	96	1	1	-738	-505	0	-1771
22 KGEO	-283	-160	3	10	1	2	3	7	0	-151	0	0	1	3	5	30	-513	3	63	0	-812	-1520	0	-3306
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	7433		-29195		7001		-1078		162		-6481		-5435		-476		1075		2766		-1740		0	
		6753		2126		-5137		-19782		-41		3847		-10901		-525		4668		7130		-2214		-40043

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Ratio (Est/Obs) Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.53	1.10	0.55	0.90	1.96	0.42	0.49	0.57	0.26	1.46	206.90	45.24	460.59	0.85	131.06	57.22	0.55	72.94	1.18	20.59	86.05	0.03	0	0.99
2 DC NC	1.36	0.88	0.67	0.92	1.05	0.82	1.82	0.72	0.56	3.01	247.72	59.43	5.83	1.18	0.31	55.77	0.62	60.81	1.02	20.03	0.50	4.01	0	0.94
3 MTG	0.61	1.51	0.89	0.77	534.53	0.79	1.12	1.03	0.54	2.88	0.48	1.04	1.13	0.85	82.65	32.84	222.26	105.70	0.29	125.48	65.04	3.43	0	0.89
4 PG	1.38	1.62	0.78	1.04	2.85	1.92	4.14	0.75	0.24	1.50	235.32	117.78	0.85	0.72	1.57	209.70	1.11	45.22	105.15	22.32	64.02	11.99	0	1.05
5 ARLCR	1.53	1.25	1.04	1.44	2.84	2.68	1.12	0.79	154.84	0.54	27.74	5.06	35.43	100.84	11.73	5.47	47.02	21.24	43.61	5.34	23.95	1.34	0	1.49
6 ARNCR	0.65	1.85	1.17	2.05	2.09	0.86	0.89	0.64	2.30	1.54	64.01	9.59	88.99	1.38	24.96	9.63	0.82	63.20	0.13	13.52	57.70	2.24	0	0.91
7 ALX	1.03	1.45	1.72	2.35	1.65	1.20	0.84	1.37	0.48	1.49	39.07	6.36	0.09	0.61	38.45	20.57	0.58	47.11	0.56	10.58	86.27	4.58	0	1.07
8 FFX	0.39	0.66	0.56	1.04	1.22	0.87	1.31	0.99	0.96	0.61	0.35	29.57	4.09	1.42	0.18	0.10	0.22	0.93	0.59	0.33	0.23	8.51	0	0.92
9 LDN	0.11	0.81	1.05	0.14	126.32	0.70	0.82	1.00	1.07	0.91	216.70	11.58	22.61	30.88	1.47	1.17	10.74	192.48	0.10	3.65	16.99	0.48	0	1.01
10 PW	399.07	1.66	0.62	2.16	281.14	0.87	1.01	0.55	1.20	1.08	20.80	2.79	20.23	53.89	6.45	4.47	42.06	1.34	1.72	30.63	4.24	0.08	0	0.99
11 FRD	160.36	219.77	0.85	0.24	36.72	66.61	34.02	208.64	258.11	0.09	0.89	1.24	0.63	241.22	4.85	2.89	14.06	14.84	8.93	0.89	6.68	0.27	0	0.90
12 CAR	34.84	48.49	0.65	114.07	6.86	9.90	5.93	30.09	14.58	4.23	1.02	1.26	0.58	0.22	1.95	1.19	5.12	2.30	1.66	39.39	1.31	0.09	0	1.17
13 HOW	2.29	1.12	1.76	2.00	37.32	90.66	0.11	1.09	30.24	25.14	1.32	0.38	0.84	0.69	26.27	11.55	0.14	9.86	8.66	31.55	6.80	0.90	0	0.88
14 AAR	1.47	2.67	1.08	1.10	0.62	0.40	188.51	2.14	44.19	0.18	239.05	0.25	1.00	0.94	0.46	0.23	237.84	17.46	28.43	24.15	21.74	3.81	0	0.97
15 CAL	0.17	124.07	74.31	1.12	13.31	22.26	27.71	0.06	2.07	7.54	4.87	1.88	0.11	0.54	0.99	1.40	1.34	1.78	4.12	0.69	3.93	6.10	0	0.93
16 STM	38.78	45.13	27.46	0.42	6.91	9.56	13.52	0.04	1.36	4.85	2.61	0.95	11.05	55.26	0.78	0.99	0.63	1.59	5.68	0.30	12.05	33.06	0	0.96
17 CHS	3.50	1.10	207.56	0.75	47.07	0.40	0.24	234.41	11.30	41.61	12.67	4.69	55.07	0.59	336.19	0.52	1.18	7.59	20.76	2.20	22.35	92.84	0	1.10
18 FAU	54.38	58.57	82.99	39.70	18.76	60.04	38.35	0.80	0.55	2.86	12.40	1.86	8.08	14.08	1.60	1.60	7.35	2.05	148.13	36.24	101.64	3.34	0	1.95
19 STA	108.86	0.30	75.69	88.80	34.38	96.43	114.10	0.55	23.60	1.08	6.92	1.25	7.15	23.62	3.35	4.73	19.65	145.18	1.50	1.95	1.21	0.53	0	1.35
20 CL/JF	17.73	17.43	104.82	18.86	5.27	12.48	8.66	92.74	0.58	30.53	0.73	34.32	29.51	20.50	0.50	0.30	1.91	35.31	1.95	4.00	0.00	0.03	0	2.65
21 SP/FB	63.78	0.23	48.40	51.28	0.04	0.10	63.18	0.72	15.51	4.00	4.88	0.69	5.09	17.19	3.03	10.06	19.47	95.52	1.00	1.43	0.96	0.15	0	0.93
22 KGEO	0.01	0.02	2.51	9.92	1.39	2.10	3.41	6.87	0.48	0.08	0.19	0.06	0.07	3.11	5.29	30.28	0.14	3.24	62.98	0.03	0.10	0.53	0	0.39
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	1.13		0.86		1.82		0.97		1.00		0.88		0.88		0.97		1.04		1.21		0.93		0	
		1.09		1.01		0.90		0.93		1.00		1.17		0.90		0.99		2.00		3.22		0.49		0.97

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Est Motr Psn

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	49593	28226	6390	9146	3195	5655	3434	6167	447	821	362	84	539	1546	174	112	611	127	232	52	168	14	0	117094
2 DC NC	28340	35066	10490	13508	1891	3777	2643	5426	432	723	422	107	872	2045	199	119	684	120	209	57	154	13	0	107299
3 MTG	6484	10750	155608	12239	938	2394	1348	8602	1015	919	3241	655	3162	3047	171	103	414	227	219	257	179	13	0	211985
4 PG	9454	13827	12324	105876	887	2026	2648	4842	386	778	534	242	3959	8825	774	390	2623	129	247	74	193	34	0	171072
5 ARLCR	3045	1854	893	860	4113	5917	1935	3244	208	389	46	10	45	132	16	11	56	34	61	13	44	3	0	22928
6 ARNCR	5561	3718	2314	1995	5948	19151	4572	10780	680	1113	120	23	121	330	38	25	140	105	164	37	117	7	0	57062
7 ALX	3324	2555	1318	2540	1844	4597	17821	10308	429	1361	86	19	106	324	55	40	240	87	227	29	155	12	0	47474
8 FFX	5641	5040	7732	4641	3111	10711	10155	219063	10286	9881	466	90	419	804	115	87	472	924	910	242	617	33	0	291437
9 LDN	384	360	830	326	194	640	385	10224	35846	1299	311	36	66	95	8	8	36	269	66	364	55	3	0	51804
10 PW	743	657	814	708	368	1088	1291	9554	1227	51524	69	13	63	152	24	20	96	915	1528	71	750	29	0	71707
11 FRD	325	392	3252	533	45	119	84	531	383	88	42472	1435	866	514	19	14	48	41	31	639	27	2	0	51860
12 CAR	79	103	693	251	10	24	19	109	47	19	1441	24862	791	400	9	6	19	9	8	78	7	1	0	28983
13 HOW	627	968	3445	4203	53	138	120	515	84	78	795	748	28303	6536	59	38	122	29	29	71	25	4	0	46989
14 AAR	1586	2081	3317	9104	134	334	336	970	131	189	507	400	6838	81823	475	145	424	53	84	67	74	13	0	109083
15 CAL	159	187	175	779	16	37	53	118	11	28	19	9	62	472	12717	1229	430	7	15	4	15	14	0	16555
16 STM	94	104	95	365	10	22	35	81	9	21	12	5	37	138	1205	36037	886	7	22	3	38	59	0	39286
17 CHS	615	694	435	2632	58	144	229	462	40	103	45	18	125	423	429	907	24452	25	57	9	61	132	0	32095
18 FAU	100	95	184	108	28	88	74	899	273	949	34	7	24	44	7	7	23	7219	184	56	145	7	0	10556
19 STA	178	163	179	204	47	133	177	811	66	1503	25	6	24	70	13	19	51	181	10751	7	2762	69	0	17438
20 CL/JF	41	45	225	63	11	31	24	236	371	74	539	65	67	57	3	3	8	56	7	9353	7	0	0	11284
21 SP/FB	124	115	138	151	33	91	117	546	52	713	21	5	20	59	12	32	51	134	2617	6	18703	100	0	23839
22 KGEO	11	10	10	28	3	6	9	30	3	31	1	0	3	11	12	53	115	7	71	0	105	1783	0	2303
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	116507		210859		22937		47509		52425		51568		46512		16532		32004		17739		24401		0	
		107009		170260		57124		293516		72604		28839		107847		39404		10702		11487		2345		1540132

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Obs Motr Psn

ORIGIN	DESTINATION																							TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1 DC CR	43803	29683	16183	17012	1531	11114	6491	14321	2440	2852	234	0	858	2101	495	263	2970	215	988	0	308	164	0	154028	
2 DC NC	22879	34361	11816	15564	1049	3058	1069	8283	520	601	0	0	268	1442	716	0	979	0	688	0	439	0	0	103732	
3 MTG	11125	8519	165311	15593	0	2659	807	6768	1132	186	5283	457	2367	2536	0	0	268	0	332	283	0	0	0	223625	
4 PG	8211	10089	14193	106273	850	1678	505	4655	660	697	0	0	4499	11419	375	230	3672	0	0	0	0	0	0	168005	
5 ARLCR	1491	2015	645	1160	1545	3287	1626	5700	256	1698	0	0	0	0	0	0	0	0	1204	0	0	0	0	20627	
6 ARNCR	8695	3073	2267	1995	3005	21837	4987	16073	226	1484	0	0	0	178	0	0	145	0	863	0	0	0	0	64827	
7 ALX	3550	1515	584	1006	1273	3999	19145	7094	798	796	0	0	706	371	0	0	366	0	298	0	0	0	0	41499	
8 FFX	15622	8840	11499	3598	3857	12118	7520	217755	11043	15599	611	0	54	281	239	236	1390	701	1401	522	1347	0	0	314233	
9 LDN	1725	339	671	986	0	694	285	9504	36892	1149	0	0	0	0	0	0	0	0	261	79	0	0	0	52585	
10 PW	965	1100	738	193	1172	1966	971	15813	806	48415	0	0	0	0	0	0	0	0	593	1272	0	374	164	0	74542
11 FRD	0	0	3277	950	0	0	0	0	0	298	46631	1140	1200	0	0	0	0	0	0	0	538	0	0	0	54032
12 CAR	0	0	678	0	0	0	0	0	0	0	0	0	1523	21085	1070	1313	0	0	0	0	0	0	0	0	25669
13 HOW	395	847	1566	2109	181	0	540	210	0	0	705	1627	32740	8277	0	0	0	391	0	0	0	0	0	0	49588
14 AAR	2930	604	2043	8490	169	578	0	191	0	362	0	1257	5932	87657	764	263	0	0	0	0	0	0	0	0	111241
15 CAL	617	0	0	512	0	366	0	673	0	0	0	0	239	624	12369	758	249	0	0	0	0	0	0	0	16406
16 STM	263	0	0	689	0	0	0	522	0	0	0	0	0	0	0	1340	38847	1134	0	0	0	0	0	0	42795
17 CHS	744	492	268	3852	0	265	679	0	0	0	0	0	0	401	0	1401	22353	0	0	0	0	0	0	0	30454
18 FAU	275	0	0	0	0	0	0	686	352	287	0	0	0	0	0	0	0	0	3946	118	0	0	0	0	5664
19 STA	1891	1303	0	0	1204	533	0	1962	0	1231	0	0	0	0	0	0	0	118	8932	0	3066	118	0	0	20359
20 CL/JF	0	0	0	0	0	0	0	0	489	0	546	0	0	0	0	0	0	0	0	0	2272	541	0	0	3848
21 SP/FB	0	561	0	0	567	541	546	337	0	131	0	0	0	0	0	0	0	0	2791	0	21072	1009	0	0	27556
22 KGEO	286	164	0	0	0	0	0	0	0	164	0	0	0	0	0	0	0	597	0	0	1322	3265	0	0	5799
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	125467		231736		16404		45171		55614		75950		55532		49932		116601		16298		41997		0		
		103507		179981		64692		310547		75950		25565		116601		41997		5574		19149		3693		4721	1611114

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Difference (Est-Obs) Motorized Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	5790	-1458	-9793	-7866	1664	-5459	-3058	-8154	-1993	-2031	128	84	-318	-555	-321	-151	-2358	-89	-756	52	-140	-150	0	-36934
2 DC NC	5461	705	-1326	-2056	842	719	1574	-2857	-88	123	422	107	605	602	-517	119	-295	120	-479	57	-285	13	0	3567
3 MTG	-4641	2230	-9702	-3354	938	-264	541	1834	-117	733	-2042	199	795	510	171	103	146	227	-113	-26	179	13	0	-11640
4 PG	1242	3738	-1869	-397	38	348	2143	187	-273	81	534	242	-539	-2594	399	160	-1050	129	247	74	193	34	0	3068
5 ARLCR	1554	-161	248	-300	2568	2630	309	-2456	-48	-1310	46	10	45	132	16	11	56	34	-1143	13	44	3	0	2301
6 ARNCR	-3133	645	46	-0	2943	-2686	-414	-5292	454	-371	120	23	121	152	38	25	-4	105	-699	37	117	7	0	-7765
7 ALX	-225	1040	734	1535	571	598	-1324	3214	-369	565	86	19	-600	-46	55	40	-126	87	-71	29	155	12	0	5974
8 FFX	-9981	-3800	-3767	1044	-746	-1407	2634	1308	-757	-5717	-146	90	365	523	-124	-149	-918	223	-492	-279	-730	33	0	-22795
9 LDN	-1341	21	159	-660	194	-53	100	720	-1046	150	311	36	66	95	8	8	36	269	-195	285	55	3	0	-781
10 PW	-222	-442	77	515	-803	-878	320	-6259	421	3109	69	13	63	152	24	20	96	322	256	71	376	-135	0	-2835
11 FRD	325	392	-25	-417	45	119	84	531	383	-210	-4158	295	-334	514	19	14	48	41	31	102	27	2	0	-2173
12 CAR	79	103	15	251	10	24	19	109	47	19	-82	3777	-279	-914	9	6	19	9	8	78	7	1	0	3314
13 HOW	232	121	1878	2094	-128	138	-420	305	84	78	90	-879	-4437	-1741	59	38	-269	29	29	71	25	4	0	-2599
14 AAR	-1345	1476	1274	614	-35	-244	336	779	131	-173	507	-857	906	-5834	-289	-118	424	53	84	67	74	13	0	-2158
15 CAL	-457	187	175	267	16	-329	53	-555	11	28	19	9	-177	-153	348	471	181	7	15	4	15	14	0	148
16 STM	-170	104	95	-324	10	22	35	-441	9	21	12	5	37	138	-135	-2810	-249	7	22	3	38	59	0	-3509
17 CHS	-129	202	167	-1220	58	-120	-450	462	40	103	45	18	125	22	429	-494	2099	25	57	9	61	132	0	1641
18 FAU	-175	95	184	108	28	88	74	213	-79	662	34	7	24	44	7	7	23	3273	66	56	145	7	0	4891
19 STA	-1713	-1141	179	204	-1157	-401	177	-1151	66	272	25	6	24	70	13	19	51	62	1819	7	-304	-49	0	-2921
20 CL/JF	41	45	225	63	11	31	24	236	-119	74	-7	65	67	57	3	3	8	56	7	7081	-534	0	0	7436
21 SP/FB	124	-446	138	151	-535	-449	-429	208	52	582	21	5	20	59	12	32	51	134	-174	6	-2369	-909	0	-3717
22 KGEO	-275	-154	10	28	3	6	9	30	3	-133	1	0	3	11	12	53	-482	7	71	0	-1216	-1482	0	-3496
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	-8960	3502	-20877	-9721	6534	-7568	2338	-17032	-3190	-3346	-3964	3274	-3420	-8753	235	-2593	-2510	5129	-1410	7794	-4068	-2376	0	-70982

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Ratio (Est/Obs) Motorized Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.13	0.95	0.39	0.54	2.09	0.51	0.53	0.43	0.18	0.29	1.55	83.74	0.63	0.74	0.35	0.43	0.21	0.59	0.23	51.68	0.55	0.09	0	0.76
2 DC NC	1.24	1.02	0.89	0.87	1.80	1.24	2.47	0.66	0.83	1.20	422.11	106.92	3.26	1.42	0.28	119.13	0.70	119.66	0.30	56.96	0.35	13.17	0	1.03
3 MTG	0.58	1.26	0.94	0.78	938.19	0.90	1.67	1.27	0.90	4.95	0.61	1.44	1.34	1.20	170.96	103.29	1.55	226.94	0.66	0.91	179.00	13.11	0	0.95
4 PG	1.15	1.37	0.87	1.00	1.04	1.21	5.24	1.04	0.59	1.12	534.19	242.32	0.88	0.77	2.06	1.70	0.71	128.54	246.93	73.96	193.43	33.66	0	1.02
5 ARLCR	2.04	0.92	1.39	0.74	2.66	1.80	1.19	0.57	0.81	0.23	46.09	9.63	45.02	131.76	16.24	10.87	56.25	33.71	0.05	12.75	43.63	3.21	0	1.11
6 ARNCR	0.64	1.21	1.02	1.00	1.98	0.88	0.92	0.67	3.01	0.75	120.28	23.28	121.28	1.86	38.21	24.90	0.97	104.87	0.19	37.03	116.97	7.39	0	0.88
7 ALX	0.94	1.69	2.26	2.53	1.45	1.15	0.93	1.45	0.54	1.71	85.52	18.51	0.15	0.87	54.60	39.97	0.66	86.61	0.76	28.55	154.83	11.50	0	1.14
8 FFX	0.36	0.57	0.67	1.29	0.81	0.88	1.35	1.01	0.93	0.63	0.76	89.58	7.79	2.86	0.48	0.37	0.34	1.32	0.65	0.46	0.46	32.62	0	0.93
9 LDN	0.22	1.06	1.24	0.33	194.25	0.92	1.35	1.08	0.97	1.13	310.80	35.51	65.68	95.00	8.42	7.64	35.93	268.83	0.25	4.63	54.66	2.73	0	0.99
10 PW	0.77	0.60	1.10	3.67	0.31	0.55	1.33	0.60	1.52	1.06	68.90	13.39	63.32	152.40	23.87	20.00	96.33	1.54	1.20	71.00	2.00	0.18	0	0.96
11 FRD	325.21	391.72	0.99	0.56	45.40	118.93	84.41	530.71	382.61	0.29	0.91	1.26	0.72	514.46	19.23	13.81	47.67	40.60	31.22	1.19	27.44	1.74	0	0.96
12 CAR	78.65	103.13	1.02	251.02	9.65	23.59	19.29	108.55	46.92	18.81	0.95	1.18	0.74	0.30	9.17	6.31	19.40	9.33	7.56	77.65	7.17	0.54	0	1.13
13 HOW	1.59	1.14	2.20	1.99	0.29	138.36	0.22	2.45	83.80	78.48	1.13	0.46	0.86	0.79	58.55	37.62	0.31	28.83	28.68	70.88	25.45	3.66	0	0.95
14 AAR	0.54	3.44	1.62	1.07	0.80	0.58	335.96	5.08	130.67	0.52	506.78	0.32	1.15	0.93	0.62	0.55	424.37	53.49	83.60	66.60	73.59	12.61	0	0.98
15 CAL	0.26	186.91	174.59	1.52	15.56	0.10	53.06	0.17	10.92	27.90	19.32	8.94	0.26	0.76	1.03	1.62	1.73	7.39	14.81	3.76	14.80	14.06	0	1.01
16 STM	0.36	103.79	95.11	0.53	9.83	22.29	35.06	0.16	8.76	21.26	12.28	5.47	36.65	138.30	0.90	0.93	0.78	7.35	22.42	2.80	37.70	59.36	0	0.92
17 CHS	0.83	1.41	1.63	0.68	58.19	0.55	0.34	461.89	40.21	102.74	44.88	17.94	124.50	1.06	428.75	0.65	1.09	24.58	56.85	9.02	61.09	132.12	0	1.05
18 FAU	0.36	95.47	184.19	108.36	27.70	88.25	73.89	1.31	0.77	3.31	33.95	7.23	24.00	44.29	6.54	7.07	23.44	1.83	1.56	55.52	145.16	6.96	0	1.86
19 STA	0.09	0.12	178.63	203.93	0.04	0.25	176.57	0.41	66.09	1.22	24.97	5.85	24.18	70.46	12.50	19.32	51.47	1.53	1.20	7.28	0.90	0.59	0	0.86
20 CL/JF	40.64	44.81	224.92	62.79	10.76	31.04	23.98	236.05	0.76	73.53	0.99	65.27	66.52	57.31	3.07	2.67	8.24	55.54	7.46	4.12	0.01	0.33	0	2.93
21 SP/FB	123.59	0.20	137.69	150.56	0.06	0.17	0.21	1.62	51.99	5.44	20.80	4.92	20.39	59.21	11.69	31.56	51.46	134.03	0.94	6.29	0.89	0.10	0	0.87
22 KGEO	0.04	0.06	10.26	27.93	2.66	6.12	9.30	29.73	2.77	0.19	1.29	0.41	3.18	10.57	11.88	52.68	0.19	6.92	71.43	0.34	0.08	0.55	0	0.40
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	0.93	1.03	0.91	0.95	1.40	0.88	1.05	0.95	0.94	0.96	0.93	1.13	0.93	0.92	1.01	0.94	0.93	1.92	0.93	3.11	0.86	0.50	0	0.96

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Est Auto Occ.

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.10	1.11	1.13	1.04	1.07	1.11	1.17	1.12	1.41	1.14	1.75	1.85	1.17	1.22	1.32	1.96	1.15	1.73	1.50	2.51	1.95	2.92	0	1.11
2 DC NC	1.12	1.09	1.10	1.04	1.10	1.13	1.21	1.14	1.48	1.16	1.70	1.80	1.15	1.21	1.34	2.14	1.13	1.97	1.67	2.84	2.34	3.28	0	1.11
3 MTG	1.08	1.09	1.11	1.15	1.22	1.17	1.41	1.37	1.66	1.69	1.33	1.38	1.19	1.41	2.07	3.15	1.86	2.15	2.27	2.05	2.75	3.82	0	1.14
4 PG	1.04	1.06	1.20	1.06	1.09	1.12	1.24	1.46	2.45	1.82	2.27	2.06	1.19	1.21	1.32	1.86	1.18	2.84	2.35	3.31	3.02	2.81	0	1.10
5 ARLCR	1.09	1.10	1.15	1.06	1.11	1.11	1.15	1.12	1.34	1.15	1.66	1.90	1.27	1.31	1.38	1.99	1.20	1.59	1.40	2.39	1.82	2.40	0	1.12
6 ARNCR	1.09	1.10	1.15	1.06	1.09	1.08	1.13	1.11	1.31	1.12	1.88	2.43	1.36	1.34	1.53	2.59	1.19	1.66	1.44	2.74	2.03	3.30	0	1.11
7 ALX	1.10	1.10	1.24	1.07	1.09	1.08	1.11	1.11	1.51	1.14	2.19	2.91	1.58	1.45	1.42	1.94	1.12	1.84	1.37	2.70	1.79	2.51	0	1.12
8 FFX	1.04	1.03	1.24	1.23	1.06	1.04	1.12	1.12	1.14	1.11	2.19	3.03	1.87	2.00	2.61	3.80	1.53	1.42	1.49	2.26	1.96	3.83	0	1.13
9 LDN	1.50	1.29	1.70	2.34	1.32	1.25	1.63	1.25	1.04	1.24	1.43	3.07	2.90	3.08	5.73	6.53	3.35	1.40	2.59	1.27	3.22	5.69	0	1.11
10 PW	1.16	1.11	1.73	1.67	1.17	1.12	1.27	1.22	1.26	1.03	3.28	4.80	3.03	2.81	3.59	4.38	2.24	1.15	1.11	2.32	1.37	2.17	0	1.08
11 FRD	1.98	1.78	1.44	2.29	1.22	1.78	2.48	2.54	1.48	3.30	1.07	1.18	1.55	2.13	3.96	4.78	3.39	2.74	3.50	1.33	4.11	6.44	0	1.13
12 CAR	2.26	2.13	1.57	2.20	1.41	2.38	3.25	3.61	3.22	4.45	1.24	1.04	1.27	1.76	4.70	5.30	3.79	4.06	4.55	1.97	5.47	6.00	0	1.08
13 HOW	1.17	1.19	1.24	1.19	1.04	1.40	1.88	2.19	2.77	3.00	1.56	1.20	1.06	1.14	2.23	3.26	2.24	2.92	3.31	2.25	3.74	4.07	0	1.12
14 AAR	1.25	1.26	1.49	1.22	1.07	1.39	1.75	2.28	2.96	2.80	2.12	1.64	1.15	1.07	1.35	2.45	1.78	3.06	2.94	2.76	3.39	3.31	0	1.12
15 CAL	1.46	1.50	2.34	1.36	1.13	1.64	1.91	3.16	5.28	3.69	3.97	4.76	2.36	1.39	1.04	1.16	1.29	4.15	3.59	5.45	3.77	2.30	0	1.10
16 STM	2.41	2.30	3.46	1.88	1.42	2.33	2.59	4.44	6.44	4.38	4.70	5.76	3.32	2.50	1.15	1.05	1.25	4.62	3.95	9.33	3.13	1.80	0	1.07
17 CHS	1.22	1.24	2.06	1.19	1.05	1.29	1.43	1.94	3.56	2.43	3.54	3.83	2.26	1.80	1.28	1.25	1.04	3.24	2.74	4.10	2.73	1.42	0	1.10
18 FAU	1.80	1.63	2.22	2.73	1.48	1.47	1.92	1.62	1.40	1.16	2.74	3.89	2.97	3.15	4.09	4.42	3.19	1.04	1.24	1.53	1.43	2.08	0	1.14
19 STA	1.63	1.43	2.36	2.30	1.38	1.38	1.55	1.68	2.80	1.13	3.61	4.68	3.38	2.98	3.73	4.08	2.62	1.24	1.03	3.73	1.06	1.12	0	1.10
20 CL/JF	2.29	2.57	2.15	3.33	2.04	2.49	2.77	2.55	1.31	2.41	1.36	1.90	2.25	2.80	6.14	8.90	4.31	1.57	3.83	1.03	4.25	11.00	0	1.11
21 SP/FB	1.93	1.94	2.84	2.94	1.56	1.78	1.86	2.14	3.35	1.36	4.26	7.13	4.01	3.44	3.86	3.14	2.64	1.40	1.05	4.40	1.03	1.12	0	1.08
22 KGEO	2.92	2.70	4.09	2.82	1.91	2.91	2.73	4.26	5.77	2.29	6.79	6.83	4.36	3.40	2.25	1.74	1.37	2.14	1.13	11.33	1.16	1.02	0	1.11
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	1.11	1.10	1.14	1.09	1.10	1.09	1.16	1.10	1.07	1.12	1.07	1.12	1.12	1.10	1.09	1.09	1.14	1.10	1.11	1.09	1.12	0	1.11	

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Obs Auto Occ.

