

Social-Economic Data

	Population	Households	Employment	Avg HH Size	Pop/Emp Ratio
Totals	2,450,604	969,904	1,364,791	2.53	1.80

Networks

	Controlled Access	MRA & PA	Other	TOTAL	HOV	Toll Way
Hwy Lane-Miles	1,545	3,199	5,127	9,871	48	138

	Rail Route-Miles	Total Route-Miles	Paths (Walk)	Paths (Auto)	Vehicles
Transit-Peak Transit-OffP					

Trip Generation

	Total	HBW	HNW	NHB	COM	I-E
Person Trips	10,595,678	1,904,515 18.0%	4,547,202 42.9%	2,688,379 25.4%	1,153,866 10.9%	290,030 2.7%
						E-E
						13,686 0.1%
Trips per person	4.32	3.73				
Trips per HH	10.92	9.42				

Trip Distribution

	HBW	HNW	NHB	COM	I-E
Avg Trip Time, minutes	26.8	13.1	15.0	17.6	35.2

Time-of-Day Split

	AM Peak	PM Peak	Off Peak
Peak Period	6:30-9:00	3:00-7:00	
Pk Hour %	0.47	0.29	

Transit Assignment

Mode	Boardings (Walk)	Boardings (Drive)	Total Boardings	Pass-Miles (Pk)	Pass-Miles (OP)	Avg Dist/Bdg (Pk)	vg Dist/Bdg (OP)
Shuttle (4)	53,107	8,969	60,076	0	0	0.0	0.0
Local (5)	133,316	12,627	145,943	0	0	0.0	0.0
Limited (6)	16,893	2,221	19,113	0	0	0.0	0.0
Express (7)	10,409	2,851	13,260	0	0	0.0	0.0
Regional (8)	9,250	3,549	12,799	0	0	0.0	0.0
Rail (9)	21,693	13,188	34,881	0	0	0.0	0.0
SkyRide (10)	4,032	2,321	6,353	0	0	0.0	0.0
Longmont Local (11)	2,024	191	2,215	0	0	0.0	0.0
Boulder Local (12)	18,805	2,188	20,994	0	0	0.0	0.0
TOTAL	269,529	46,104	315,634	0	0	0.0	0.0
	Linked Trips	Avg Trip Dist	Avg Bdg/Trip				
Trips	220,291	0.0	1.43				

Mode Split

	HBW	HNW	NHB	Regional Total	Denver CBD	DIA
Auto Person Trips	1,811,052	4,445,295	2,662,155	8,918,502 97.6%	412,693 84.8%	79,383 93.9%
Transit Trips	93,464 4.9%	68,131 1.5%	58,696 2.2%	220,291 2.4%	73,742 15.2%	5,166 6.1%
Vehicle Trips	1,672,703	2,954,654	1,912,577	6,539,934		
Auto Occupancy	1.08	1.50	1.39			

	SOV	SR2	SR3+	Transit-Walk	Transit-Auto	Transit-Total
Regional HBW	1,559,975 81.9%	190,832 10.0%	60,245 3.2%	71,526 3.8%	21,938 1.2%	93,464 4.9%
CBD HBW	106,068 57.5%	21,992 11.9%	5,398 2.9%	40,721 22.1%	10,279 5.6%	51,000 27.6%
DIA HBW	15,333 62.0%	5,348 21.6%	1,441 5.8%	1,489 6.0%	1,103 4.5%	2,592 10.5%
HNW	1,918,462 43.2%	1,458,264 32.8%	1,068,569 24.0%			
NHB	1,386,618 52.1%	749,730 28.2%	525,807 19.8%			

Vehicle Assignment

	Inter-zonal	Avg Inter-z Dist	Intra-zonal	VHD	Hours
Trips	8,175,252	7.6	474,710 5.5%		

	Day	AM	PM	OP	FT1	FT2&3
VMT	62,051,435	12,593,553	17,095,708	32,362,174	22,067,251	22,652,575
VHT	1,826,644	462,713	479,594	884,337	360,453	709,832
Speed	34.0	27.2	35.6	36.6	61.2	31.9

	HOV VMT	Tollway VMT	VMT in COG
Other VMT	260,906	924,420	59,795,980

10 period	Times	Factor	Hours	VMT	VHT	Speed
AM1	6:30-7:00 AM	0.346	0.5	2,167,443	66,231	32.7
AM2	7:00-8:00 AM	0.468	1.0	5,924,457	255,274	23.2
AM3	8:00-9:00 AM	0.359	1.0	4,501,653	141,208	31.9
PM1	3:00-5:00 PM	0.248	2.0	8,483,662	235,012	36.1
PM2	5:00-6:00 PM	0.289	1.0	4,953,005	147,580	33.6
PM3	6:00-7:00 PM	0.214	1.0	3,659,041	97,002	37.7
OP1	1:00 PM - 6:30 AM	0.015	7.5	3,606,952	90,169	40.0
OP2	9:00-11:30 AM	0.098	2.5	7,892,841	209,159	37.7
OP3	1:30 AM - 3:00 PM	0.130	3.5	14,707,181	427,379	34.4
OP4	7:00-11:00 PM	0.048	4.0	6,155,200	157,630	39.0

MODEL SUMMARY

Model Label: N. I-25 2001
 Description: #38
 Date: Wed Dec 29 04:41:58 2004

SOCIAL-ECONOMIC DATA

	POPULATION	HOUSEHOLDS	EMPLOYMENT	AVG HHSIZE	POP/EMP RATIO
Total	2,806,304	1,495,044	1,495,044	1.88	1.88
TMA	2,409,831	1,353,740	1,353,740	1.78	1.78
CBD	11,714	131,831	131,831	0.09	0.09
DIA	0	19,473	19,473	0.00	0.00

The fraction of households in the TMA is: 0.905
 The ratio of HH in the 9-County area vs. TMA is: 1.014

NETWORK

Facility Type	Lane Miles
Freeway	1,747
Expressway	594
Principal	3,394
Minor	3,047
Other	4,379
Total (Except CentCon)	13,162
HOV	47
TOLL	137

TRIP GENERATION

	HBW	HNW	NHB	COM	I-E	EE	TOTAL
Total	1,904,516	4,329,020	2,686,349	1,153,866	290,030	7,653	10,371,435
	18.4%	41.7%	25.9%	11.1%	2.8%	0.1%	

Total Person Trips in TMA: 9,391,179
 Total Person Trips in 9-County Region: 9,522,656

	ALL PURPOSES	HBW, HNW, NHB
Trips per person	3.70	3.18

TRIP DISTRIBUTION

	HBW	HNW	NHB	COM	IE	
Avg Trip Time (Min)	24.8	12.6	13.8	15.0		40.1
Avg Trip Dist (Mile)	10.1	5.1	5.8	7.0		32.6

TIME-OF-DAY-SPLIT

	AM PEAK	PM PEAK	OFF PEAK
PEAK PERIOD	6:30AM-9:30AM	3:00PM-7:00PM	The rest of the day
PEAK HOUR %			

MODE SPLIT -- Person Trips

	SOV	SR2	SR3+	TRANSIT WALK	TRANSIT AUTO	AUTO TOTAL	TRANSIT TOTAL	TOTAL
HBW	1,823,679	226,343	72,541	65,905	30,003	2,122,563	95,908	2,218,471
	82.20%	10.20%	3.27%	2.97%	1.35%	95.68%	4.32%	100.00%
CBD HBW	104,773	22,563	5,716	35,384	23,863	133,051	59,247	192,298
	54.48%	11.73%	2.97%	18.40%	12.41%	69.19%	30.81%	100.00%
DIA HBW	14,603	5,169	1,411	1,812	1,866	21,183	3,678	24,861
	58.74%	20.79%	5.68%	7.29%	7.51%	85.21%	14.79%	100.00%
HNW	2,337,019	1,768,044	1,288,010	52,520	16,062	5,393,073	68,582	5,461,655
	42.79%	32.37%	23.58%	0.96%	0.29%	98.74%	1.26%	100.00%
CBD HBNW	71,069	50,478	36,882	14,670	10,173	158,429	24,843	183,272
	38.78%	27.54%	20.12%	8.00%	5.55%	86.44%	13.56%	100.00%
DIA HBNW	11,509	9,324	7,089	590	1,318	27,922	1,908	29,830
	38.58%	31.26%	23.77%	1.98%	4.42%	93.60%	6.40%	100.00%
NHB	1,817,616	982,766	689,240	50,648		3,489,622	50,648	3,540,270
	51.34%	27.76%	19.47%	1.43%		98.57%	1.43%	100.00%
CBD NHB	77,231	41,758	29,286	40,811		148,275	40,811	189,086
	40.84%	22.08%	15.49%	21.58%		78.42%	21.58%	100.00%
DIA NHB	18,717	10,120	7,098	584		35,935	584	36,519
	51.25%	27.71%	19.44%	1.60%		98.40%	1.60%	100.00%
Total	5,978,313	2,977,153	2,049,791	169,073	46,065	11,005,258	215,138	11,220,396
	53.28%	26.53%	18.27%	1.51%	0.41%	98.08%	1.92%	100.00%
CBD Total	253,073	114,799	71,884	90,865	34,035	439,756	124,901	564,656
	44.82%	20.33%	12.73%	16.09%	6.03%	77.88%	22.12%	100.00%
DIA Total	44,830	24,613	15,598	2,986	3,184	85,041	6,170	91,210
	49.15%	26.98%	17.10%	3.27%	3.49%	93.24%	6.76%	100.00%

Vehicle Trip HBW: 1,957,695
 Vehicle Trip HBNW: 3,591,159
 Vehicle Trip NHB: 2,507,056
 Vehicle Trip Regional: 8,055,910

Auto Occupancy HBW: 1.08
 Auto Occupancy HBNW: 1.50
 Auto Occupancy NHB: 1.39
 Auto Occupancy Regional: 1.37

VEHICLE ASSIGNMENT

10 period	Factor	Hours	VMT	VHT	Speed
AM1	0.346	0.5	2,333,225	69,312	33.7
AM2	0.468	1.0	6,374,146	232,023	27.5
AM3	0.359	1.0	4,846,093	145,999	33.2
PM1	0.248	2.0	10,859,204	336,495	32.3
PM2	0.289	1.0	6,357,819	219,683	28.9
PM3	0.214	1.0	4,675,253	135,737	34.4
OP1	0.015	7.5	3,943,235	93,906	42.0
OP2	0.098	2.5	8,554,861	212,995	40.2
OP3	0.130	3.5	15,849,490	418,066	37.9
OP4	0.048	4.0	6,728,834	160,672	41.9

Period	Hours	VMT	VHT	Speed
AM	2.5	13,553,463	447,334	30.3
PM	4	21,892,276	691,915	31.6
Off-Peak	17.5	35,076,419	885,639	39.6
Peak Hours	2	12,731,964	451,706	28.2
Peak	6.5	35,445,739	1,139,249	31.1
All-Day	24	70,522,158	2,024,888	34.8

Facility Type	VMT	VHT	Speed
Freeway	24,905,785	434,216	57.4
Expressway	4,532,940	98,705	45.9
Principal	22,216,645	691,756	32.1
Minor	8,535,217	286,545	29.8
Other	10,331,571	513,666	20.1
Total	70,522,158	2,024,888	34.8
HOV	285,837	7,228	39.5
TOLL	664,802	9,695	68.6

VMT in TMA is: 69,975,565
 VHT in TMA is: 2,012,603
 Average speed in TMA is: 34.8

VMT in 9-County Region is: 70,955,223
 VHT in 9-County Region is: 2,040,779
 Average Speed in 9-County Region is: 34.8

Total VHD is: 258,340
 Percent Delay is: 12.8%

Interzonal trips are: 8,921,516
 Intrazonal trips are: 487,498
 Total vehicle trips: 9,409,014
 Interzonal trip distance is: 7.9
 Total Vehicle Trips: 9,409,014
 Total Vehicle Trips in TMA: 8,519,721
 Total Vehicle Trips in 9-County Region: 8,638,997

Total Vehicle Trips: 9,409,014
 Total Vehicle Trips in TMA: 8,519,721
 Total Vehicle Trips in 9-County Region: 8,638,997

Person Miles Traveled is: 96,341,007
 Person Hours Traveled is: 2,766,220
 Person Miles Traveled in TMA is: 95,594,300
 Person Hours Traveled in TMA is: 2,749,436
 Person Miles Traveled in 9-County Region is: 96,932,620

Skyride Bus: 18.8 18.9 20.3 17.5 18.9
 Longmont Local: 2.1 2.0 2.0 2.2 2.0
 Boulder Local: 1.9 1.8 1.8 1.9 1.9

 Total: 4.0 3.1 3.2 10.8 3.6

Total Transit Boardings: 326,358
 Total Transit Linked Trips: 215,138
 Total Boardings per Trip: 1.52

 VMT and VHT with V/C >= 0.95
 Model Area TMA 9-County Region

Congested VMT 9,851,148 9,598,826 9,598,826
 % of Total 14.0% 16.1% 15.9%

Congested VHT 429,122 416,506 416,506
 % of Total 21.2% 24.5% 24.1%

Lane-Mile Hours with V/C >= 0.95, Freeways: 2,023
 Lane-Mile Hours with V/C >= 0.95, Expressways: 484
 Lane-Mile Hours with V/C >= 0.95, Principals: 3,961
 Lane-Mile Hours with V/C >= 0.95, Minors: 1,580
 Lane-Mile Hours with V/C >= 0.95, Other: 1,019
 Lane-Mile Hours with V/C >= 0.95, Total: 9,067

Lane Miles with 3+ Hours of V/C >= 0.95 : 1,256
 Lane Miles with 3+ Hours of V/C >= 0.95 in the TMA: 1,214
 Lane Miles with 3+ Hours of V/C >= 0.95 in 9-County: 1,214

Principal & Above Lane Miles with 3+ Hours of V/C >= 0.95 in the TMA: 890
 Principal & Above Lane Miles with 3+ Hours of V/C >= 0.95 in 9-County: 890

from DPROG 12-9-04
 Base year Calibration Run

ModelSummary.txt
 MODEL SUMMARY

Model Label: 2001 Base
 Description: 2001 Cycle 12 base year
 Date: Fri Nov 05 16:22:57 2004

SOCIAL-ECONOMIC DATA

	POPULATION	HOUSEHOLDS	EMPLOYMENT	AVG HHSIZE	POP/EMP RATIO
Total	2,450,604	969,904	1,364,791	2.53	1.80
TMA	2,409,831	956,282	1,353,740	2.52	1.78
CBD	11,714	8,735	131,831	1.34	0.09
DIA	0	0	19,473	0.00	

The fraction of households in the TMA is: 0.986
 The ratio of HH in the 9-County area vs. TMA is: 1.014

NETWORK

Facility Type	Lane Miles
Freeway	1,545
Expressway	354
Principal	2,844
Minor	2,263
Other	2,864
Total (Except CentCon)	9,870
HOV	47
TOLL	137

TRIP GENERATION

	HBW	HNW	NHB	COM	I-E	EE	TOTAL
Total	1,904,516	4,592,738	3,010,018	1,135,740	290,028	13,685	10,946,725
	17.4%	42.0%	27.5%	10.4%	2.6%	0.1%	

Total Person Trips in TMA: 10,792,981
 Total Person Trips in 9-County Region: 10,944,083

	ALL PURPOSES	HBW, HNW, NHB
Trips per person	4.47	3.88
Trips per HH	11.29	9.80

TRIP DISTRIBUTION

	HBW	HNW	NHB	COM	IE	
Avg Trip Time (Min)	24.6	11.7	13.4	14.9		35.0
Avg Trip Dist (Mile)	10.2	4.9	5.9	6.9		28.1

TIME-OF-DAY-SPLIT

	AM PEAK	PM PEAK	OFF PEAK
PEAK PERIOD	6:30AM-9:30AM	3:00PM-7:00PM	The rest of the day
PEAK HOUR %			