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.21	1.32	1.09	1.03	1.52	1.19	1.13	1.15	1.73	3.39	0	0	325.14	1.28	0	263.16	1.50	0	5.61	0	0	1.00	0	1.23
2 DC NC	1.22	1.09	1.04	1.08	1.00	1.00	1.00	1.06	1.00	1.00	0	0	2.06	1.00	1.00	0	1.00	0	3.44	0	3.35	0	0	1.10
3 MTG	1.03	1.05	1.08	1.08	0	1.00	1.00	1.13	1.00	1.00	1.04	1.00	1.00	0	0	267.61	1.00	0	1.00	0	0	0	0	1.07
4 PG	1.04	1.08	1.04	1.10	1.00	1.35	1.00	1.00	1.00	1.00	0	0	1.15	1.12	1.00	229.55	1.65	0	0	0	0	0	0	1.10
5 ARLCR	1.58	1.00	1.00	1.00	1.00	1.00	1.00	1.39	0	2.51	0	0	0	0	0	0	0	0	1204.46	0	0	0	0	1.35
6 ARNCR	1.06	1.07	1.00	1.44	1.32	1.14	1.18	1.04	1.00	2.32	0	0	0	1.00	0	0	1.00	0	1.00	0	0	0	0	1.13
7 ALX	1.16	1.00	1.00	1.00	1.14	1.28	1.03	1.04	1.36	1.00	0	0	1.00	1.00	0	0	1.00	0	1.00	0	0	0	0	1.07
8 FFX	1.22	1.09	1.06	1.00	1.70	1.04	1.10	1.10	1.17	1.08	1.00	0	1.00	1.00	1.00	1.00	1.00	1.00	1.35	1.59	1.00	0	0	1.10
9 LDN	1.35	1.00	1.46	1.00	0	1.00	1.00	1.17	1.15	1.00	0	0	0	0	0	0	0	0	1.00	1.00	0	0	0	1.15
10 PW	964.57	1.00	1.00	1.00	932.02	1.45	1.00	1.09	1.00	1.05	0	0	0	0	0	0	0	1.00	1.59	0	2.90	1.00	0	1.10
11 FRD	0	0	1.18	1.00	0	0	0	0	0	1.00	1.04	1.17	1.36	0	0	0	0	0	0	1.00	0	0	0	1.05
12 CAR	0	0	1.00	0	0	0	0	0	0	0	1.34	1.11	1.00	1.28	0	0	0	0	0	0	0	0	0	1.12
13 HOW	1.00	1.19	1.00	1.20	0	0	1.00	1.00	0	0	1.82	1.00	1.02	1.00	0	0	1.00	0	0	0	0	0	0	1.03
14 AAR	1.42	1.00	1.00	1.25	1.00	1.00	0	1.00	0	1.00	0	1.30	1.00	1.08	1.00	1.00	0	0	0	0	0	0	0	1.09
15 CAL	1.00	0	0	1.00	0	0	0	1.00	0	0	0	0	1.00	1.00	1.00	1.00	1.00	0	0	0	0	0	0	1.00
16 STM	263.16	0	0	1.50	0	0	0	1.00	0	0	0	0	0	0	1.00	1.12	1.00	0	0	0	0	0	0	1.13
17 CHS	5.44	1.00	267.61	1.30	0	1.00	1.00	0	0	0	0	0	0	0	0	1.12	1.00	0	0	0	0	0	0	1.16
18 FAU	274.56	0	0	0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	1.16	118.04	0	0	0	0	1.20
19 STA	1308.48	2.09	0	0	1204.46	131.09	0	2.29	0	1.00	0	0	0	0	0	0	0	118.04	1.28	0	1.42	1.00	0	1.61
20 CL/JF	0	0	0	0	0	0	0	0	1.00	0	1.00	0	0	0	0	0	0	0	0	1.00	1.00	0	0	1.00
21 SP/FB	0	2.22	0	0	1.00	1.00	546.17	1.00	0	1.00	0	0	0	0	0	0	0	0	1.12	0	1.11	1.70	0	1.16
22 KGEO	1.00	1.00	0	0	0	0	0	0	0	1.00	0	0	0	0	0	0	1.00	0	0	1.46	1.00	0	0	1.08
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	1.24	1.14	1.07	1.10	1.55	1.12	1.08	1.10	1.16	1.09	1.05	1.11	1.04	1.08	1.00	1.13	1.16	1.14	1.40	1.06	1.10	0	1.11	

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Est Pct. Tran

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	34.4	36.5	33.7	13.4	56.7	51.2	34.0	14.5	0	2.8	0	0	0.4	0.1	0.5	0.0	0.1	0	0	0	0.4	0	0	32.0
2 DC NC	44.9	21.4	25.6	8.6	51.0	38.4	20.6	7.4	0	1.8	0	0	0.1	0.0	0.1	0	0.0	0	0	0	0.1	0	0	25.6
3 MTG	50.9	9.2	5.1	1.4	30.3	9.2	5.4	1.3	0	1.7	0.0	0	0.1	0.0	0.0	0	0.0	0	0	0	0	0	0	6.2
4 PG	28.7	4.4	2.1	0.8	17.9	6.5	2.0	1.2	0	1.8	0	0	0.0	0.0	0.0	0	0.0	0	0	0	0	0	0	2.8
5 ARLCR	58.1	17.6	13.3	2.9	9.3	17.6	16.3	4.7	0	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	18.0
6 ARNCR	54.4	14.3	9.0	1.9	25.3	9.3	14.7	4.6	0	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	14.5
7 ALX	36.4	6.0	5.5	0.6	15.0	11.9	5.4	1.9	0	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	7.3
8 FFX	37.0	3.5	1.8	1.1	10.9	5.9	3.9	0.8	0.0	0.7	0.5	0	1.8	0.3	2.4	1.7	1.6	0	0.0	0	0.3	0	0	2.0
9 LDN	45.1	1.2	0.5	0.0	14.2	4.6	1.2	0.2	0.1	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6
10 PW	37.9	2.6	2.6	1.8	10.5	4.4	2.8	0.9	0.2	0.1	1.0	0	3.3	0.6	3.0	2.1	2.3	0	0	0	0.1	0	0	0.9
11 FRD	2.5	0.2	0.1	0	1.6	0.4	0.1	0.1	0	0.1	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0.3
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	30.4	2.5	0.6	0.1	26.5	8.5	3.1	2.8	0	3.9	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0.6
14 AAR	23.4	1.9	0.6	0.1	16.1	4.8	2.0	3.9	0	1.8	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0.5
15 CAL	5.1	0.7	0.2	0.0	3.3	1.0	0.2	0.3	0	0.3	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	0.1	0	0	0	0	0	0	0.0
17 CHS	23.9	3.4	1.8	0.0	15.2	4.8	0.6	1.3	0	1.7	0	0	0.6	0	0	0.1	0.3	0	0	0	0	0	0	0.8
18 FAU	1.9	0	0.0	0	0.1	0.0	0.2	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
19 STA	0.3	0	0	0	0	0	0.0	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
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	0.5	0	0	0	0	0	0	4.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
22 KGEO	0	0	0	0	0	0	0	1.6	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	38.7	19.3	6.5	2.1	25.4	15.4	8.9	1.5	0.1	0.3	0.3	0	0.0	0.0	0.0	0.2	0	0.0	0	0.0	0	0	0	6.9

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHW Trips MODE: Obs Pct. Tran

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	46.8	34.6	54.2	48.8	34.7	37.0	31.5	33.5	13.6	43.2	100.0	0	62.1	9.6	100.0	0	51.0	100.0	25.6	0	100.0	0	0	42.0
2 DC NC	45.5	8.2	7.1	10.2	23.9	17.1	10.5	21.0	0	66.0	0	0	0	0	33.3	0	0	0	39.0	0	0	0	0	18.5
3 MTG	55.3	27.1	1.8	5.2	0	11.1	0	0	0	0	0	0	0	0	0	0	0	0	100.0	0	0	0	0	5.7
4 PG	40.7	17.8	5.6	1.9	72.3	29.5	0	6.0	0	59.8	0	0	0	0	0	0	9.5	0	0	0	0	0	0	6.0
5 ARLCR	18.8	45.1	0	52.9	23.0	50.1	22.1	15.0	100.0	8.7	0	0	0	0	0	0	0	0	0	0	0	0	0	26.3
6 ARNCR	56.5	45.1	31.0	34.5	14.2	2.8	8.4	6.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15.7
7 ALX	39.1	0	0	0	22.4	0	3.0	2.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.9
8 FFX	30.9	11.2	0	0	6.2	4.2	2.9	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.5
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	68.2	0	0	20.4	21.2	0	2.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.4
11 FRD	0	0	4.0	0	0	0	0	0	0	0	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0.9
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
13 HOW	58.8	0	0	0	100.0	0	0	0	0	0	0	0	0.9	0	0	0	0	0	0	0	0	0	0	1.4
14 AAR	67.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.8
15 CAL	0	0	0	0	0	100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.2
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
17 CHS	19.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5
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
19 STA	30.8	38.3	0	0	0	75.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.3
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	43.6	21.0	6.1	7.8	19.0	14.5	8.3	3.3	1.1	2.9	1.1	0	1.6	0.2	4.5	0	5.4	3.9	2.7	7.7	1.1	0	0	8.7

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Est Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	4051	4157	497	311	418	599	190	151	0	10	0	0	0	1	0	0	0	0	0	0	0	0	0	10386
2 DC NC	5346	5593	1413	736	410	494	128	87	0	19	0	0	0	1	0	0	0	0	0	0	0	0	0	14227
3 MTG	683	513	4639	185	83	49	9	91	0	62	0	0	0	0	0	0	0	0	0	0	0	0	0	6315
4 PG	554	362	172	883	79	83	11	66	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	2256
5 ARLCR	284	41	5	0	46	313	84	12	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	787
6 ARNCR	1008	96	11	0	288	1006	331	97	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	2861
7 ALX	546	24	2	0	60	279	617	77	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	1636
8 FFX	448	23	47	31	43	267	217	799	6	225	3	0	12	4	4	2	13	0	0	0	4	0	0	2147
9 LDN	12	0	0	0	0	2	0	35	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	72
10 PW	46	12	30	22	4	30	43	245	9	179	2	0	8	4	3	1	9	0	0	0	3	0	0	648
11 FRD	0	0	0	0	0	0	0	1	0	1	155	0	0	0	0	0	0	0	0	0	0	0	0	157
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	16	0	3	1	2	2	0	36	0	18	0	0	5	0	0	0	0	0	0	0	0	0	0	83
14 AAR	52	1	1	2	13	12	0	90	0	22	0	0	0	1	0	0	0	0	0	0	0	0	0	194
15 CAL	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0	0	0	0	0	0	0	22
17 CHS	12	0	0	0	2	2	0	16	0	11	0	0	2	0	0	0	172	0	0	0	0	0	0	215
18 FAU	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
19 STA	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	12
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	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37
22 KGEO	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
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	13058	10822	6819	2171	1448	3137	1632	1868	15	674	160	0	25	10	8	25	195	0	0	0	7	0	0	42073

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Obs Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	7448	4101	2287	109	0	1321	354	473	0	0	0	0	0	574	0	0	0	0	0	0	0	0	0	16669
2 DC NC	5218	9620	1516	6239	0	104	411	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23108
3 MTG	1182	1411	6406	590	177	393	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10159
4 PG	197	555	338	4218	204	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5513
5 ARLCR	659	0	417	0	112	236	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1424
6 ARNCR	1334	525	92	0	0	105	0	799	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2855
7 ALX	418	207	0	0	0	0	309	297	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1231
8 FFX	914	0	0	0	898	535	0	894	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3242
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	268	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	268
14 AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	897	0	0	0	0	0	0	0	0	0	897
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	17640	16420	11056	11156	1392	2693	1075	2463	0	0	0	0	0	1470	0	0	0	0	0	0	0	0	0	65365

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Difference (Est-Obs) Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	-3397	56	-1790	201	418	-722	-164	-322	0	10	0	0	0	-573	0	0	0	0	0	0	0	0	0	-6283
2 DC NC	128	-4026	-103	-5502	410	390	-283	87	0	19	0	0	0	1	0	0	0	0	0	0	0	0	0	-8881
3 MTG	-499	-899	-1767	-405	-94	-343	9	91	0	62	0	0	0	0	0	0	0	0	0	0	0	0	0	-3844
4 PG	356	-193	-166	-3335	-125	83	11	66	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	-3256
5 ARLCR	-376	41	-412	0	-67	77	84	12	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	-638
6 ARNCR	-327	-429	-82	0	288	901	331	-702	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	6
7 ALX	128	-184	2	0	60	279	308	-220	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	405
8 FFX	-466	23	47	31	-855	-268	217	-95	6	225	3	0	12	4	4	2	13	0	0	0	4	0	0	-1094
9 LDN	12	0	0	0	0	2	0	35	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	72
10 PW	46	12	30	22	4	30	43	245	9	179	2	0	8	4	3	1	9	0	0	0	3	0	0	648
11 FRD	0	0	0	0	0	0	0	1	0	1	155	0	0	0	0	0	0	0	0	0	0	0	0	157
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	-252	0	3	1	2	2	0	36	0	18	0	0	5	0	0	0	0	0	0	0	0	0	0	-185
14 AAR	52	1	1	2	13	12	0	90	0	22	0	0	0	-896	0	0	0	0	0	0	0	0	0	-702
15 CAL	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0	0	0	0	0	0	0	22
17 CHS	12	0	0	0	2	2	0	16	0	11	0	0	2	0	0	16	0	172	0	0	0	0	0	215
18 FAU	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
19 STA	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
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	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37
22 KGEO	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
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	-4582	-5598	-4237	-8985	55	443	557	-595	0	0	0	0	0	-1460	0	0	0	0	0	0	0	0	0	-23292

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Ratio (Est/Obs) Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	0.54	1.01	0.22	2.84	418.27	0.45	0.54	0.32	0	10.24	0	0	0.07	0.00	0	0	0	0	0	0	0	0	0	0.62
2 DC NC	1.02	0.58	0.93	0.12	410.17	4.75	0.31	87.29	0	18.92	0	0	0	0.51	0	0	0	0	0	0	0	0	0	0.62
3 MTG	0.58	0.36	0.72	0.31	0.47	0.13	9.44	91.03	0	62.09	0	0	0.20	0	0	0	0	0	0	0	0	0	0	0.62
4 PG	2.81	0.65	0.51	0.21	0.39	83.24	10.60	66.24	0	45.32	0	0	0.15	0.47	0	0	0.05	0	0	0	0	0	0	0.41
5 ARLCR	0.43	40.54	0.01	0.28	0.41	1.33	84.29	11.59	0	3.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0.55
6 ARNCR	0.76	0.18	0.12	0.43	287.81	9.62	331.47	0.12	0	23.39	0	0	0	0	0	0	0	0	0	0	0	0	0	1.00
7 ALX	1.31	0.11	1.95	0.03	60.37	278.63	2.00	0.26	0	31.41	0	0	0	0	0	0	0	0	0	0	0	0	0	1.33
8 FFX	0.49	23.24	46.53	31.15	0.05	0.50	217.43	0.89	5.87	224.70	2.97	0	11.54	3.81	4.03	2.04	13.38	0	0.01	0	3.85	0	0	0.66
9 LDN	11.71	0	0.02	0	0.09	1.72	0.03	35.37	0	22.69	0	0	0	0	0	0	0	0	0	0	0	0	0	71.63
10 PW	45.55	11.98	29.68	21.57	3.51	29.88	42.68	244.85	9.23	179.42	2.08	0	7.58	3.74	2.54	1.39	9.14	0	0.02	0	2.75	0	0	647.59
11 FRD	0.29	0	0.14	0	0.09	0.05	0	0.89	0	0.62	155.06	0	0	0	0	0	0	0	0	0	0	0	0	157.14
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	0.06	0.06	2.99	0.56	1.94	1.67	0	36.34	0	18.31	0	0	5.38	0	0	0	0	0	0	0	0	0	0	0.31
14 AAR	52.15	0.97	1.44	1.58	12.60	11.88	0.06	90.39	0	22.31	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0.22
15 CAL	0.54	0.01	0	0	0.06	0.06	0	0.71	0	0.49	0	0	0	0	1.00	0	0	0	0	0	0	0	0	2.87
16 STM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.56	0.20	0	0	0	0	0	0	21.76
17 CHS	11.83	0.48	0	0	1.71	1.56	0	16.06	0	11.21	0	0	0	0	0	0.35	171.92	0	0	0	0	0	0	215.12
18 FAU	0.01	0	0	0	0	0	0	13.87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13.88
19 STA	0	0	0	0	0	0	0	11.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11.96
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	36.86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36.86
22 KGEO	0	0	0	0	0	0	0	0.93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.93
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	0.74	0.66	0.62	0.19	1.04	1.16	1.52	0.76	0	0	0	0	0	0.01	0	0	0	0	0	0	0	0	0	0.64

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Est Auto Person

ORIGIN	DESTINATION																							TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1 DC CR	19780	18198	2715	4296	75	1301	1337	1823	48	127	28	2	69	295	14	1	106	14	39	1	16	0	0	50285	
2 DC NC	17879	61052	12821	20632	96	1696	1915	2853	76	166	69	5	402	1136	51	2	318	19	59	1	21	0	0	121269	
3 MTG	2991	15067	397927	22897	171	1607	912	6670	544	386	4819	735	5977	2898	36	1	117	87	61	127	24	0	0	464053	
4 PG	4510	22510	22795	234263	138	897	2339	3081	52	303	96	48	6165	12907	691	107	4356	17	85	1	32	6	0	315398	
5 ARLCR	26	270	129	122	787	2555	1223	1639	45	137	3	0	3	14	1	0	7	3	9	0	4	0	0	6978	
6 ARNCR	180	1196	806	522	2523	22691	7351	15248	424	967	15	1	18	67	4	0	30	29	57	1	23	0	0	52152	
7 ALX	411	1182	468	1204	1167	7354	37570	21475	246	1965	10	0	20	97	12	1	116	27	143	1	59	1	0	73529	
8 FFX	462	1312	2620	1458	1261	13068	19630	419017	16559	18952	54	2	54	131	11	1	158	722	615	39	241	1	0	496369	
9 LDN	3	18	132	10	26	269	158	15118	101134	1692	264	4	3	2	0	0	1	279	6	586	2	0	0	119706	
10 PW	15	68	95	94	85	652	1343	16052	1522	183799	2	0	1	8	1	0	13	2023	2615	23	779	11	0	209201	
11 FRD	26	67	4281	81	4	21	14	109	528	6	113355	3150	958	117	0	0	0	3	1	1057	0	0	0	123778	
12 CAR	2	6	714	45	0	1	1	6	11	0	3206	77411	1503	154	0	0	0	0	0	0	35	0	0	83095	
13 HOW	93	555	6725	6703	4	34	39	146	16	8	996	1583	97352	13840	9	0	22	1	1	24	0	0	0	128151	
14 AAR	321	1343	3247	13904	9	93	156	261	11	27	132	174	14157	228676	761	8	166	2	6	4	2	0	0	263461	
15 CAL	15	53	30	616	1	5	17	17	0	2	0	0	7	674	36185	1594	520	0	0	0	0	3	0	39740	
16 STM	1	2	0	80	0	0	1	1	0	0	0	0	0	5	1520	50182	1117	0	0	0	1	39	0	52949	
17 CHS	104	351	102	4196	7	42	152	202	2	27	0	0	18	153	558	1269	75056	1	9	0	7	222	0	82478	
18 FAU	2	3	13	2	1	12	11	467	237	1653	1	0	0	0	0	0	0	22151	296	62	112	2	0	25025	
19 STA	8	11	9	16	4	25	65	341	4	2218	0	0	0	1	0	0	2	318	28428	0	5859	162	0	37471	
20 CL/JF	0	0	30	0	0	0	0	21	483	16	335	10	6	1	0	0	0	0	0	54	0	22452	0	0	23408
21 SP/FB	1	1	2	3	1	7	23	108	1	562	0	0	0	0	0	0	1	109	5495	0	52383	160	0	58858	
22 KGEO	0	0	0	1	0	0	0	0	0	7	0	0	0	0	1	12	69	2	144	0	143	4430	0	0	4808
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	46830		455662		6361	74261		121943		123382		126714		39853		82177		38069		59709		5039	0		2832162
		123263		311143		52329		504655		213020		83126		261176		53178		25860		24414		5039			

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Obs Auto Person

ORIGIN	DESTINATION																							TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1 DC CR	16995	14473	3175	4001	321	1787	2283	3474	1050	307	0	0	0	81	0	451	127	0	0	0	0	0	0	0	48524
2 DC NC	14691	65778	22519	14605	1672	2988	1475	3791	0	395	0	322	268	0	0	0	145	0	0	0	0	0	0	0	128650
3 MTG	2381	18193	394101	15986	0	748	314	5504	1386	303	5049	2163	3093	1656	307	0	145	0	297	0	0	0	0	0	451627
4 PG	3461	11606	16523	234853	0	204	181	2681	0	181	130	308	8439	8018	2115	0	6962	0	0	0	0	0	0	0	295663
5 ARLCR	215	215	0	109	359	1668	334	1035	0	873	0	0	0	0	0	0	0	0	595	0	0	0	0	0	5403
6 ARNCR	1597	2493	1305	792	2371	29913	4976	11943	665	0	0	0	0	0	0	0	0	0	295	0	0	0	0	0	56350
7 ALX	405	888	857	894	252	4107	42119	18363	236	589	382	0	0	0	0	375	289	0	0	0	0	0	0	0	69757
8 FFX	1962	4379	3876	1722	1225	12281	20555	420536	15941	20374	0	0	0	471	109	0	0	849	521	132	769	0	0	0	505703
9 LDN	191	0	341	256	0	295	0	12059	96076	1404	298	99	0	178	0	0	0	353	0	2566	0	0	0	0	114116
10 PW	0	636	0	0	0	521	632	14476	1115	178948	0	0	0	0	0	0	169	1214	4084	0	609	0	0	0	202405
11 FRD	0	0	4145	130	0	0	0	215	0	0	112914	2292	1021	228	0	0	0	0	0	0	896	0	0	0	121839
12 CAR	0	0	264	0	0	0	0	0	0	0	2601	75576	573	931	0	0	0	0	0	0	0	0	0	0	79944
13 HOW	0	0	3863	5035	0	54	0	93	0	0	996	1312	107605	6475	0	0	0	0	0	0	0	0	0	0	125433
14 AAR	822	1345	5549	21192	0	178	163	439	0	0	394	413	3458	238706	2358	81	401	0	451	0	0	0	0	0	275948
15 CAL	0	184	0	1864	0	0	0	510	0	0	0	0	0	0	1399	38185	1232	2553	0	0	0	0	0	0	45927
16 STM	0	0	0	489	0	390	375	0	0	0	0	0	0	0	884	801	54282	2559	0	0	0	0	0	0	59780
17 CHS	0	715	546	3790	0	0	289	263	0	0	0	0	362	0	314	1124	3531	77572	0	0	0	0	348	0	88855
18 FAU	259	0	0	0	0	0	0	0	0	211	776	0	0	0	0	0	0	25498	231	0	0	179	0	0	27154
19 STA	399	0	594	0	298	164	0	905	0	2541	130	0	0	394	0	0	0	0	34550	0	4086	118	0	0	44178
20 CL/JF	0	0	0	0	0	0	0	0	0	0	590	0	0	0	0	0	0	0	0	0	19959	0	0	0	20548
21 SP/FB	0	0	0	0	0	0	0	349	0	1063	0	0	0	0	0	0	0	0	9788	617	67107	666	0	0	79590
22 KGEO	0	0	0	0	0	0	0	118	0	179	0	0	0	0	0	197	0	179	0	0	1164	2435	0	0	4272
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	43378		457659		6498	73697		116678		123481		124457		44998		90922		50814		73734		3745	0		2851667
		120904		305720		55300		496755		207935		82847		259734		60149		28094		24169		3745			

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Difference (Est-Obs) Auto Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	2785	3725	-460	295	-246	-486	-946	-1651	-1001	-180	28	2	69	214	14	-450	-21	14	39	1	16	0	0	1761
2 DC NC	3189	-4726	-9698	6026	-1576	-1293	440	-938	76	-229	69	-317	134	1136	51	2	173	19	59	1	21	0	0	-7381
3 MTG	610	-3126	3826	6911	171	858	598	1166	-842	82	-230	-1428	2884	1242	-271	1	-27	87	-235	127	24	0	0	12426
4 PG	1049	10903	6272	-591	138	692	2158	400	52	122	-34	-260	-2275	4889	-1424	107	-2606	17	85	1	32	6	0	19735
5 ARLCR	-189	54	129	12	428	887	890	604	45	-736	3	0	3	14	1	0	7	3	-586	0	4	0	0	1574
6 ARNCR	-1417	-1297	-499	-270	152	-7222	2375	3305	-241	967	15	1	18	67	4	0	30	29	-238	1	23	0	0	-4198
7 ALX	6	294	-390	310	915	3247	-4549	3112	10	1376	-372	0	20	97	12	-374	-173	27	143	1	59	1	0	3772
8 FFX	-1500	-3067	-1256	-263	36	787	-925	-1519	618	-1423	54	2	54	-340	-98	1	158	-128	94	-93	-528	1	0	-9334
9 LDN	-189	18	-209	-246	26	-26	158	3059	5058	288	-33	-96	3	-176	0	0	1	-74	6	-1980	2	0	0	5590
10 PW	15	-568	95	94	85	131	711	1575	407	4851	2	0	1	8	1	0	-155	809	-1470	23	170	11	0	6795
11 FRD	26	67	136	-49	4	21	14	-106	528	6	442	857	-63	-111	0	0	0	3	1	161	0	0	0	1938
12 CAR	2	6	450	45	0	1	1	6	11	0	605	1836	930	-777	0	0	0	0	0	35	0	0	0	3151
13 HOW	93	555	2862	1668	4	-19	39	52	16	8	-0	271	-10253	7365	9	0	22	1	1	24	0	0	0	2719
14 AAR	-502	-1	-2302	-7288	9	-85	-6	-177	11	27	-262	-238	10700	-10030	-1597	-73	-234	2	-445	4	2	0	0	-12487
15 CAL	15	-131	30	-1249	1	5	17	-493	0	2	0	0	7	-725	-2000	362	-2033	0	0	0	0	3	0	-6187
16 STM	1	2	0	-409	0	-390	-374	1	0	0	0	0	0	-879	719	-4100	-1442	0	0	0	1	39	0	-6831
17 CHS	104	-364	-444	406	7	42	-137	-61	2	27	0	-362	18	-161	-566	-2262	-2516	1	9	0	7	-126	0	-6377
18 FAU	-257	3	13	2	1	12	11	467	26	878	1	0	0	0	0	0	0	-3348	65	62	112	-177	0	-2130
19 STA	-391	11	-584	16	-294	-140	65	-564	4	-323	-130	0	0	-393	0	0	2	318	-6123	0	1774	44	0	-6707
20 CL/JF	0	0	30	0	0	0	0	21	483	16	-255	10	6	1	0	0	0	54	0	2494	0	0	0	2860
21 SP/FB	1	1	2	3	1	7	23	-241	1	-501	0	0	0	0	0	0	1	109	-4293	-617	-14723	-505	0	-20732
22 KGEO	0	0	0	1	0	0	0	-118	0	-172	0	0	0	0	1	-185	69	-177	144	0	-1020	1995	0	537
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	3451		-1998	5423	-137	-2971	564	7900	5265	5085	-100	278	2257	1443	-5145	-6971	-8745	-2234	-12745	245	-14025	1293	0	-19505

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Ratio (Est/Obs) Auto Person

ORIGIN	DESTINATION																							TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1 DC CR	1.16	1.26	0.86	1.07	0.23	0.73	0.59	0.52	0.05	0.41	27.66	1.68	69.15	3.66	14.01	0.00	0.84	14.19	39.37	0.51	15.94	0	0	1.04	
2 DC NC	1.22	0.93	0.57	1.41	0.06	0.57	1.30	0.75	76.49	0.42	68.69	0.02	1.50	1136.29	51.19	2.17	2.19	18.62	59.04	1.16	20.99	0.11	0	0.94	
3 MTG	1.26	0.83	1.01	1.43	170.69	2.15	2.91	1.21	0.39	1.27	0.95	0.34	1.93	1.75	0.12	1.15	0.81	86.66	0.21	126.72	23.72	0.06	0	1.03	
4 PG	1.30	1.94	1.38	1.00	137.99	4.39	12.92	1.15	52.49	1.67	0.74	0.16	0.73	1.61	0.33	106.61	0.63	16.99	84.98	1.46	31.50	5.88	0	1.07	
5 ARLCR	0.12	1.25	129.19	1.11	2.19	1.53	3.67	1.58	44.82	0.16	2.67	0.16	3.24	14.16	0.99	0.06	6.57	3.39	0.02	0.23	3.82	0.02	0	1.29	
6 ARNCR	0.11	0.48	0.62	0.66	1.06	0.76	1.48	1.28	0.64	966.57	14.60	0.54	17.59	66.53	3.59	0.14	30.49	29.38	0.19	1.22	23.04	0.05	0	0.93	
7 ALX	1.01	1.33	0.55	1.35	4.63	1.79	0.89	1.17	1.04	3.33	0.03	0.43	20.13	97.18	12.22	0.00	0.40	26.85	142.96	0.71	59.38	0.63	0	1.05	
8 FFX	0.24	0.30	0.68	0.85	1.03	1.06	0.96	1.00	1.04	0.93	54.38	2.10	54.18	0.28	0.10	0.77	158.00	0.85	1.18	0.29	0.31	1.49	0	0.98	
9 LDN	0.01	17.97	0.39	0.04	26.48	0.91	157.89	1.25	1.05	1.20	0.89	0.04	3.01	0.01	0.02	0	0.72	0.79	6.01	0.23	1.79	0	0	1.05	
10 PW	15.32	0.11	95.31	93.60	84.95	1.25	2.12	1.11	1.36	1.03	1.50	0.02	1.41	8.06	0.62	0.03	0.08	1.67	0.64	23.49	1.28	11.01	0	1.03	
11 FRD	26.16	66.84	1.03	0.62	3.68	21.34	13.73	0.51	528.07	6.43	1.00	1.37	0.94	0.51	0.01	0	0.38	3.32	0.61	1.18	0.13	0	0	1.02	
12 CAR	1.84	6.08	2.71	44.96	0.22	1.10	0.83	5.65	11.20	0.25	1.23	1.02	2.62	0.17	0	0	0.06	0.08	0.01	35.35	0	0	0	1.04	
13 HOW	93.30	555.37	1.74	1.33	4.29	0.64	39.31	1.56	15.56	7.83	1.00	1.21	0.90	2.14	8.70	0.24	21.53	1.43	0.94	23.80	0.27	0	0	1.02	
14 AAR	0.39	1.00	0.59	0.66	8.96	0.52	0.96	0.60	10.73	27.02	0.33	0.42	4.09	0.96	0.32	0.10	0.42	1.73	0.01	3.93	2.12	0.25	0	0.95	
15 CAL	14.95	0.29	30.14	0.33	1.23	4.79	16.62	0.03	0.15	2.03	0.03	0	7.29	0.48	0.95	1.29	0.20	0.04	0.44	0	0.06	3.46	0	0.87	
16 STM	0.63	1.63	0.46	0.16	0.05	0.00	0.00	0.66	0	0.10	0	0	0.12	0.01	1.90	0.92	0.44	0	0.19	0	0.61	39.39	0	0.89	
17 CHS	103.92	0.49	0.19	1.11	7.19	42.05	0.53	0.77	1.92	27.22	0.28	0.00	17.78	0.49	0.50	0.36	0.97	0.89	8.56	0	7.33	0.64	0	0.93	
18 FAU	0.01	2.96	12.97	2.04	1.26	11.73	11.48	466.53	1.12	2.13	0.60	0	0.09	0.20	0	0	0.18	0.87	1.28	61.96	112.16	0.01	0	0.92	
19 STA	0.02	10.92	0.02	15.74	0.01	0.15	65.38	0.38	4.19	0.87	0.00	0	0	0.00	0.03	0	1.98	317.80	0.82	0	1.43	1.37	0	0.85	
20 CL/JF	0	0	29.66	0	0.06	0.21	0.13	21.21	483.40	15.88	0.57	9.75	6.15	0.59	0	0	0	53.71	0	1.12	0	0	0	1.14	
21 SP/FB	0.86	1.12	1.53	3.06	1.12	7.27	23.25	0.31	0.81	0.53	0	0	0	0.03	0	0.03	1.28	108.67	0.56	0	0.78	0.24	0	0.74	
22 KGEO	0	0	0	0.75	0	0	0.05	0.00	0	0.04	0	0	0	0	0.01	0.74	0.06	68.73	0.01	143.91	0	0.12	1.82	0	1.13
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	1.08		1.00	1.02	0.98	0.95	1.01	1.02	1.05	1.00	1.00	1.02	1.01	0.89	0.88	0.90	0.92	0.75	1.01	0.81	1.35	0	0	0.99	

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Est Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	13450	11534	1768	3292	27	793	734	1235	15	69	6	0	38	145	5	0	58	3	12	0	3	0	0	33185
2 DC NC	11363	41057	8829	16346	33	994	989	1900	25	80	17	1	225	589	23	0	187	4	14	0	2	0	0	82678
3 MTG	2181	9470	256045	13123	52	804	340	2695	161	95	2151	354	3124	1194	7	0	29	21	14	36	4	0	0	291899
4 PG	3695	15525	13240	161772	43	412	1057	1213	9	76	20	12	3500	6797	302	39	2460	3	19	0	5	1	0	210202
5 ARLCR	7	178	75	82	542	1725	706	1019	18	67	1	0	1	5	0	0	2	1	3	0	1	0	0	4433
6 ARNCR	81	782	441	343	1789	16342	4375	9622	169	465	3	0	4	20	1	0	10	7	17	0	5	0	0	34476
7 ALX	236	736	208	778	868	5076	22614	13650	80	974	2	0	5	30	3	0	55	6	48	0	17	0	0	45385
8 FFX	447	829	1113	653	938	9022	10114	261821	9899	10275	9	0	9	28	1	0	45	256	208	9	64	0	0	305740
9 LDN	1	5	32	2	12	99	45	7824	73189	777	132	1	0	0	0	0	0	123	1	294	0	0	0	82538
10 PW	11	18	18	21	50	287	508	8168	721	135008	0	0	0	1	0	0	3	1076	1440	6	278	3	0	147616
11 FRD	5	15	1850	16	1	4	3	22	253	1	79285	1890	392	32	0	0	0	1	0	466	0	0	0	84234
12 CAR	0	1	328	11	0	0	0	1	2	0	1868	59570	833	50	0	0	0	0	0	11	0	0	0	62674
13 HOW	54	236	3525	3684	1	8	10	32	2	1	400	903	68061	8016	2	0	5	0	0	7	0	0	0	84949
14 AAR	162	564	1350	7214	2	25	46	62	2	5	37	60	8178	159285	442	2	53	0	1	1	0	0	0	177491
15 CAL	4	17	6	262	0	1	3	2	0	0	0	0	1	396	27439	934	267	0	0	0	0	1	0	29334
16 STM	0	0	0	31	0	0	0	0	0	0	0	0	0	1	925	36718	637	0	0	0	0	13	0	38324
17 CHS	56	153	25	2490	2	11	53	56	0	6	0	0	4	51	280	727	55618	0	2	0	1	89	0	59622
18 FAU	0	0	3	0	0	3	2	151	109	888	0	0	0	0	0	0	0	16167	169	30	44	0	0	17567
19 STA	1	1	1	3	2	6	18	107	1	1189	0	0	0	0	0	0	0	183	21793	0	3729	99	0	27133
20 CL/JF	0	0	7	0	0	0	0	4	243	4	144	3	1	0	0	0	0	26	0	16997	0	0	0	17428
21 SP/FB	0	0	0	0	0	1	5	25	0	204	0	0	0	0	0	0	0	45	3678	0	38998	84	0	43042
22 KGEO	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	4	27	0	87	0	70	3433	0	3623
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	31757	81119	288861	210122	4362	35612	41626	309610	84898	150186	84075	62794	84375	176640	29430	38424	59456	17923	27505	17856	43221	3722	0	1883574

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Obs Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	13580	10778	2335	3265	209	1236	1662	2172	794	307	0	0	0	81	0	451	127	0	0	0	0	0	0	36998
2 DC NC	10306	46644	13847	9036	1057	2345	1383	2911	0	395	0	322	268	0	0	0	145	0	0	0	0	0	0	88660
3 MTG	1258	12942	261852	10630	0	528	314	3898	917	303	3275	1648	2065	1656	307	0	145	0	0	0	0	0	0	301737
4 PG	2771	7649	11565	157327	0	204	181	2681	0	181	0	99	4802	5753	1859	0	5649	0	0	0	0	0	0	200722
5 ARLCR	215	215	0	109	359	843	334	482	0	246	0	0	0	0	0	0	0	0	0	0	0	0	0	2804
6 ARNCR	552	2157	401	792	1882	21266	3752	8723	332	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39858
7 ALX	405	627	438	527	252	3135	32931	12926	0	379	382	0	0	0	0	0	145	0	0	0	0	0	0	52146
8 FFX	1523	2196	3573	1618	672	9658	12937	289864	11937	12205	0	0	0	471	109	0	0	849	521	132	769	0	0	349034
9 LDN	191	0	341	256	0	295	0	7926	62422	1404	298	0	0	178	0	0	0	353	0	1002	0	0	0	74667
10 PW	0	636	0	0	0	521	211	8216	1115	107261	0	0	0	0	0	0	169	772	1728	0	363	0	0	120993
11 FRD	0	0	2576	0	0	0	0	215	0	0	76800	1667	1021	228	0	0	0	0	0	0	569	0	0	83074
12 CAR	0	0	264	0	0	0	0	0	0	0	1752	45352	573	650	0	0	0	0	0	0	0	0	0	48591
13 HOW	0	0	1987	3099	0	54	0	93	0	0	996	857	68313	4486	0	0	0	0	0	0	0	0	0	79884
14 AAR	124	92	2491	13012	0	178	163	439	0	0	394	413	2170	154597	2103	81	401	0	451	0	0	0	0	177107
15 CAL	0	184	0	1387	0	0	0	510	0	0	0	0	0	632	26467	978	1421	0	0	0	0	0	0	31578
16 STM	0	0	0	489	0	390	0	0	0	0	0	0	0	0	801	38412	1375	0	0	0	0	0	0	41467
17 CHS	0	524	546	3168	0	0	145	263	0	0	0	181	0	314	809	1658	55543	0	0	0	0	348	0	63499
18 FAU	259	0	0	0	0	0	0	0	211	442	0	0	0	0	0	0	0	17816	0	0	0	179	0	18907
19 STA	0	0	297	0	0	0	0	905	0	1981	130	0	0	394	0	0	0	0	20417	0	1930	118	0	26171
20 CL/JF	0	0	0	0	0	0	0	0	0	0	395	0	0	0	0	0	0	0	0	13036	0	0	0	13432
21 SP/FB	0	0	0	0	0	0	0	349	0	1063	0	0	0	0	0	0	0	0	6079	308	41508	392	0	49700
22 KGEO	0	0	0	0	0	0	0	118	0	179	0	0	0	0	0	98	0	179	0	0	404	2306	0	3285
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	31183	84645	302514	204716	4430	40655	54012	342691	77727	84420	50540	79212	169439	32455	41677	65119	19970	29196	15047	44975	3343	0	0	1904312

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Difference (Est-Obs) Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	-130	756	-568	26	-182	-444	-928	-937	-779	-238	6	0	38	64	5	-451	-70	3	12	0	3	0	0	-3812
2 DC NC	1057	-5587	-5018	7310	-1024	-1351	-393	-1011	25	-315	17	-322	-44	589	23	0	43	4	14	0	2	0	0	-5982
3 MTG	923	-3472	-5807	2493	52	277	26	-1203	-755	-208	-1123	-1294	1058	-463	-299	0	-116	21	14	36	4	0	0	-9838
4 PG	924	7876	1674	4445	43	208	876	-1468	9	-105	20	-87	-1302	1044	-1557	39	-3189	3	19	0	5	1	0	9480
5 ARLCR	-208	-38	75	-28	183	882	373	537	18	-179	1	0	1	5	0	0	2	1	3	0	1	0	0	1629
6 ARNCR	-471	-1375	39	-449	-93	-4924	623	900	-163	465	3	0	4	20	1	0	10	7	17	0	5	0	0	-5382
7 ALX	-169	109	-230	251	616	1940	-10316	724	80	595	-380	0	5	30	3	0	-90	6	48	0	17	0	0	-6761
8 FFX	-1076	-1367	-2460	-965	266	-636	-2824	-28043	-2038	-1930	9	0	9	-442	-108	0	45	-593	-313	-123	-705	0	0	-43294
9 LDN	-190	5	-310	-254	12	-196	45	-103	10767	-627	-165	1	0	-177	0	0	0	-230	1	-708	0	0	0	7871
10 PW	11	-618	18	21	50	-235	297	-47	-394	27746	0	0	0	1	0	0	-166	304	-288	6	-86	3	0	26624
11 FRD	5	15	-726	16	1	4	3	-193	253	1	2485	223	-629	-196	0	0	0	1	0	-102	0	0	0	1160
12 CAR	0	1	65	11	0	0	0	1	2	0	116	14217	260	-600	0	0	0	0	0	11	0	0	0	14083
13 HOW	54	236	1538	586	1	-46	10	-61	2	1	-595	46	-253	3531	2	0	5	0	0	7	0	0	0	5065
14 AAR	38	471	-1141	-5798	2	-153	-116	-377	2	5	-357	-353	6008	4688	-1661	-79	-348	0	-450	1	0	0	0	383
15 CAL	4	-167	6	-1125	0	1	3	-507	0	0	0	0	1	-236	972	-44	-1154	0	0	0	0	1	0	-2244
16 STM	0	0	0	-459	0	-390	0	0	0	0	0	0	0	1	124	-1693	-739	0	0	0	0	13	0	-3142
17 CHS	56	-371	-521	-678	2	11	-92	-208	0	6	0	-181	4	-263	-530	-931	75	0	2	0	1	-259	0	-3877
18 FAU	-259	0	3	0	0	3	2	151	-102	446	0	0	0	0	0	0	0	-1650	169	30	44	-178	0	-1340
19 STA	1	1	-296	3	2	6	18	-798	1	-792	-130	0	0	-394	0	0	0	183	1376	0	1799	-19	0	962
20 CL/JF	0	0	7	0	0	0	0	4	243	4	-251	3	1	0	0	0	0	26	0	3960	0	0	0	3997
21 SP/FB	0	0	0	0	0	1	5	-324	0	-859	0	0	0	0	0	0	0	45	-2401	-308	-2510	-308	0	-6658
22 KGEO	0	0	0	0	0	0	0	-118	0	-177	0	0	0	0	0	-95	27	-179	87	0	-335	1126	0	338
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	574	-3526	-13653	5407	-68	-5043	-12387	-33081	7171	23841	-345	12254	5163	7201	-3024	-3254	-5662	-2048	-1692	2809	-1754	380	0	-20738

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Ratio (Est/Obs) Auto Driver

ORIGIN	DESTINATION																							TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1 DC CR	0.99	1.07	0.76	1.01	0.13	0.64	0.44	0.57	0.02	0.22	6.19	0.13	38.00	1.80	5.05	0	0.45	2.94	11.54	0	2.83	0	0	0.90	
2 DC NC	1.10	0.88	0.64	1.81	0.03	0.42	0.72	0.65	24.55	0.20	16.67	0.00	0.84	588.60	23.45	0.38	1.30	4.21	13.56	0.02	2.28	0	0	0.93	
3 MTG	1.73	0.73	0.98	1.23	51.51	1.52	1.08	0.69	0.18	0.31	0.66	0.22	1.51	0.72	0.02	0.14	0.20	20.76	13.51	35.82	3.54	0	0	0.97	
4 PG	1.33	2.03	1.14	1.03	42.85	2.02	5.84	0.45	9.14	0.42	20.19	0.12	0.73	1.18	0.16	39.44	0.44	3.07	19.49	0.04	5.46	1.09	0	1.05	
5 ARLCR	0.03	0.83	74.67	0.75	1.51	2.05	2.12	2.11	17.76	0.27	0.63	0.02	1.09	4.92	0.23	0	2.46	0.81	2.93	0.02	0.99	0	0	1.58	
6 ARNCR	0.15	0.36	1.10	0.43	0.95	0.77	1.17	1.10	0.51	465.34	2.60	0.02	3.79	19.78	0.60	0	10.08	6.97	16.51	0.08	5.00	0	0	0.86	
7 ALX	0.58	1.17	0.47	1.48	3.45	1.62	0.69	1.06	79.76	2.57	0.00	0.01	4.65	29.62	2.70	0.10	0.38	6.37	47.98	0.02	16.70	0.03	0	0.87	
8 FFX	0.29	0.38	0.31	0.40	1.40	0.93	0.78	0.90	0.83	0.84	9.11	0.13	8.81	0.06	0.01	0.01	44.73	0.30	0.40	0.07	0.08	0.07	0	0.88	
9 LDN	0.01	4.61	0.09	0.01	11.97	0.34	45.46	0.99	1.17	0.55	0.44	0.70	0.40	0.00	0	0	0.12	0.35	0.91	0.29	0.28	0	0	1.11	
10 PW	11.01	0.03	18.48	20.92	49.74	0.55	2.41	0.99	0.65	1.26	0.08	0	0.09	1.20	0.06	0	0.02	1.39	0.83	6.15	0.76	2.56	0	1.22	
11 FRD	5.41	14.90	0.72	16.00	0.81	4.21	2.71	0.10	252.81	0.82	1.03	1.13	0.38	0.14	0	0	0.01	0.62	0.04	0.82	0	0	0	1.01	
12 CAR	0.15	0.60	1.25	11.06	0.04	0.10	0.04	0.59	2.44	0.01	1.07	1.31	1.45	0.08	0	0	0	0	0	10.56	0	0	0	1.29	
13 HOW	54.38	235.74	1.77	1.19	1.02	0.15	10.26	0.35	2.37	1.12	0.40	1.05	1.00	1.79	1.85	0	5.15	0.30	0.10	6.62	0	0	0	1.06	
14 AAR	1.31	6.11	0.54	0.55	2.39	0.14	0.28	0.14	1.91	4.93	0.09	0.15	3.77	1.03	0.21	0.02	0.13	0.31	0.00	0.78	0.16	0.01	0	1.00	
15 CAL	4.28	0.09	5.98	0.19	0.26	0.67	3.49	0.00	0.02	0.27	0	0	1.49	0.63	1.04	0.95	0.19	0	0.04	0	0	0	0	0.93	
16 STM	0	0.13	0.07	0.06	0	0	0.12	0	0	0	0	0	0	1.10	1.16	0.96	0.46	0	0.01	0	0.03	12.89	0	0.92	
17 CHS	56.17	0.29	0.05	0.79	1.86	10.51	0.37	0.21	0.28	5.72	0	0	4.17	0.16	0.35	0.44	1.00	0.18	1.63	0	1.17	0.26	0	0.94	
18 FAU	0.00	0.32	2.54	0.22	0.28	2.64	2.33	151.37	0.52	2.01	0.06	0	0	0.01	0	0	0	0.91	168.96	30.03	43.89	0.00	0	0.93	
19 STA	1.27	1.42	0.00	2.74	1.65	6.21	18.21	0.12	0.59	0.60	0	0	0	0.00	0	0	0.20	182.76	1.07	0	1.93	0.84	0	1.04	
20 CL/JF	0	0	6.70	0	0	0	0	4.21	242.61	3.91	0.37	2.63	1.38	0.09	0	0	0	25.58	0	1.30	0	0	0	1.30	
21 SP/FB	0.04	0.02	0.11	0.22	0.27	1.16	5.47	0.07	0.12	0.19	0	0	0	0	0	0	0.16	44.84	0.61	0	0.94	0.21	0	0.87	
22 KGEO	0	0	0	0.08	0	0	0	0	0	0.01	0	0	0	0	0	0.16	0.04	27.45	0.00	87.21	0	0.17	1.49	0	1.10
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	1.02	0.96	0.95	1.03	0.98	0.88	0.77	0.90	1.09	1.19	1.00	1.24	1.07	1.04	0.91	0.92	0.91	0.90	0.94	1.19	0.96	1.11	0	0.99	

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Est Motr Psn

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	23831	22355	3212	4607	493	1900	1528	1974	48	137	28	2	69	296	14	1	106	14	39	1	16	0	0	60671
2 DC NC	23225	66645	14233	21368	506	2190	2043	2941	76	185	69	5	402	1137	51	2	318	19	59	1	21	0	0	135496
3 MTG	3674	15579	402566	23082	254	1656	922	6761	544	448	4819	735	5977	2898	36	1	117	87	61	127	24	0	0	470368
4 PG	5064	22872	22967	235146	217	980	2350	3147	52	348	96	48	6165	12908	691	107	4356	17	85	1	32	6	0	317654
5 ARLCR	310	310	134	122	832	2868	1308	1650	45	140	3	0	3	14	1	0	7	3	9	0	4	0	0	7764
6 ARNCR	1188	1292	817	523	2811	23697	7683	15345	424	990	15	1	18	67	4	0	30	29	57	1	23	0	0	55013
7 ALX	957	1205	470	1204	1227	7632	38188	21552	246	1996	10	0	20	97	12	1	116	27	143	1	59	1	0	75166
8 FFX	910	1335	2667	1489	1304	13335	19848	419815	16565	19176	57	2	66	135	15	3	171	722	615	39	245	1	0	498516
9 LDN	14	18	132	10	27	271	158	15153	101134	1715	264	4	3	2	0	0	1	279	6	586	2	0	0	119778
10 PW	61	80	125	115	88	682	1386	16297	1531	183978	4	0	9	12	3	1	23	2023	2615	23	782	11	0	209848
11 FRD	26	67	4281	81	4	21	14	110	528	7	113510	3150	958	117	0	0	0	3	1	1057	0	0	0	123935
12 CAR	2	6	714	45	0	1	1	6	11	0	3206	77411	1503	154	0	0	0	0	0	0	35	0	0	83095
13 HOW	109	555	6728	6704	6	36	39	182	16	26	996	1583	97357	13840	9	0	22	1	1	24	0	0	0	128235
14 AAR	373	1344	3248	13906	22	105	156	352	11	49	132	174	14157	228677	761	8	166	2	6	4	2	0	0	263655
15 CAL	15	53	30	616	1	5	17	18	0	3	0	0	7	674	36186	1594	520	0	0	0	0	3	0	39743
16 STM	1	2	0	80	0	0	1	1	0	0	0	0	0	5	1520	50203	1118	0	0	0	1	39	0	52971
17 CHS	116	351	102	4196	9	44	152	218	2	38	0	0	18	153	558	1269	75228	1	9	0	7	222	0	82693
18 FAU	2	3	13	2	1	12	11	480	237	1653	1	0	0	0	0	0	0	22151	296	62	112	2	0	25039
19 STA	8	11	9	16	4	25	65	353	4	2218	0	0	0	1	0	0	2	318	28428	0	5859	162	0	37483
20 CL/JF	0	0	30	0	0	0	0	21	483	16	335	10	6	1	0	0	0	54	0	22452	0	0	0	23408
21 SP/FB	1	1	2	3	1	7	23	145	1	562	0	0	0	0	0	0	1	109	5495	0	52383	160	0	58895
22 KGEO	0	0	0	1	0	0	0	1	0	7	0	0	0	0	1	12	69	2	144	0	143	4430	0	4809
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	59887		462481		7809		75892		121958		123542		126739		39861		82372		38069		59715		0	
		134085		313314		55466		506523		213694		83126		261187		53203		25860		24414		5039		2874235

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Obs Motr Psn

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	24443	18574	5462	4111	321	3108	2637	3948	1050	307	0	0	0	654	0	451	127	0	0	0	0	0	0	65193
2 DC NC	19909	75398	24035	20844	1672	3092	1886	3791	0	395	0	322	268	0	0	0	145	0	0	0	0	0	0	151758
3 MTG	3563	19604	400507	16576	177	1141	314	5504	1386	303	5049	2163	3093	1656	307	0	145	0	297	0	0	0	0	461786
4 PG	3658	12161	16861	239072	204	204	181	2681	0	181	130	308	8439	8018	2115	0	6962	0	0	0	0	0	0	301176
5 ARLCR	874	215	417	109	471	1903	334	1035	0	873	0	0	0	0	0	0	0	0	595	0	0	0	0	6828
6 ARNCR	2931	3018	1398	792	2371	30018	4976	12742	665	0	0	0	0	0	0	0	0	0	295	0	0	0	0	59205
7 ALX	823	1095	857	894	252	4107	42429	18660	236	589	382	0	0	0	0	375	289	0	0	0	0	0	0	70988
8 FFX	2876	4379	3876	1722	2123	12817	20555	421430	15941	20374	0	0	0	471	109	0	0	849	521	132	769	0	0	508944
9 LDN	191	0	341	256	0	295	0	12059	96076	1404	298	99	0	178	0	0	0	353	0	2566	0	0	0	114116
10 PW	0	636	0	0	0	521	632	14476	1115	178948	0	0	0	0	0	0	169	1214	4084	0	609	0	0	202405
11 FRD	0	0	4145	130	0	0	0	215	0	0	112914	2292	1021	228	0	0	0	0	0	0	896	0	0	121839
12 CAR	0	0	264	0	0	0	0	0	0	0	2601	75576	573	931	0	0	0	0	0	0	0	0	0	79944
13 HOW	268	0	3863	5035	0	54	0	93	0	0	996	1312	107605	6475	0	0	0	0	0	0	0	0	0	125701
14 AAR	822	1345	5549	21192	0	178	163	439	0	0	394	413	3458	239603	2358	81	401	0	451	0	0	0	0	276844
15 CAL	0	184	0	1864	0	0	0	510	0	0	0	0	0	1399	38185	1232	2553	0	0	0	0	0	0	45927
16 STM	0	0	0	489	0	390	375	0	0	0	0	0	0	884	801	54282	2559	0	0	0	0	0	0	59780
17 CHS	0	715	546	3790	0	0	289	263	0	0	0	362	0	314	1124	3531	77572	0	0	0	0	348	0	88855
18 FAU	259	0	0	0	0	0	0	0	0	211	776	0	0	0	0	0	0	25498	231	0	0	179	0	27154
19 STA	399	0	594	0	298	164	0	905	0	2541	130	0	0	394	0	0	0	0	34550	0	4086	118	0	44178
20 CL/JF	0	0	0	0	0	0	0	0	0	0	590	0	0	0	0	0	0	0	0	19959	0	0	0	20548
21 SP/FB	0	0	0	0	0	0	0	349	0	1063	0	0	0	0	0	0	0	0	9788	617	67107	666	0	79590
22 KGEO	0	0	0	0	0	0	0	118	0	179	0	0	0	0	0	197	0	179	0	0	1164	2435	0	4272
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	61018		468715		7890		74771		116678		123481		124457		44998		90922		50814		73734		0	
		137323		316876		57993		499218		207935		82847		261204		60149		28094		24169		3745		2917033