ModelSummary.txt

MODE SPLIT -- Person Trips

	SOV	SR2	SR3+	TRANSIT WALK	TRANSIT AUTO	AUTO TOTAL	TRANSIT TOTAL	TOTAL	
HBW	1,558,395 81.83%	192,127 10.09%	61,131 3.21%	62,965 3.31%	29,898 1.57%	1,811,653 95.12%	92,863 4.88%	1,904,516 100.00%	
CBD HBW	104,362 54.53%	22,272 11.64%	5,593 2.92%	35,379 18.48%	23,794 12.43%	132,226 69.08%	59,174 30.92%	191,400 100.00%	
DIA HBW	14,483 58.84%	5,085 20.66%	1,380 5.61%	1,808 7.34%	1,860 7.56%	20,948 85.10%	3,668 14.90%	24,616 100.00%	
HNW	1,944,222 42.65%	1,472,532 32.30%	1,077,452 23.64%	48,389 1.06%	48,389 0.35%	16,085 98.59%	4,494,206 1.41%	64,474 100.00%	4,558,680
CBD HBNW	71,107 38.81%	50,419 27.51%	36,814 20.09%	14,592 7.96%	10,309 5.63%	158,340 86.41%	24,902 13.59%	183,242 100.00%	
DIA HBNW	11,385 38.59%	9,271 31.43%	7,067 23.95%	545 1.85%	1,234 4.18%	27,722 93.97%	1,778 6.03%	29,500 100.00%	
NHB	1,554,846 51.24%	840,689 27.70%	589,598 19.43%	49,567 1.63%		2,985,133 98.37%	49,567 1.63%	3,034,700 100.00%	
CBD NHB	77,238 40.88%	41,762 22.10%	29,288 15.50%	40,637 21.51%			148,288 78.49%	40,637 21.51%	188,924 100.00%
DIA NHB	18,502 51.30%	10,004 27.74%	7,016 19.45%	544 1.51%		35,522 98.49%	544 1.51%	36,066 100.00%	
Total	5,057,463 53.25%	2,505,348 26.38%	1,728,181 18.20%	160,921 1.69%	160,921 0.48%	45,983 97.82%	9,290,993 2.18%	206,904 100.00%	9,497,897
CBD Total	252,706 44.84%	114,452 20.31%	71,695 12.72%	90,608 16.08%	34,104 6.05%	438,854 77.87%	124,712 22.13%	563,566 100.00%	
DIA Total	44,370 49.20%	24,360 27.01%	15,463 17.15%	2,897 3.21%	3,094 3.43%	84,192 93.36%	5,990 6.64%	90,183 100.00%	

Vehicle Trip HBW: 1,672,025
 Vehicle Trip HBNW: 2,990,101
 Vehicle Trip NHB: 2,144,616
 Vehicle Trip Regional: 6,806,741

Auto Occupancy HBW: 1.08
 Auto Occupancy HBNW: 1.50
 Auto Occupancy NHB: 1.39
 Auto Occupancy Regional: 1.36

VEHICLE ASSIGNMENT

10 period	Factor	Hours	VMT	VHT	Speed
AM1	0.346	0.5	2,049,457	59,698	34.3

	Factor	Hours	VMT	VHT	Spd
ModelSummary.txt					
AM2	0.468	1.0	5,600,200	204,569	27.4
AM3	0.359	1.0	4,255,099	126,155	33.7
PM1	0.248	2.0	9,582,906	293,849	32.6
PM2	0.289	1.0	5,611,709	194,268	28.9
PM3	0.214	1.0	4,122,484	116,917	35.3
OP1	0.015	7.5	3,502,177	80,231	43.7
OP2	0.098	2.5	7,595,222	183,203	41.5
OP3	0.130	3.5	14,070,106	362,630	38.8
OP4	0.048	4.0	5,976,072	137,332	43.5

Period	Hours	VMT	VHT	Speed
AM	2.5	11,904,755	390,422	30.5
PM	4	19,317,098	605,034	31.9
Off-Peak	17.5	31,143,577	763,397	40.8
Peak Hours	2	11,211,908	398,837	28.1
Peak	6.5	31,221,854	995,456	31.4
All-Day	24	62,365,430	1,758,853	35.5

Facility Type	VMT	VHT	Speed
Freeway	23,342,838	411,295	56.8
Expressway	3,477,618	77,203	45.0
Principal	19,508,011	600,332	32.5
Minor	7,125,530	238,171	29.9
Other	8,911,433	431,852	20.6
Total	62,365,430	1,758,853	35.5
HOV	289,332	7,444	38.9
TOLL	660,484	9,628	68.6

VMT in TMA is: 59,685,333
VHT in TMA is: 1,706,535
Average speed in TMA is: 35.0

VMT in 9-County Region is: 60,520,928
VHT in 9-County Region is: 1,730,426
Average Speed in 9-County Region is: 35.0

Total VHD is: 250,657
Percent Delay is: 14.3%

Interzonal trips are: 8,898,732
Interzonal trip distance is: 7.0
Intrazonal trips are: 934,316
Total Vehicle Trips: 9,833,049
Total Vehicle Trips in TMA: 9,694,947
Total Vehicle Trips in 9-County Region: 9,830,676

Person Miles Traveled is: 85,126,896
Person Hours Traveled is: 2,400,780
Person Miles Traveled in TMA is: 81,468,646
Person Hours Traveled in TMA is: 2,329,368
Person Miles Traveled in 9-County Region is: 82,609,207
Person Hours Traveled in 9-County Region is: 2,361,979

Person Hours of Delay is: 342,139
Percent Delay is: 14.3%

TRANSIT ASSIGNMENT

ModelSummary.txt

	TRANSIT BOARDINGS				
	Peak	Off-Peak	Walk Access	Drive Access	Total
Mall Shuttle:	31,258	26,773	42,271	15,760	58,031
Local Bus:	84,315	64,011	134,105	14,221	148,326
Limited Bus:	13,155	5,617	14,780	3,992	18,772
Express Bus:	21,469	1,648	12,432	10,685	23,116
Regional Bus:	4,833	1,836	3,906	2,762	6,669
Rail:	19,693	10,734	11,601	18,826	30,427
Skyride Bus:	3,723	2,385	3,042	3,066	6,108
Longmont Local:	907	990	1,761	136	1,897
Boulder Local:	13,306	9,482	18,722	4,066	22,788
Total:	192,658	123,475	242,619	73,514	316,133

	TRANSIT PASSENGER MILES TRAVELED				
	Peak	Off-Peak	Walk Access	Drive Access	Total
Mall Shuttle:	12,619	9,770	16,415	5,974	22,388
Local Bus:	193,737	176,269	344,775	25,231	370,006
Limited Bus:	65,410	33,856	68,442	30,824	99,266
Express Bus:	210,248	18,112	120,111	108,249	228,360
Regional Bus:	92,050	29,398	66,384	55,065	121,448
Rail:	108,657	50,153	58,055	100,755	158,811
Skyride Bus:	69,909	42,946	60,982	51,873	112,855
Longmont Local:	1,585	1,946	3,276	255	3,531
Boulder Local:	25,340	16,931	34,521	7,751	42,271
Total:	779,555	379,382	772,962	385,975	1,158,937

	TRANSIT PASSENGER MILES TRAVELED PER BOARDING				
	Peak	Off-Peak	Walk Access	Drive Access	Total
Mall Shuttle:	0.4	0.4	0.4	0.4	0.4
Local Bus:	2.3	2.8	2.6	1.8	2.5
Limited Bus:	5.0	6.0	4.6	7.7	5.3
Express Bus:	9.8	11.0	9.7	10.1	9.9
Regional Bus:	19.0	16.0	17.0	19.9	18.2
Rail:	5.5	4.7	5.0	5.4	5.2
Skyride Bus:	18.8	18.0	20.0	16.9	18.5
Longmont Local:	1.7	2.0	1.9	1.9	1.9
Boulder Local:	1.9	1.8	1.8	1.9	1.9
Total:	4.0	3.1	3.2	10.5	3.7

Total Transit Boardings: 316,133
 Total Transit Linked Trips: 206,904
 Total Boardings per Trip: 1.53

	VMT and VHT with V/C >= 0.95		
	Model Area	TMA	9-County Region
Congested VMT	9,708,753	9,668,547	9,668,547
% of Total	15.6%	16.2%	16.0%
Congested VHT	418,826	417,429	417,429

ModelSummary.txt

% of Total 23.8%

24.5%

24.1%

Lane-Mile Hours with V/C \geq 0.95, Freeways: 2,051
Lane-Mile Hours with V/C \geq 0.95, Expressways: 488
Lane-Mile Hours with V/C \geq 0.95, Principals: 3,846
Lane-Mile Hours with V/C \geq 0.95, Minors: 1,449
Lane-Mile Hours with V/C \geq 0.95, Other: 996
Lane-Mile Hours with V/C \geq 0.95, Total: 8,829

Lane Miles with 3+ Hours of V/C \geq 0.95 : 1,230
Lane Miles with 3+ Hours of V/C \geq 0.95 in the TMA: 1,223
Lane Miles with 3+ Hours of V/C \geq 0.95 in 9-County: 1,223

Principal & Above Lane Miles with 3+ Hours of V/C \geq 0.95 in the TMA: 897
Principal & Above Lane Miles with 3+ Hours of V/C \geq 0.95 in 9-County: 897

NORTH I-25 COMBINED MODEL SUMMARY

Model Label: 2030_NI25_Step5a5b
 Description: 2030 -- TRANSIT No Action_D --
 Step5a5b
 Date: Thu Mar 03 11:00:39 2005

reporting error data file ok

COMBINED SOCIAL-ECONOMIC DATA

	POPULATION	HOUSEHOLDS	EMPLOYMENT	AVG HHSIZE	POP/EMP
RATIO					
Total	4,632,686	2,078,284	2,078,284	2.23	
2.23					
CBD	30,205	170,577	170,577	0.18	0.18
DIA	33	37,868	37,868	0.00	0.00

COMBINED NETWORK

Facility Type	Lane Miles
Freeway	2,081
Expressway	863
Principal	5,028
Minor	2,660
Other	4,369
Total (Except CentCon)	15,002
HOV	82
TOLL	297

DRCOG AND NFR INTERNAL-INTERNAL TRIP GENERATION

	HBW	HNW	NHB	COM	I-E	EE	TOTAL
Total	3,491,351	7,549,575	5,561,575	1,650,668	734,188	18,687	19,006,044
	18.4%	39.7%	29.3%	8.7%	3.9%	0.1%	

	ALL PURPOSES	HBW, HNW, NHB
Trips per person	4.10	3.58

COMBINED TRIP DISTRIBUTION

	HBW	HNW	NHB	COM	IE
Avg Trip Time (Min)	32.4	14.2	15.9	17.5	
47.7					
Avg Trip Dist (Mile)	10.4	5.7	6.3	7.4	
32.7					

COMBINED TIME-OF-DAY-SPLIT

	AM PEAK	PM PEAK	OFF PEAK
PEAK PERIOD	6:30AM-9:30AM	3:00PM-7:00PM	The rest of the day

PEAK HOUR %

COMBINED MODE SPLIT -- Person Trips

	SOV	SR2	SR3+	TRANSIT WALK	TRANSIT AUTO	AUTO TOTAL	TRANSIT TOTAL	TOTAL
HBW	3,054,555	396,927	129,586	125,616	78,751	3,581,068	204,367	3,785,435
	80.69%	10.49%	3.42%	3.32%	2.08%	94.60%	5.40%	100.00%
CBD HBW	118,493	32,232	8,764	61,073	50,775	159,489	111,848	271,337
	43.67%	11.88%	3.23%	22.51%	18.71%	58.78%	41.22%	100.00%
DIA HBW	28,195	10,257	2,764	6,174	6,134	41,216	12,308	53,524
	52.68%	19.16%	5.16%	11.54%	11.46%	77.00%	23.00%	100.00%
HNW	3,576,555	2,599,509	1,879,256	85,345	44,607	8,055,319	129,952	8,185,271
	43.70%	31.76%	22.96%	1.04%	0.54%	98.41%	1.59%	100.00%
CBD HBNW	94,804	60,904	42,901	28,725	26,489	198,609	55,214	253,824
	37.35%	23.99%	16.90%	11.32%	10.44%	78.25%	21.75%	100.00%
DIA HBNW	28,053	21,407	16,060	2,755	6,573	65,521	9,329	74,849
	37.48%	28.60%	21.46%	3.68%	8.78%	87.54%	12.46%	100.00%
NHB	3,093,879	1,672,828	1,173,199	106,353		5,939,906	106,353	6,046,259
	51.17%	27.67%	19.40%	1.76%		98.24%	1.76%	100.00%
CBD NHB	126,693	68,502	48,042	85,133		243,237	85,133	328,370
	38.58%	20.86%	14.63%	25.93%		74.07%	25.93%	100.00%
DIA NHB	46,125	24,939	17,491	3,972		88,554	3,972	92,527
	49.85%	26.95%	18.90%	4.29%		95.71%	4.29%	100.00%
Total	9,724,989	4,669,264	3,182,041	317,314	123,358	17,576,294	440,672	18,016,966
	53.98%	25.92%	17.66%	1.76%	0.68%	97.55%	2.45%	100.00%
CBD Total	339,990	161,638	99,707	174,930	77,265	601,335	252,195	853,530
	39.83%	18.94%	11.68%	20.49%	9.05%	70.45%	29.55%	100.00%
DIA Total	102,372	56,604	36,315	12,902	12,707	195,291	25,609	220,900
	46.34%	25.62%	16.44%	5.84%	5.75%	88.41%	11.59%	100.00%

100.00%

Vehicle Trip HBW: 3,290,256 ✓
Vehicle Trip HBNW: 5,416,325 ✓
Vehicle Trip NHB: 4,267,419
Vehicle Trip Regional: 12,974,000

Auto Occupancy HBW: 1.09
Auto Occupancy HBNW: 1.49
Auto Occupancy NHB: 1.39
Auto Occupancy Regional: 1.35

COMBINED VEHICLE ASSIGNMENT

10 period	Factor	Hours	VMT	VHT	Speed
AM1	0.346	0.5	4,103,367	145,491	28.2
AM2	0.468	1.0	11,296,155	641,508	17.6
AM3	0.359	1.0	8,527,772	313,986	27.2
PM1	0.248	2.0	19,290,920	731,893	26.4
PM2	0.289	1.0	11,318,316	536,482	21.1
PM3	0.214	1.0	8,287,238	273,633	30.3
OP1	0.015	7.5	7,101,971	169,181	42.0
OP2	0.098	2.5	15,359,231	401,902	38.2
OP3	0.130	3.5	28,355,733	831,419	34.1
OP4	0.048	4.0	12,118,760	290,583	41.7

Period	Hours	VMT	VHT	Speed
AM	2.5	23,927,294	1,100,985	21.7
PM	4	38,896,474	1,542,008	25.2
Off-Peak	17.5	62,935,695	1,693,086	37.2
Peak Hours	2	22,614,471	1,177,990	19.2
Peak	6.5	62,823,768	2,642,993	23.8
All-Day	24	125,759,463	4,336,079	29.0

Facility Type	VMT	VHT	Speed
Freeway	44,465,990	948,606	46.9
Expressway	10,940,525	294,471	37.2
Principal	39,709,444	1,473,080	27.0
Minor	11,068,946	478,884	23.1
Other	19,574,557	1,141,038	17.2
Total	125,759,463	4,336,079	29.0

HOV	579,595	15,957	36.3
TOLL	4,469,605	78,967	56.6

Total VHD is: 1,137,426
Percent Delay is: 26.2%

Interzonal trips are: 13,984,862
Intrazonal trips are: 1,143,075
Total vehicle trips: 15,127,937
Interzonal trip distance is: 9.0
Total Vehicle Trips: 15,127,937

Total Vehicle Trips: 15,127,937

Person Miles Traveled is: 170,370,372

Person Hours Traveled is: 5,874,225

Person Hours of Delay is: 1,540,908

Percent Delay is: 26.2%

COMBINED TRANSIT ASSIGNMENT

Total	TRANSIT BOARDINGS				
	Peak	Off-Peak	Walk Access	Drive Access	
Mall Shuttle:	41,471	47,199	64,137	24,532	88,669
Local Bus:	217,192	128,104	282,858	62,439	345,296
Limited Bus:	16,915	9,269	23,524	2,661	26,184
Express Bus:	8,735	505	5,284	3,956	9,240
Regional Bus:	8,917	4,074	7,638	5,352	12,991
Rail:	131,378	63,946	93,220	102,104	195,325
Skyride Bus:	1,639	1,904	1,215	2,327	3,543
Longmont Local:	8,141	6,464	13,753	852	14,605
Boulder Local:	18,748	11,871	24,541	6,079	30,619
Total:	453,136	273,337	516,170	210,303	726,473

Total	TRANSIT PASSENGER MILES TRAVELED				
	Peak	Off-Peak	Walk Access	Drive Access	
Mall Shuttle:	15,020	15,217	20,062	10,175	30,238
Local Bus:	420,949	279,541	596,357	104,133	700,491
Limited Bus:	67,062	47,182	102,246	11,999	114,244
Express Bus:	88,856	6,084	52,318	42,622	94,940
Regional Bus:	140,317	61,318	111,198	90,437	201,635
Rail:	1,156,117	551,066	790,821	916,363	1,707,183
Skyride Bus:	34,955	50,013	33,457	51,511	84,968
Longmont Local:	16,494	12,424	27,329	1,590	28,919
Boulder Local:	34,623	21,831	44,705	11,750	56,455
Total:	1,974,395	1,044,677	1,778,492	1,240,580	3,019,072

Total	TRANSIT PASSENGER MILES TRAVELED PER BOARDING			
	Peak	Off-Peak	Walk Access	Drive Access

Mall Shuttle:	0.4	0.3	0.3	0.4	0.3
Local Bus:	1.9	2.2	2.1	1.7	2.0
Limited Bus:	4.0	5.1	4.3	4.5	4.4
Express Bus:	10.2	12.0	9.9	10.8	10.3
Regional Bus:	15.7	15.1	14.6	16.9	15.5
Rail:	8.8	8.6	8.5	9.0	8.7
Skyride Bus:	21.3	26.3	27.5	22.1	24.0
Longmont Local:	2.0	1.9	2.0	1.9	2.0
Boulder Local:	1.8	1.8	1.8	1.9	1.8

Total: 4.4 3.8 3.4 8.5 4.2

Total Transit Boardings: 726,473
Total Transit Linked Trips: 440,672
Total Boardings per Trip: 1.65

VMT and VHT with V/C \geq 0.95
Model Area

Congested VMT 33,979,537
% of Total 27.0%

Congested VHT 1,794,550
% of Total 41.4%

Lane-Mile Hours with V/C \geq 0.95, Freeways: 6,841
Lane-Mile Hours with V/C \geq 0.95, Expressways: 2,506
Lane-Mile Hours with V/C \geq 0.95, Principals: 11,415
Lane-Mile Hours with V/C \geq 0.95, Minors: 4,264
Lane-Mile Hours with V/C \geq 0.95, Other: 3,921
Lane-Mile Hours with V/C \geq 0.95, Total: 28,947

Lane Miles with 3+ Hours of V/C \geq 0.95 : 4,007

ModelSummary.txt

Total Person Trips in 9-County Region: 16,632,884

	ALL PURPOSES	HBW, HNW, NHB
Trips per person	4.34	3.75
Trips per HH	10.68	9.23

TRIP DISTRIBUTION

	HBW	HNW	NHB	COM	IE
Avg Trip Time (Min)	34.0	13.7	16.2	17.3	
43.7					
Avg Trip Dist (Mile)	10.3	5.4	6.4	7.3	
28.6					

TIME-OF-DAY-SPLIT

	AM PEAK	PM PEAK	OFF PEAK
PEAK PERIOD	6:30AM-9:30AM	3:00PM-7:00PM	The rest of the day
PEAK HOUR %			

MODE SPLIT -- Person Trips

	SOV	SR2	SR3+	TRANSIT WALK	TRANSIT AUTO	AUTO TOTAL	TRANSIT TOTAL
TOTAL							
HBW	2,545,849	331,513	107,648	122,390	78,425	2,985,010	200,815
	3,185,825						
	79.91%	10.41%	3.38%	3.84%	2.46%	93.70%	6.30%
	100.00%						
CBD HBW	117,621	31,458	8,445	61,125	50,530	157,525	111,655
	43.70%	11.69%	3.14%	22.71%	18.77%	58.52%	41.48%
	100.00%						
DIA HBW	27,944	10,119	2,707	6,160	6,125	40,770	12,285
	52.67%	19.07%	5.10%	11.61%	11.55%	76.84%	
	23.16%	100.00%					
HNW	2,836,393	2,067,689	1,507,085	80,709	44,336	6,411,167	

ModelSummary.txt

125,045	6,536,212							
43.40%	31.63%	23.06%	1.23%	0.68%	98.09%	1.91%		
100.00%								
CBD HBNW	94,482	60,650	42,718	28,737	26,428	197,851	55,165	253,016
	37.34%	23.97%	16.88%	11.36%	10.45%	78.20%	21.80%	
100.00%								
DIA HBNW	27,607	21,093	15,842	2,743	6,546	64,542	9,288	73,831
	37.39%	28.57%	21.46%	3.71%	8.87%	87.42%	12.58%	
100.00%								
NHB	2,601,069	1,406,371	986,325	105,190		4,993,765	105,190	
5,098,955	51.01%	27.58%	19.34%	2.06%		97.94%	2.06%	
100.00%								
CBD NHB	126,429	68,359	47,942	85,150			242,729	
85,150	327,880							
	38.56%	20.85%	14.62%	25.97%			74.03%	
25.97%	100.00%							
DIA NHB	45,811	24,769	17,371	3,960		87,951	3,960	
91,911	49.84%	26.95%	18.90%	4.31%		95.69%	4.31%	
100.00%								
Total	7,983,311	3,805,573	2,601,058	308,289	122,761	14,389,942		
431,050	14,820,992							
	53.86%	25.68%	17.55%	2.08%	0.83%	97.09%	2.91%	
100.00%								
CBD Total	338,532	160,467	99,105	175,013	76,958	598,105	251,971	
850,075	39.82%	18.88%	11.66%	20.59%	9.05%	70.36%	29.64%	
100.00%								
DIA Total	101,361	55,981	35,920	12,862	12,671	193,263	25,533	
218,796	46.33%	25.59%	16.42%	5.88%	5.79%	88.33%	11.67%	
100.00%								

ModelSummary.txt

Vehicle Trip HBW: 2,742,539
 Vehicle Trip HBNW: 4,303,308
 Vehicle Trip NHB: 3,587,681
 Vehicle Trip Regional: 10,633,528

Auto Occupancy HBW: 1.09
 Auto Occupancy HBNW: 1.49
 Auto Occupancy NHB: 1.39
 Auto Occupancy Regional: 1.35

VEHICLE ASSIGNMENT

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| 10 period | Factor | Hours | VMT        | VHT     | Speed |
|-----------|--------|-------|------------|---------|-------|
| AM1       | 0.346  | 0.5   | 3,522,455  | 120,785 | 29.2  |
| AM2       | 0.468  | 1.0   | 9,678,881  | 537,494 | 18.0  |
| AM3       | 0.359  | 1.0   | 7,317,815  | 260,680 | 28.1  |
| PM1       | 0.248  | 2.0   | 16,693,363 | 621,260 | 26.9  |
| PM2       | 0.289  | 1.0   | 9,796,935  | 462,273 | 21.2  |
| PM3       | 0.214  | 1.0   | 7,170,550  | 230,481 | 31.1  |
| OP1       | 0.015  | 7.5   | 6,236,339  | 143,386 | 43.5  |
| OP2       | 0.098  | 2.5   | 13,480,952 | 341,938 | 39.4  |
| OP3       | 0.130  | 3.5   | 24,864,694 | 713,428 | 34.9  |
| OP4       | 0.048  | 4.0   | 10,641,451 | 246,327 | 43.2  |

| Period     | Hours | VMT         | VHT       | Speed |
|------------|-------|-------------|-----------|-------|
| AM         | 2.5   | 20,519,151  | 918,959   | 22.3  |
| PM         | 4     | 33,660,849  | 1,314,015 | 25.6  |
| Off-Peak   | 17.5  | 55,223,436  | 1,445,079 | 38.2  |
| Peak Hours | 2     | 19,475,816  | 999,768   | 19.5  |
| Peak       | 6.5   | 54,179,999  | 2,232,974 | 24.3  |
| All-Day    | 24    | 109,403,435 | 3,678,053 | 29.7  |

| Facility Type | VMT         | VHT       | Speed |
|---------------|-------------|-----------|-------|
| Freeway       | 41,605,731  | 900,081   | 46.2  |
| Expressway    | 8,644,479   | 244,546   | 35.3  |
| Principal     | 35,543,791  | 1,276,572 | 27.8  |
| Minor         | 7,315,469   | 319,993   | 22.9  |
| Other         | 16,293,965  | 936,861   | 17.4  |
| Total         | 109,403,435 | 3,678,053 | 29.7  |
| HOV           | 555,794     | 14,105    | 39.4  |
| TOLL          | 4,494,053   | 79,390    | 56.6  |

VMT in TMA is: 102,713,678

ModelSummary.txt

VHT in TMA is: 3,476,897  
 Average speed in TMA is: 29.5

VMT in 9-County Region is: 104,151,669  
 VHT in 9-County Region is: 3,525,574  
 Average Speed in 9-County Region is: 29.5

Total VHD is: 986,723  
 Percent Delay is: 26.8%

Interzonal trips are: 11,891,127  
 Intrazonal trips are: 1,023,080  
 Total vehicle trips: 12,914,207  
 Interzonal trip distance is: 9.2  
 Total Vehicle Trips: 12,914,207  
 Total Vehicle Trips in TMA: 12,345,715  
 Total Vehicle Trips in 9-County Region: 12,518,555

Total Vehicle Trips: 12,914,207  
 Total Vehicle Trips in TMA: 12,345,715  
 Total Vehicle Trips in 9-County Region: 12,518,555

Person Miles Traveled is: 148,051,439  
 Person Hours Traveled is: 4,977,367  
 Person Miles Traveled in TMA is: 138,998,449  
 Person Hours Traveled in TMA is: 4,705,151  
 Person Miles Traveled in 9-County Region is: 140,944,427  
 Person Hours Traveled in 9-County Region is: 4,771,023

Person Hours of Delay is: 1,335,295  
 Percent Delay is: 26.8%

TRANSIT ASSIGNMENT

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TRANSIT BOARDINGS

Total	Peak	Off-Peak	Walk Access	Drive Access
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Mall Shuttle:	41,449	47,130	64,142	24,437 88,579
Local Bus:	217,072	128,138	282,989	62,220 345,209
Limited Bus:	16,929	9,222	23,504	2,647 26,151
Express Bus:	8,570	505	5,266	3,810 9,075

ModelSummary.txt

Regional Bus:	8,908	4,010	7,627	5,291	12,918
Rail:	131,095	63,812	93,104	101,803	194,907
Skyride Bus:	1,650	1,879	1,214	2,315	3,529
Longmont Local:	1,940	1,803	3,149	594	3,743
Boulder Local:	18,779	11,862	24,572	6,069	30,640

Total:	446,392	268,360	505,566	209,186	714,752
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TRANSIT PASSENGER MILES TRAVELED

Total	Peak	Off-Peak	Walk Access	Drive Access
Mall Shuttle:	14,996	15,165	20,039	10,122 30,161
Local Bus:	420,676	279,807	596,753	103,730 700,483
Limited Bus:	67,228	47,102	102,340	11,990 114,330
Express Bus:	86,908	6,096	52,144	40,860 93,004
Regional Bus:	140,281	59,986	110,913	89,354 200,267
Rail:	1,147,209	548,961	789,626	906,543
1,696,170				
Skyride Bus:	35,179	49,346	33,363	51,163 84,525
Longmont Local:	3,827	3,234	6,062	999 7,061
Boulder Local:	34,865	21,842	44,878	11,828 56,706

Total:	1,951,169	1,031,539	1,756,117	1,226,590
2,982,708				

TRANSIT PASSENGER MILES TRAVELED PER BOARDING

Total	Peak	Off-Peak	Walk Access	Drive Access
Mall Shuttle:	0.4	0.3	0.3	0.4 0.3
Local Bus:	1.9	2.2	2.1	1.7 2.0
Limited Bus:	4.0	5.1	4.4	4.5 4.4
Express Bus:	10.1	12.1	9.9	10.7 10.2
Regional Bus:	15.7	15.0	14.5	16.9 15.5
Rail:	8.8	8.6	8.5	8.9 8.7
Skyride Bus:	21.3	26.3	27.5	22.1 24.0
Longmont Local:	2.0	1.8	1.9	1.7 1.9

ModelSummary.txt

Boulder Local: 1.9 1.8 1.8 1.9 1.9

 Total: 4.4 3.8 3.5 8.4 4.2

Total Transit Boardings: 714,752

Total Transit Linked Trips: 431,050

Total Boardings per Trip: 1.66

VMT and VHT with V/C >= 0.95

Model Area

TMA

9-County Region

 Congested VMT 31,086,482 29,669,915 29,669,915
 % of Total 28.4% 28.8% 28.4%

Congested VHT 1,570,346 1,500,865 1,500,865
 % of Total 42.7% 43.1% 42.5%

Lane-Mile Hours with V/C >= 0.95, Freeways: 6,768
 Lane-Mile Hours with V/C >= 0.95, Expressways: 2,179
 Lane-Mile Hours with V/C >= 0.95, Principals: 10,376
 Lane-Mile Hours with V/C >= 0.95, Minors: 3,089
 Lane-Mile Hours with V/C >= 0.95, Other: 3,216
 Lane-Mile Hours with V/C >= 0.95, Total: 25,628

Lane Miles with 3+ Hours of V/C >= 0.95 : 3,614
 Lane Miles with 3+ Hours of V/C >= 0.95 in the TMA: 3,456
 Lane Miles with 3+ Hours of V/C >= 0.95 in 9-County: 3,456

Principal & Above Lane Miles with 3+ Hours of V/C >= 0.95 in the TMA:
 2,678

Principal & Above Lane Miles with 3+ Hours of V/C >= 0.95 in 9-County:
 2,678

North I-25 EIS

Development of Combined Travel Model

Modal Choice

	Original NFR 2000 Model	Original DRCOG 2001 Model	Bi-Regional Trips	DRCOG + NFR + Bi-Regional	Combined Model
	Run #25	Cycle 14	Run #41		Run #41
Trip Purpose	# of Trips	Trip Purpose # of Trips	# of Trips	# of Trips	# of Trips
HBW	292,792	HBW DA 1,558,395			1,819,810
		HBW SR2 192,127			228,645
		HBW SR3 61,131			73,342
		HBW T-DACC 29,898			31,638
		HBW T-WACC 62,965			65,347
TOTAL HBW*	292,792	TOTAL HBW 1,904,516	26,606	2,223,914	2,218,782
HBO	886,030	HNW DA 1,944,222			2,335,371
		HNW SR2 1,472,532			1,767,324
		HNW SR3 1,111,507			1,328,322
		Subtotal Auto 4,528,261			5,431,017
		HNW T-DACC 16,085			15,771
		HNW T-WACC 48,389			52,366
TOTAL HNW*	886,030	TOTAL HBNW 4,592,735	35,985	5,514,750	5,499,154
NHB	489,927	NHB DA 1,543,818			1,807,066
		NHB SR2 834,726			977,062
		NHB SR3 592,141			693,116
		Subtotal Auto 2,970,685			3,477,244
		NHB Transit 47,741			48,564
TOTAL NHB*	489,927	TOTAL NHB** 3,018,426	21,826	3,530,179	3,525,808

* Motorized person trips

**Additional NHB trips are added during mode choice for mall shuttle activity

Sources: NFR -- mod_Other.mtx , DRCOG & COMBINED -- mod_hbw.mtx, mod_hbnw.mtx, mod_nhb.mtx

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North I-25 EIS

Development of Combined Travel Model

**NFR Transit System Boardings by Route
Year 2000 Combined Model**

Agency	Route	Boardings				Total
		Peak		Off-Peak		
		Drive Access	Walk Access	Drive Access	Walk Access	
Ft Collins	1	8	609	5	512	1,134
	2	0	100	0	79	179
	3	0	305	0	214	519
	4	1	248	0	176	425
	5	1	198	0	145	343
	6	0	175	0	131	306
	7	0	544	0	437	982
	8	1	135	0	105	241
	9	0	106	0	77	184
	10	1	268	0	179	448
	11	0	240	0	165	406
	14	24	67	14	49	155
	FoxTrot	0	284	0	211	496
	Southside Shuttle	0	161	0	0	161
Subtotal	35	3,440	22	2,481	5,979	
Greeley	1	0	250	0	183	433
	2	0	167	0	129	296
	3	0	106	0	71	177
	4	0	268	0	195	463
	5	0	497	0	359	857
	6	0	20	0	16	36
	UNC	0	81	0	60	141
	Subtotal	0	1,389	0	1,013	2,402
Loveland	Jitterbug	9	208	6	159	382
	Tango	0	196	0	147	343
	Subtotal	9	404	6	305	725
TOTAL		45	5,233	27	3,800	9,106