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Difference (Est-Obs) Motorized Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	-613	3780	-2250	496	173	-1208	-1110	-1973	-1001	-170	28	2	69	-358	14	-450	-21	14	39	1	16	0	0	-4522
2 DC NC	3316	-8752	-9802	524	-1166	-903	157	-851	76	-210	69	-317	134	1137	51	2	173	19	59	1	21	0	0	-16262
3 MTG	111	-4025	2059	6506	77	515	608	1257	-842	144	-230	-1428	2884	1242	-271	1	-27	87	-235	127	24	0	0	8583
4 PG	1406	10710	6106	-3926	13	775	2169	466	52	167	-34	-260	-2275	4890	-1424	107	-2606	17	85	1	32	6	0	16478
5 ARLCR	-564	95	-283	12	361	964	974	615	45	-733	3	0	3	14	1	0	7	3	-586	0	4	0	0	937
6 ARNCR	-1743	-1726	-581	-269	440	-6321	2707	2604	-241	990	15	1	18	67	4	0	30	29	-238	1	23	0	0	-4192
7 ALX	134	110	-388	310	975	3525	-4241	2892	10	1407	-372	0	20	97	12	-374	-173	27	143	1	59	1	0	4177
8 FFX	-1966	-3044	-1210	-232	-819	518	-707	-1615	624	-1198	57	2	66	-336	-94	3	171	-128	94	-93	-524	1	0	-10428
9 LDN	-177	18	-209	-246	27	-25	158	3095	5058	311	-33	-96	3	-176	0	0	1	-74	6	-1980	2	0	0	5661
10 PW	61	-556	125	115	88	161	753	1820	416	5030	4	0	9	12	3	1	-146	809	-1470	23	173	11	0	7443
11 FRD	26	67	136	-49	4	21	14	-105	528	7	597	857	-63	-111	0	0	0	3	1	161	0	0	0	2096
12 CAR	2	6	450	45	0	1	1	6	11	0	605	1836	930	-777	0	0	0	0	0	35	0	0	0	3151
13 HOW	-159	555	2865	1669	6	-18	39	88	16	26	-0	271	-10247	7365	9	0	22	1	1	24	0	0	0	2534
14 AAR	-450	-0	-2301	-7287	22	-73	-6	-87	11	49	-262	-238	10700	-10926	-1597	-73	-234	2	-445	4	2	0	0	-13189
15 CAL	15	-131	30	-1249	1	5	17	-492	0	3	0	0	7	-725	-1999	362	-2033	0	0	0	0	3	0	-6184
16 STM	1	2	0	-409	0	-390	-374	1	0	0	0	0	0	-879	719	-4079	-1442	0	0	0	1	39	0	-6809
17 CHS	116	-364	-444	406	9	44	-137	-45	2	38	0	-362	18	-161	-566	-2262	-2344	1	9	0	7	-126	0	-6162
18 FAU	-257	3	13	2	1	12	11	480	26	878	1	0	0	0	0	0	0	-3348	65	62	112	-177	0	-2116
19 STA	-391	11	-584	16	-294	-140	65	-552	4	-323	-130	0	0	-393	0	0	2	318	-6123	0	1774	44	0	-6695
20 CL/JF	0	0	30	0	0	0	0	21	483	16	-255	10	6	1	0	0	0	54	0	2494	0	0	0	2860
21 SP/FB	1	1	2	3	1	7	23	-204	1	-501	0	0	0	0	0	0	1	109	-4293	-617	-14723	-505	0	-20695
22 KGEO	0	0	0	1	0	0	0	-117	0	-172	0	0	0	0	1	-185	69	-177	144	0	-1020	1995	0	538
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	-1131	-3239	-6234	-3562	-81	-2527	1121	7305	5280	5759	60	278	2282	-17	-5137	-6945	-8550	-2234	-12745	245	-14018	1293	0	-42798

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Ratio (Est/Obs) Motorized Person

ORIGIN	DESTINATION																							TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1 DC CR	0.97	1.20	0.59	1.12	1.54	0.61	0.58	0.50	0.05	0.45	27.66	1.68	69.22	0.45	14.01	0.00	0.84	14.19	39.37	0.51	15.94	0	0	0.93	
2 DC NC	1.17	0.88	0.59	1.03	0.30	0.71	1.08	0.78	76.49	0.47	68.69	0.02	1.501136.80	51.19	2.17	2.19	18.62	59.04	1.16	20.99	0.11	0	0	0.89	
3 MTG	1.03	0.79	1.01	1.39	1.43	1.45	2.94	1.23	0.39	1.48	0.95	0.34	1.93	1.75	0.12	1.15	0.81	86.66	0.21	126.72	23.72	0.06	0	1.02	
4 PG	1.38	1.88	1.36	0.98	1.06	4.79	12.98	1.17	52.49	1.92	0.74	0.16	0.73	1.61	0.33	106.61	0.63	16.99	84.98	1.46	31.50	5.88	0	1.05	
5 ARLCR	0.35	1.44	0.32	1.11	1.77	1.51	3.92	1.59	44.82	0.16	2.67	0.16	3.24	14.16	0.99	0.06	6.57	3.39	0.02	0.23	3.82	0.02	0	1.14	
6 ARNCR	0.41	0.43	0.58	0.66	1.19	0.79	1.54	1.20	0.64	989.96	14.60	0.54	17.59	66.53	3.59	0.14	30.49	29.38	0.19	1.22	23.04	0.05	0	0.93	
7 ALX	1.16	1.10	0.55	1.35	4.87	1.86	0.90	1.16	1.04	3.39	0.03	0.43	20.13	97.18	12.22	0.00	0.40	26.85	142.96	0.71	59.38	0.63	0	1.06	
8 FFX	0.32	0.30	0.69	0.87	0.61	1.04	0.97	1.00	1.04	0.94	57.35	2.10	65.72	0.29	0.14	2.81	171.38	0.85	1.18	0.29	0.32	1.49	0	0.98	
9 LDN	0.07	17.97	0.39	0.04	26.57	0.92	157.92	1.26	1.05	1.22	0.89	0.04	3.01	0.01	0.02	0	0.72	0.79	6.01	0.23	1.79	0	0	1.05	
10 PW	60.87	0.13	124.99	115.17	88.46	1.31	2.19	1.13	1.37	1.03	3.58	0.02	8.99	11.80	3.16	1.42	0.13	1.67	0.64	23.49	1.28	11.01	0	1.04	
11 FRD	26.45	66.84	1.03	0.62	3.77	21.39	13.73	0.51	528.07	7.05	1.01	1.37	0.94	0.51	0.01	0	0.38	3.32	0.61	1.18	0.13	0	0	1.02	
12 CAR	1.84	6.08	2.71	44.96	0.22	1.10	0.83	5.65	11.20	0.25	1.23	1.02	2.62	0.17	0	0	0.06	0.08	0.01	35.35	0	0	0	1.04	
13 HOW	0.41	555.43	1.74	1.33	6.23	0.67	39.31	1.95	15.56	26.14	1.00	1.21	0.90	2.14	8.70	0.24	21.53	1.43	0.94	23.80	0.27	0	0	1.02	
14 AAR	0.45	1.00	0.59	0.66	21.56	0.59	0.96	0.80	10.73	49.33	0.33	0.42	4.09	0.95	0.32	0.10	0.42	1.73	0.01	3.93	2.12	0.25	0	0.95	
15 CAL	15.49	0.29	30.14	0.33	1.29	4.85	16.62	0.03	0.15	2.52	0.03	0	7.29	0.48	0.95	1.29	0.20	0.04	0.44	0	0.06	3.46	0	0.87	
16 STM	0.63	1.63	0.46	0.16	0.05	0.00	0.00	0.66	0	0.10	0	0	0.12	0.01	1.90	0.92	0.44	0	0.19	0	0.61	39.39	0	0.89	
17 CHS	115.75	0.49	0.19	1.11	8.90	43.61	0.53	0.83	1.92	38.43	0.28	0.00	17.78	0.49	0.50	0.36	0.97	0.89	8.56	0	7.33	0.64	0	0.93	
18 FAU	0.01	2.96	12.97	2.04	1.26	11.73	11.48	480.40	1.12	2.13	0.60	0	0.09	0.20	0	0	0.18	0.87	1.28	61.96	112.16	0.01	0	0.92	
19 STA	0.02	10.92	0.02	15.74	0.01	0.15	65.38	0.39	4.19	0.87	0.00	0	0	0.00	0.03	0	1.98	317.80	0.82	0	1.43	1.37	0	0.85	
20 CL/JF	0	0.01	29.66	0	0.06	0.21	0.13	21.21	483.40	15.88	0.57	9.75	6.15	0.59	0	0	0	53.71	0	1.12	0	0	0	1.14	
21 SP/FB	0.86	1.12	1.53	3.06	1.12	7.27	23.25	0.42	0.81	0.53	0	0	0	0.03	0	0.03	1.28	108.67	0.56	0	0.78	0.24	0	0.74	
22 KGEO	0	0	0	0.75	0	0	0.05	0.01	0	0.04	0	0	0	0	0.01	0.74	0.06	68.73	0.01	143.91	0	0.12	1.82	0	1.13
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	0.98	0.98	0.99	0.99	0.96	1.01	1.01	1.05	1.03	1.00	1.00	1.02	1.00	0.89	0.88	0.91	0.92	0.75	1.01	0.81	1.35	0	0	0.99	

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Est Auto Occ.

ORIGIN	DESTINATION																							TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1 DC CR	1.47	1.58	1.54	1.31	2.78	1.64	1.82	1.48	3.15	1.84	4.47	12.92	1.82	2.03	2.77	0.94	1.85	4.83	3.41	0.51	5.63	0	0	1.52	
2 DC NC	1.57	1.49	1.45	1.26	2.94	1.71	1.94	1.50	3.12	2.07	4.12	9.21	1.79	1.93	2.18	5.71	1.69	4.42	4.35	58.00	9.21	0.11	0	1.47	
3 MTG	1.37	1.59	1.55	1.74	3.31	2.00	2.68	2.47	3.38	4.04	2.24	2.07	1.91	2.43	4.86	8.21	4.02	4.17	4.55	3.54	6.70	0.06	0	1.59	
4 PG	1.22	1.45	1.72	1.45	3.22	2.17	2.21	2.54	5.74	3.97	4.75	3.97	1.76	1.90	2.29	2.70	1.77	5.53	4.36	36.50	5.77	5.39	0	1.50	
5 ARLCR	3.59	1.52	1.73	1.48	1.45	1.48	1.73	1.61	2.52	2.05	4.24	8.00	2.97	2.88	4.30	0.06	2.67	4.19	3.16	11.50	3.86	0.02	0	1.57	
6 ARNCR	2.22	1.53	1.83	1.52	1.41	1.39	1.68	1.58	2.50	2.08	5.62	27.00	4.64	3.36	5.98	0.14	3.02	4.22	3.45	15.25	4.61	0.05	0	1.51	
7 ALX	1.74	1.61	2.25	1.55	1.34	1.45	1.66	1.57	3.08	2.02	5.89	43.00	4.33	3.28	4.53	13.60	2.13	4.22	2.98	35.50	3.56	21.00	0	1.62	
8 FFX	1.03	1.58	2.35	2.23	1.34	1.45	1.94	1.60	1.67	1.84	5.97	16.15	6.15	4.66	7.86	77.00	3.53	2.82	2.95	4.48	3.77	21.29	0	1.62	
9 LDN	2.53	3.90	4.15	5.49	2.21	2.71	3.47	1.93	1.38	2.18	2.00	5.31	7.52	6.77	0.02	0	6.00	2.26	6.60	1.99	6.39	0	0	1.45	
10 PW	1.39	3.86	5.16	4.47	1.71	2.28	2.65	1.97	2.11	1.36	18.75	0.02	15.67	6.72	10.33	0.03	5.19	1.88	1.82	3.82	2.81	4.30	0	1.42	
11 FRD	4.84	4.49	2.31	5.04	4.54	5.07	5.07	5.02	2.09	7.84	1.43	1.67	2.45	3.67	0.01	0	38.00	5.35	15.25	2.27	0.13	0	0	1.47	
12 CAR	12.27	10.13	2.17	4.07	5.50	11.00	20.75	9.58	4.59	25.00	1.72	1.30	1.80	3.09	0	0	0.06	0.08	0.01	3.35	0	0	0	1.33	
13 HOW	1.72	2.36	1.91	1.82	4.21	4.41	3.83	4.51	6.57	6.99	2.49	1.75	1.43	1.73	4.70	0.24	4.18	4.77	9.40	3.60	0.27	0	0	1.51	
14 AAR	1.98	2.38	2.41	1.93	3.75	3.75	3.39	4.21	5.62	5.48	3.60	2.91	1.73	1.44	1.72	4.64	3.15	5.58	6.37	5.04	13.25	25.00	0	1.48	
15 CAL	3.49	3.15	5.04	2.35	4.73	7.15	4.76	6.83	7.50	7.52	0.03	0	4.89	1.70	1.32	1.71	1.94	0.04	11.00	0	0.06	4.32	0	1.35	
16 STM	0.63	12.54	6.57	2.61	0.05	0.12	10.50	0.66	0	0.10	0	0	0.12	4.73	1.64	1.37	1.76	0	19.00	0	20.33	3.06	0	1.38	
17 CHS	1.85	2.30	4.09	1.69	3.87	4.00	2.87	3.63	6.86	4.76	0.28	0.05	4.26	3.01	1.99	1.75	1.35	4.94	5.25	0	6.26	2.49	0	1.38	
18 FAU	4.61	9.25	5.11	9.27	4.50	4.44	4.93	3.08	2.17	1.86	10.00	0	0.09	20.00	0	0	0.18	1.37	1.75	2.06	2.56	4.29	0	1.42	
19 STA	6.54	7.69	7.63	5.74	2.19	3.96	3.59	3.20	7.10	1.87	0.01	0	0	22.67	0.03	0	9.90	1.74	1.30	0	1.57	1.65	0	1.38	
20 CL/JF	0	0.01	4.43	0	0.06	0.21	0.13	5.04	1.99	4.06	2.32	3.71	4.46	6.56	0	0	0	2.10	0	1.32	0	0	0	1.34	
21 SP/FB	21.50	56.00	13.91	13.91	4.15	6.27	4.25	4.32	6.75	2.75	0	0	0	0.03	0	0.03	8.00	2.42	1.49	0	1.34	1.91	0	1.37	
22 KGEO	0	0	0	9.38	0	0	0.05	0.22	0	4.51	0	0	0	0	0.01	4.63	3.32	2.50	4.32	1.65	0	2.06	1.29	0	1.33
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	1.47	1.52	1.58	1.48	1.46	1.47	1.78	1.63	1.44	1.42	1.47	1.32	1.50	1.48	1.35	1.38	1.38	1.44	1.38	1.37	1.38	1.35	0	1.50	

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Obs Auto Occ.

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.25	1.34	1.36	1.23	1.54	1.45	1.37	1.60	1.32	1.00	0	0	0	1.00	0	1.00	1.00	0	0	0	0	0	0	1.31
2 DC NC	1.43	1.41	1.63	1.62	1.58	1.27	1.07	1.30	0	1.00	0	1.00	1.00	0	0	0	1.00	0	0	0	0	0	0	1.45
3 MTG	1.89	1.41	1.51	1.50	0	1.42	1.00	1.41	1.51	1.00	1.54	1.31	1.50	1.00	1.00	0	1.00	0	296.95	0	0	0	0	1.50
4 PG	1.25	1.52	1.43	1.49	0	1.00	1.00	1.00	0	1.00	129.82	3.10	1.76	1.39	1.14	0	1.23	0	0	0	0	0	0	1.47
5 ARLCR	1.00	1.00	0	1.00	1.00	1.98	1.00	2.15	0	3.55	0	0	0	0	0	0	0	0	595.10	0	0	0	0	1.93
6 ARNCR	2.89	1.16	3.25	1.00	1.26	1.41	1.33	1.37	2.00	0	0	0	0	0	0	0	0	0	295.26	0	0	0	0	1.41
7 ALX	1.00	1.42	1.96	1.70	1.00	1.31	1.28	1.42	235.54	1.56	1.00	0	0	0	0	374.95	2.00	0	0	0	0	0	0	1.34
8 FFX	1.29	1.99	1.08	1.06	1.82	1.27	1.59	1.45	1.34	1.67	0	0	0	1.00	1.00	0	0	1.00	1.00	1.00	1.00	0	0	1.45
9 LDN	1.00	0	1.00	1.00	0	1.00	0	1.52	1.54	1.00	1.00	99.39	0	1.00	0	0	0	1.00	0	2.56	0	0	0	1.53
10 PW	0	1.00	0	0	0	1.00	3.00	1.76	1.00	1.67	0	0	0	0	0	0	1.00	1.57	2.36	0	1.68	0	0	1.67
11 FRD	0	0	1.61	129.82	0	0	0	1.00	0	0	1.47	1.38	1.00	1.00	0	0	0	0	0	0	1.58	0	0	1.47
12 CAR	0	0	1.00	0	0	0	0	0	0	0	1.48	1.67	1.00	1.43	0	0	0	0	0	0	0	0	0	1.65
13 HOW	0	0	1.94	1.62	0	1.00	0	1.00	0	0	1.00	1.53	1.58	1.44	0	0	0	0	0	0	0	0	0	1.57
14 AAR	6.63	14.57	2.23	1.63	0	1.00	1.00	1.00	0	0	1.00	1.00	1.59	1.54	1.12	1.00	1.00	0	1.00	0	0	0	0	1.56
15 CAL	0	1.00	0	1.34	0	0	0	1.00	0	0	0	0	0	2.21	1.44	1.26	1.80	0	0	0	0	0	0	1.45
16 STM	0	0	0	1.00	0	1.00	374.95	0	0	0	0	0	0	883.86	1.00	1.41	1.86	0	0	0	0	0	0	1.44
17 CHS	0	1.36	1.00	1.20	0	0	2.00	1.00	0	0	2.00	0	1.00	1.39	2.13	1.40	0	0	0	0	1.00	0	0	1.40
18 FAU	1.00	0	0	0	0	0	0	0	1.00	1.76	0	0	0	0	0	0	0	1.43	231.44	0	0	1.00	0	1.44
19 STA	399.09	0	2.00	0	297.55	164.17	0	1.00	0	1.28	1.00	0	0	1.00	0	0	0	0	1.69	0	2.12	1.00	0	1.69
20 CL/JF	0	0	0	0	0	0	0	0	0	0	1.49	0	0	0	0	0	0	0	0	1.53	0	0	0	1.53
21 SP/FB	0	0	0	0	0	0	0	1.00	0	1.00	0	0	0	0	0	0	0	0	1.61	2.00	1.62	1.70	0	1.60
22 KGEO	0	0	0	0	0	0	0	1.00	0	1.00	0	0	0	0	0	2.00	0	1.00	0	2.88	1.06	0	0	1.30
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	1.39	1.43	1.51	1.49	1.47	1.36	1.36	1.45	1.50	1.65	1.46	1.64	1.57	1.53	1.39	1.44	1.40	1.41	1.74	1.61	1.64	1.12	0	1.50

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Est Pct. Tran

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	17.0	18.6	15.5	6.7	84.8	31.5	12.5	7.7	0	7.5	0	0	0.1	0.3	0	0	0	0	0	0	0	0	0	17.1
2 DC NC	23.0	8.4	9.9	3.4	81.1	22.6	6.3	3.0	0	10.2	0	0	0	0.0	0	0	0	0	0	0	0	0	0	10.5
3 MTG	18.6	3.3	1.2	0.8	32.8	3.0	1.0	1.3	0	13.9	0	0	0.0	0	0	0	0	0	0	0	0	0	0	1.3
4 PG	10.9	1.6	0.7	0.4	36.5	8.5	0.5	2.1	0	13.0	0	0	0.0	0.0	0	0	0.0	0	0	0	0	0	0	0.7
5 ARLCR	91.5	13.1	3.8	0.2	5.5	10.9	6.4	0.7	0	2.2	0	0	0	0	0	0	0	0	0	0	0	0	0	10.1
6 ARNCR	84.9	7.4	1.3	0.1	10.2	4.2	4.3	0.6	0	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	5.2
7 ALX	57.1	2.0	0.4	0.0	4.9	3.7	1.6	0.4	0	1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	2.2
8 FFX	49.2	1.7	1.7	2.1	3.3	2.0	1.1	0.2	0.0	1.2	5.2	0	17.6	2.8	26.3	72.6	7.8	0	0.0	0	1.6	0	0	0.4
9 LDN	81.9	0	0.0	0	0.3	0.6	0.0	0.2	0	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
10 PW	74.8	15.0	23.7	18.7	4.0	4.4	3.1	1.5	0.6	0.1	58.1	0	84.3	31.7	80.4	97.9	40.5	0	0.0	0	0.4	0	0	0.3
11 FRD	1.1	0	0.0	0	2.4	0.2	0	0.8	0	8.8	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0.1
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
13 HOW	14.6	0.0	0.0	0.0	31.1	4.6	0	20.0	0	70.0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0.1
14 AAR	14.0	0.1	0.0	0.0	58.4	11.3	0.0	25.7	0	45.2	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0.1
15 CAL	3.5	0.0	0	0	4.7	1.2	0	4.0	0	19.4	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
17 CHS	10.2	0.1	0	0	19.2	3.6	0	7.4	0	29.2	0	0	0	0	0	0.0	0.2	0	0	0	0	0	0	0.3
18 FAU	0.5	0	0	0	0	0	0	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
19 STA	0	0	0	0	0	0	0	3.4	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	25.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
22 KGEO	0	0	0	0	0	0	0	80.9	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	21.8	8.1	1.5	0.7	18.5	5.7	2.1	0.4	0.0	0.3	0.1	0	0.0	0.0	0.0	0.2	0	0.0	0	0.0	0	0	0	1.5

Year: 2007 Estimate/Observed Trips
 Purpose: Internal NHO Trips MODE: Obs Pct. Tran

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	30.5	22.1	41.9	2.7	0	42.5	13.4	12.0	0	0	0	0	0	87.7	0	0	0	0	0	0	0	0	0	25.6
2 DC NC	26.2	12.8	6.3	29.9	0	3.4	21.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15.2
3 MTG	33.2	7.2	1.6	3.6	100.0	34.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.2
4 PG	5.4	4.6	2.0	1.8	100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.8
5 ARLCR	75.4	0	100.0	0	23.9	12.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.9
6 ARNCR	45.5	17.4	6.6	0	0.3	0	6.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.8
7 ALX	50.8	18.9	0	0	0	0	0.7	1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.7
8 FFX	31.8	0	0	0	42.3	4.2	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6
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	100.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2
14 AAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0	0	0	0	0	0	0	0.3
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	28.9	12.0	2.4	3.5	17.6	4.6	1.4	0.5	0	0	0	0	0	0.6	0	0	0	0	0	0	0	0	0	2.2

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Est Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	36374	24490	4860	2151	4288	6768	2153	2349	1	35	0	0	3	3	1	0	1	0	0	0	1	0	0	83476
2 DC NC	158308	84974	28505	11624	8900	15150	4294	6024	2	48	0	0	16	12	0	0	0	0	0	0	0	0	0	317858
3 MTG	74607	17358	82164	3597	4022	4563	768	1852	0	141	0	0	28	3	0	0	0	0	0	0	0	0	0	189103
4 PG	55819	24930	12589	25711	5602	6893	1504	1772	0	110	0	0	105	65	0	0	3	0	0	0	0	0	0	135104
5 ARLCR	5646	702	248	43	679	2562	575	374	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	10836
6 ARNCR	47143	4903	1687	251	6610	16753	3976	4283	1	56	0	0	0	0	0	0	0	0	0	0	0	0	0	85663
7 ALX	19781	2276	765	135	2391	6177	6525	2974	0	59	0	0	0	0	0	0	0	0	0	0	0	0	0	41082
8 FFX	48240	6843	3100	497	7690	15490	6456	23315	74	745	8	0	38	18	13	12	51	0	0	0	17	0	0	112607
9 LDN	4155	644	289	24	764	1137	119	598	788	119	0	0	0	0	0	0	0	0	0	0	0	0	0	8638
10 PW	14577	3473	1706	459	3405	5725	2193	3630	139	2556	8	0	52	28	15	19	74	0	0	0	25	0	0	38085
11 FRD	2363	338	755	24	154	149	20	213	0	5	1825	0	0	0	0	0	0	0	0	0	0	0	0	5845
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	8608	2304	1838	511	730	821	129	290	0	70	0	0	716	22	0	0	0	0	0	0	0	0	0	16038
14 AAR	10416	2677	1173	553	1034	1122	177	711	0	94	0	0	40	98	0	0	0	0	0	0	0	0	0	18095
15 CAL	971	357	100	42	175	166	27	42	0	3	0	0	0	1	48	1	0	0	0	0	0	0	0	1934
16 STM	412	131	43	14	75	67	11	32	0	0	0	0	0	2	157	19	0	0	0	0	0	0	0	963
17 CHS	5130	1514	417	136	596	653	117	155	0	33	0	0	0	0	4	933	0	0	0	0	0	0	0	9688
18 FAU	138	51	18	2	49	65	28	110	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	466
19 STA	1215	298	96	12	367	458	129	448	0	20	0	0	0	0	0	0	0	1	0	0	0	0	0	3042
20 CL/JF	148	76	66	6	45	55	10	201	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	607
21 SP/FB	868	216	27	1	307	441	186	921	0	72	0	0	0	0	0	0	0	0	1	0	3	0	0	3043
22 KGEO	29	12	1	1	9	13	7	52	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	128
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	494947		140449		47893		29405		1006		1841		998		78		1081		3		46		0	1082302
		178565		45795		85226		50346		4180		0		251		192		0		0		0		

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Obs Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	41875	22039	14577	9295	2154	9277	2933	5669	523	1233	234	0	533	991	495	0	1514	215	253	0	308	0	0	114119
2 DC NC	134963	86294	12760	18613	2770	6233	3022	4495	922	396	0	0	0	0	239	0	0	0	268	0	0	0	0	270974
3 MTG	93334	15555	48652	5246	3323	5060	2434	388	0	0	0	0	0	0	0	0	0	0	0	283	0	0	0	174274
4 PG	66466	18409	9949	35469	3116	3800	960	2427	0	636	0	0	608	0	0	0	348	0	0	0	0	0	0	142187
5 ARLCR	5964	909	621	614	468	3151	359	856	256	147	0	0	0	0	0	0	0	0	0	0	0	0	0	13345
6 ARNCR	40661	4148	2529	1568	4326	11179	1245	4119	204	0	0	0	0	0	0	0	0	0	105	0	0	0	0	70083
7 ALX	20698	3404	210	0	2372	3740	4547	1472	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36443
8 FFX	68982	7484	2673	1446	9966	17618	3532	9432	238	0	0	0	0	0	0	0	0	0	0	0	0	0	0	121372
9 LDN	4566	745	200	0	256	450	518	0	518	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7254
10 PW	12804	4398	0	417	1592	4489	380	1640	0	385	0	0	0	0	0	0	0	0	0	0	0	0	0	26104
11 FRD	3977	957	2934	447	0	360	0	0	0	0	1610	0	0	0	0	0	0	0	0	0	0	0	0	10286
12 CAR	551	417	0	0	417	0	0	0	0	0	0	0	639	0	0	0	0	0	0	0	0	0	0	2024
13 HOW	9524	1739	276	260	181	1358	537	0	0	0	0	0	570	0	0	0	0	0	0	0	0	0	0	14444
14 AAR	17934	2083	2005	0	1996	479	72	1145	0	0	0	0	0	4586	0	0	0	0	0	0	0	0	0	30301
15 CAL	3119	0	0	0	0	366	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3485
16 STM	459	0	0	1039	0	0	0	0	0	0	0	0	0	0	0	526	0	0	0	0	0	0	0	2025
17 CHS	3963	0	297	348	264	0	0	0	0	0	0	0	0	0	0	0	412	0	0	0	0	0	0	5283
18 FAU	1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1900
19 STA	2231	731	0	0	262	3570	0	506	0	0	0	0	0	0	0	0	0	0	0	0	463	0	0	7763
20 CL/JF	1764	0	1106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2870
21 SP/FB	2415	0	0	0	418	0	1092	969	0	0	0	0	0	0	0	0	0	0	0	0	489	0	0	5383
22 KGEO	402	0	0	0	0	0	0	0	0	244	0	0	0	0	0	0	0	0	0	0	0	0	0	646
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	538552		98789		33882		21631		2661		1844		639		1710		5577		733		2273		215	1062563
		169310		74761		71132		33116		3042		0		639		526		215		283		1260		0