Combined Run #38

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North I-25 EIS

Development of Combined Travel Model

Detailed Comparison of RTD Routes - Average Weekday Boardings

<i>RTD Route</i>	<i>DRCOG 2001 Cycle 12 Boardings</i>	<i>Combined 2001 Run #38 Boardings</i>	<i>Absolute Difference</i>	<i>Percentage Difference</i>
Mall Shuttle	55,026	55,485	-459	-0.8%
0	18,452	18,711	-259	-1.4%
1	3,281	3,173	108	3.3%
2	1,107	898	209	18.9%
3	3,475	3,401	74	2.1%
6	5,564	5,580	-16	-0.3%
7	2,613	2,622	-9	-0.3%
8	1,594	1,607	-13	-0.8%
9	500	502	-2	-0.4%
10	5,831	5,798	33	0.6%
11	2,908	2,837	71	2.4%
12	2,921	2,825	96	3.3%
14	1,220	1,219	1	0.1%
15	3,428	3,486	-58	-1.7%
16	4,750	4,760	-10	-0.2%
17	1,256	1,263	-7	-0.6%
20	3,299	3,282	17	0.5%
21	4,726	4,643	83	1.8%
24	1,472	1,502	-30	-2.0%
27	1,485	1,482	3	0.2%
28	6,158	6,178	-20	-0.3%
29L	144	144	0	0.0%
30	6,076	6,004	72	1.2%
31	4,920	4,913	7	0.1%
32	3,849	3,846	3	0.1%
34	18	18	0	0.0%
35	1,435	1,440	-5	-0.3%
36	167	167	0	0.0%
38	3,359	3,367	-8	-0.2%
40	4,450	4,261	189	4.2%
43	903	1,016	-113	-12.5%
44	4,830	4,845	-15	-0.3%
45	130	129	1	0.8%
47	78	80	-2	-2.6%
48	1,305	1,308	-3	-0.2%
49	10	10	0	0.0%
50	250	255	-5	-2.0%
51	3,091	3,097	-6	-0.2%
52	4,179	4,133	46	1.1%
53	1,666	1,659	7	0.4%
54	50	50	0	0.0%
56	2	2	0	0.0%
57	1,014	1,006	8	0.8%
59	909	902	7	0.8%
60	103	99	4	3.9%
65	1,799	1,727	72	4.0%
66	533	530	3	0.6%
67	1,091	1,069	22	2.0%
72	1,458	1,460	-2	-0.1%
73	716	719	-3	-0.4%

North I-25 EIS

Development of Combined Travel Model

Detailed Comparison of RTD Routes - Average Weekday Boardings

<i>RTD Route</i>	<i>DRCOG 2001 Cycle 12 Boardings</i>	<i>Combined 2001 Run #38 Boardings</i>	<i>Absolute Difference</i>	<i>Percentage Difference</i>
75	803	794	9	1.1%
76	6,251	6,254	-3	0.0%
77	410	414	-4	-1.0%
80	94	94	0	0.0%
88	772	776	-4	-0.5%
92	2,277	2,282	-5	-0.2%
100	1,545	1,546	-1	-0.1%
104	779	781	-2	-0.3%
105	2,848	2,878	-30	-1.1%
120	1,222	1,215	7	0.6%
121	2,304	2,324	-20	-0.9%
125	190	190	0	0.0%
128	771	765	6	0.8%
169	493	491	2	0.4%
401	950	948	2	0.2%
403	57	57	0	0.0%
426	542	584	-42	-7.7%
BEE	1,445	3,156	-1,711	-118.4%
0L	125	128	-3	-2.4%
15L	9,196	8,558	638	6.9%
16L	776	767	9	1.2%
29L	587	596	-9	-1.5%
30L	150	169	-19	-12.7%
36L	523	524	-1	-0.2%
38L	30	30	0	0.0%
3L	2,606	2,661	-55	-2.1%
402L	589	590	-1	-0.2%
44L	239	240	-1	-0.4%
46L	475	488	-13	-2.7%
470L	85	86	-1	-1.2%
51L	33	32	1	3.0%
79L	723	744	-21	-2.9%
83L	2,634	2,728	-94	-3.6%
100X	265	265	0	-0.1%
108X	816	820	-4	-0.5%
116X	362	363	-1	-0.2%
119X	624	623	1	0.1%
11X	189	188	1	0.3%
120X	4,900	4,931	-31	-0.6%
122X	3	3	0	5.9%
12X	362	363	-1	-0.2%
145X	140	138	2	1.4%
169X	164	165	-1	-0.5%
17X	125	125	0	0.1%
185X	32	32	0	0.0%
18X	786	789	-3	-0.3%
23X	107	107	0	-0.4%
24X	497	515	-18	-3.7%
25X	400	406	-6	-1.6%
2X	870	870	0	0.0%

North I-25 EIS

Development of Combined Travel Model

Detailed Comparison of RTD Routes - Average Weekday Boardings

<i>RTD Route</i>	<i>DRCOG 2001 Cycle 12 Boardings</i>	<i>Combined 2001 Run #38 Boardings</i>	<i>Absolute Difference</i>	<i>Percentage Difference</i>
31X	611	612	-1	-0.2%
35X	100	101	-1	-0.6%
39X	137	136	1	0.4%
40X	575	576	-1	-0.2%
475X	27	27	0	1.3%
47X	699	708	-9	-1.3%
58X	142	143	-1	-0.4%
5X	70	70	0	0.0%
63X	186	192	-6	-3.2%
66X	143	148	-5	-3.6%
68X	355	355	0	0.0%
6X	125	125	0	0.0%
72X	1,036	1,038	-2	-0.2%
76X	512	512	0	0.0%
78X	250	258	-8	-3.1%
80X	90	90	0	-0.4%
82X	1,159	1,165	-6	-0.5%
85X	600	612	-12	-2.0%
86X	1,043	1,049	-6	-0.6%
87X	81	81	0	0.1%
89X	267	279	-12	-4.5%
8X	170	171	-1	-0.6%
90X	1,458	1,444	14	1.0%
91X	411	411	0	0.0%
93X	158	157	1	0.6%
B	3,548	3,553	-5	-0.1%
CC	26	26	0	0.0%
J	295	297	-2	-0.7%
M	1,090	1,122	-32	-2.9%
N	0	0	0	0.0%
Y	17	17	0	0.0%
C	377	377	0	0.0%
D	450	456	-6	-1.3%
E	298	298	0	0.0%
F	7	6	1	14.3%
G	128	129	-1	-0.8%
H	685	686	-1	-0.1%
L	664	676	-12	-1.8%
P	236	237	-1	-0.4%
R	313	324	-11	-3.5%
S	188	186	2	0.9%
T	104	103	1	0.8%
U	70	68	2	3.5%
W	80	80	0	-0.5%
Z	165	165	0	0.1%
LRT	30,427	30,111	316	1.0%
AA	453	404	49	10.8%
AB	280	349	-69	-24.6%
AF	1,618	1,769	-151	-9.3%
AS	1,722	1,916	-194	-11.3%

North I-25 EIS

Development of Combined Travel Model

Detailed Comparison of RTD Routes - Average Weekday Boardings

<i>RTD Route</i>	<i>DRCOG 2001 Cycle 12 Boardings</i>	<i>Combined 2001 Run #38 Boardings</i>	<i>Absolute Difference</i>	<i>Percentage Difference</i>
AT	2,035	1,831	204	10.0%
310	526	504	22	4.2%
311	523	523	0	0.0%
312	531	529	2	0.4%
313	123	115	8	6.3%
314	194	183	11	5.5%
201	78	80	-2	-2.9%
203	305	314	-9	-2.8%
204	1,063	1,068	-5	-0.4%
205	1,474	1,464	10	0.7%
206	400	400	0	0.0%
208	822	828	-6	-0.7%
209	578	578	0	-0.1%
210	252	263	-11	-4.2%
225	356	358	-2	-0.5%
227	1,768	1,792	-24	-1.4%
228	782	779	3	0.3%
Bound	2,379	2,378	1	0.0%
Hop	2,092	2,126	-34	-1.6%
Jump	2,886	2,863	23	0.8%
Leap	2,730	2,683	47	1.7%
Skip	4,822	4,810	12	0.3%
TOTAL	313,131	314,387	-1,256	-0.4%

DRCOG's 2001 Cycle 12 Model versus Combined N. I-25 Model #38

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North I-25 EIS

Development of Combined Travel Model

**Transit Trips by Region
Combined 2000/2001 Travel Model**

	HBW		HBO		NHB	TOTAL
	Walk Access	Drive Access	Walk Access	Drive Access	Walk Access	
NFR Internal-Internal Trips	2,925	13	3,991	38	837	7,804
COG Internal-Internal Trips	62,979	29,896	48,528	16,003	49,810	207,216
Bi-Regional Trips	NFR to DRCOG	93	-	19	-	112
	DRCOG to NFR	-	-	1	-	1
TOTAL	65,904	30,002	52,519	16,061	50,647	215,133

Combined Run #38

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North I-25 EIS

Development of Combined Travel Model

DETAILED MODE CHOICE COMPARISON

<i>Trip Purpose</i>	<i>Original 2001 DRCOG Model</i>		<i>Combined 2001 Model Run #38</i>	
	<i>Person Trips</i>	<i>Mode Share</i>	<i>Person Trips</i>	<i>Mode Share</i>
HBW Drive Alone	1,558,395	82%	1,823,769	82%
HBW Shared Ride 2	192,127	10%	226,343	10%
HBW Shared Ride 3+	61,131	3%	72,541	3%
HBW Transit - Drive	29,898	2%	30,003	1%
HBW Transit - Walk	62,965	3%	65,905	3%
TOTAL HBW	1,904,516	100%	2,218,561	100%
HNW Drive Alone	1,944,222	42%	2,337,019	42%
HNW Shared Ride 2	1,472,532	32%	1,768,044	32%
HNW Shared Ride 3+	1,111,507	24%	1,328,720	24%
Subtotal Auto	4,528,261	99%	5,433,783	99%
HNW Transit - Drive	16,085	0%	16,062	0%
HNW Transit - Walk	48,389	1%	52,520	1%
TOTAL HBNW	4,592,735	100%	5,502,365	100%
NHB Drive Alone	1,554,846	51%	1,817,616	51%
NHB Shared Ride 2	840,689	28%	982,766	28%
NHB Shared Ride 3+	596,372	20%	697,161	20%
Subtotal Auto	2,991,907	98%	3,497,543	99%
NHB Transit	49,567	2%	50,648	1%
TOTAL NHB	3,041,474	100%	3,548,191	100%

Transit Mode Choice Comparison

<i>Transit Trips by Purpose</i>	<i>Original 2001 DRCOG Model</i>	<i>1998 FC Model (mode choice)</i>	<i>1998 FC Model (mode split)</i>	<i>Combined Model Run #38</i>	<i>Absolute Difference</i>	<i>Relative Difference</i>
HBW	92,863	3,016	259	95,908	3,045	3%
HNW	64,474	652	466	68,582	4,108	6%
NHB	49,567	399	1,537	50,648	1,081	2%

Total 206,904 4,067 2,262 215,138 8,234 4%

6,329 sum of FC mode choice and model split results

<i>DRCOG Transit Boardings per Trip</i>	317,251	(3089 boardings on other non-revenue routes + 314,162)
<i>NFR Transit only Boardings per Trip</i>	9,106	
<i>Systemwide Boardings Boardings per Trip</i>	326,357	

Combined Run #38; DRCOG 2001 Cycle 12 Version 90

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North I-25 EIS

Development of Combined Travel Model

Transit Boarding Comparison by Service Area

2001 Average Weekday Boardings for RTD Routes

<i>RTD Service Type</i>	<i>Observed Fall/Spring 2001</i>	<i>Combined Model 2000/2001 Run #38</i>	<i>Absolute Difference</i>	<i>Relative Difference</i>	<i>Original</i>	<i>Combined Model Compared to DRCOG Model</i>	
					<i>2001 DRCOG Version 90</i>	<i>Difference</i>	<i>Percent</i>
Mall Shuttle	56,597	55,485	-1,112	-2%	58,031	-2,546	-4.39%
Denver Local	123,525	149,574	26,049	21%	148,326	1,248	0.84%
Denver Limited	17,531	18,111	580	3%	18,772	-661	-3.52%
Express Bus	11,862	23,271	11,409	96%	23,116	155	0.67%
Regional Bus	10,522	6,701	-3,821	-36%	6,669	32	0.48%
Rail	32,103	30,111	-1,992	-6%	30,427	-316	-1.04%
SkyRide	5,447	6,269	822	15%	6,108	161	2.63%
Longmont Local Bus	911	1,855	944	104%	1,897	-42	-2.24%
Boulder Local Bus	21,394	22,785	1,391	7%	22,788	-3	-0.01%
Total	279,892	314,162	34,270	12%	316,134	-1,972	-0.62%

2001 Average Weekday Boardings for NFR Transit Systems

<i>NFR System</i>	<i>Observed 2001</i>	<i>Combined Model</i>	<i>Absolute Difference</i>	<i>Relative Difference</i>
Transfort (Ft. Collins)	5,542	5,483	-59	-1%
Colt (Loveland)	275	725	450	62%
The Bus (Greeley)	1,426	2,402	976	41%
FoxTrot	290	496	206	42%
Total	7,533	9,106	1,573	17%

Summary

<i>System</i>	<i>Observed 2001</i>	<i>Combined 2000/2001 Model</i>	<i>Absolute Difference</i>	<i>Relative Difference</i>
DRCOG plus NFR	287,425	323,268	35,843	11%

Combined Run #38

DRCOG Compass Version 90 2001 Base Calibration Cycle 12

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North I-25 EIS

Development of Combined Travel Model

Comparison of I-25 Volumes

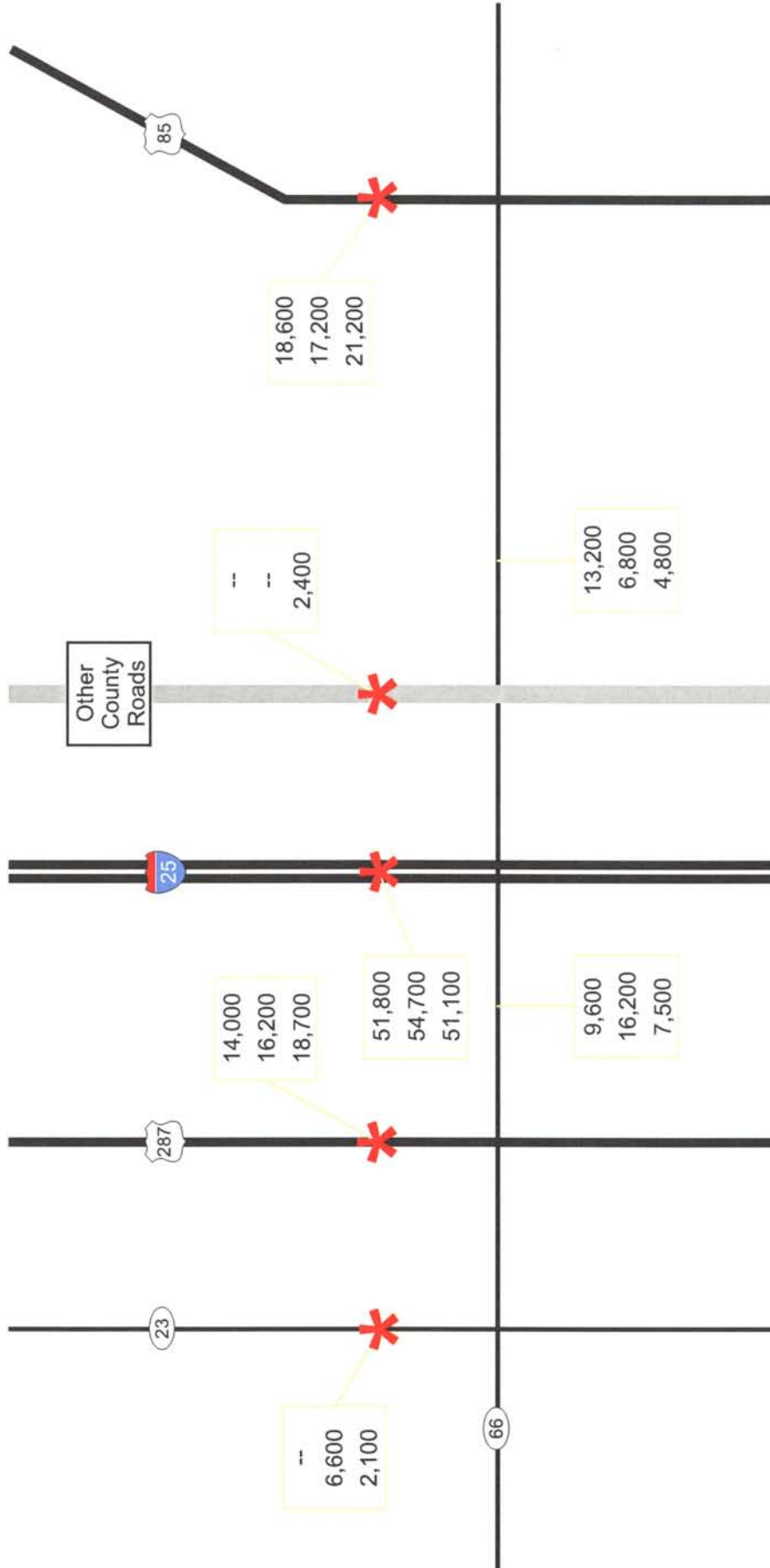
Roadway Location		Traffic Counts	Model Volumes and Error					
Highway Segment		NFR Link Counts	NFRMPO 2000 Model			Combined Model 2000/2001		
south segment end	north segment end	Year 2000	Volume	Error	% Error	Volume	Error	% Error
north of SH-1	state line	14,000	14,964	964	6.9%	15,463	1,463	10.5%
SH-1 (Wellington)	north of SH-1	16,000	16,134	134	0.8%	16,331	331	2.1%
CR-50	SH-1 (Wellington)	18,468	23,399	4,931	26.7%	20,119	1,651	8.9%
SH-14 (Ft Collins)	CR-50		27,661			23,069		
Prospect	SH-14 (Ft Collins)	42,722	37,807	(4,915)	-11.5%	37,032	(5,690)	-13.3%
Harmony	Prospect		47,729			45,405		
392 (Windsor)	Harmony	54,500	62,996	8,496	15.6%	65,692	11,192	20.5%
Crossroads	392 (Windsor)		62,494			60,047		
US-34 (Loveland/Greeley)	Crossroads		68,555			68,248		
SH-402	US-34 (Loveland/Greeley)	51,268	68,176	16,908	33.0%	67,771	16,503	32.2%
SH-60 (Johnstown)	CR-16	52,000	64,756	12,756	24.5%	62,832	10,832	20.8%
SH-56 (Berthoud)	SH-60 (Johnstown)	54,000	61,380	7,380	13.7%	58,629	4,629	8.6%
CR-34 (Mead)	SH-56 (Berthoud)	55,000	52,310	(2,690)	-4.9%	55,553	553	1.0%
SH-66	CR-34 (Mead)		51,805			51,051		
south of SH-66	SH-66		56,054			50,776		
SUM (Links with Year 2000 Counts only)		357,958	401,922	43,964	12.3%	399,422	41,464	11.6%

Combined Run #38; NFRMPO Original 2000 Model (T-CAD D-Drive\NFR_NI25_Runs\2000 NFR Test Run_102104)

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Daily Volumes at MPO Border



Legend

Daily Volume	NFR Original 2000 Model	DRCOG Original 2001 Model	Combined Model
XX			
XX			
XX			

Screenline Sum	NFR Original 2000 Model	DRCOG Original 2001 Model	Combined Model
*	84,400	94,700	95,500

Edits to the 2001 & 2030 Base Combined Model

Combined Network Overlap Area

- Added centroid connectors to the following centroids to improve connectivity to the roadway network: 93, 95, 2577, 2593, 2620, 3359, 3360, 3381, 3382, 3411.
- Centroid 2577 was shifted west of US 85 to better replicate zone location.
- CR23 extended (approx. 3 links added) between NFR and DRCOG models.
- CR4 extended (1 link) to west to connect to CR23 extension.

US 287/I-25/US 85 Allocation Issue

Traffic allocation between these three major facilities was off, with I-25 generally too low and 287 and 85 too high (especially at the overlap area of the model). To rectify this problem, the following adjustments were made to the model:

- US 285 facility type was lowered at several locations from Denver to north of Greeley to replicate the lower speeds found in the small towns along the roadway. This includes the following locations and links: Fort Lupton – 11392 & 12528 (FT 2 to 4), Platteville – 30150 (FT 2 to 4), Gilcrest – 30189 (FT 2 to 4), La Salle – 30227 & 30217 & 30231 (FT 2 to 4), Evans – 30230 & 30129 (FT 2 to 3), Eaton – 31296 & 31299 (FT 2 to 4), Ault – 30667 (FT 2 to 4), Pierce – 31324 (FT 2 to 4).
- US 287 facility type was lowered in the same manner as US 285 at four locations: old Ft. Collins – 29185 & 29174 & 29181 & 29073 & 29147 (FT 3 to 4), downtown Loveland – 28217 & 28218 & 28192 & 28193 (FT 3 to 4), Berthoud – 26070 & 26060 & 26065 & 26014 & 26031 & 26032 (FT 3 to 4) and Berthoud Year 2030 – 31429 (FT 3 to 4), Longmont – 12093 (FT 3 to 4).
- The entire stretch of Old US 287 through Laporte was lowered from facility type 3 to 4.

I-25 Volume Issue Between Mulberry & Prospect

The model shows extremely low volumes on I-25 between Mulberry and Prospect. It was determined that much of the traffic was assigned to Prospect & Riverside Ave. when counts show more traffic taking Mulberry. The following edits were made to rectify this:

- Mulberry just west of I-25 was increased from FT 3 to 2 for 2 links (28093 & 27974 in 2000 and 29512 & 29392 in 2030).
- Riverside Ave. between Mulberry and Prospect was dropped from FT 3 to 4.
- Prospect east of Riverside Ave. to I-25 was dropped from FT 3 to 4.
- One link of Prospect just east of County Rd 11 increased from 2 to 4 lanes.
- County Rd 11 between Prospect and Drake dropped from FT 3 to 4 (only 2 lanes). This stretch is FT 3 and 4 lanes in the 2030 model.

North I-25 EIS

Development of Combined Travel Model

Model Validation Statistics

1

NFRMPO Original 2000 Model

NFRMPO Model Volumes Compared to Observed Traffic Counts

Facility Type	Code	Facility Type	Number of Observations	Daily Volume		Total Difference		Average Absolute Difference	PRMSE
				Observed Count	Model Estimate	Absolute	Relative		
Freeway	1		18	357,958	401,933	43,975	12.3%	3,288	21.7%
Expressway	2		53	837,351	839,492	2,141	0.3%	3,160	25.5%
Major Arterial	3		247	4,190,650	4,189,617	(1,033)	0.0%	3,069	23.9%
Minor Arterial	4		227	1,423,088	1,389,869	(33,219)	-2.3%	1,730	39.7%
All			545	6,809,047	6,820,911	11,864	0.2%	2,527	27.9%

Screenline	Code	Name	Number of Observations	Daily Volume		Total Difference		Average Absolute Difference	PRMSE
				Observed Count	Model Estimate	Absolute	Relative		
	1		8	26,926	25,481	(1,445)	-5.4%	397	19.8%
	2		12	50,736	46,085	(4,651)	-9.2%	1,528	50.9%
	3		12	86,523	81,156	(5,367)	-6.2%	2,023	39.9%
	4		9	120,984	127,212	6,228	5.1%	2,451	24.0%
	5		8	59,315	59,616	301	0.5%	663	12.2%
	6		12	81,206	91,403	10,197	12.6%	1,768	43.2%
	7		12	72,289	69,746	(2,543)	-3.5%	1,045	27.2%
	8		10	29,300	29,881	581	2.0%	901	58.1%
	9		11	62,101	53,763	(8,338)	-13.4%	1,984	58.4%
	10		9	76,585	88,259	11,674	15.2%	1,740	29.3%
	11		10	91,092	90,780	(312)	-0.3%	1,087	19.1%

J:_Transportation\071609.400\model\development\validation\010305 Link Data [volumecomp_NFROriginal.xls]Counts

North I-25 EIS
Development of Combined Travel Model

Model Validation Statistics

2

DRCOG Original 2001 Model

DRCOG Model Volumes Compared to Observed Traffic Counts

Code	Facility Type	Number of Observations	Daily Volume		Total Difference		Average Absolute Difference	PRMSE
			Observed Count	Model Estimate	Absolute	Relative		
1	Freeway	277	13,720,459	14,842,753	1,122,294	8.2%	9,942	26.5%
2	Expressway	38	1,453,636	1,630,798	177,162	12.2%	10,358	35.7%
3	Major Arterial	572	18,226,226	17,407,343	(818,883)	-4.5%	8,118	32.8%
4	Minor Arterial	250	3,624,616	2,662,669	(961,947)	-26.5%	6,248	73.3%
	All	1137	37,024,937	36,543,564	(481,373)	-1.3%	8,226	34.7%

DRCOG 2001 Base Cycle 12 Compass Version 90

J:_Transportation\071609.400\model\development\validation\010305 Link Data\volumecomp_DRCOGOriginal.xls\DRCOG Orig vs Counts

DRCOG Orig vs Counts

1/18/2005

North I-25 EIS

Development of Combined Travel Model

3

Model Validation Statistics

Combined 2001 Model

Combined Model Volumes Compared to Original NFR MPO Model Volumes

Facility Type Code	Facility Type	Number of Links	Daily Volume		Total Difference		Average Absolute Difference	PRMSE
			NFR Model	Combined Model	Absolute	Relative		
1	Freeway	100	2,196,237	2,146,819	(49,418)	-2.3%	963	5.5%
2	Expressway	122	2,063,013	2,287,405	224,392	10.9%	2,831	21.3%
3	Major Arterial	613	10,676,182	10,908,045	231,863	2.2%	2,692	19.9%
4	Minor Arterial	629	3,735,485	3,510,850	(224,635)	-6.0%	1,696	44.7%
	All	1464	18,603,015	18,788,121	185,106	1.0%	2,158	23.9%

Screenline Code	Screenline Name	Number of Links	Daily Volume		Total Difference		Average Absolute Difference	PRMSE
			NFR Model	Combined Model	Absolute	Relative		
1		8	25,481	26,052	571	2.2%	87	3.9%
2		12	46,024	44,185	(1,839)	-4.0%	829	28.6%
3		12	80,131	80,865	734	0.9%	1,094	24.1%
4		9	127,519	130,235	2,716	2.1%	1,029	10.8%
5		8	59,707	57,336	(2,371)	-4.0%	918	15.5%
6		12	91,420	98,419	6,999	7.7%	985	20.5%
7		12	69,129	60,546	(8,583)	-12.4%	892	28.0%
8		10	30,549	30,310	(239)	-0.8%	381	22.6%
9		11	54,682	53,260	(1,422)	-2.6%	677	22.6%
10		9	88,207	88,508	301	0.3%	1,128	21.0%
11		10	90,783	98,770	7,987	8.8%	1,405	22.3%

NFR 2000 Original and Combined Run #38

J:_Transportation\071609.400\model\model development\validation\010305 Link Data\VolumeComp_Combined.xls\vs DRCOG MPO Vols

vs NFR MPO Vols

1/18/2005

North I-25 EIS

Development of Combined Travel Model

4

Model Validation Statistics

Combined 2001 Model

Combined Model Volumes Compared to Original DRCOG MPO Model Volumes

Code	Facility Type	Number of Links	Daily Volume		Total Difference		Average Absolute Difference	PRMSE
			Original Model	Combined Model	Absolute	Relative		
1	Freeway	913	38,859,623	38,634,620	(225,002)	-0.6%	303	1.8%
2	Expressway	263	7,595,903	7,610,675	14,772	0.2%	431	3.5%
3	Major Arterial	2884	86,217,844	86,125,862	(91,982)	-0.1%	209	1.9%
4	Minor Arterial	3018	30,712,065	30,646,554	(65,510)	-0.2%	107	2.7%
	All	7,104	163,469,506	163,101,613	(367,893)	-0.2%	185	2.3%

DRCOG 2001 Base Model Cycle 12 Compass Version 90 and Combined Model Run #38

J:_Transportation\071609.400\model\model development\validation\010305_Link Data\volumecomp_Combined.xls]vs DRCOG MPO VoIs

vs DRCOG MPO VoIs

1/18/2005

Model Validation Statistics

Combined 2001 Model

Combined Model Volumes Compared to Observed Traffic counts in NFR Area

Facility Type Code	Facility Type	Number of Observations	Daily Volume		Total Difference		Average Absolute Difference	PRMSE
			Observed Count	Model Estimate	Absolute	Relative		
1	Freeway	18	357,958	399,426	41,468	11.6%	2,936	20.8%
2	Expressway	52	821,907	953,995	132,088	16.1%	4,666	37.7%
3	Major Arterial	246	4,182,626	4,306,684	124,058	3.0%	3,613	28.4%
4	Minor Arterial	232	1,440,772	1,227,979	(212,793)	-14.8%	2,099	45.8%
	All	544	6,802,299	6,880,887	78,588	1.2%	3,061	33.8%

Screenline Code	Screenline Name	Number of Observations	Daily Volume		Total Difference		Average Absolute Difference	PRMSE
			Observed Count	Model Estimate	Absolute	Relative		
1		8	26,926	26,052	(874)	-3.2%	371	17.0%
2		12	50,736	44,185	(6,551)	-12.9%	902	33.1%
3		12	86,523	80,865	(5,658)	-6.5%	1,775	38.5%
4		9	120,984	130,236	9,251	7.6%	3,342	32.9%
5		8	59,315	57,336	(1,979)	-3.3%	1,468	25.3%
6		12	81,206	98,419	17,213	21.2%	2,145	46.4%
7		12	72,289	60,546	(11,743)	-16.2%	1,681	46.3%
8		10	29,300	30,310	1,010	3.4%	1,226	68.0%
9		11	62,101	53,260	(8,841)	-14.2%	1,697	45.8%
10		9	76,585	88,508	11,923	15.6%	1,775	40.3%
11		10	91,092	98,770	7,678	8.4%	1,685	33.7%

Combined Run #38

J:_Transportation\071609.400\model\model development\validation\010305 Link Data\volumecomp_Combined.xls\vs DRCOG MPO Vols

vs NFR Counts

North I-25 EIS

Development of Combined Travel Model

Model Validation Statistics

6

Combined 2001 Model

Combined Model Volumes Compared to Observed Traffic Counts in DRCOG MPO Area

Facility Type Code	Facility Type	Number of Observations	Daily Volume		Total Difference		Average Absolute Difference	PRMSE
			Observed Count	Model Estimate	Absolute	Relative		
1	Freeway	277	13,720,459	14,784,645	1,064,186	7.8%	9,898	26.5%
2	Expressway	38	1,453,636	1,637,108	183,472	12.6%	10,502	35.8%
3	Major Arterial	572	18,226,226	17,394,170	(832,056)	-4.6%	8,178	32.9%
4	Minor Arterial	250	3,624,616	2,651,852	(972,764)	-26.8%	6,239	73.2%
	All	1137	37,024,937	36,467,775	(557,162)	-1.5%	8,248	34.7%

Combined Run #38

J:_Transportation\071609.400\model\model development\validation\010305 Link Data\[\volumecomp_Combined.xls]vs DRCOG MPO Vols

vs DRCOG Counts

1/18/2005

North I-25 EIS
Development of Combined Travel Model

Model Validation Statistics

7

Combined 2001 Model

Combined Model Volumes Compared to Observed Traffic Counts in Both MPO areas

Facility Code	Facility Type	Number of Observations	Daily Volume		Total Difference		Average Absolute Difference		PRMSE
			Observed Count	Model Estimate	Absolute	Relative	Absolute	Relative	
1	Freeway	295	14,078,417	15,184,071	1,105,654	7.9%	9,473	27.9%	26.8%
2	Expressway	90	2,275,543	2,591,103	315,560	13.9%	7,130	29.9%	39.2%
3	Major Arterial	818	22,408,852	21,700,854	(707,998)	-3.2%	6,805	32.0%	33.4%
4	Minor Arterial	482	5,065,388	3,879,831	(1,185,557)	-23.4%	4,246	56.6%	75.0%
	All	1685	43,828,200	43,355,859	(472,341)	-1.1%	6,558	38.2%	36.9%

Combined Run #38

J:_Transportation\071609.400\model\development\validation\Trip Totals Verification.xls\SUMMARY

vs all Counts

1/18/2005

Comparison of Daily VMT & VHT

	Original NFR Model	Original DRCOG Model	Sum of Original DRCOG + NFR Models	Combined Model
Facility Type	Daily VMT	Daily VMT	Daily VMT	Daily VMT
1	2,525,435	23,342,838	25,868,273	24,905,785
2	1,157,681	3,477,618	4,635,299	4,532,940
3	2,906,157	19,508,011	22,414,168	22,216,645
4	1,418,352	7,125,530	8,543,882	8,535,217
Other	1,650,790	8,911,433	10,562,223	10,331,571
TOTAL	9,658,415	62,365,430	72,023,845	70,522,158

Facility Type	Daily VHT	Daily VHT	Daily VHT	Daily VHT
1	36,133	411,295	447,428	434,216
2	21,033	77,203	98,236	98,705
3	81,364	600,332	681,696	691,756
4	37,784	238,171	275,955	286,545
Other	71,301	431,852	503,153	513,666
TOTAL	247,615	1,758,853	2,006,468	2,024,888