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Difference (Est-Obs) Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	-5501	2450	-9717	-7145	2133	-2510	-780	-3321	-522	-1198	-234	0	-529	-988	-494	0	-1513	-215	-253	0	-308	0	0	-30643
2 DC NC	23345	-1320	15745	-6989	6130	8917	1273	1530	-920	-349	0	0	16	12	-238	0	0	0	-268	0	0	0	0	46884
3 MTG	-18727	1803	33512	-1649	699	-497	-1665	1464	0	141	0	0	28	3	0	0	0	0	0	-283	0	0	0	14830
4 PG	-10647	6521	2640	-9758	2485	3093	545	-655	0	-525	0	0	-503	65	0	0	0	-344	0	0	0	0	0	-7083
5 ARLCR	-318	-206	-373	-571	211	-589	216	-482	-256	-141	0	0	0	0	0	0	0	0	0	0	0	0	0	-2509
6 ARNCR	6482	756	-842	-1316	2284	5574	2731	164	-203	56	0	0	0	0	0	0	0	0	-105	0	0	0	0	15580
7 ALX	-918	-1128	555	135	19	2437	1977	1502	0	59	0	0	0	0	0	0	0	0	0	0	0	0	0	4639
8 FFX	-20742	-641	427	-949	-2276	-2128	2924	13883	-164	745	8	0	38	18	13	12	51	0	0	0	17	0	0	-8765
9 LDN	-412	-101	89	24	509	687	-400	598	270	119	0	0	0	0	0	0	0	0	0	0	0	0	0	1384
10 PW	1773	-925	1706	43	1814	1236	1813	1990	139	2171	8	0	52	28	15	19	74	0	0	0	25	0	0	11981
11 FRD	-1615	-619	-2179	-423	154	-211	20	213	0	5	215	0	0	0	0	0	0	0	0	0	0	0	0	-4441
12 CAR	-551	-417	0	0	-417	0	0	0	0	0	0	-639	0	0	0	0	0	0	0	0	0	0	0	-2024
13 HOW	-916	564	1563	251	549	-537	-407	290	0	70	0	0	146	22	0	0	0	0	0	0	0	0	0	1593
14 AAR	-7518	594	-833	553	-963	643	105	-434	0	94	0	0	40	-4488	0	0	0	0	0	0	0	0	0	-12206
15 CAL	-2148	357	100	42	175	-200	27	42	0	3	0	0	0	1	48	1	0	0	0	0	0	0	0	-1550
16 STM	-47	131	43	-1026	75	67	11	32	0	0	0	0	0	0	2	-369	19	0	0	0	0	0	0	-1062
17 CHS	1167	1514	121	-211	332	653	117	155	0	33	0	0	0	0	155	4	521	0	0	0	0	0	0	4405
18 FAU	-1762	51	18	2	49	65	28	110	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	-1434
19 STA	-1016	-433	96	12	105	-3112	129	-58	0	20	0	0	0	0	0	0	0	0	1	0	-463	0	0	-4721
20 CL/JF	-1616	76	-1040	6	45	55	10	201	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2263
21 SP/FB	-1547	216	27	1	-110	441	-906	-48	0	72	0	0	0	0	0	0	0	0	1	0	-486	0	0	-2340
22 KGEO	-372	12	1	1	9	13	7	52	0	-241	0	0	0	0	0	0	0	0	0	0	0	0	0	-518
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	-43606	9255	41660	-28966	14011	14094	7775	-1655	1139	-3	-639	-712	-5327	-655	-334	-1191	-215	-623	-283	-1214	0	0	0	19739

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Ratio (Est/Obs) Transit

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	0.87	1.11	0.33	0.23	1.99	0.73	0.73	0.41	0.00	0.03	0	0	0.01	0.00	0.00	0.03	0.00	0	0	0	0.00	0	0	0.73
2 DC NC	1.17	0.98	2.23	0.62	3.21	2.43	1.42	1.34	0.00	0.12	0	0	16.18	11.61	0.00	0	0.22	0	0	0	0.10	0	0	1.17
3 MTG	0.80	1.12	1.69	0.69	1.21	0.90	0.32	4.78	0.22	140.57	0.15	0	28.31	3.15	0.05	0	0.05	0	0	0	0	0	0	1.09
4 PG	0.84	1.35	1.27	0.72	1.80	1.81	1.57	0.73	0	0.17	0	0	0.17	64.97	0.01	0	0.01	0	0	0	0	0	0	0.95
5 ARLCR	0.95	0.77	0.40	0.07	1.45	0.81	1.60	0.44	0.00	0.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0.81
6 ARNCR	1.16	1.18	0.67	0.16	1.53	1.50	3.19	1.04	0.00	55.85	0	0	0	0	0	0	0	0	0	0	0	0	0	1.22
7 ALX	0.96	0.67	3.64	135.00	1.01	1.65	1.43	2.02	0.02	59.11	0	0	0	0	0	0	0	0	0	0	0	0	0	1.13
8 FFX	0.70	0.91	1.16	0.34	0.77	0.88	1.83	2.47	0.31	745.14	7.73	0	37.82	17.85	12.83	12.40	51.22	0	0.08	0	16.81	0	0	0.93
9 LDN	0.91	0.87	1.45	24.41	2.99	2.53	0.23	598.05	1.52	119.45	0	0	0	0	0	0	0	0	0	0	0	0	0	1.19
10 PW	1.14	0.79	1706.20	1.10	2.14	1.28	5.78	2.21	139.30	6.63	8.00	0	52.03	28.43	14.93	18.81	74.03	0	0.15	0	25.44	0	0	1.46
11 FRD	0.59	0.35	0.26	0.05	154.40	0.41	19.66	212.57	0	4.53	1.13	0	0.01	0	0	0	0	0	0	0	0	0	0	0.57
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	0.90	1.32	6.67	1.97	4.03	0.60	0.24	289.99	0	70.11	0	0	1.26	21.72	0	0	0	0	0	0	0	0	0	1.11
14 AAR	0.58	1.29	0.58	553.21	0.52	2.34	2.46	0.62	0	94.14	0	0	39.93	0.02	0.22	0	0	0	0	0	0	0	0	0.60
15 CAL	0.31	356.99	100.48	42.23	174.87	0.45	27.44	42.10	0	3.19	0	0	0	1.49	47.70	0.60	0	0	0	0	0	0	0	0.56
16 STM	0.90	130.69	43.38	0.01	75.20	66.73	11.16	32.14	0	0	0	0	0	0	1.60	0.30	19.33	0	0	0	0	0	0	0.48
17 CHS	1.29	1513.66	1.41	0.39	2.26	652.73	116.95	155.27	0	33.26	0	0	0.02	0.03	0	3.58	2.27	0	0	0	0	0	0	1.83
18 FAU	0.07	50.87	18.45	2.03	48.70	65.46	27.64	110.07	0	4.83	0	0	0	0	0	0	0	0	0	0	0	0	0	0.25
19 STA	0.54	0.41	95.60	12.09	1.40	0.13	128.72	0.89	0	19.76	0	0	0	0	0	0	0	0	1.10	0	0	0	0	0.39
20 CL/JF	0.08	76.10	0.06	6.18	45.27	54.96	10.17	200.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.21
21 SP/FB	0.36	216.22	27.07	0.93	0.74	440.59	0.17	0.95	0	72.17	0	0	0	0	0	0	0	0	1.33	0	0.01	0	0	0.57
22 KGEO	0.07	12.05	1.38	0.59	9.26	13.38	6.59	52.47	0	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0.20
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	0.92	1.05	1.42	0.61	1.41	1.20	1.36	1.52	0.38	1.37	1.00	0	0.58	0.04	0.11	0.37	0.48	0	0.00	0	0.04	0	0	1.02

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Est Auto Person

ORIGIN	DESTINATION																							TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1 DC CR	75726	51532	10209	14105	2002	6276	4783	11998	637	967	392	85	664	1960	188	115	742	144	278	52	186	14	0	183057	
2 DC NC	131898	340868	78433	86431	5225	19305	13624	43772	1561	1319	580	115	2982	5998	318	150	1653	175	362	60	224	15	0	735069	
3 MTG	86598	1151012029933	127592	5106	15574	6388	54114	3453	1717	21725	3905	31039	19345	402	297	1293	406	498	929	512	33	0	0	2525959	
4 PG	78660	177342	1485131266548	7180	20967	22193	54398	1349	1770	845	346	32516	61194	3946	2125	31369	197	599	79	374	178	0	0	1912688	
5 ARLCR	1761	2554	1222	1106	6986	12537	3790	7536	328	566	49	10	49	151	17	11	65	38	75	13	50	3	0	38917	
6 ARNCR	19488	21820	10310	6613	31286	190108	36179	104789	2759	3237	163	24	183	562	44	34	275	174	380	41	291	12	0	428772	
7 ALX	13503	13349	5020	7821	9147	38557	147360	96162	1457	4879	106	19	156	547	73	61	580	138	580	31	388	21	0	339952	
8 FFX	92152	67391	53677	34260	26623	122314	1218242329411	77586	71755	1090	114	994	2496	221	321	2529	3800	6248	725	6095	303	0	0	3021928	
9 LDN	10127	7717	11135	3832	2517	8843	4201	128270	498749	9753	8037	328	495	656	20	47	253	2344	398	12489	549	17	0	710778	
10 PW	15712	9746	8436	5162	4344	14550	15414	155763	14163	841574	305	23	181	490	42	89	423	13949	15919	459	9703	314	0	1126761	
11 FRD	3378	3639	59610	3557	587	1734	612	10838	11915	316	511356	23997	14523	4886	40	23	117	91	35	5933	32	2	0	657217	
12 CAR	2443	1764	16861	2328	244	513	169	2032	740	45	19983	358273	16030	3741	25	10	63	16	8	324	7	1	0	425619	
13 HOW	6951	9314	43738	37404	543	1525	799	4442	346	135	8428	10401	518282	70007	152	154	355	35	32	278	30	5	0	713357	
14 AAR	15194	20485	28126	77585	1518	4630	3595	11438	559	472	1554	993	751551147664	6321	974	2292	63	116	98	93	25	0	0	1398950	
15 CAL	4342	3824	2441	11425	408	1238	1296	3670	70	120	51	14	491	7106	183217	15910	5628	10	20	4	24	39	0	241348	
16 STM	3102	2344	1212	5655	334	829	1090	2598	49	91	26	7	218	1095	11600	258822	20833	12	49	3	87	417	0	0	310474
17 CHS	9311	8267	3601	23986	1002	2950	3881	10681	231	396	75	21	505	2187	4640	9019	306254	31	98	9	115	1254	0	0	388513
18 FAU	1217	707	1056	431	311	905	593	15154	3946	15086	91	9	39	69	9	23	45	101570	2792	499	1715	57	0	146326	
19 STA	1936	1488	1293	1248	492	2049	2318	20476	1109	33441	47	6	35	129	30	127	234	3773	176589	68	42926	982	0	290796	
20 CL/JF	532	352	4794	345	126	361	164	7653	19053	1311	5739	238	564	223	3	3	9	1147	23	106126	24	1	0	148793	
21 SP/FB	726	457	397	472	223	1045	1209	13457	782	13931	37	5	20	69	34	150	206	2147	28288	57	245883	794	0	310389	
22 KGEO	656	404	164	640	133	284	252	2186	99	2493	2	0	14	58	57	418	3435	286	3930	7	4258	29123	0	0	48899
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	575413	2520182	1718544	106335	467094	391734	640942	1005376	580681	398931	695138	1330632	211400	288882	378652	130546	237316	128284	313567	33610	16104561	0	0	0	

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Obs Auto Person

ORIGIN	DESTINATION																							TOTAL		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
1 DC CR	55312	45845	12471	13571	1320	12628	7627	15521	3563	1926	0	0	707	3041	0	714	1583	0	735	0	0	164	0	0	176729	
2 DC NC	138030	396103	115798	71937	4299	22112	7706	37498	4674	1302	922	322	1375	6321	846	0	1815	0	420	0	624	0	0	0	812104	
3 MTG	62406	1177472117601	85943	5098	15969	4559	59134	8607	3698	19896	3096	24522	16938	307	0	1517	0	1231	838	1860	0	0	0	0	2550967	
4 PG	71301	127274	1565221322119	2136	17672	10432	38039	4005	1516	517	1964	30862	70810	8590	515	41846	0	0	0	0	197	0	0	0	1906318	
5 ARLCR	1528	2248	1362	655	3036	7097	1805	8079	0	2833	0	0	210	225	0	0	0	0	1800	0	0	0	0	0	30878	
6 ARNCR	40245	20749	10928	3433	16659	237192	30505	92762	3114	2227	93	0	556	914	108	0	667	102	1496	0	0	0	0	0	461749	
7 ALX	21892	11341	4659	5473	4530	28844	177011	76791	1695	2782	382	0	706	1837	0	375	655	266	298	0	0	0	0	0	339538	
8 FFX	87014	45888	46796	16283	23902	109606	1006322443910	81609	87501	1591	0	2851	1504	772	236	1857	2366	4633	2067	2354	132	0	0	0	3063502	
9 LDN	9605	3359	8115	1242	1174	7369	2281	140417	511367	7619	2055	99	0	853	0	0	0	2691	549	3763	0	0	0	0	702556	
10 PW	7814	10349	6319	3448	5514	16276	15789	177073	11746	868746	0	0	0	0	0	689	463	9639	9649	0	2378	361	0	0	1146253	
11 FRD	1452	3995	53394	4478	491	260	819	2840	4421	595	539707	25851	10578	4610	0	0	0	0	0	2296	0	0	0	0	655786	
12 CAR	748	670	12212	4481	0	0	165	265	99	0	9904	356606	20875	9678	0	0	0	0	0	0	0	0	0	0	415703	
13 HOW	6558	4776	32551	42706	260	1068	1466	3291	276	0	2286	7940	551021	56920	0	0	667	570	0	325	0	0	0	0	712681	
14 AAR	12075	16844	28283	99600	1732	3585	2134	7614	0	769	765	4635	642731157771	6463	424	1480	0	451	144	0	0	0	0	0	1409043	
15 CAL	4767	2422	1851	14480	239	1447	255	7373	0	362	0	0	1555	14819	179021	14168	6579	0	0	0	0	0	0	0	249337	
16 STM	2260	3201	459	6756	0	781	375	1302	0	0	0	0	0	2866	14561	267704	19583	0	459	0	0	0	0	0	320308	
17 CHS	8080	8923	3451	41918	1752	3659	5445	6601	251	0	0	362	145	4165	4760	12692	296424	0	0	0	289	926	0	0	399845	
18 FAU	1083	577	900	0	215	883	431	12836	7129	15381	130	0	0	0	0	0	0	93574	927	2646	214	179	0	0	136977	
19 STA	3345	2928	1582	131	1633	1789	1285	13066	0	23789	130	0	0	394	0	0	0	118	178412	536	64798	1129	0	0	295064	
20 CL/JF	534	0	719	0	0	0	0	4431	13506	79	6239	0	236	0	0	0	0	393	0	99074	541	297	0	0	126047	
21 SP/FB	1955	1477	1084	1011	2269	1135	546	2038	0	10150	0	0	0	0	0	617	0	258	35632	2856	261421	6761	0	0	329210	
22 KGEO	573	328	0	0	0	0	0	564	0	1326	0	0	0	0	489	0	441	1598	423	4200	0	8002	31516	0	0	49459
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	538577	2617055	1739663	76259	489371	3151447	656062	1032600	584487	400875	710473	1354155	215428	298575	376734	110400	240892	114544	342480	41661	16290052	0	0	0		

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Difference (Est-Obs) Auto Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	20414	5687	-2262	534	682	-6352	-2843	-3523	-2926	-958	392	85	-43	-1081	188	-599	-841	144	-458	52	186	-150	0	6327
2 DC NC	-6131	-55236	-37364	14494	926	-2807	5918	6274	-3113	17	-342	-207	1607	-323	-528	150	-162	175	-58	60	-399	15	0	-77035
3 MTG	24192	-2646	-87668	41650	7	-395	1829	-5021	-5154	-1981	1829	809	6516	2407	95	297	-224	406	-733	91	-1348	33	0	-25009
4 PG	7359	50068	-8009	-55571	5043	3295	11761	16359	-2655	254	328	-1618	1653	-9616	-4644	1610	-10477	197	599	79	374	-20	0	6370
5 ARLCR	234	306	-140	450	3950	5440	1985	-543	328	-2267	49	10	-161	-74	17	11	65	38	-1725	13	50	3	0	8040
6 ARNCR	-20757	1071	-617	3180	14627	-47084	5674	12027	-356	1010	69	24	-373	-352	-63	34	-392	72	-1115	41	291	12	0	-32977
7 ALX	-8389	2007	361	2348	4616	9713	-29651	19371	-238	2097	-276	19	-550	-1290	73	-314	-76	-128	282	31	388	21	0	414
8 FFX	5138	21503	6881	17977	2722	12708	21192	-114499	-4022	-15745	-502	114	-1857	992	-551	86	672	1435	1615	-1342	3741	171	0	-41574
9 LDN	522	4358	3020	2590	1343	1475	1920	-12148	-12618	2134	5983	229	495	-197	20	47	253	-347	-151	8726	549	17	0	8221
10 PW	7899	-603	2117	1714	-1171	-1726	-375	-21309	2417	-27172	305	23	181	490	42	-600	-40	4310	6270	459	7325	-47	0	-19492
11 FRD	1925	-356	6216	-921	96	1474	-208	7998	7494	-280	-28351	-1854	3945	276	40	23	117	91	35	3636	32	2	0	1431
12 CAR	1695	1094	4649	-2153	244	513	3	1767	640	45	10079	1667	-4845	-5937	25	10	63	16	8	324	7	1	0	9916
13 HOW	392	4538	11187	-5302	283	458	-667	1152	70	135	6142	2460	-32739	13087	152	154	-312	-535	32	-47	30	5	0	676
14 AAR	3119	3640	-157	-22015	-213	1045	1461	3824	559	-297	789	-3642	10881	-10107	-143	550	812	63	-335	-46	93	25	0	-10093
15 CAL	-425	1402	590	-3055	169	-210	1042	-3702	70	-241	51	14	-1064	-7713	4196	1742	-951	10	20	4	24	39	0	-7988
16 STM	841	-856	753	-1100	334	48	715	1296	49	91	26	7	218	-1771	-2960	-8882	1250	12	-410	3	87	417	0	-9834
17 CHS	1231	-657	150	-17932	-750	-710	-1565	4080	-20	396	75	-341	360	-1978	-121	-3672	9830	31	98	9	-174	327	0	-11332
18 FAU	134	130	155	431	95	22	162	2317	-3183	-295	91	9	39	69	9	23	45	7997	1865	-2147	1501	-122	0	9349
19 STA	-1408	-1440	-290	1117	-1141	261	1033	7410	1109	9652	-812	6	35	-265	30	127	234	3655	-1824	-468	-21871	-147	0	-4268
20 CL/JF	-2	352	4076	345	126	361	164	3222	5547	1233	-500	238	329	223	3	3	9	754	23	7053	-516	-296	0	22746
21 SP/FB	-1229	-1020	-687	-539	-2046	-90	663	11419	782	3781	37	5	20	69	34	-467	206	1889	-7344	-2799	-15538	-5966	0	-18821
22 KGEO	84	76	164	640	133	284	252	1622	99	1167	2	0	14	-431	57	-23	1837	-137	-270	7	-3744	-2393	0	-560
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	36837		-96874		30076		20466		-15120		-3806		-15335		-4028		1918		-3576		-28913		0	
		33419		-21119		-22277		-60609		-27224		-1943		-23523		-9693		20146		13740		-8052		-185491

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Ratio (Est/Obs) Auto Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.37	1.12	0.82	1.04	1.52	0.50	0.63	0.77	0.18	0.50	392.04	85.42	0.94	0.64	187.69	0.16	0.47	144.34	0.38	52.19	185.55	0.09	0	1.04
2 DC NC	0.96	0.86	0.68	1.20	1.22	0.87	1.77	1.17	0.33	1.01	0.63	0.36	2.17	0.95	0.38	149.87	0.91	175.11	0.86	59.61	0.36	14.87	0	0.91
3 MTG	1.39	0.98	0.96	1.48	1.00	0.98	1.40	0.92	0.40	0.46	1.09	1.26	1.27	1.14	1.31	296.58	0.85	406.11	0.40	1.11	0.28	33.05	0	0.99
4 PG	1.10	1.39	0.95	0.96	3.36	1.19	2.13	1.43	0.34	1.17	1.63	0.18	1.05	0.86	0.46	4.12	0.75	196.85	599.17	79.44	374.26	0.90	0	1.00
5 ARLCR	1.15	1.14	0.90	1.69	2.30	1.77	2.10	0.93	327.84	0.20	49.12	9.79	0.24	0.67	17.23	11.03	65.14	37.91	0.04	12.98	50.32	3.29	0	1.26
6 ARNCR	0.48	1.05	0.94	1.93	1.88	0.80	1.19	1.13	0.89	1.45	1.74	23.87	0.33	0.61	0.41	33.60	0.41	1.71	0.25	41.08	291.16	11.98	0	0.93
7 ALX	0.62	1.18	1.08	1.43	2.02	1.34	0.83	1.25	0.86	1.75	0.28	19.00	0.22	0.30	73.35	0.16	0.88	0.52	1.95	30.53	388.22	20.72	0	1.00
8 FFX	1.06	1.47	1.15	2.10	1.11	1.12	1.21	0.95	0.95	0.82	0.68	113.59	0.35	1.66	0.29	1.36	1.36	1.61	1.35	0.35	2.59	2.30	0	0.99
9 LDN	1.05	2.30	1.37	3.09	2.14	1.20	1.84	0.91	0.98	1.28	3.91	3.30	494.84	0.77	20.36	47.37	252.69	0.87	0.73	3.32	549.10	16.86	0	1.01
10 PW	2.01	0.94	1.33	1.50	0.79	0.89	0.98	0.88	1.21	0.97	304.71	23.26	181.40	489.53	41.56	0.13	0.91	1.45	1.65	459.49	4.08	0.87	0	0.98
11 FRD	2.33	0.91	1.12	0.79	1.20	6.68	0.75	3.82	2.70	0.53	0.95	0.93	1.37	1.06	40.26	23.28	116.55	90.70	34.89	2.58	31.78	1.86	0	1.00
12 CAR	3.26	2.63	1.38	0.52	243.54	513.16	1.02	7.67	7.44	44.70	2.02	1.00	0.77	0.39	25.42	9.99	62.93	15.93	7.82	324.39	7.40	0.64	0	1.02
13 HOW	1.06	1.95	1.34	0.88	2.09	1.43	0.55	1.35	1.26	134.92	3.69	1.31	0.94	1.23	152.20	154.26	0.53	0.06	32.09	0.86	29.80	5.02	0	1.00
14 AAR	1.26	1.22	0.99	0.78	0.88	1.29	1.68	1.50	559.35	0.61	2.03	0.21	1.17	0.99	0.98	2.30	1.55	62.59	0.26	0.68	92.95	24.69	0	0.99
15 CAL	0.91	1.58	1.32	0.79	1.71	0.86	5.09	0.50	70.49	0.33	50.98	13.96	0.32	0.48	1.02	1.12	0.86	9.54	20.11	4.03	23.79	39.17	0	0.97
16 STM	1.37	0.73	2.64	0.84	334.15	1.06	2.91	1.99	49.05	91.33	26.28	6.59	218.49	0.38	0.80	0.97	1.06	11.64	0.11	2.87	86.95	417.42	0	0.97
17 CHS	1.15	0.93	1.04	0.57	0.57	0.81	0.71	1.62	0.92	395.56	75.01	0.06	3.49	0.53	0.97	0.71	1.03	31.32	97.50	9.22	0.40	1.35	0	0.97
18 FAU	1.12	1.23	1.17	430.50	1.44	1.02	1.38	1.18	0.55	0.98	90.77	9.37	39.40	69.30	8.94	22.91	44.92	1.09	3.01	0.19	8.00	0.32	0	1.07
19 STA	0.58	0.51	0.82	9.52	0.30	1.15	1.80	1.57	1108.69	1.41	0.36	5.95	35.43	0.33	29.53	126.64	234.32	31.96	0.99	1.13	0.66	0.87	0	0.99
20 CL/JF	1.00	352.08	6.67	345.34	126.22	360.56	163.68	1.73	1.41	16.69	0.92	237.51	2.39	223.44	3.12	2.67	9.25	2.92	22.72	1.07	0.04	0.00	0	1.18
21 SP/FB	0.37	0.31	0.37	0.47	0.10	0.92	2.21	6.60	781.91	1.37	36.81	4.92	20.39	69.46	34.08	0.24	205.90	8.32	0.79	0.02	0.94	0.12	0	0.94
22 KGEO	1.15	1.23	164.39	640.22	132.84	284.14	251.99	3.87	99.14	1.88	1.56	0.41	14.13	0.12	57.38	0.95	2.15	0.68	0.94	6.74	0.53	0.92	0	0.99
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	1.07		0.96		1.39		1.06		0.98		0.97		0.99		0.98		0.98		0.99		0.92		0	
		1.04		0.99		0.95		0.98		0.97		1.00		0.98		0.97		1.18		1.12		0.81		0.99

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Est Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	59317	37539	7629	12184	1695	4681	3419	9197	434	785	216	45	537	1491	136	59	598	79	170	21	91	5	0	140327
2 DC NC	90987	227284	54110	65498	3751	12675	8692	29791	1033	970	346	62	2170	4355	226	84	1249	88	202	22	104	5	0	503705
3 MTG	75897	849751	400876	92046	4327	12304	4667	39887	2300	1036	14406	2483	21760	13525	256	215	851	200	253	535	265	17	0	1773081
4 PG	66813	130251	102972	903463	5968	16048	14975	36571	819	1009	474	177	22712	43205	2660	1490	21737	83	293	27	170	102	0	1372019
5 ARLCR	1535	2074	977	974	5631	9468	2747	5675	221	427	29	5	37	109	12	6	51	23	49	5	27	1	0	30084
6 ARNCR	15839	15882	7853	5242	22726	132798	24892	75119	1845	2222	93	10	133	397	28	18	202	99	230	16	158	5	0	305807
7 ALX	11361	10091	3931	6182	7122	28248	100184	69518	938	3247	53	7	100	360	47	37	424	74	345	12	210	10	0	242501
8 FFX	80315	51931	42548	25587	21869	92878	8603316	32299	57537	50419	689	50	689	1698	131	235	1691	2445	3749	441	3556	174	0	2156964
9 LDN	8606	6114	9337	2965	2077	6824	3161	97105	356847	7250	5690	224	412	513	13	39	170	1661	250	8248	340	11	0	517857
10 PW	14167	8390	6962	4096	3766	11832	11851	114164	11029	601152	234	13	129	344	26	72	292	9836	10569	340	6029	195	0	815489
11 FRD	2992	3156	41524	3032	490	1309	448	7114	7339	213	371320	17232	11242	4120	26	12	82	56	12	3830	10	0	0	475560
12 CAR	2266	1624	12379	2029	221	446	143	1578	467	30	15294	262222	11424	3105	18	5	48	8	2	222	2	0	0	313531
13 HOW	6344	7717	31921	27327	485	1283	616	3244	222	77	6287	6971	363968	50949	108	124	250	15	11	173	10	2	0	508104
14 AAR	13238	15868	20153	55032	1223	3408	2347	7339	319	253	1122	637	52890	816546	4343	754	1631	23	46	50	33	12	0	997264
15 CAL	3920	3215	1980	8650	331	927	839	2374	49	75	36	7	393	5357	131031	12305	4254	4	8	1	12	24	0	175792
16 STM	2795	2046	1053	4436	272	632	659	1686	34	62	16	2	181	909	8594	197991	14630	6	26	0	51	255	0	236338
17 CHS	8407	6992	2929	18740	814	2188	2489	6663	136	228	42	8	392	1761	3413	6719	221944	12	46	2	63	742	0	284731
18 FAU	1023	582	853	324	258	741	493	11738	3123	11386	67	4	23	37	4	17	28	72542	2042	361	1249	43	0	106940
19 STA	1662	1242	881	873	417	1630	1734	14882	952	24461	27	1	16	69	21	110	176	2961	126756	61	31686	743	0	211361
20 CL/JF	478	309	3255	291	106	290	134	5576	12202	963	3978	159	406	171	1	0	3	785	17	78825	18	1	0	107967
21 SP/FB	602	380	215	316	178	786	855	9210	668	10020	20	1	5	26	25	125	170	1772	21266	51	179330	638	0	226658
22 KGEO	628	386	143	561	123	249	186	1471	90	1669	0	0	11	48	47	303	2225	229	2700	6	3044	21029	0	35151
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	469193	1754477	1239850	83850	341642	271565	458604	420438	290321	489634	151164	272706	93001	169042	226458	24015	11537231							