Facility Type	Daily Avg. Speed	Daily Avg. Speed	Daily Avg. Speed	Daily Avg. Speed
1	69.9	56.8	57.8	57.4
2	55.0	45.0	47.2	45.9
3	35.7	32.5	32.9	32.1
4	37.5	29.9	31.0	29.8
Other	23.2	20.6	21.0	20.1
TOTAL	39.0	35.5	35.9	34.8

NFR Original 2000; DRCOG Original 2001 Cycle 12; Combined Run #38

Sources: DRCOG -- allday.bin NFR -- flow.bin COMBINED -- allday.bin

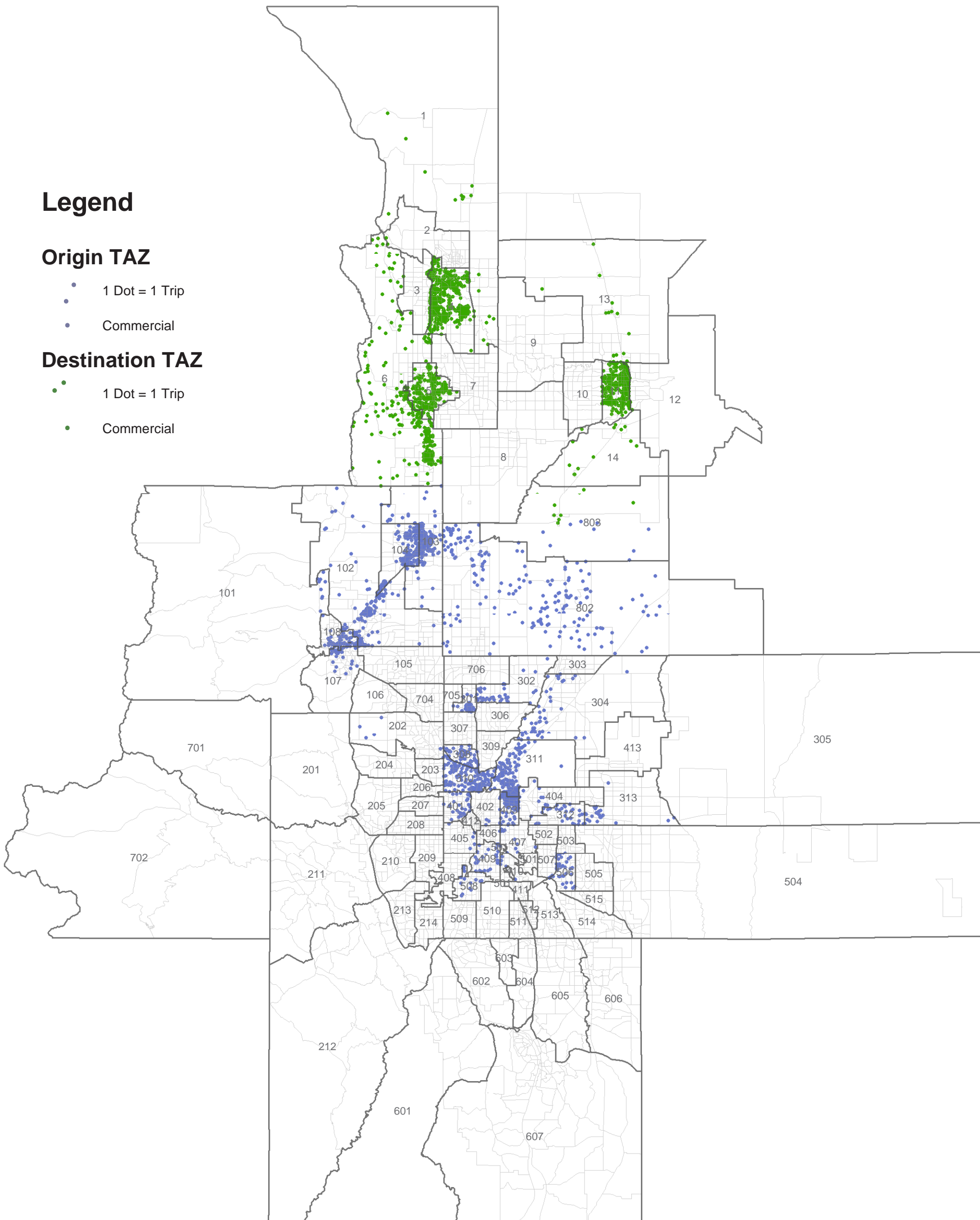
Legend

Origin TAZ

- 1 Dot = 1 Trip
- Commercial

Destination TAZ

- 1 Dot = 1 Trip
- Commercial



Trip Purpose: Commercial
Source: Bi-Regional Trip Table
Origin: DRCOG
Destination: NFR

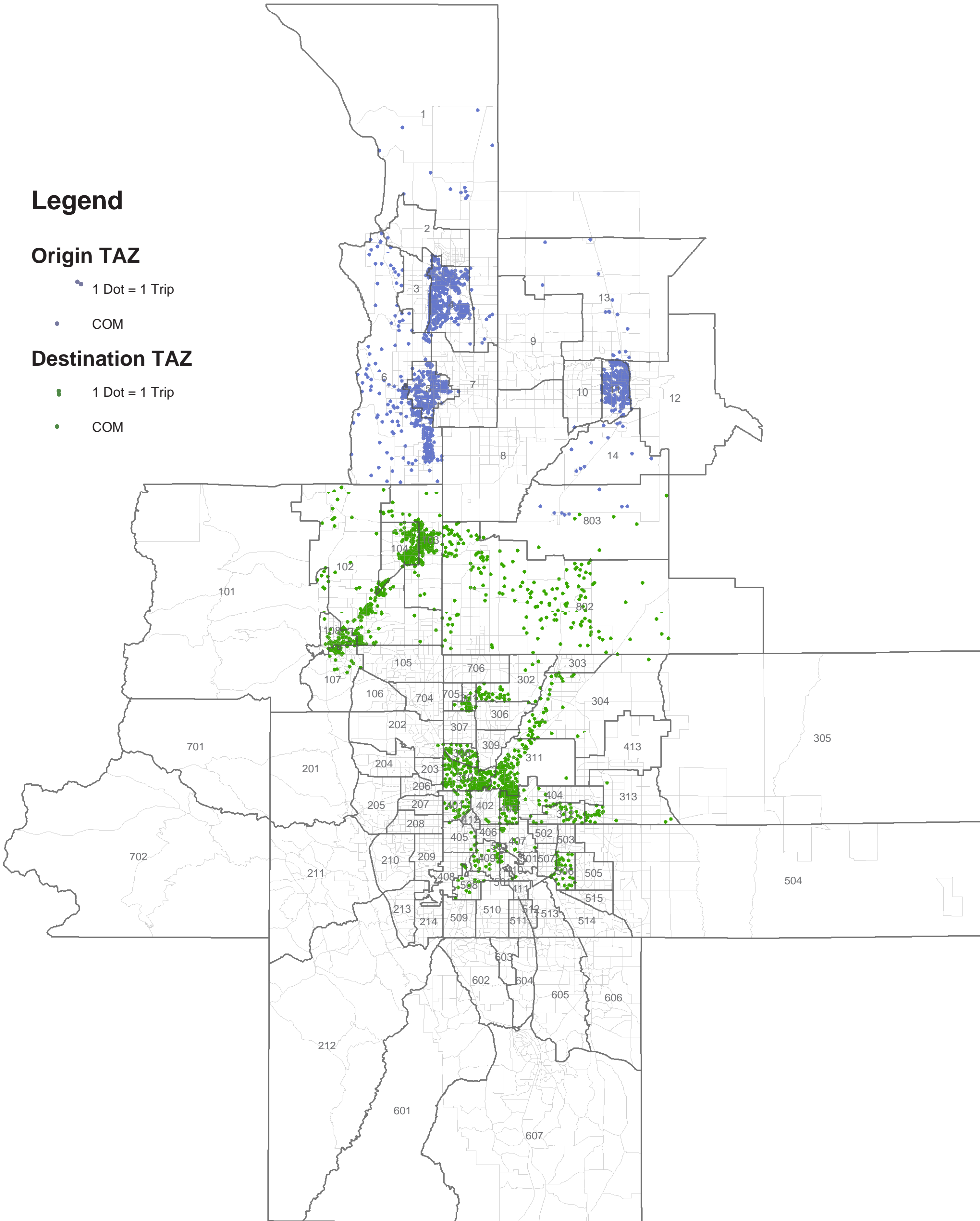
Legend

Origin TAZ

- 1 Dot = 1 Trip
- COM

Destination TAZ

- 1 Dot = 1 Trip
- COM



Trip Purpose: Commercial
Source: Bi-Regional Trip Table
Origin: NFR
Destination: DRCOG

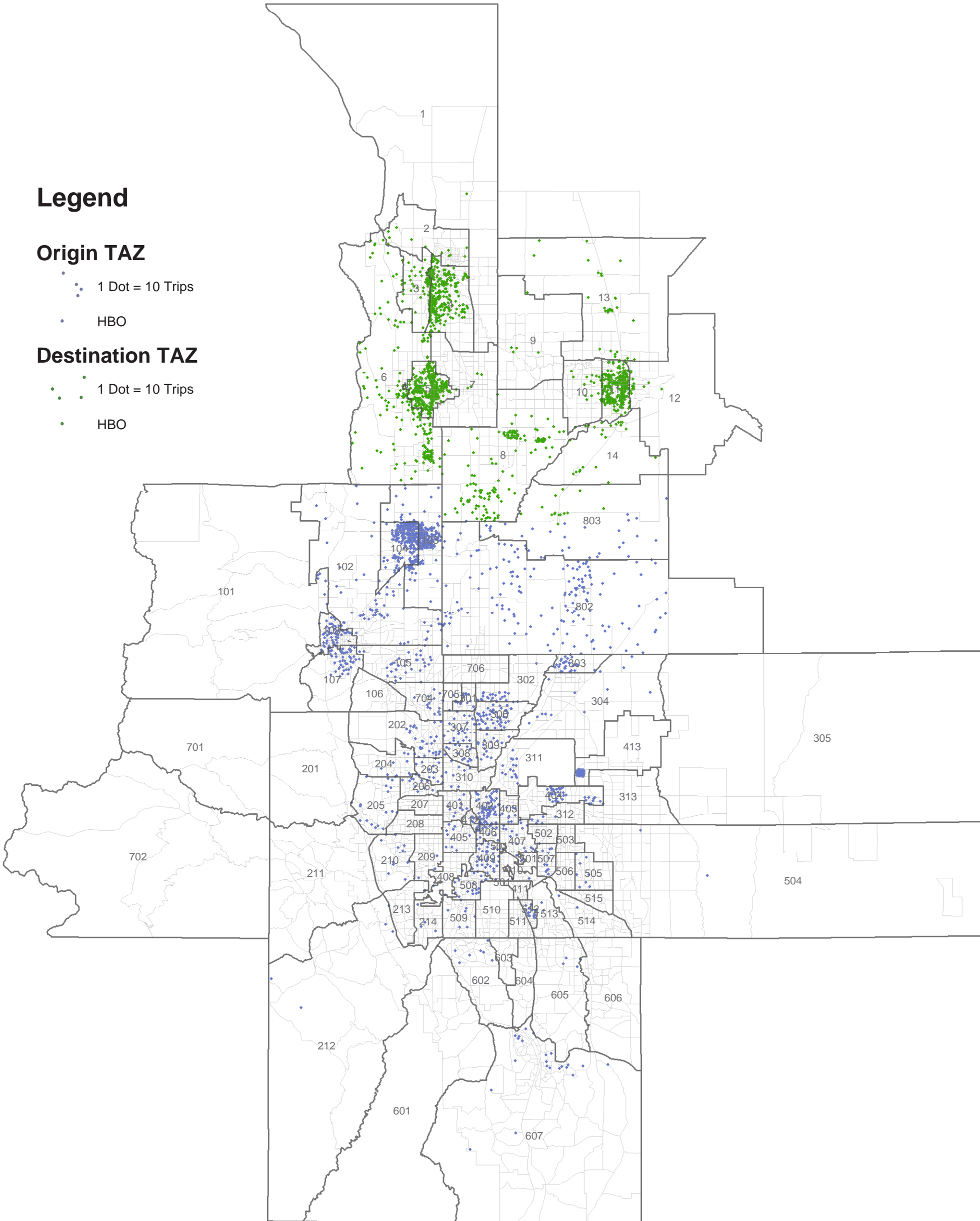
Legend

Origin TAZ

- 1 Dot = 10 Trips
- HBO

Destination TAZ

- 1 Dot = 10 Trips
- HBO



Trip Purpose: HBO
Source: Bi-Regional Trip Table
Origin: DRCOG
Destination: NFR

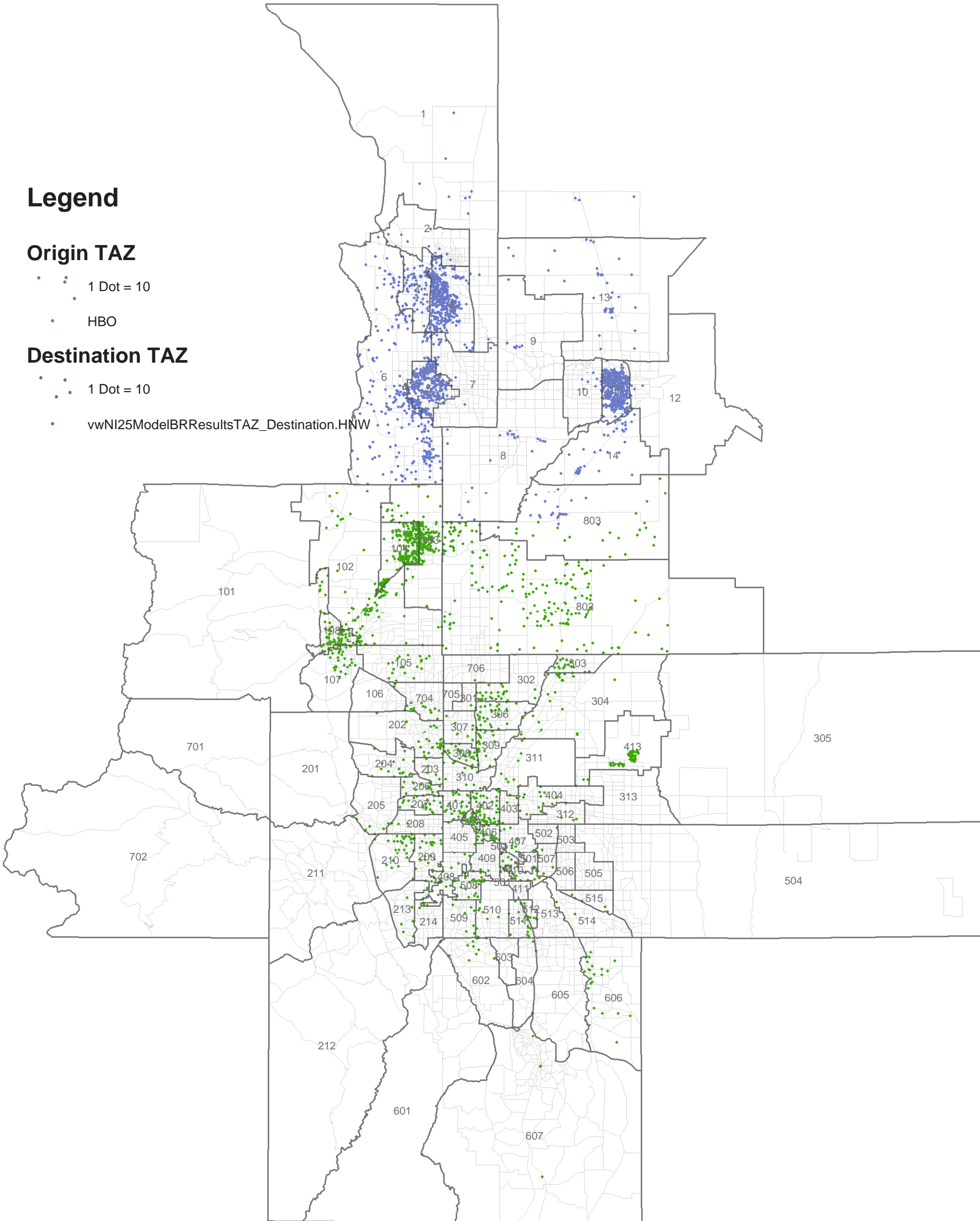
Legend

Origin TAZ

- 1 Dot = 10
- HBO

Destination TAZ

- 1 Dot = 10
- vwNI25ModelBRResultsTAZ_Destination.HNW



Trip Purpose: HBO

Source: Bi-Regional Trip Table

Origin: NFR

Destination: DRCOG

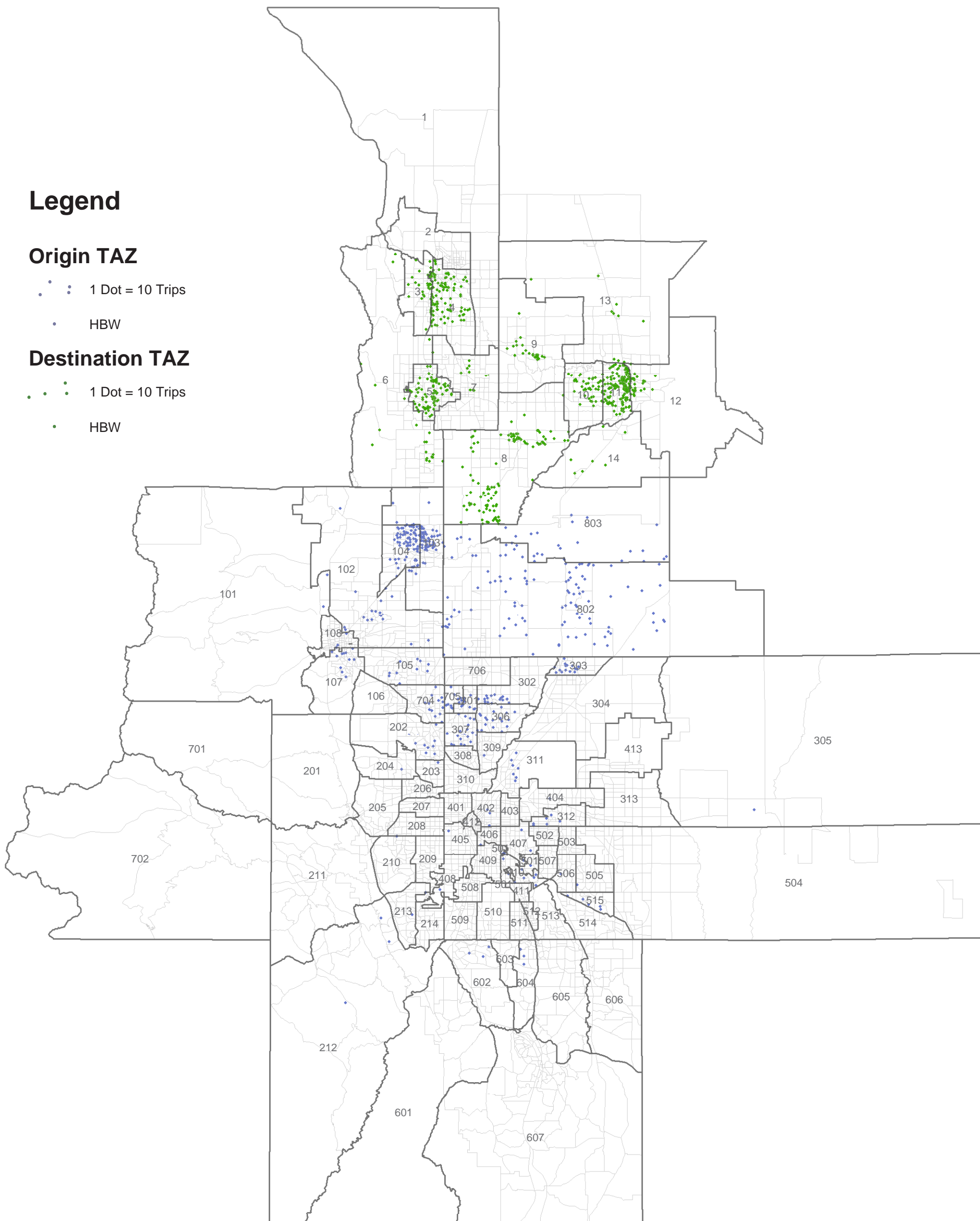
Legend

Origin TAZ

- 1 Dot = 10 Trips
- HBW

Destination TAZ

- 1 Dot = 10 Trips
- HBW



Trip Purpose: HBW
Source: Bi-Regional Trip Table
Origin: DRCOG
Destination: NFR

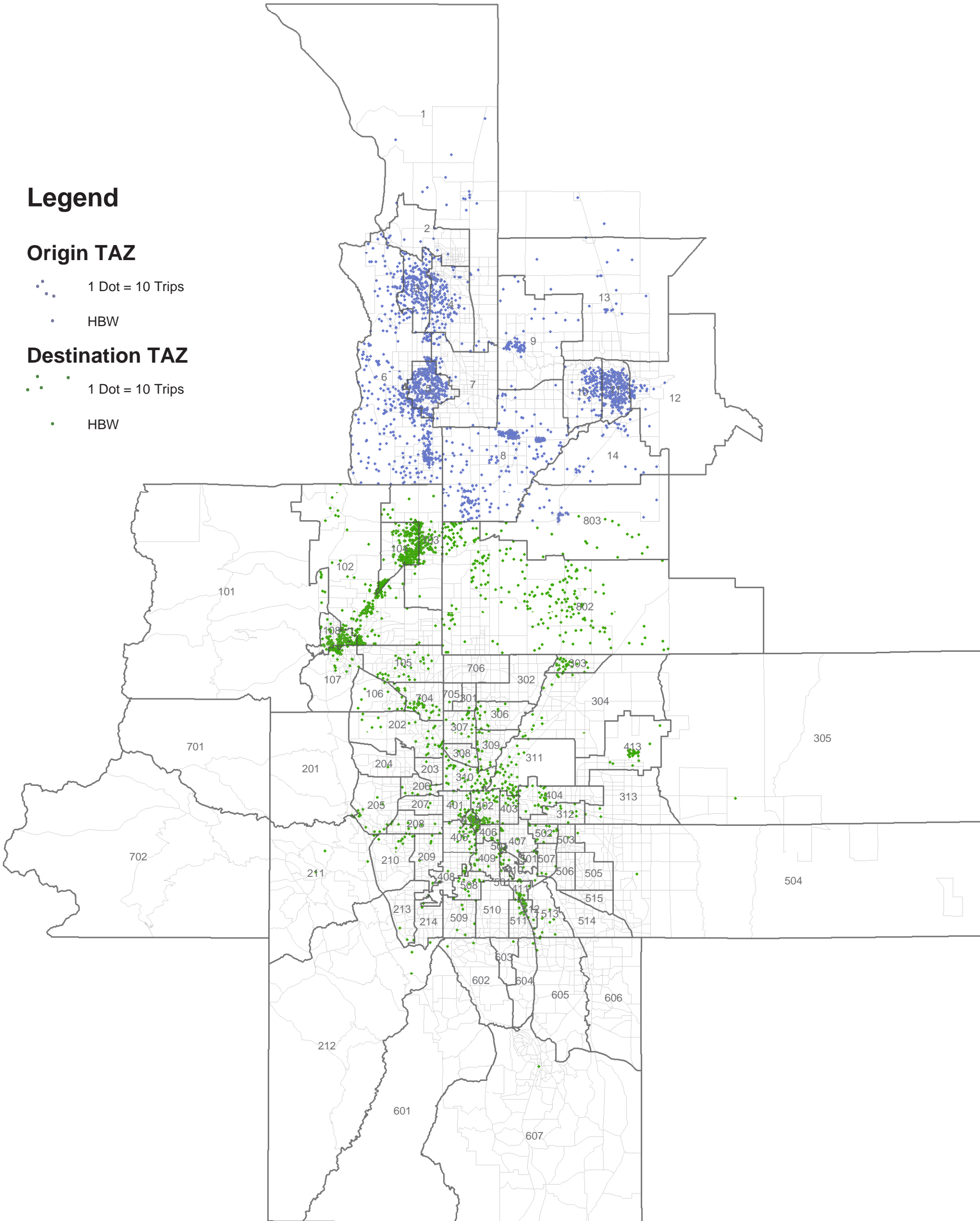
Legend

Origin TAZ

- 1 Dot = 10 Trips
- HBW

Destination TAZ

- 1 Dot = 10 Trips
- HBW



Trip Purpose: HBW

Source: Bi-Regional Trip Table

Origin: NFR

Destination: DRCOG

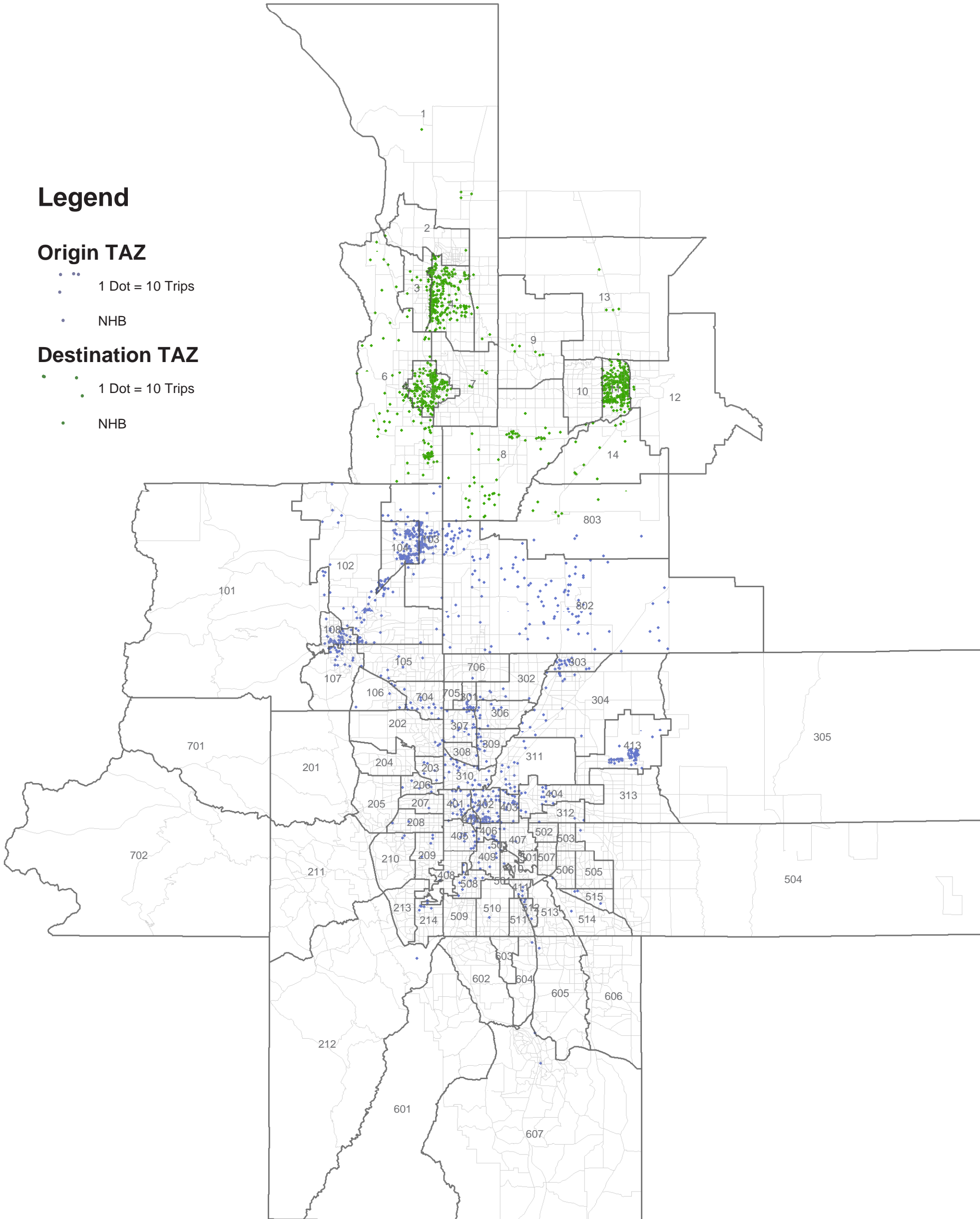
Legend

Origin TAZ

- 1 Dot = 10 Trips
- NHB

Destination TAZ

- 1 Dot = 10 Trips
- NHB



Trip Purpose: NHB
Source: Bi-Regional Trip Table
Origin: DRCOG
Destination: NFR

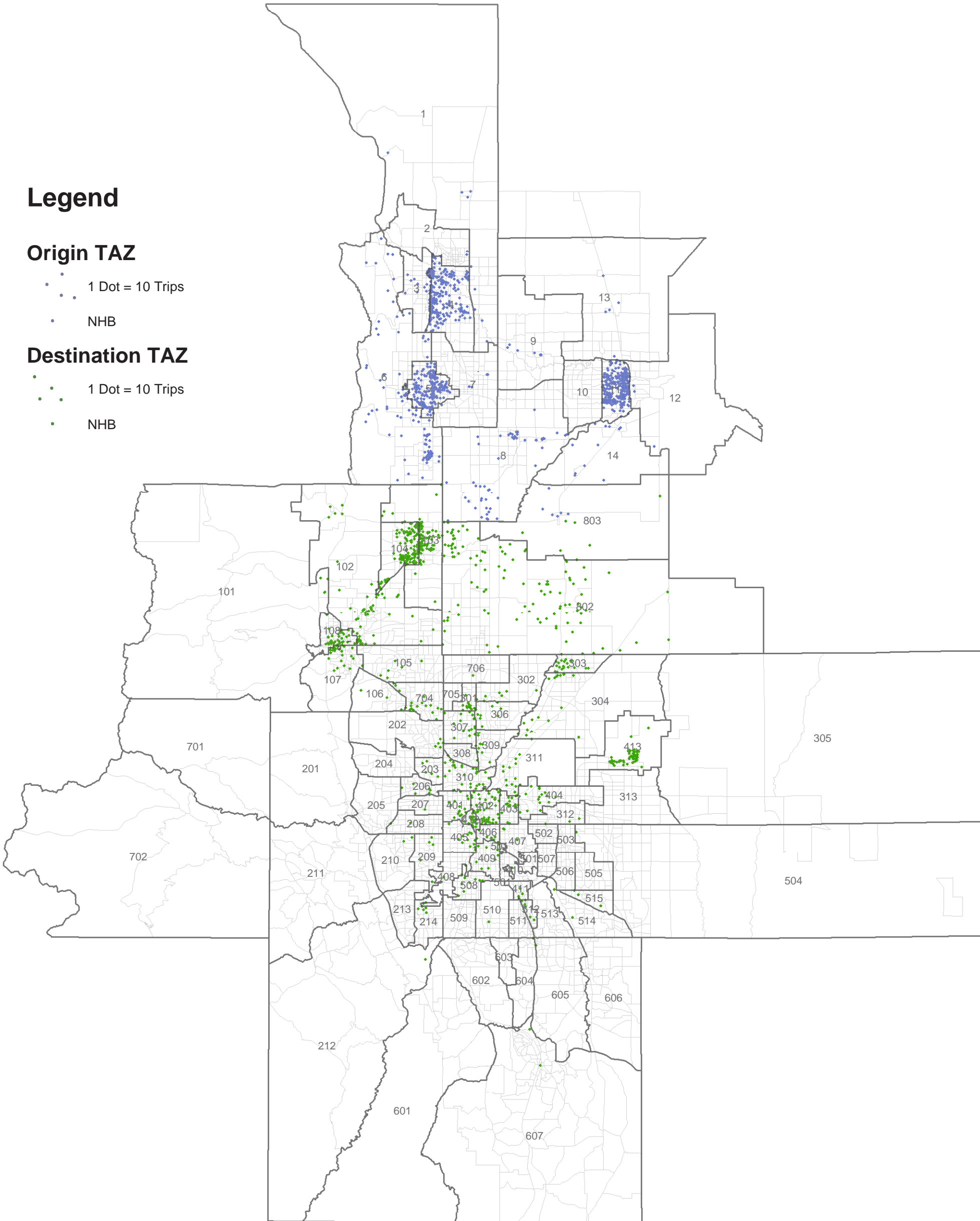
Legend

Origin TAZ

- 1 Dot = 10 Trips
- NHB

Destination TAZ

- 1 Dot = 10 Trips
- NHB



Trip Purpose: NHB

Source: Bi-Regional Trip Table

Origin: NFR

Destination: DRCOG

Legend

Origin TAZ

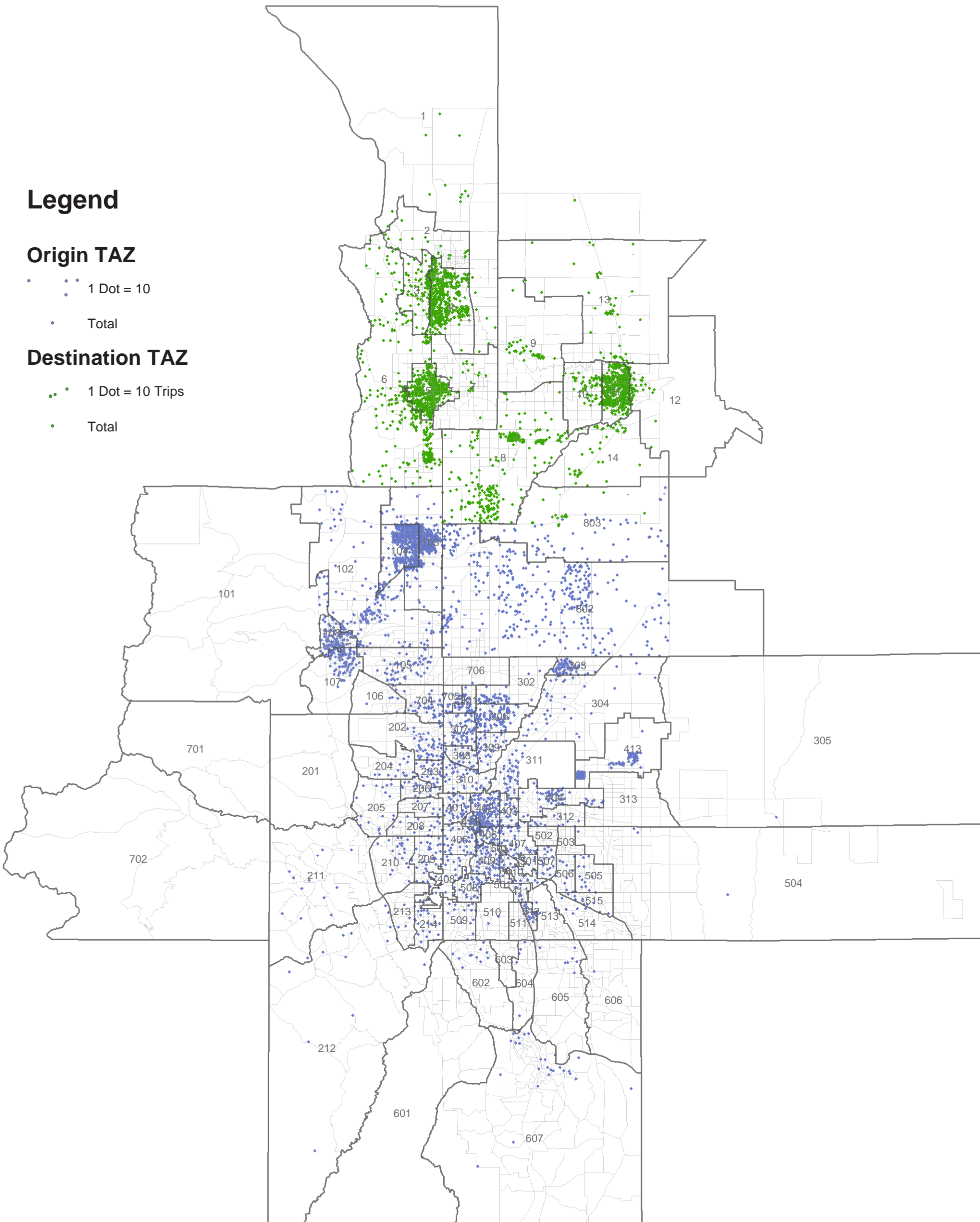
• 1 Dot = 10

• Total

Destination TAZ

• 1 Dot = 10 Trips

• Total



Trip Purpose: HBW + HBO + NHB

Source: Bi-Regional Trip Table

Origin: DRCOG

Destination: NFR

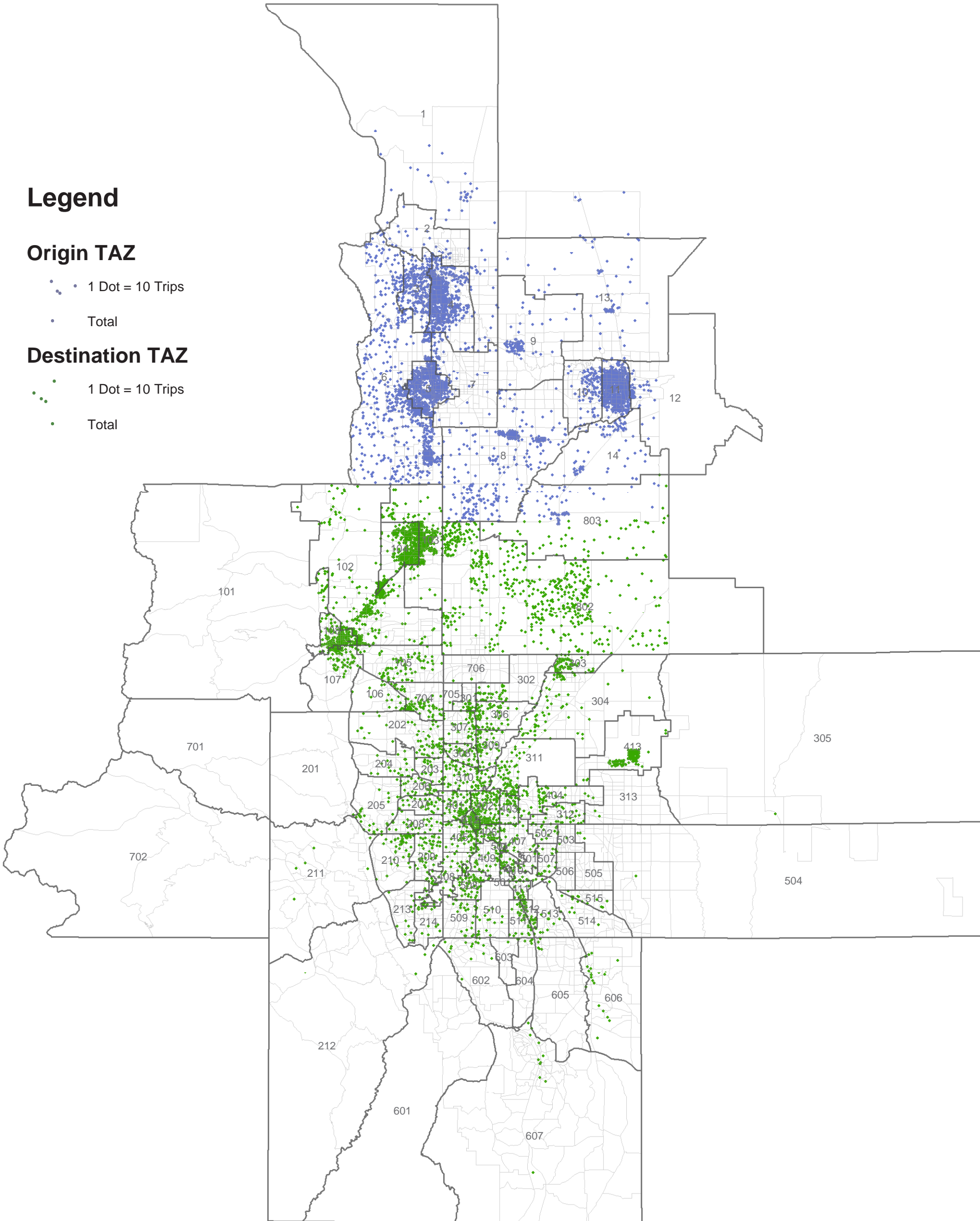
Legend

Origin TAZ

- 1 Dot = 10 Trips
- Total

Destination TAZ

- 1 Dot = 10 Trips
- Total



Trip Purpose: HBW + HBO + NHB

Source: Bi-Regional Trip Table

Origin: NFR

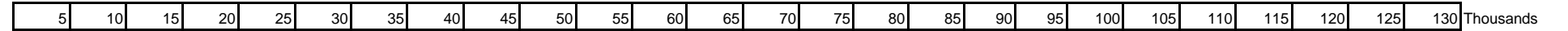
Destination: DRCOG

DRCOG	
Skim	Distance
Peak	174,857,421
Off-Peak	170,319,843
Differential	4,537,578
Peak % Increase	2.66%

NFR	
Skim	Distance
Congested	11,332,361
Frre Flow	11,324,316
Differential	8,045
Congested % Increase	0.07%

j:\trans\071609\model\model development\matrices\Hwy Dist Skim Comparison.xls

Combined Travel Model
Summary of Border Trips



TOTAL

MPO Models	NFR 2000	Vehicle Trips	Highways	89,000	I-25 56k			US-287 14k	US-85 15k	CR
		External Trip Types	89,000	E-E 24k	I-E 32k		4k	I-E 10k	5k	I-E 10k
	DRCOG 2001	Vehicle Trips	Highways	95,000	I-25 55k			US-287 16k	US-85 18k	CR
		External Trip Types	95,000	E-E 8k	I-E 47k		I-E 16k	2k	I-E 16k	I-E 7k

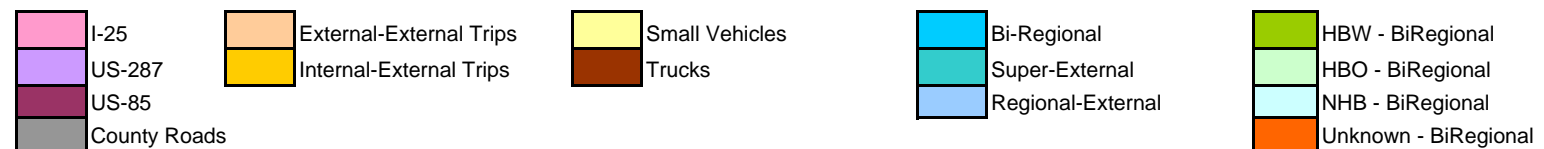
1998 Roadside Survey	Vehicle Trips	Highways	I-25, US-287, US-85									
		Total Vehicles	81,000	Small Vehicles 71k					Trucks 10k			
		Endpoint Types	81,000	Bi-regional Vehicles 54k				2k	R-E 15k	3k	2k	5k
		BiRegional Trip Purposes	81,000	HBW 18k	HBO 20k	NHB 13k	3k	2k	R-E 15k	3k	2k	5k
	Person & Vehicle Trips	Highways	I-25, US-287, US-85									
		Endpoint Types	100,000	Bi-regional Person Trips 73k					2k	R-E 15k	3k	2k
BiRegional Trip Purposes		100,000	HBW 21k	HBO 29k	NHB 18k	5k	2k	R-E 15k	3k	2k	5k	

Survey Processing	Person & Vehicle Trips	Distribution of Unknown	100,000	HBW 23k	HBO 31k	NHB 19k	2k	R-E 15k	Trucks 10k
		Inclusion of County Road	111,000	HBW 26k	HBO 36k	NHB 22k	2k	R-E 15k	Trucks 10k
		Factoring to 2001	116,000	HBW 28k	HBO 38k	NHB 23k	2k	R-E 15k	Trucks 10k

Trip Table	Person & Vehicle Trips	Bi Regional	88,000	HBW 27k		HBO 36k		NHB 22k	3k		
		BiRegional & External	118,000	L 4k	M 16k	H 7k	HBO 36k		NHB 22k	3k	3k
	Vehicle Trips	Estimated Avg Auto Occup	97,000	HBW 23k		HBO 25k		NHB 16k	3k	3k	Regional-External 27k

Not to Scale.
Numbers are rounded.

Italic Text: Vehicle Trips
White Text: Trucks



TRIP TABLE VERIFICATION METHODOLOGY & RESULTS YEAR 2001 AND 2030 COMBINED MODELS

The methodology for verifying the combined model trip table matrices is detailed below. The results are shown in the model summaries following the methodology section.

TRIP TABLE VERIFICATION METHODOLOGY

EE Trip Matrix

- ▶ Compare DRCOG 2001 dst_ee.mtx with N. I-25 combined model br_dst_ee.mtx file.