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Obs Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	43316	34799	11051	12335	868	10678	6400	12696	2420	785	0	0	382	2628	0	451	1097	0	131	0	0	164	0	140202
2 DC NC	104634	270470	81876	59515	3493	18664	6628	29801	4050	1302	0	322	883	5775	846	0	1554	0	122	0	316	0	0	590251
3 MTG	55578	906181	489936	72046	4180	15421	4559	51295	7668	1838	15250	2580	19087	14869	307	0	813	0	934	838	620	0	0	1848438
4 PG	61280	98694	116341	911744	2136	13738	6890	35035	3438	1516	387	1574	22213	53557	6376	286	27962	0	0	0	0	197	0	1363362
5 ARLCR	980	2248	1362	655	2601	5273	1805	6045	0	1274	0	0	210	225	0	0	0	0	0	0	0	0	0	22679
6 ARNCR	31235	17253	9616	2827	12257	170170	23788	76329	2551	1382	93	0	556	710	108	0	667	102	1200	0	0	0	0	350844
7 ALX	18955	8881	4056	4319	3658	22688	134972	58667	1249	2571	382	0	706	1104	0	0	511	266	298	0	0	0	0	263283
8 FFX	75104	38053	41667	16179	20911	89335	770651	26774	63733	65869	1591	0	2851	1372	772	236	1857	2366	3717	1401	2235	132	0	2233219
9 LDN	8169	3359	7905	1242	662	6101	2281	113553	334685	6035	883	0	0	853	0	0	0	2691	405	2198	0	0	0	491022
10 PW	5920	9516	4844	2394	3946	12511	11030	139796	10692	569285	0	0	0	0	0	590	463	6836	6305	0	1888	263	0	786279
11 FRD	1452	3771	41821	4218	491	260	819	2840	4099	595	393668	16491	8523	2916	0	0	0	0	0	0	1969	0	0	483934
12 CAR	583	290	10965	3702	0	0	165	265	0	0	6660	237191	17511	8145	0	0	0	0	0	0	0	0	0	285476
13 HOW	5549	4639	27095	35984	260	792	1466	3291	276	0	1967	5799	377314	48363	0	0	667	570	0	325	0	0	0	514355
14 AAR	10331	12144	18930	73882	1732	3585	2134	6235	0	769	765	3263	46614	826157	5802	424	1480	0	451	144	0	0	0	1014842
15 CAL	4270	2166	1101	12059	239	724	255	5202	0	362	0	0	1555	11640	119310	12705	4117	0	0	0	0	0	0	175703
16 STM	1997	3201	459	6000	0	781	0	1302	0	0	0	0	0	835	9754	200162	14356	0	459	0	0	0	0	239307
17 CHS	7118	7686	2488	32363	1752	3438	3568	5973	251	0	0	181	145	3868	4446	8620	210313	0	0	0	145	782	0	293137
18 FAU	808	577	900	0	215	883	431	12560	4694	13127	0	0	0	0	0	0	0	67380	577	1323	214	179	0	103871
19 STA	1637	2508	1285	131	131	1225	1285	10754	0	20833	130	0	0	394	0	0	0	0	112628	536	40363	1129	0	194969
20 CL/JF	534	0	719	0	0	0	0	4237	9933	79	5697	0	236	0	0	0	0	393	0	71111	541	297	0	93775
21 SP/FB	1955	1169	1084	1011	2269	1135	0	2038	0	7103	0	0	0	0	0	308	0	258	25573	2239	180507	5943	0	232593
22 KGEO	573	328	0	0	0	0	0	564	0	1326	0	0	0	489	0	343	1598	423	3145	0	5564	24647	0	39000
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	441979	1875501	1252606	61799	377402	285541	449739	696051	427476	267402	498785	983900	147720	267454	81284	155946	82085	232392	33732	0	11760538			

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Difference (Est-Obs) Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	16001	2740	-3422	-151	827	-5997	-2982	-3499	-1986	-0	216	45	156	-1137	136	-392	-499	79	39	21	91	-159	0	125
2 DC NC	-13647	-43186	-27766	5984	259	-5989	2064	-10	-3017	-332	346	-260	1287	-1420	-621	84	-305	88	80	22	-212	5	0	-86546
3 MTG	20319	-5643	-89059	20000	147	-3117	107	-11407	-5368	-802	-844	-98	2673	-1344	-51	215	38	200	-681	-303	-355	17	0	-75357
4 PG	5533	31557	-13369	-8281	3832	2310	8086	1536	-2619	-507	86	-1397	500	-10352	-3716	1204	-6225	83	293	27	170	-96	0	8657
5 ARLCR	555	-173	-385	319	3030	4194	943	-371	221	-847	29	5	-173	-116	12	6	51	23	49	5	27	1	0	7405
6 ARNCR	-15396	-1372	-1763	2415	10469	-37373	1104	-1210	-706	840	-1	10	-423	-313	-79	18	-464	-2	-971	16	158	5	0	-45036
7 ALX	-7593	1210	-125	1863	3465	5560	-34788	10851	-312	676	-329	7	-606	-744	47	37	-87	-192	47	12	210	10	0	-20782
8 FFX	5212	13877	880	9408	959	3544	8969	-94475	-6197	-15450	-903	50	-2162	326	-641	-1	-166	80	32	-960	1321	42	0	-76255
9 LDN	437	2755	1433	1723	1415	723	880	-16448	22162	1215	4807	224	412	-339	13	39	170	-1031	-155	6050	340	11	0	26836
10 PW	8247	-1126	2118	1702	-180	-680	821	-25632	338	31867	234	13	129	344	26	-518	-172	3000	4264	340	4141	-67	0	29211
11 FRD	1539	-615	-297	-1186	-1	1049	-371	4274	3240	-382	-22349	741	2719	1204	26	12	82	56	12	1862	10	0	0	-8374
12 CAR	1683	1334	1414	-1673	221	446	-22	1313	467	30	8633	25031	-6087	-5040	18	5	48	8	2	222	2	0	0	28054
13 HOW	794	3079	4826	-8657	225	490	-851	-47	-54	77	4320	1173	-13346	2587	108	124	-416	-555	11	-152	10	2	0	-6251
14 AAR	2907	3724	1223	-18850	-509	-177	212	1103	319	-515	357	-2626	6276	-9612	-1459	330	151	23	-406	-94	33	12	0	-17578
15 CAL	-349	1049	879	-3410	93	203	584	-2827	49	-287	36	7	-1162	-6283	11721	-399	137	4	8	1	12	24	0	89
16 STM	798	-1154	594	-1563	272	-149	659	384	34	62	16	2	181	74	-1160	-2171	274	6	-433	0	51	255	0	-2969
17 CHS	1289	-694	440	-13624	-938	-1250	-1079	690	-114	228	42	-173	247	-2107	-1034	-1901	11631	12	46	2	-82	-40	0	-8406
18 FAU	215	5	-48	324	43	-142	62	-822	-1571	-1741	67	4	23	37	4	17	28	5162	1465	-962	1035	-135	0	3069
19 STA	24	-1266	-405	742	286	404	450	4128	952	3628	-102	1	16	-325	21	110	176	2961	14127	-475	-8677	-385	0	16392
20 CL/JF	-56	309	2536	291	106	290	134	1339	2269	884	-1719	159	170	171	1	0	3	393	17	7714	-522	-296	0	14193
21 SP/FB	-1353	-789	-870	-694	-2092	-349	855	7173	668	2917	20	1	5	26	25	-184	170	1514	-4307	-2188	-1177	-5305	0	-5934
22 KGEO	55	58	143	561	123	249	186	907	90	343	0	0	11	-440	47	-39	627	-194	-445	6	-2520	-3618	0	-3849
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	27214		-121024		22050		-13975		8865		-7037		-9151		3444		5252		13096		-5934		0	
		5678		-12757		-35760		-123049		21902		22919		-34802		-3405		11716		11167		-9717		-223307

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Ratio (Est/Obs) Auto Driver

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.37	1.08	0.69	0.99	1.95	0.44	0.53	0.72	0.18	1.00	215.62	45.36	1.41	0.57	135.87	0.13	0.55	78.91	1.30	20.79	91.24	0.03	0	1.00
2 DC NC	0.87	0.84	0.66	1.10	1.07	0.68	1.31	1.00	0.26	0.74	346.09	0.19	2.46	0.75	0.27	84.11	0.80	88.17	1.65	21.75	0.33	5.10	0	0.85
3 MTG	1.37	0.94	0.94	1.28	1.04	0.80	1.02	0.78	0.30	0.56	0.94	0.96	1.14	0.91	0.83	214.85	1.05	199.89	0.27	0.64	0.43	16.70	0	0.96
4 PG	1.09	1.32	0.89	0.99	2.79	1.17	2.17	1.04	0.24	0.67	1.22	0.11	1.02	0.81	0.42	5.22	0.78	82.80	293.30	27.12	169.61	0.51	0	1.01
5 ARLCR	1.57	0.92	0.72	1.49	2.16	1.80	1.52	0.94	221.37	0.34	28.78	5.08	0.18	0.49	11.93	5.57	50.87	22.66	49.18	5.40	26.70	1.38	0	1.33
6 ARNCR	0.51	0.92	0.82	1.85	1.85	0.78	1.05	0.98	0.72	1.61	0.99	9.68	0.24	0.56	0.26	17.94	0.30	0.98	0.19	16.40	157.98	5.19	0	0.87
7 ALX	0.60	1.14	0.97	1.43	1.95	1.25	0.74	1.18	0.75	1.26	0.14	6.54	0.14	0.33	47.25	37.47	0.83	0.28	1.16	12.23	210.49	10.24	0	0.92
8 FFX	1.07	1.36	1.02	1.58	1.05	1.04	1.12	0.95	0.90	0.77	0.43	50.04	0.24	1.24	0.17	1.00	0.91	1.03	1.01	0.31	1.59	1.32	0	0.97
9 LDN	1.05	1.82	1.18	2.39	3.14	1.12	1.39	0.86	1.07	1.20	6.44	223.82	412.26	0.60	13.07	39.21	170.39	0.62	0.62	3.75	340.08	10.83	0	1.05
10 PW	2.39	0.88	1.44	1.71	0.95	0.95	1.07	0.82	1.03	1.06	233.79	13.18	129.35	344.32	26.11	0.12	0.63	1.44	1.68	340.28	3.19	0.74	0	1.04
11 FRD	2.06	0.84	0.99	0.72	1.00	5.04	0.55	2.51	1.79	0.36	0.94	1.04	1.32	1.41	26.03	12.13	81.79	55.54	11.58	1.95	10.31	0.39	0	0.98
12 CAR	3.89	5.61	1.13	0.55	220.59	446.08	0.87	5.96	467.18	30.10	2.30	1.11	0.65	0.38	18.27	4.81	47.92	8.27	1.91	221.58	1.54	0.19	0	1.10
13 HOW	1.14	1.66	1.18	0.76	1.87	1.62	0.42	0.99	0.80	76.63	3.20	1.20	0.96	1.05	108.08	123.65	0.38	0.03	10.79	0.53	9.99	1.97	0	0.99
14 AAR	1.28	1.31	1.06	0.74	0.71	0.95	1.10	1.18	318.85	0.33	1.47	0.20	1.13	0.99	0.75	1.78	1.10	23.18	0.10	0.35	33.09	12.09	0	0.98
15 CAL	0.92	1.48	1.80	0.72	1.39	1.28	3.29	0.46	48.61	0.21	35.65	7.28	0.25	0.46	1.10	0.97	1.03	3.63	8.31	0.96	12.39	24.29	0	1.00
16 STM	1.40	0.64	2.29	0.74	271.81	0.81	659.22	1.29	33.94	61.73	16.16	2.03	181.28	1.09	0.88	0.99	1.02	5.61	0.06	0.37	51.33	255.18	0	0.99
17 CHS	1.18	0.91	1.18	0.58	0.46	0.64	0.70	1.12	0.54	227.54	42.42	0.04	2.71	0.46	0.77	0.78	1.06	12.28	45.82	2.40	0.43	0.95	0	0.97
18 FAU	1.27	1.01	0.95	324.40	1.20	0.84	1.14	0.93	0.67	0.87	66.62	4.12	23.43	36.58	3.93	16.90	28.16	1.08	3.54	0.27	5.83	0.24	0	1.03
19 STA	1.01	0.50	0.69	6.66	3.18	1.33	1.35	1.38	952.43	1.17	0.21	1.36	15.75	0.17	20.91	109.91	175.80	2961.35	1.13	0.11	0.79	0.66	0	1.08
20 CL/JF	0.90	309.16	4.53	290.62	105.50	289.88	134.30	1.32	1.23	12.26	0.70	159.05	1.72	171.42	0.55	0.30	2.92	2.00	16.84	1.11	0.73	0.00	0	1.15
21 SP/FB	0.31	0.33	0.20	0.31	0.08	0.69	854.94	4.52	667.89	1.41	19.70	0.69	5.09	26.03	25.29	0.40	169.54	6.87	0.83	0.02	0.99	0.11	0	0.97
22 KGEO	1.10	1.18	142.74	561.35	123.07	249.25	186.08	2.61	89.99	1.26	0.46	0.66	11.29	0.10	46.52	0.89	1.39	0.54	0.86	6.35	0.55	0.85	0	0.90
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	1.06		0.94		1.36		0.95		1.02		0.98		0.98		1.02		1.02		1.14		1.08		0	
		1.01		0.99		0.91		0.95		1.03		1.09		0.96		0.98		1.14		1.14		0.71		0.98

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Est Motr Psn

ORIGIN	DESTINATION																						TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		23
1 DC CR	112100	76021	15070	16256	6290	13044	6937	14347	638	1002	392	85	667	1964	189	115	743	144	278	52	186	14	0	266533
2 DC NC	290206	425841	106939	98055	14125	34455	17919	49797	1564	1367	580	115	2998	6010	318	150	1653	175	362	60	224	15	0	1052927
3 MTG	161205	132459	2112097	131189	9128	20137	7157	55966	3453	1858	21725	3905	31067	19348	402	297	1293	406	498	929	512	33	0	2715062
4 PG	134480	202272	1611021	292259	12781	27860	23697	56170	1349	1880	845	346	32621	61259	3946	2125	31372	197	599	79	374	178	0	2047792
5 ARLCR	7407	3256	1470	1148	7665	15099	4365	7910	328	573	49	10	49	151	17	11	65	38	75	13	50	3	0	49754
6 ARNCR	66631	26723	11997	6864	37896	206861	40155	109072	2759	3293	163	24	183	562	44	34	275	174	380	41	291	12	0	514435
7 ALX	33283	15625	5784	7956	11537	44734	153884	99136	1457	4938	106	19	156	547	73	61	580	138	580	31	388	21	0	381034
8 FFX	140392	74234	56777	34757	34313	137804	128280	2352725	77661	72500	1098	114	1032	2514	234	333	2580	3800	6248	725	6111	303	0	3134535
9 LDN	14281	8361	11424	3856	3281	9980	4320	128868	499537	9873	8037	328	495	656	20	47	253	2344	398	12489	549	17	0	719416
10 PW	30290	13218	10142	5621	7749	20275	17607	159393	14302	844131	313	23	233	518	56	107	497	13949	15920	459	9729	314	0	1164846
11 FRD	5741	3977	60365	3581	741	1883	631	11050	11915	320	513181	23997	14523	4886	40	23	117	91	35	5933	32	2	0	663062
12 CAR	2443	1764	16861	2328	244	513	169	2032	740	45	19983	358273	16030	3741	25	10	63	16	8	324	7	1	0	425619
13 HOW	15558	11617	45577	37915	1272	2346	929	4732	346	205	8428	10401	518998	70029	152	154	355	35	32	278	30	5	0	729394
14 AAR	25610	23162	29299	78138	2552	5752	3772	12149	559	566	1554	993	751951	147762	6321	974	2292	63	116	98	93	25	0	1417045
15 CAL	5313	4181	2541	11467	583	1404	1324	3713	70	124	51	14	491	7108	183264	15911	5628	10	20	4	24	39	0	243283
16 STM	3514	2475	1256	5669	409	896	1101	2630	49	91	26	7	218	1095	11602	258979	20853	12	49	3	87	417	0	311437
17 CHS	14441	9780	4019	24123	1598	3602	3998	10836	231	429	75	21	505	2187	4640	9023	307186	31	98	9	115	1254	0	398201
18 FAU	1355	758	1074	433	360	971	621	15264	3946	15091	91	9	39	69	9	23	45	101570	2792	499	1715	57	0	146792
19 STA	3151	1786	1388	1260	859	2507	2446	20924	1109	33461	47	6	35	129	30	127	234	3773	176590	68	42926	982	0	293838
20 CL/JF	680	428	4860	352	171	416	174	7854	19053	1311	5739	238	564	223	3	3	9	1147	23	106126	24	1	0	149400
21 SP/FB	1594	673	424	472	531	1485	1395	14378	782	14003	37	5	20	69	34	150	206	2147	28289	57	245886	794	0	313432
22 KGEO	686	416	166	641	142	298	259	2239	99	2496	2	0	14	58	57	418	3435	286	3930	7	4258	29123	0	49028
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	1070360	2660630	154228	1764339	552320	421139	641948	1009556	582522	696136	211478	398931	1330883	289074	379733	130546	237318	313613	33610	17186863	0	0	0	0
		1039028					3141184																	

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Obs Motr Psn

ORIGIN	DESTINATION																						TOTAL		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		23	
1 DC CR	97187	67884	27048	22866	3475	21905	10560	21191	4087	3159	234	0	1239	4033	495	714	3097	215	988	0	308	164	0	290848	
2 DC NC	272992	482397	128558	90550	7070	28345	10728	41992	5596	1699	922	322	1375	6321	1085	0	1815	0	688	0	624	0	0	1083078	
3 MTG	155740	1333022	166253	91188	8421	21029	6993	59522	8607	3698	19896	3096	24522	16938	307	0	1517	0	1231	1121	1860	0	0	2725241	
4 PG	137768	145683	166471	1357588	5253	21473	11391	40466	4005	2151	517	1964	31470	70810	8590	515	42193	0	0	0	0	197	0	2048505	
5 ARLCR	7492	3156	1983	1269	3504	10248	2164	8935	256	2981	0	0	210	225	0	0	0	0	1800	0	0	0	0	44222	
6 ARNCR	80906	24897	13456	5001	20986	248371	31750	96881	3318	2227	93	0	556	914	108	0	667	102	1600	0	0	0	0	531832	
7 ALX	42590	14745	4869	5473	6902	32584	181558	78263	1695	2782	382	0	706	1837	0	375	655	266	298	0	0	0	0	375980	
8 FFX	155996	53372	49469	17729	33868	127224	104165	2453341	81846	87501	1591	0	2851	1504	772	236	1857	2366	4633	2067	2354	132	0	3184873	
9 LDN	14171	4103	8314	1242	1430	7819	2799	140417	511886	7619	2055	99	0	853	0	0	0	2691	549	3763	0	0	0	709810	
10 PW	20618	14747	6319	3865	7106	20764	16169	178712	11746	869132	0	0	0	0	0	689	463	9639	9649	0	2378	361	0	1172356	
11 FRD	5430	4952	56328	4925	491	620	819	2840	4421	595	541317	25851	10578	4610	0	0	0	0	0	2296	0	0	0	666073	
12 CAR	1299	1087	12212	4481	417	0	165	265	99	0	9904	357245	20875	9678	0	0	0	0	0	0	0	0	0	417727	
13 HOW	16082	6515	32826	42966	441	2426	2003	3291	276	0	2286	7940	551591	56920	0	0	667	570	0	325	0	0	0	727125	
14 AAR	30010	18927	30289	99600	3728	4064	2206	8759	0	769	765	4635	642731	162357	6463	424	1480	0	451	144	0	0	0	1439345	
15 CAL	7886	2422	1851	14480	239	1814	255	7373	0	362	0	0	1555	14819	179021	14168	6579	0	0	0	0	0	0	252821	
16 STM	2720	3201	459	7795	0	781	375	1302	0	0	0	0	0	2866	14561	268231	19583	0	459	0	0	0	0	322332	
17 CHS	12043	8923	3748	42266	2016	3659	5445	6601	251	0	0	362	145	4165	4760	12692	296836	0	0	0	289	926	0	405128	
18 FAU	2983	577	900	0	215	883	431	12836	7129	15381	130	0	0	0	0	0	0	93574	927	2646	214	179	0	138876	
19 STA	5576	3659	1582	131	1895	5359	1285	13572	0	23789	130	0	0	394	0	0	0	118	178412	536	65260	1129	0	302827	
20 CL/JF	2298	0	1825	0	0	0	0	4431	13506	79	6239	0	0	236	0	0	0	0	393	0	99074	541	297	0	128917
21 SP/FB	4371	1477	1084	1011	2687	1135	1639	3007	0	10150	0	0	0	0	0	617	0	258	35632	2856	261909	6761	0	334593	
22 KGEO	974	328	0	0	0	0	0	564	0	1570	0	0	0	0	489	0	441	1598	423	4200	0	8002	31516	0	50105
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	1077129	2715844	110141	1814424	560504	392899	3184563	658723	586331	1035642	401513	712184	1359732	299101	379007	110615	241517	114827	343740	41661	17352615	0	0	0	
		996355																							

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Difference (Est-Obs) Motorized Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	14913	8138	-11978	-6611	2815	-8862	-3623	-6844	-3448	-2157	158	85	-572	-2069	-306	-599	-2354	-71	-711	52	-122	-150	0	-24315
2 DC NC	17214	-56556	-21619	7505	7056	6109	7191	7804	-4033	-331	-342	-207	1623	-311	-767	150	-162	175	-326	60	-399	15	0	-30151
3 MTG	5465	-843	-54156	40001	707	-892	164	-3556	-5154	-1840	1829	809	6545	2410	95	297	-224	406	-733	-192	-1348	33	0	-10179
4 PG	-3288	56589	-5369	-65329	7529	6388	12306	15704	-2655	-271	328	-1618	1151	-9551	-4644	1610	-10821	197	599	79	374	-20	0	-713
5 ARLCR	-84	100	-513	-121	4161	4851	2201	-1025	72	-2408	49	10	-161	-74	17	11	65	38	-1725	13	50	3	0	5531
6 ARNCR	-14275	1827	-1459	1863	16911	-41510	8405	12191	-559	1066	69	24	-373	-352	-63	34	-392	72	-1220	41	291	12	0	-17397
7 ALX	-9307	880	916	2483	4635	12150	-27673	20873	-238	2156	-276	19	-550	-1290	73	-314	-76	-128	282	31	388	21	0	5054
8 FFX	-15604	20862	7308	17027	445	10580	24116	-100616	-4186	-15000	-494	114	-1819	1010	-538	98	723	1435	1615	-1342	3758	171	0	-50339
9 LDN	110	4258	3110	2614	1851	2161	1521	-11550	-12348	2254	5983	229	495	-197	20	47	253	-347	-151	8726	549	17	0	9606
10 PW	9672	-1528	3823	1757	643	-490	1438	-19319	2556	-25001	313	23	233	518	56	-581	34	4310	6271	459	7351	-47	0	-7510
11 FRD	311	-975	4037	-1344	250	1262	-188	8211	7494	-275	-28136	-1854	3945	276	40	23	117	91	35	3636	32	2	0	-3010
12 CAR	1144	677	4649	-2153	-173	513	3	1767	640	45	10079	1028	-4845	-5937	25	10	63	16	8	324	7	1	0	7892
13 HOW	-524	5102	12750	-5050	832	-80	-1075	1441	70	205	6142	2460	-32593	13108	152	154	-312	-535	32	-47	30	5	0	2269
14 AAR	-4400	4234	-990	-21462	-1176	1688	1566	3390	559	-203	789	-3642	10921	-14595	-143	550	812	63	-335	-46	93	25	0	-22300
15 CAL	-2572	1759	691	-3012	344	-410	1069	-3660	70	-238	51	14	-1064	-7712	4244	1742	-951	10	20	4	24	39	0	-9539
16 STM	794	-726	797	-2126	409	115	726	1328	49	91	26	7	218	-1771	-2959	-9252	1269	12	-410	3	87	417	0	-10895
17 CHS	2398	857	271	-18143	-418	-57	-1448	4235	-20	429	75	-341	360	-1978	-121	-3669	10351	31	98	9	-174	327	0	-6927
18 FAU	-1628	181	174	433	144	87	190	2427	-3183	-290	91	9	39	69	9	23	45	7997	1865	-2147	1501	-122	0	7915
19 STA	-2425	-1873	-194	1129	-1037	-2852	1161	7352	1109	9672	-82	6	35	-265	30	127	234	3655	-1823	-468	-22334	-147	0	-8989
20 CL/JF	-1618	428	3035	352	171	416	174	3422	5547	1233	-500	238	329	223	3	3	9	754	23	7053	-516	-296	0	20483
21 SP/FB	-2777	-804	-660	-538	-2156	351	-243	11371	782	3853	37	5	20	69	34	-467	206	1889	-7343	-2799	-16024	-5966	0	-21161
22 KGEO	-289	88	166	641	142	298	259	1674	99	926	2	0	14	-431	57	-23	1837	-137	-270	7	-3744	-2393	0	-1077
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	-6769		-55213		44087		28240		-16775		-3809		-16047		-4683		727		-4199		-30127		0	
		42673		-50085		-8183		-43379		-26086		-2582		-28849		-10028		19931		13457		-8052		-165752

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Ratio (Est/Obs) Motorized Person

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.15	1.12	0.56	0.71	1.81	0.60	0.66	0.68	0.16	0.32	1.68	85.42	0.54	0.49	0.38	0.16	0.24	0.67	0.28	52.19	0.60	0.09	0	0.92
2 DC NC	1.06	0.88	0.83	1.08	2.00	1.22	1.67	1.19	0.28	0.80	0.63	0.36	2.18	0.95	0.29	149.87	0.91	175.11	0.53	59.61	0.36	14.87	0	0.97
3 MTG	1.04	0.99	0.97	1.44	1.08	0.96	1.02	0.94	0.40	0.50	1.09	1.26	1.27	1.14	1.31	296.58	0.85	406.11	0.40	0.83	0.28	33.05	0	1.00
4 PG	0.98	1.39	0.97	0.95	2.43	1.30	2.08	1.39	0.34	0.87	1.63	0.18	1.04	0.87	0.46	4.12	0.74	196.85	599.17	79.44	374.26	0.90	0	1.00
5 ARLCR	0.99	1.03	0.74	0.90	2.19	1.47	2.02	0.89	1.28	0.19	49.12	9.79	0.24	0.67	17.23	11.03	65.14	37.91	0.04	12.98	50.32	3.29	0	1.13
6 ARNCR	0.82	1.07	0.89	1.37	1.81	0.83	1.26	1.13	0.83	1.48	1.74	23.87	0.33	0.61	0.41	33.60	0.41	1.71	0.24	41.08	291.16	11.98	0	0.97
7 ALX	0.78	1.06	1.19	1.45	1.67	1.37	0.85	1.27	0.86	1.78	0.28	19.00	0.22	0.30	73.35	0.16	0.88	0.52	1.95	30.53	388.22	20.72	0	1.01
8 FFX	0.90	1.39	1.15	1.96	1.01	1.08	1.23	0.96	0.95	0.83	0.69	113.59	0.36	1.67	0.30	1.42	1.39	1.61	1.35	0.35	2.60	2.30	0	0.98
9 LDN	1.01	2.04	1.37	3.11	2.29	1.28	1.54	0.92	0.98	1.30	3.91	3.30	494.84	0.77	20.36	47.37	252.69	0.87	0.73	3.32	549.10	16.86	0	1.01
10 PW	1.47	0.90	1.60	1.45	1.09	0.98	1.09	0.89	1.22	0.97	312.71	23.26	233.43	517.96	56.49	0.16	1.07	1.45	1.65	459.49	4.09	0.87	0	0.99
11 FRD	1.06	0.80	1.07	0.73	1.51	3.04	0.77	3.89	2.70	0.54	0.95	0.93	1.37	1.06	40.26	23.28	116.55	90.70	34.89	2.58	31.78	1.86	0	1.00
12 CAR	1.88	1.62	1.38	0.52	0.58	513.16	1.02	7.67	7.44	44.70	2.02	1.00	0.77	0.39	25.42	9.99	62.93	15.93	7.82	324.39	7.40	0.64	0	1.02
13 HOW	0.97	1.78	1.39	0.88	2.89	0.97	0.46	1.44	1.26	205.03	3.69	1.31	0.94	1.23	152.20	154.26	0.53	0.06	32.09	0.86	29.80	5.02	0	1.00
14 AAR	0.85	1.22	0.97	0.78	0.68	1.42	1.71	1.39	559.35	0.74	2.03	0.21	1.17	0.99	0.98	2.30	1.55	62.59	0.26	0.68	92.95	24.69	0	0.98
15 CAL	0.67	1.73	1.37	0.79	2.44	0.77	5.20	0.50	70.49	0.34	50.98	13.96	0.32	0.48	1.02	1.12	0.86	9.54	20.11	4.03	23.79	39.17	0	0.96
16 STM	1.29	0.77	2.73	0.73	409.35	1.15	2.94	2.02	49.05	91.33	26.28	6.59	218.49	0.38	0.80	0.97	1.06	11.64	0.11	2.87	86.95	417.42	0	0.97
17 CHS	1.20	1.10	1.07	0.57	0.79	0.98	0.73	1.64	0.92	428.82	75.01	0.06	3.49	0.53	0.97	0.71	1.03	31.32	97.50	9.22	0.40	1.35	0	0.98
18 FAU	0.45	1.31	1.19	432.53	1.67	1.10	1.44	1.19	0.55	0.98	90.77	9.37	39.40	69.30	8.94	22.91	44.92	1.09	3.01	0.19	8.00	0.32	0	1.06
19 STA	0.57	0.49	0.88	9.61	0.45	0.47	1.90	1.54	1108.69	1.41	0.36	5.95	35.43	0.33	29.53	126.64	234.32	31.96	0.99	0.13	0.66	0.87	0	0.97
20 CL/JF	0.30	428.18	2.66	351.52	171.49	415.52	173.85	1.77	1.41	16.69	0.92	237.51	2.39	223.44	3.12	2.67	9.25	2.92	22.72	1.07	0.04	0.00	0	1.16
21 SP/FB	0.36	0.46	0.39	0.47	0.20	1.31	0.85	4.78	781.91	1.38	36.81	4.92	20.39	69.46	34.08	0.24	205.90	8.32	0.79	0.02	0.94	0.12	0	0.94
22 KGEO	0.70	1.27	165.77	640.81	142.10	297.52	258.58	3.97	99.14	1.59	1.56	0.41	14.13	0.12	57.38	0.95	2.15	0.68	0.94	6.74	0.53	0.92	0	0.98
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	0.99		0.98		1.40		1.07		0.99		0.97		0.99		0.98		0.98		1.00		1.18		0.91	
		1.04		0.97		0.99		0.99		0.97		0.99		0.98		0.97		1.18		1.12		0.81		0.99

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Est Auto Occ.

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	1.28	1.37	1.34	1.16	1.18	1.34	1.40	1.30	1.47	1.23	1.82	1.88	1.24	1.31	1.38	1.95	1.24	1.83	1.63	2.51	2.03	2.92	0	1.30
2 DC NC	1.45	1.50	1.45	1.32	1.39	1.52	1.57	1.47	1.51	1.36	1.68	1.85	1.37	1.38	1.41	1.78	1.32	1.99	1.79	2.74	2.15	2.92	0	1.46
3 MTG	1.14	1.35	1.45	1.39	1.18	1.27	1.37	1.36	1.50	1.66	1.51	1.57	1.43	1.43	1.57	1.38	1.52	2.03	1.97	1.74	1.94	1.98	0	1.42
4 PG	1.18	1.36	1.44	1.40	1.20	1.31	1.48	1.49	1.65	1.75	1.78	1.95	1.43	1.42	1.48	1.43	1.44	2.38	2.04	2.93	2.21	1.75	0	1.39
5 ARLCR	1.15	1.23	1.25	1.13	1.24	1.32	1.38	1.33	1.48	1.33	1.71	1.93	1.32	1.38	1.44	1.98	1.28	1.67	1.52	2.40	1.88	2.38	0	1.29
6 ARNCR	1.23	1.37	1.31	1.26	1.38	1.43	1.45	1.39	1.50	1.46	1.75	2.47	1.38	1.41	1.58	1.87	1.36	1.75	1.65	2.50	1.84	2.31	0	1.40
7 ALX	1.19	1.32	1.28	1.27	1.28	1.36	1.47	1.38	1.55	1.50	2.00	2.91	1.56	1.52	1.55	1.62	1.37	1.87	1.68	2.50	1.84	2.02	0	1.40
8 FFX	1.15	1.30	1.26	1.34	1.22	1.32	1.42	1.43	1.35	1.42	1.58	2.27	1.44	1.47	1.69	1.37	1.50	1.55	1.67	1.64	1.71	1.74	0	1.40
9 LDN	1.18	1.26	1.19	1.29	1.21	1.30	1.33	1.32	1.40	1.35	1.41	1.47	1.20	1.28	1.56	1.21	1.48	1.41	1.59	1.51	1.61	1.56	0	1.37
10 PW	1.11	1.16	1.21	1.26	1.15	1.23	1.30	1.36	1.28	1.40	1.30	1.76	1.40	1.42	1.59	1.23	1.45	1.42	1.51	1.35	1.61	1.61	0	1.38
11 FRD	1.13	1.15	1.44	1.17	1.20	1.32	1.37	1.52	1.62	1.48	1.38	1.39	1.29	1.19	1.55	1.92	1.42	1.63	3.01	1.55	3.08	4.77	0	1.38
12 CAR	1.08	1.09	1.36	1.15	1.10	1.15	1.17	1.29	1.58	1.49	1.31	1.37	1.40	1.20	1.39	2.08	1.31	1.93	4.09	1.46	4.81	3.37	0	1.36
13 HOW	1.10	1.21	1.37	1.37	1.12	1.19	1.30	1.37	1.56	1.76	1.34	1.49	1.42	1.37	1.41	1.25	1.42	2.40	2.97	1.61	2.98	2.55	0	1.40
14 AAR	1.15	1.29	1.40	1.41	1.24	1.36	1.53	1.56	1.75	1.86	1.39	1.56	1.42	1.41	1.46	1.29	1.41	2.70	2.56	1.96	2.81	2.04	0	1.40
15 CAL	1.11	1.19	1.23	1.32	1.23	1.34	1.55	1.55	1.45	1.62	1.43	1.92	1.25	1.33	1.40	1.29	1.32	2.63	2.42	4.20	1.92	1.61	0	1.37
16 STM	1.11	1.15	1.15	1.27	1.23	1.31	1.65	1.54	1.45	1.48	1.63	3.25	1.21	1.20	1.35	1.31	1.42	2.07	1.87	7.76	1.69	1.64	0	1.31
17 CHS	1.11	1.18	1.23	1.28	1.23	1.35	1.56	1.60	1.69	1.74	1.77	2.60	1.29	1.24	1.36	1.34	1.38	2.55	2.13	3.84	1.84	1.69	0	1.36
18 FAU	1.19	1.21	1.24	1.33	1.20	1.22	1.20	1.29	1.26	1.33	1.36	2.27	1.68	1.89	2.27	1.36	1.60	1.40	1.37	1.38	1.37	1.31	0	1.37
19 STA	1.17	1.20	1.47	1.43	1.18	1.26	1.34	1.38	1.16	1.37	1.72	4.38	2.25	1.87	1.41	1.15	1.33	1.27	1.39	1.11	1.35	1.32	0	1.38
20 CL/JF	1.11	1.14	1.47	1.19	1.20	1.24	1.22	1.37	1.56	1.36	1.44	1.49	1.39	1.30	5.67	8.90	3.17	1.46	1.35	1.35	1.32	1.41	0	1.38
21 SP/FB	1.21	1.20	1.85	1.49	1.26	1.33	1.41	1.46	1.17	1.39	1.87	7.13	4.01	2.67	1.35	1.20	1.21	1.21	1.33	1.13	1.37	1.25	0	1.37
22 KGEO	1.04	1.05	1.15	1.14	1.08	1.14	1.35	1.49	1.10	1.49	3.39	6.83	1.25	1.19	1.23	1.38	1.54	1.25	1.46	1.06	1.40	1.38	0	1.39
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	1.23	1.39	1.44	1.39	1.27	1.44	1.42	1.40	1.40	1.38	1.42	1.40	1.40	1.40	1.31	1.39	1.40	1.40	1.38	1.38	1.40	1.40	0	1.40

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Obs Auto Occ.

ORIGIN	DESTINATION																							TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1 DC CR	1.28	1.32	1.13	1.10	1.52	1.18	1.19	1.22	1.47	2.45	0	0	1.85	1.16	0	1.58	1.44	0	5.61	0	0	1.00	0	1.26	
2 DC NC	1.32	1.46	1.41	1.21	1.23	1.18	1.16	1.26	1.15	1.00	921.84	1.00	1.56	1.09	1.00	0	1.17	0	3.44	0	1.98	0	0	1.38	
3 MTG	1.12	1.30	1.42	1.19	1.22	1.04	1.00	1.15	1.12	2.01	1.30	1.20	1.28	1.14	1.00	0	1.87	0	1.32	1.00	3.00	0	0	1.38	
4 PG	1.16	1.29	1.35	1.45	1.00	1.29	1.51	1.09	1.16	1.00	1.34	1.25	1.39	1.32	1.35	1.80	1.50	0	0	0	1.00	0	0	1.40	
5 ARLCR	1.56	1.00	1.00	1.00	1.17	1.35	1.00	1.34	0	2.22	0	0	1.00	1.00	0	0	0	0	0	0	0	0	0	1.36	
6 ARNCR	1.29	1.20	1.14	1.21	1.36	1.39	1.28	1.22	1.22	1.61	1.00	0	1.00	1.29	1.00	0	1.00	1.00	1.25	0	0	0	0	1.32	
7 ALX	1.15	1.28	1.15	1.27	1.24	1.27	1.31	1.31	1.36	1.08	1.00	0	1.00	1.66	0	374.95	1.28	1.00	1.00	0	0	0	0	1.29	
8 FFX	1.16	1.21	1.12	1.01	1.14	1.23	1.31	1.42	1.28	1.33	1.00	0	1.00	1.10	1.00	1.00	1.00	1.00	1.25	1.47	1.05	1.00	0	1.37	
9 LDN	1.18	1.00	1.03	1.00	1.77	1.21	1.00	1.24	1.53	1.26	2.33	99.39	0	1.00	0	0	0	0	1.00	1.36	1.71	0	0	1.43	
10 PW	1.32	1.09	1.30	1.44	1.40	1.30	1.43	1.27	1.10	1.53	0	0	0	0	0	1.17	1.00	1.41	1.53	0	1.26	1.37	0	1.46	
11 FRD	1.00	1.06	1.28	1.06	1.00	1.00	1.00	1.00	1.08	1.00	1.37	1.57	1.24	1.58	0	0	0	0	0	1.17	0	0	0	1.36	
12 CAR	1.28	2.31	1.11	1.21	0	0	1.00	1.00	99.39	0	1.49	1.50	1.19	1.19	0	0	0	0	0	0	0	0	0	1.46	
13 HOW	1.18	1.03	1.20	1.19	1.00	1.35	1.00	1.00	1.00	0	1.16	1.37	1.46	1.18	0	0	1.00	1.00	0	1.00	0	0	0	1.39	
14 AAR	1.17	1.39	1.49	1.35	1.00	1.00	1.00	1.22	0	1.00	1.00	1.42	1.38	1.40	1.11	1.00	1.00	0	1.00	1.00	0	0	0	1.39	
15 CAL	1.12	1.12	1.68	1.20	1.00	2.00	1.00	1.42	0	1.00	0	0	1.00	1.27	1.50	1.12	1.60	0	0	0	0	0	0	1.42	
16 STM	1.13	1.00	1.00	1.13	0	1.00	374.95	1.00	0	0	0	0	0	0	3.43	1.49	1.34	1.36	0	1.00	0	0	0	1.34	
17 CHS	1.14	1.16	1.39	1.30	1.00	1.06	1.53	1.11	1.00	0	2.00	1.00	1.08	1.07	1.47	1.41	0	0	0	2.00	1.19	0	0	1.36	
18 FAU	1.34	1.00	1.00	0	1.00	1.00	1.00	1.02	1.52	1.17	0	0	0	0	0	0	1.39	1.61	2.00	1.00	1.00	0	1.32		
19 STA	2.04	1.17	1.23	1.00	12.46	1.46	1.00	1.21	0	1.14	1.00	0	0	1.00	0	0	0	118.04	1.58	1.00	1.61	1.00	0	1.51	
20 CL/JF	1.00	0	1.00	0	0	0	0	1.05	1.36	1.00	1.10	0	1.00	0	0	0	0	1.00	0	1.39	1.00	1.00	0	1.34	
21 SP/FB	1.00	1.26	1.00	1.00	1.00	1.00	546.17	1.00	0	1.43	0	0	0	0	0	2.00	0	1.00	1.39	1.28	1.45	1.14	0	1.42	
22 KGEO	1.00	1.00	0	0	0	0	0	1.00	0	1.00	0	0	0	0	1.00	0	1.29	1.00	1.00	1.34	0	1.44	1.28	0	1.27
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	1.22	1.35	1.40	1.39	1.23	1.30	1.30	1.37	1.46	1.48	1.37	1.50	1.42	1.38	1.46	1.33	1.41	1.36	1.54	1.40	1.47	1.24	0	1.39	

Appendix B Year 2007 mode choice summary

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Est Pct. Tran

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	32.4	32.2	32.3	13.2	68.2	51.9	31.0	16.4	0.1	3.4	0	0	0.5	0.2	0.5	0.0	0.1	0	0	0	0.4	0	0	31.3
2 DC NC	54.6	20.0	26.7	11.9	63.0	44.0	24.0	12.1	0.1	3.5	0	0	0.5	0.2	0.0	0	0.0	0	0	0	0.0	0	0	30.2
3 MTG	46.3	13.1	3.9	2.7	44.1	22.7	10.7	3.3	0.0	7.6	0.0	0	0.1	0.0	0.0	0	0.0	0	0	0	0	0	0	7.0
4 PG	41.5	12.3	7.8	2.0	43.8	24.7	6.3	3.2	0	5.9	0	0	0.3	0.1	0.0	0	0.0	0	0	0	0	0	0	6.6
5 ARLCR	76.2	21.6	16.9	3.7	8.9	17.0	13.2	4.7	0.0	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	21.8
6 ARNCR	70.8	18.3	14.1	3.7	17.4	8.1	9.9	3.9	0.0	1.7	0	0	0	0	0	0	0	0	0	0	0	0	0	16.7
7 ALX	59.4	14.6	13.2	1.7	20.7	13.8	4.2	3.0	0.0	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	10.8
8 FFX	34.4	9.2	5.5	1.4	22.4	11.2	5.0	1.0	0.1	1.0	0.7	0	3.7	0.7	5.5	3.7	2.0	0	0.0	0	0.3	0	0	3.6
9 LDN	29.1	7.7	2.5	0.6	23.3	11.4	2.8	0.5	0.2	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	1.2
10 PW	48.1	26.3	16.8	8.2	43.9	28.2	12.5	2.3	1.0	0.3	2.6	0	22.3	5.5	26.4	17.5	14.9	0	0.0	0	0.3	0	0	3.3
11 FRD	41.2	8.5	1.3	0.7	20.8	7.9	3.1	1.9	0	1.4	0.4	0	0.0	0	0	0	0	0	0	0	0	0	0	0.9
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
13 HOW	55.3	19.8	4.0	1.3	57.4	35.0	13.9	6.1	0	34.2	0	0	0.1	0.0	0	0	0	0	0	0	0	0	0	2.2
14 AAR	40.7	11.6	4.0	0.7	40.5	19.5	4.7	5.9	0	16.6	0	0	0.1	0.0	0.0	0	0	0	0	0	0	0	0	1.3
15 CAL	18.3	8.5	4.0	0.4	30.0	11.8	2.1	1.1	0	2.6	0	0	0	0.0	0.0	0.0	0	0	0	0	0	0	0	0.8
16 STM	11.7	5.3	3.5	0.2	18.4	7.5	1.0	1.2	0	0	0	0	0	0	0.0	0.1	0.1	0	0	0	0	0	0	0.3
17 CHS	35.5	15.5	10.4	0.6	37.3	18.1	2.9	1.4	0	7.8	0	0	0.0	0.0	0.0	0.0	0.3	0	0	0	0	0	0	2.4
18 FAU	10.2	6.7	1.7	0.5	13.5	6.7	4.5	0.7	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3
19 STA	38.5	16.7	6.9	1.0	42.7	18.3	5.3	2.1	0	0.1	0	0	0	0	0	0	0	0	0.0	0	0	0	0	1.0
20 CL/JF	21.7	17.8	1.4	1.8	26.4	13.2	5.8	2.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4
21 SP/FB	54.5	32.1	6.4	0.2	57.9	29.7	13.3	6.4	0	0.5	0	0	0	0	0	0	0	0	0.0	0	0.0	0	0	1.0
22 KGEO	4.3	2.9	0.8	0.1	6.5	4.5	2.5	2.3	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3
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	46.2	17.2	5.3	2.6	31.1	15.4	7.0	1.6	0.2	0.4	0.3	0	0.1	0.0	0.0	0.1	0.3	0	0.0	0	0.0	0	0	6.3

Year: 2007 Estimate/Observed Trips
 Purpose: Total Internal Trips MODE: Obs Pct. Tran

ORIGIN	DESTINATION																							TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 DC CR	43.1	32.5	53.9	40.7	62.0	42.4	27.8	26.8	12.8	39.0	100.0	0	43.0	24.6	100.0	0	48.9	100.0	25.6	0	100.0	0	0	39.2
2 DC NC	49.4	17.9	9.9	20.6	39.2	22.0	28.2	10.7	16.5	23.3	0	0	0	0	22.0	0	0	0	39.0	0	0	0	0	25.0
3 MTG	59.9	11.7	2.2	5.8	39.5	24.1	34.8	0.7	0	0	0	0	0	0	0	0	0	0	0	25.3	0	0	0	6.4
4 PG	48.2	12.6	6.0	2.6	59.3	17.7	8.4	6.0	0	29.5	0	0	1.9	0	0	0	0.8	0	0	0	0	0	0	6.9
5 ARLCR	79.6	28.8	31.3	48.4	13.4	30.7	16.6	9.6	100.0	4.9	0	0	0	0	0	0	0	0	0	0	0	0	0	30.2
6 ARNCR	50.3	16.7	18.8	31.3	20.6	4.5	3.9	4.3	6.1	0	0	0	0	0	0	0	0	0	6.5	0	0	0	0	13.2
7 ALX	48.6	23.1	4.3	0	34.4	11.5	2.5	1.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.7
8 FFX	44.2	14.0	5.4	8.2	29.4	13.8	3.4	0.4	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.8
9 LDN	32.2	18.1	2.4	0	17.9	5.8	18.5	0	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0
10 PW	62.1	29.8	0	10.8	22.4	21.6	2.3	0.9	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.2
11 FRD	73.3	19.3	5.2	9.1	0	58.1	0	0	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	1.5
12 CAR	42.4	38.4	0	0	100.0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0.5
13 HOW	59.2	26.7	0.8	0.6	41.1	56.0	26.8	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	2.0
14 AAR	59.8	11.0	6.6	0	53.6	11.8	3.3	13.1	0	0	0	0	0	0.4	0	0	0	0	0	0	0	0	0	2.1
15 CAL	39.5	0	0	0	0	20.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.4
16 STM	16.9	0	0	13.3	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0	0.6
17 CHS	32.9	0	7.9	0.8	13.1	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	1.3
18 FAU	63.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.4
19 STA	40.0	20.0	0	0	13.8	66.6	0	3.7	0	0	0	0	0	0	0	0	0	0	0	0	0.7	0	0	2.6
20 CL/JF	76.8	0	60.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.2
21 SP/FB	55.3	0	0	0	15.5	0	66.7	32.2	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	1.6
22 KGEO	41.2	0	0	0	0	0	0	0	0	15.6	0	0	0	0	0	0	0	0	0	0	0	0	0	1.3
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	50.0	17.0	3.6	4.1	30.8	12.7	5.5	1.0	0.4	0.3	0.3	0.2	0.2	0.4	0.3	0.2	0.6	0.2	0.3	0.2	0.4	0	0	6.1

Appendix C Year 2007 mode choice output vs. targets

Ref: O:\model_dev\new_log\calibms_2011-02sim\newSegSumm5purps2007.xlsx, targets
I:\ateam\docum\FY11\Ver2.3\modelDoc\01_calib\newSegSumm5purps2007.xlsx, targets

Appendix C. Year 2007 mode choice output vs. targets

Seg	Path #	HBW		HBS		HBO		NHW		NHO	
		Target	Model	Target	Model	Target	Model	Target	Model	Target	Model
(1) DC CORE / URBAN-DC CORE	DR ALONE	16,449	16,478	10,146	10,164	27,305	27,311	38,952	38,954	15,768	15,781
	SR2	1,943	1,946	7,350	7,363	30,364	30,371	9,004	9,004	13,005	13,016
	SR3+	106	106	4,712	4,720	23,077	23,082	277	277	8,899	8,906
	WK-CR	0	0	0	0	0	0	0	0	38	0
	WK-BUS	43,051	43,151	1,502	1,505	12,653	12,657	4,810	4,836	2,883	2,904
	WK-BU/MR	16,438	16,501	279	279	3,640	3,639	2,342	2,222	898	894
	WK-MR	51,755	51,555	664	665	14,539	14,543	20,682	20,816	4,423	4,455
	PNR-CR	0	17	0	0	0	0	0	0	0	0
	KNR-CR	15	15	0	0	0	0	0	0	0	0
	PNR-BUS	964	967	0	4	72	72	55	55	61	61
	KNR-BUS	207	208	0	0	147	147	99	100	210	210
	PNR-BU/MR	1,011	1,010	0	0	47	47	119	118	75	75
	KNR-BU/MR	332	332	0	0	52	52	225	219	45	45
PNR-MR	5,461	5,473	57	53	1,274	1,274	761	760	497	497	
KNR-MR	1,922	1,930	14	14	269	269	723	728	300	300	
(2) DC CORE / URBAN-VA CORE	DR ALONE	1,202	1,276	776	780	1,271	1,280	2,677	2,674	0	13
	SR2	139	148	601	604	1,500	1,510	574	574	0	27
	SR3+	6	6	409	411	1,218	1,227	20	20	0	193
	WK-CR	0	0	0	0	0	0	0	0	0	0
	WK-BUS	503	664	0	5	50	49	0	249	10	15
	WK-BU/MR	2,410	2,755	0	10	555	527	681	578	255	225
	WK-MR	6,734	6,039	145	120	2,448	2,212	3,135	3,003	1,410	1,062
	PNR-CR	0	1	0	0	0	0	0	0	0	0
	KNR-CR	0	0	0	0	0	0	0	0	0	0
	PNR-BUS	0	21	0	0	0	5	0	1	0	0
	KNR-BUS	0	1	0	0	8	8	0	0	0	2
	PNR-BU/MR	154	164	0	0	0	12	8	8	0	0
	KNR-BU/MR	16	17	0	0	0	0	0	0	0	1
PNR-MR	503	564	0	3	0	237	113	111	14	11	
KNR-MR	155	177	0	7	81	76	344	342	191	163	
(3) DC CORE / URBAN-URBAN	DR ALONE	8,458	9,400	34,523	34,563	78,468	78,541	47,140	47,353	38,543	38,621
	SR2	949	1,055	25,040	25,069	86,825	86,906	11,341	11,392	33,815	33,883
	SR3+	35	39	16,044	16,063	65,679	65,740	338	340	21,428	21,471
	WK-CR	0	0	0	12	0	58	0	215	0	17
	WK-BUS	24,338	28,802	3,132	3,132	24,891	24,876	7,291	7,265	4,780	4,782
	WK-BU/MR	14,825	16,380	1,167	1,165	5,167	5,164	2,810	2,785	971	971
	WK-MR	27,917	20,293	2,365	2,360	10,030	10,016	13,087	13,028	4,667	4,668
	PNR-CR	0	20	0	0	0	0	0	0	0	0
	KNR-CR	0	2	0	0	0	0	0	0	0	0
	PNR-BUS	225	281	0	16	133	133	26	26	107	107
	KNR-BUS	98	123	37	37	189	189	231	232	200	200
	PNR-BU/MR	65	80	50	45	241	241	23	23	125	125
	KNR-BU/MR	430	530	49	49	107	107	250	251	215	215
PNR-MR	1,636	1,977	105	94	764	765	635	638	28	28	
KNR-MR	1,482	1,821	36	36	392	392	639	642	442	443	
(4) DC CORE / URBAN-OTHER	DR ALONE	21,079	24,367	17,425	17,735	23,158	23,433	36,661	37,302	20,067	20,758
	SR2	2,233	2,581	13,721	13,965	27,231	27,555	11,266	11,473	13,077	13,527
	SR3+	38	44	9,549	9,719	22,139	22,402	334	340	6,272	6,488
	WK-CR	64	73	21	20	134	134	0	234	235	209
	WK-BUS	3,667	4,150	682	651	1,273	1,288	322	352	427	453
	WK-BU/MR	7,973	9,025	280	267	2,060	2,083	1,410	1,546	574	607
	WK-MR	7,667	2,864	255	243	1,181	1,158	3,992	3,253	1,123	1,152
	PNR-CR	23	33	0	0	0	0	0	2	15	10
	KNR-CR	10	14	0	0	24	23	0	0	130	114
	PNR-BUS	16	23	0	3	49	45	67	75	0	4
	KNR-BUS	83	120	0	3	0	10	46	50	42	51
	PNR-BU/MR	189	275	0	9	0	15	76	85	0	3
	KNR-BU/MR	412	596	0	24	75	73	39	43	55	66
PNR-MR	391	553	0	10	117	107	500	493	16	15	
KNR-MR	443	625	0	26	115	111	181	190	64	77	
A N	DR ALONE	5,707	5,936	374	381	1,244	1,257	1,264	1,269	702	710

Appendix C. Year 2007 mode choice output vs. targets

Seg	Path #	HBW		HBS		HBO		NHW		NHO	
		Target	Model	Target	Model	Target	Model	Target	Model	Target	Model
	SR2	680	708	265	270	1,375	1,390	311	312	501	507
	SR3+	36	37	167	170	1,039	1,050	8	8	299	302
	WK-CR	0	0	0	0	0	0	0	0	0	0
	WK-BUS	1,387	1,559	25	24	374	394	136	137	50	51
	WK-BU/MR	4,005	4,521	78	72	656	684	272	269	22	22
	WK-MR	10,454	9,171	99	92	1,783	1,689	1,226	1,238	261	264
	PNR-CR	0	81	0	0	0	0	0	0	0	0
	KNR-CR	0	25	0	0	0	0	0	0	0	0
	PNR-BUS	24	25	0	1	0	49	0	4	0	3
	KNR-BUS	102	109	0	0	0	5	0	0	0	0
	PNR-BU/MR	218	217	0	0	165	144	63	61	34	33
	KNR-BU/MR	197	200	0	0	24	22	0	0	0	0
PNR-MR	3,028	3,200	0	4	397	384	289	288	49	48	
KNR-MR	961	1,024	0	10	94	95	103	103	51	51	
(6) MD URBAN-VA CORE	DR ALONE	642	655	20	21	137	138	10	10	3	3
	SR2	67	68	17	18	163	164	30	30	8	8
	SR3+	3	3	22	23	133	134	358	359	92	95
	WK-CR	0	0	0	0	0	0	0	0	0	0
	WK-BUS	24	25	0	2	31	29	0	5	0	1
	WK-BU/MR	302	325	0	5	65	60	42	36	0	2
	WK-MR	787	731	32	21	87	79	150	138	35	29
	PNR-CR	0	9	0	0	0	0	0	0	0	0
	KNR-CR	0	3	0	0	0	0	0	0	0	0
	PNR-BUS	0	3	0	0	0	0	0	0	0	0
	KNR-BUS	0	1	0	0	0	0	0	0	0	0
	PNR-BU/MR	30	30	0	0	0	0	0	0	0	0
KNR-BU/MR	0	1	0	0	0	0	0	0	0	0	
PNR-MR	378	379	0	2	0	5	0	3	0	1	
KNR-MR	232	234	0	3	0	9	0	10	0	2	
(7) MD URBAN-URBAN	DR ALONE	18,052	18,295	14,332	14,355	28,189	28,201	20,911	20,935	15,356	15,368
	SR2	2,063	2,091	10,313	10,330	31,330	31,343	5,904	5,911	12,452	12,462
	SR3+	98	99	6,562	6,573	23,814	23,824	232	232	8,528	8,535
	WK-CR	0	0	0	0	0	4	0	8	0	1
	WK-BUS	6,421	6,539	690	640	3,496	3,501	694	693	534	529
	WK-BU/MR	2,864	2,911	118	109	620	620	288	284	80	79
	WK-MR	4,729	4,389	92	85	2,179	2,140	882	882	187	185
	PNR-CR	0	19	0	0	0	1	0	0	0	0
	KNR-CR	1	1	0	0	0	0	0	0	0	0
	PNR-BUS	23	23	0	7	143	143	2	2	160	148
	KNR-BUS	61	63	0	6	39	37	46	46	23	23
	PNR-BU/MR	60	60	0	3	23	23	41	41	0	1
KNR-BU/MR	173	179	0	4	0	4	53	53	0	0	
PNR-MR	584	585	0	11	122	122	47	47	0	18	
KNR-MR	494	510	0	32	34	32	31	31	30	30	
(8) MD URBAN-OTHER	DR ALONE	18,781	19,037	13,069	13,135	20,382	20,438	23,743	23,797	15,662	15,721
	SR2	2,206	2,236	9,659	9,708	23,137	23,201	4,931	4,942	13,649	13,700
	SR3+	84	85	6,347	6,379	18,001	18,051	138	138	9,239	9,274
	WK-CR	27	27	0	1	0	10	0	19	19	19
	WK-BUS	3,003	3,016	288	264	1,519	1,491	1,363	1,352	891	876
	WK-BU/MR	1,411	1,418	0	13	191	188	157	156	60	59
	WK-MR	1,259	1,116	25	23	317	310	321	319	26	26
	PNR-CR	0	7	0	0	0	2	0	0	0	0
	KNR-CR	2	2	0	0	0	0	0	0	0	0
	PNR-BUS	35	35	0	1	604	556	0	1	0	1
	KNR-BUS	57	59	77	69	17	16	0	1	60	55
	PNR-BU/MR	45	46	0	4	0	38	0	1	0	2
KNR-BU/MR	72	75	0	3	11	11	0	2	0	1	
PNR-MR	124	124	0	8	0	38	22	20	0	16	
KNR-MR	21	22	0	6	0	3	38	35	0	6	
E / URB AN-	DR ALONE	3,754	4,521	944	957	2,260	2,320	4,039	4,048	0	1
	SR2	430	518	666	675	2,374	2,438	996	998	0	10

Appendix C. Year 2007 mode choice output vs. targets

Seg	Path #	HBW		HBS		HBO		NHW		NHO	
		Target	Model	Target	Model	Target	Model	Target	Model	Target	Model
	SR3+	24	29	412	418	1,695	1,741	26	26	0	385
	WK-CR	4	7	0	0	0	0	0	0	0	0
	WK-BUS	2,502	4,212	0	8	251	292	0	194	40	51
	WK-BU/MR	9,581	14,480	0	14	1,191	1,404	509	482	160	197
	WK-MR	30,058	20,860	169	134	5,387	4,897	4,277	4,121	1,988	1,023
	PNR-CR	22	0	0	0	0	0	0	0	0	0
	KNR-CR	0	0	0	0	0	0	0	0	0	0
	PNR-BUS	315	457	0	0	0	3	0	1	0	5
	KNR-BUS	0	19	0	0	0	0	0	0	0	0
	PNR-BU/MR	228	318	0	1	72	78	79	78	31	28
	KNR-BU/MR	215	299	28	23	87	89	27	27	45	26
	PNR-MR	1,332	1,909	0	12	426	456	132	132	150	126
KNR-MR	2,020	2,864	0	6	275	302	403	404	126	129	
(10) VA CORE / URBAN-VA CORE	DR ALONE	7,623	7,714	3,922	3,921	9,088	9,092	11,667	11,668	3,584	3,585
	SR2	892	903	2,779	2,778	9,599	9,603	2,446	2,446	2,389	2,390
	SR3+	49	50	1,742	1,742	6,942	6,945	68	68	1,434	1,435
	WK-CR	0	0	0	0	0	0	0	0	0	0
	WK-BUS	2,403	2,534	247	218	62	58	278	278	26	25
	WK-BU/MR	658	693	0	1	34	32	134	134	0	13
	WK-MR	3,675	3,394	0	23	842	751	2,353	2,353	432	401
	PNR-CR	0	0	0	0	0	0	0	0	0	0
	KNR-CR	0	0	0	0	0	0	0	0	0	0
	PNR-BUS	32	32	0	0	0	3	0	11	0	5
	KNR-BUS	0	1	0	0	0	2	13	13	0	3
	PNR-BU/MR	0	8	0	0	0	0	31	28	0	0
KNR-BU/MR	0	1	0	0	0	0	0	0	38	34	
PNR-MR	166	165	0	1	0	6	128	119	0	17	
KNR-MR	226	233	0	10	0	78	40	40	90	87	
(11) VA CORE / URBAN-URBAN	DR ALONE	18,974	20,643	22,528	22,584	36,698	36,740	29,161	29,183	17,920	17,971
	SR2	2,118	2,304	16,098	16,138	40,739	40,785	7,848	7,854	14,438	14,479
	SR3+	98	107	10,151	10,176	30,907	30,942	261	261	9,063	9,088
	WK-CR	8	8	0	0	0	0	0	0	0	0
	WK-BUS	5,065	6,244	793	718	2,410	2,431	1,016	1,018	640	600
	WK-BU/MR	3,733	4,580	59	54	953	948	548	544	111	104
	WK-MR	10,467	6,438	525	464	1,973	1,923	2,843	2,851	1,262	1,154
	PNR-CR	1	0	0	0	0	0	0	0	0	0
	KNR-CR	7	0	0	0	0	0	0	0	0	0
	PNR-BUS	86	109	0	2	0	26	0	6	0	48
	KNR-BUS	0	21	0	11	42	39	17	17	0	9
	PNR-BU/MR	80	101	0	0	60	52	31	30	0	2
KNR-BU/MR	78	97	0	23	0	14	0	1	188	169	
PNR-MR	282	357	20	16	129	111	114	109	0	110	
KNR-MR	647	807	0	97	114	104	57	56	59	54	
(12) VA CORE / URBAN-OTHER	DR ALONE	29,839	30,633	16,329	16,423	23,268	23,374	27,329	27,442	15,307	15,424
	SR2	3,346	3,435	12,054	12,124	26,244	26,364	8,148	8,182	13,956	14,062
	SR3+	131	134	7,856	7,901	20,303	20,396	331	332	11,007	11,091
	WK-CR	0	6	0	0	19	19	0	30	21	19
	WK-BUS	1,828	1,831	466	423	1,006	1,010	422	423	194	178
	WK-BU/MR	1,694	1,695	0	22	327	328	241	241	17	16
	WK-MR	1,595	855	0	8	512	479	767	720	117	104
	PNR-CR	0	0	0	0	0	0	0	0	0	0
	KNR-CR	0	0	0	0	27	0	0	0	0	0
	PNR-BUS	57	59	0	6	0	3	33	34	0	18
	KNR-BUS	65	76	0	3	7	7	48	49	25	22
	PNR-BU/MR	0	19	0	1	0	0	50	51	0	9
KNR-BU/MR	65	77	0	8	0	33	20	20	0	2	
PNR-MR	90	92	0	1	20	17	109	106	0	5	
KNR-MR	79	92	0	4	73	69	13	13	0	1	
OTHER-DC	DR ALONE	120,604	123,956	2,478	2,560	11,804	11,876	8,687	8,824	3,716	3,888
	SR2	13,429	13,802	1,728	1,785	12,682	12,759	2,238	2,273	1,830	1,914
	SR3+	657	675	1,024	1,058	9,219	9,275	130	132	824	862

Appendix C. Year 2007 mode choice output vs. targets

Seg	Path #	HBW		HBS		HBO		NHW		NHO	
		Target	Model	Target	Model	Target	Model	Target	Model	Target	Model
	WK-CR	958	919	0	0	42	40	0	1	54	32
	WK-BUS	7,510	7,203	48	48	1,349	1,341	180	182	101	116
	WK-BU/MR	16,167	15,524	80	79	1,381	1,374	655	664	72	83
	WK-MR	12,772	9,895	0	13	1,828	1,717	1,066	1,055	79	91
	PNR-CR	7,875	8,203	0	1	207	208	0	32	167	175
	KNR-CR	470	473	0	1	11	11	0	18	12	13
	PNR-BUS	1,073	1,125	32	33	194	195	0	0	0	0
	KNR-BUS	337	341	0	0	0	1	19	19	8	8
	PNR-BU/MR	7,428	5,080	18	19	486	477	371	322	40	41
	KNR-BU/MR	1,742	1,751	38	39	165	165	119	117	77	80
	PNR-MR	54,824	57,079	78	81	4,916	4,941	1,775	1,830	263	276
KNR-MR	10,972	10,972	83	86	574	575	516	509	93	98	
(14) MD OTHER-VA CORE	DR ALONE	13,163	13,317	413	423	1,681	1,692	2,173	2,187	5	5
	SR2	1,531	1,549	316	323	2,039	2,052	146	147	21	21
	SR3+	74	75	212	217	1,779	1,790	5	5	471	479
	WK-CR	12	12	0	0	0	0	0	0	0	0
	WK-BUS	241	237	0	0	0	16	0	5	0	1
	WK-BU/MR	1,489	1,462	27	23	82	78	127	125	0	3
	WK-MR	846	776	0	4	187	171	71	70	35	29
	PNR-CR	314	320	0	0	0	8	0	2	11	16
	KNR-CR	10	10	0	0	0	9	0	3	74	73
	PNR-BUS	192	194	0	0	0	0	0	0	0	14
	KNR-BUS	0	10	0	0	0	0	0	0	0	0
	PNR-BU/MR	1,358	1,268	0	0	102	97	0	0	76	37
	KNR-BU/MR	318	314	0	0	29	28	25	24	0	1
	PNR-MR	8,255	8,330	0	1	590	588	195	195	47	70
KNR-MR	1,037	1,027	0	0	446	437	75	73	52	53	
(15) MD OTHER-URBAN	DR ALONE	158,636	161,525	29,871	30,089	85,824	86,121	41,290	41,584	29,647	29,952
	SR2	17,783	18,107	21,296	21,451	92,704	93,024	10,200	10,273	25,060	25,318
	SR3+	706	719	13,260	13,357	68,737	68,975	331	333	16,709	16,881
	WK-CR	323	312	0	1	0	7	0	6	16	15
	WK-BUS	16,313	15,730	1,269	1,277	8,934	8,959	1,331	1,340	1,136	1,149
	WK-BU/MR	11,985	11,578	149	150	2,190	2,196	640	643	187	189
	WK-MR	6,961	5,782	235	236	967	970	523	528	117	118
	PNR-CR	1,869	1,914	0	0	53	53	0	4	15	15
	KNR-CR	213	218	0	0	56	56	0	23	0	4
	PNR-BUS	2,199	2,240	0	3	284	285	44	44	0	7
	KNR-BUS	788	804	0	2	638	640	358	349	97	97
	PNR-BU/MR	3,628	3,701	0	4	509	511	194	193	105	102
	KNR-BU/MR	1,355	1,383	21	19	339	340	137	133	259	259
	PNR-MR	17,059	17,370	92	84	1,935	1,942	551	553	64	62
KNR-MR	5,369	5,449	13	12	573	575	206	201	81	81	
(16) MD OTHER-OTHER	DR ALONE	987,367	989,742	630,940	631,563	990,544	991,299	447,625	448,333	606,964	607,365
	SR2	112,358	112,628	450,423	450,868	1,089,599	1,090,430	112,677	112,855	484,900	485,219
	SR3+	5,476	5,489	285,565	285,846	822,607	823,232	4,682	4,689	305,780	305,981
	WK-CR	122	122	0	5	15	15	0	44	17	19
	WK-BUS	25,851	25,774	5,231	5,214	17,871	17,887	3,358	3,321	2,606	2,480
	WK-BU/MR	5,666	5,655	72	72	1,517	1,520	267	265	73	83
	WK-MR	1,110	1,095	33	33	241	241	227	225	14	13
	PNR-CR	706	712	0	0	0	204	0	0	0	66
	KNR-CR	194	196	0	10	56	81	0	51	0	8
	PNR-BUS	2,643	2,654	27	21	1,081	699	22	18	1,180	977
	KNR-BUS	1,049	1,053	81	72	597	563	441	404	80	68
	PNR-BU/MR	1,220	1,226	0	14	51	275	13	27	0	210
	KNR-BU/MR	739	742	0	4	156	169	97	89	0	7
	PNR-MR	1,636	1,642	0	0	134	87	56	46	0	40
KNR-MR	1,159	1,163	0	4	90	85	24	22	0	3	
(17) VA OTHER-DC CORE	DR ALONE	81,498	85,596	2,584	2,645	10,114	10,232	4,250	4,356	522	596
	SR2	8,093	8,503	1,807	1,850	10,546	10,669	1,117	1,146	158	180
	SR3+	674	709	1,074	1,099	7,428	7,515	15	15	13	15
	WK-CR	114	106	0	0	0	10	0	3	0	0

Appendix C. Year 2007 mode choice output vs. targets

Seg	Path #	HBW		HBS		HBO		NHW		NHO	
		Target	Model	Target	Model	Target	Model	Target	Model	Target	Model
	WK-BUS	2,601	2,419	20	16	241	238	74	73	0	36
	WK-BU/MR	16,081	14,819	0	18	1,157	1,144	504	495	123	116
	WK-MR	9,604	5,801	95	66	1,110	991	360	305	123	90
	PNR-CR	1,303	1,360	0	1	0	13	0	11	0	0
	KNR-CR	136	139	0	1	0	10	0	7	0	0
	PNR-BUS	3,622	3,769	0	1	204	204	10	10	0	2
	KNR-BUS	567	580	0	0	0	3	0	9	0	2
	PNR-BU/MR	5,957	5,408	44	40	528	526	261	258	52	57
	KNR-BU/MR	1,417	1,443	0	1	241	239	79	78	81	89
	PNR-MR	26,121	27,130	59	55	2,970	2,969	1,313	1,320	284	315
KNR-MR	8,507	8,588	0	17	741	732	619	608	90	100	
(18) VA OTHER-VA CORE	DR ALONE	27,293	27,849	3,079	3,085	7,199	7,215	5,816	5,836	2,259	2,272
	SR2	2,859	2,918	2,200	2,204	7,433	7,449	1,020	1,024	1,028	1,034
	SR3+	203	207	1,397	1,400	5,250	5,261	9	9	577	580
	WK-CR	49	46	0	0	0	0	0	0	0	0
	WK-BUS	2,850	2,684	17	6	100	100	26	26	34	31
	WK-BU/MR	3,140	2,963	0	14	94	94	53	53	68	61
	WK-MR	1,467	1,164	0	0	259	248	43	43	0	9
	PNR-CR	1,146	1,153	0	0	0	1	0	0	0	0
	KNR-CR	92	93	0	1	0	0	0	0	0	0
	PNR-BUS	2,500	2,512	4	5	5	5	4	4	0	0
	KNR-BUS	242	243	0	0	0	7	0	12	0	0
	PNR-BU/MR	1,099	1,097	0	0	22	22	21	21	0	0
	KNR-BU/MR	275	277	0	0	53	49	53	50	0	0
	PNR-MR	6,304	6,337	0	0	471	470	301	302	21	19
KNR-MR	2,248	2,247	0	2	57	53	175	166	0	5	
(19) VA OTHER-URBAN	DR ALONE	110,136	112,576	23,614	24,064	45,934	46,262	25,665	25,764	13,477	13,688
	SR2	11,542	11,799	17,005	17,329	48,836	49,184	4,062	4,078	11,407	11,585
	SR3+	501	512	10,623	10,826	35,127	35,377	79	79	6,772	6,878
	WK-CR	118	109	0	0	0	2	0	2	0	0
	WK-BUS	4,876	4,493	282	233	1,549	1,536	383	381	238	243
	WK-BU/MR	9,040	8,357	157	141	1,359	1,338	429	427	258	262
	WK-MR	3,779	2,693	100	80	908	841	482	427	75	76
	PNR-CR	2,650	2,680	0	0	0	46	0	5	0	6
	KNR-CR	235	238	0	44	0	30	0	6	0	7
	PNR-BUS	1,499	1,513	0	0	114	112	0	6	0	9
	KNR-BUS	258	261	0	7	104	101	0	7	0	9
	PNR-BU/MR	3,997	4,038	0	7	279	275	72	70	21	21
	KNR-BU/MR	983	995	0	24	297	289	51	49	0	3
	PNR-MR	9,446	9,535	58	46	1,274	1,252	230	227	130	117
KNR-MR	4,200	4,217	0	18	378	367	191	184	149	132	
(20) VA OTHER-OTHER	DR ALONE	805,979	807,990	471,589	472,454	717,796	718,321	355,920	356,370	410,469	410,811
	SR2	90,169	90,393	339,473	340,094	794,421	795,002	91,514	91,627	338,386	338,669
	SR3+	5,823	5,837	217,493	217,891	602,333	602,772	3,141	3,145	232,773	232,969
	WK-CR	50	48	0	21	0	120	0	32	0	57
	WK-BUS	17,400	16,540	3,741	2,366	8,984	7,417	2,001	1,858	1,634	886
	WK-BU/MR	2,680	2,542	21	125	457	378	308	283	31	111
	WK-MR	529	431	19	12	126	103	92	81	54	4
	PNR-CR	738	829	0	91	0	252	0	27	0	0
	KNR-CR	87	102	0	69	23	72	0	54	0	155
	PNR-BUS	462	481	19	656	147	519	92	81	15	65
	KNR-BUS	639	692	4	134	216	709	108	96	135	369
	PNR-BU/MR	758	718	0	306	115	457	29	51	0	85
	KNR-BU/MR	429	420	0	26	97	329	35	49	0	110
	PNR-MR	364	342	0	4	118	25	0	6	0	0
KNR-MR	620	603	0	1	130	14	0	2	13	16	
All 20 Segments	DR ALONE	2,455,236	2,481,505	1,298,956	1,301,902	2,122,364	2,125,142	1,134,980	1,137,890	1,209,971	1,212,533
	SR2	274,830	277,693	932,811	934,947	2,339,141	2,342,197	285,773	286,541	980,080	982,013
	SR3+	14,822	14,964	594,621	595,988	1,767,427	1,769,730	10,783	10,811	640,180	641,907
	WK-CR	1,849	1,794	21	60	210	419	0	593	400	387
	WK-BUS	171,834	177,809	18,433	16,750	87,044	85,570	23,685	23,988	16,224	15,404
	WK-BU/MR	132,142	138,182	2,487	2,635	23,696	23,800	12,417	12,233	3,960	4,097

Appendix C. Year 2007 mode choice output vs. targets

Seg	Path #	HBW		HBS		HBO		NHW		NHO	
		Target	Model	Target	Model	Target	Model	Target	Model	Target	Model
	WK-MR	194,165	155,343	4,853	4,683	46,904	45,481	56,579	55,455	16,428	14,954
	PNR-CR	16,647	17,357	0	93	260	788	0	84	208	288
	KNR-CR	1,472	1,531	0	126	197	293	0	162	216	373
	PNR-BUS	15,967	16,522	82	759	3,030	3,058	355	379	1,523	1,476
	KNR-BUS	4,553	4,786	199	344	2,004	2,483	1,426	1,404	880	1,129
	PNR-BU/MR	27,525	24,863	112	454	2,700	3,291	1,482	1,467	559	831
	KNR-BU/MR	9,248	9,730	136	248	1,733	2,014	1,210	1,205	1,003	1,109
	PNR-MR	137,984	143,144	469	486	15,657	15,796	7,271	7,306	1,563	1,793
	KNR-MR	42,794	44,606	146	391	4,436	4,379	4,378	4,361	1,831	1,833
	TOTALS	3,501,068	3,509,828	2,853,326	2,859,865	6,416,803	6,424,442	1,540,339	1,543,880	2,875,026	2,880,128

Appendix C. Year 2007 mode choice output vs. targets

Total person trips by market segment

Market Segment	HBW		HBS		HBO		NHW		NHO		ALL	
	Target	Model	Target	Model	Target	Model	Target	Model	Target	Model	Target	Model
1	139,654	139,689	24,724	24,767	113,439	113,464	78,049	78,088	47,102	47,144	402,968	403,153
2	11,822	11,834	1,931	1,941	7,131	7,141	7,552	7,560	1,880	1,712	30,316	30,189
3	80,458	80,803	82,548	82,641	272,886	273,128	83,811	84,190	105,321	105,533	625,024	626,296
4	44,288	45,345	41,933	42,676	77,556	78,439	54,894	55,439	42,097	43,534	260,768	265,433
5	26,799	26,812	1,008	1,025	7,151	7,163	3,672	3,689	1,969	1,991	40,599	40,681
6	2,465	2,467	91	95	616	617	590	592	138	141	3,900	3,912
7	35,623	35,764	32,107	32,157	89,989	89,997	29,131	29,166	37,350	37,379	224,200	224,462
8	27,127	27,305	29,465	29,613	64,179	64,353	30,713	30,784	39,606	39,756	191,090	191,810
9	50,485	50,493	2,219	2,247	14,018	14,020	10,488	10,512	2,540	1,980	79,750	79,252
10	15,724	15,728	8,690	8,693	26,567	26,570	17,158	17,160	7,993	7,996	76,132	76,147
11	41,644	41,818	50,174	50,283	114,025	114,114	41,896	41,930	43,681	43,788	291,420	291,933
12	38,789	39,006	36,705	36,924	71,806	72,099	37,511	37,643	40,644	40,950	225,455	226,622
13	256,818	256,997	5,607	5,802	44,858	44,955	15,756	15,979	7,336	7,677	330,375	331,410
14	28,840	28,899	968	991	6,935	6,968	2,817	2,837	792	802	40,352	40,497
15	245,187	246,833	66,206	66,687	263,743	264,654	55,805	56,209	73,493	74,250	704,434	708,632
16	1,147,296	1,149,893	1,372,372	1,373,726	2,924,559	2,926,786	569,489	570,389	1,401,614	1,402,540	7,415,330	7,423,335
17	166,295	166,370	5,683	5,810	35,280	35,494	8,602	8,694	1,446	1,599	217,306	217,968
18	51,767	51,791	6,697	6,718	20,943	20,977	7,521	7,546	3,987	4,013	90,915	91,045
19	163,260	164,015	51,839	52,819	136,159	137,011	31,644	31,713	32,527	33,035	415,429	418,594
20	926,727	927,966	1,032,359	1,034,249	2,124,963	2,126,491	453,240	453,762	983,510	984,306	5,520,799	5,526,774
Total Person	3,501,068	3,509,828	2,853,326	2,859,865	6,416,803	6,424,442	1,540,339	1,543,880	2,875,026	2,880,128	17,186,562	17,218,143
Total Transit	756,180	735,666	26,938	27,029	187,871	187,372	108,803	108,638	44,795	43,674	1,124,587	1,102,380
Transit Pct	21.6%	21.0%	0.9%	0.9%	2.9%	2.9%	7.1%	7.0%	1.6%	1.5%	6.5%	6.4%

Transit person trips by market segment

Market Segment	HBW		HBS		HBO		NHW		NHO		ALL	
	Target	Model	Target	Model	Target	Model	Target	Model	Target	Model	Target	Model
1	121,156	121,158	2,516	2,520	32,693	32,700	29,816	29,854	9,430	9,442	195,611	195,674
2	10,475	10,404	145	145	3,142	3,125	4,281	4,292	1,880	1,480	19,923	19,445
3	71,016	70,310	6,941	6,946	41,914	41,942	24,992	25,105	11,535	11,557	156,398	155,860
4	20,938	18,352	1,238	1,257	5,028	5,049	6,633	6,323	2,681	2,761	36,518	33,742
5	20,376	20,131	202	204	3,493	3,466	2,089	2,100	467	472	26,627	26,374
6	1,753	1,740	32	32	183	182	192	192	35	36	2,195	2,183
7	15,410	15,280	900	899	6,656	6,628	2,084	2,088	1,014	1,015	26,064	25,909
8	6,056	5,947	390	391	2,659	2,663	1,901	1,906	1,056	1,061	12,062	11,968
9	46,277	45,426	197	198	7,689	7,521	5,427	5,440	2,540	1,585	62,130	60,168
10	7,160	7,062	247	252	938	930	2,977	2,977	586	585	11,908	11,807
11	20,454	18,764	1,397	1,386	5,681	5,647	4,626	4,632	2,260	2,250	34,418	32,679
12	5,473	4,803	466	476	1,991	1,965	1,703	1,687	374	373	10,007	9,304
13	122,128	118,564	377	399	11,153	11,045	4,701	4,750	966	1,014	139,325	135,771
14	14,072	13,958	27	29	1,436	1,433	493	498	295	297	16,323	16,214
15	68,062	66,482	1,779	1,791	16,478	16,534	3,984	4,018	2,077	2,099	92,380	90,924
16	42,095	42,034	5,444	5,449	21,809	21,826	4,505	4,512	3,970	3,974	77,823	77,795
17	76,030	71,562	218	216	7,192	7,079	3,220	3,177	753	808	87,413	82,841
18	21,412	20,816	21	29	1,061	1,052	676	677	123	126	23,293	22,701
19	41,081	39,128	597	600	6,262	6,189	1,838	1,791	871	885	50,649	48,591
20	24,756	23,746	3,804	3,811	10,413	10,396	2,665	2,620	1,882	1,857	43,520	42,429
Total Transit	756,180	735,666	26,938	27,029	187,871	187,372	108,803	108,638	44,795	43,674	1,124,587	1,102,380