 1. Look at top 5 to 10 zones with external-to-external trip totals.
 2. Compare To (columns) and From (rows) sums. All zones should match except for zones 2651, 2652, and 2653. These external zones were eliminated in the combined model and therefore receive zero trips.
 3. Compare individual cells for the top 10 zones in both rows and columns, except 2651, 2652, and 2653. All cells should match.

- ▶ Compare NFRMPO EEtrips.dbf with N. I-25 combined model br_dst_ee.mtx file.
 1. Look at top 5 to 10 zones with external-to-external trip totals.
 2. Compare To (columns) and From (rows) sums. All zone sums should match.
 3. Compare individual cells for the top zones in both rows and columns. All cells should match except 3472, 3470, and 3467. These external zones were eliminated in the combined model and therefore receive zero trips.

- ▶ Check NFR & DRCOG overlapping external zones.
 1. DRCOG external zone 2654 should be zeroed out (along with 2651, 2652, and 2653).

2. NFR external zones 804, 805, and 807 should be zeroed out. These correspond to zones 3468, 3469, and 3471 in the N. I-25 Combined Model.
- ▶ Check N. I-25 Combined EE Table for proper EE movements.
 1. DRCOG to/from DRCOG = 2629-2664 to/from 2629-2664 (this is **1** block of cells).
 2. NFR to/from NFR = 3462-3479 to/from 3462-3479 (this is **1** block of cells).
 3. NFR to/from DRCOG = 2629-2664 to/from 3462-3479 (this is **2** blocks of cells).
 - ▶ Check N. I-25 Combined EE Table Sum Total.
 1. Add up the sums for rows 2651, 2652, and 2653.
 2. Add to it the sums for columns 2651, 2652, and 2653.
 3. Subtract out the 9 individual cells where these 3 rows and columns intersect (so as not to double count them).
 4. Subtract this new total from the original DRCOG EE total.
 5. Open the N. I-25 Combined EE matrix. Add up the sums of the rows and columns 2629-2664.
 6. The totals from bullet 4 and bullet 5 should match.

Commercial (COM) Trips

- ▶ Check the total sum of the BR_dst_com.mtx file.
 1. Look at total sum.
 2. Sum the NFR to DRCOG trips = cell block 2665-3461 to 2629-2664.
 3. Sum the DRCOG to NFR trips = cell block 2629-2624 to 2665-3461.
 4. The sum of steps 2 & 3 should = the total sum from step 1.
 5. If these are not equal, check the rest of the matrix, especially zone 2577 which may need to be zeroed out later.
 6. Add up row and column sums that lie outside the cell blocks mentioned in steps 2 & 3. Subtract overlapping cell totals.
 7. Subtract the sum in step 6 from the total sum in step 1. This should match the sum of steps 2 & 3.

Home Based Work (HBW) Trip Matrix & Non-Work (NWK) Trip Matrix

- ▶ Check each HBW matrix (LI, MI, & HI) and two of the NWK matrix (HNW & NHB) within the BR_dst_hbw.mtx and BR_dst_nwk.mtx files.

1. Sum the NFR to DRCOG trips = cell block 2665-3461 to 2629-2664.
2. Sum the DRCOG to NFR trips = cell block 2629-2624 to 2665-3461.
3. Sum of 1 & 2 should equal the overall sum total.
4. If these are not equal, check the rest of the matrix, especially zone 2577 which may need to be zeroed out later.

▶ Check the IE matrix within the BR_dst_nwk.mtx file.

1. Sum the NFR E's to DRCOG I's = 3462-3479 to 1-2628.
2. Sum the DRCOG I's to NFR E's = 1-2628 to 3462-3479.
3. Sum the NFR I's to DRCOG E's = 2665-3461 to 2629-2664.
4. Sum the DRCOG E's to NFR I's = 2629-2664 to 2665-3461.
5. The sum of these 4 cell blocks should equal the overall sum total.

TRIP TABLE VERIFICATION RESULTS

Year 2001 Model

▶ EE Trips:

▶ COM Trips:

Zone Cell Block ID	Trip Description	Trips
I	NFR to DRCOG	1580
C	DRCOG to NFR	1580
I + C	Total COM Trips	3160

There were 954.11 trips both to and from zone 2577 to all other zones within the DRCOG system. These are DRCOG I to I trips that shouldn't be included in the COM trips matrix. $954.11 + 954.11 = 1908.22$. Subtracted from this total is the 247.40 trips in the 2577 to 2577 cell due to double counting. Thus, the new total is approximately 1661. The actual total in the matrix was 4821. 4821 minus the 1661 equals the appropriate total of COM trips at 3160.

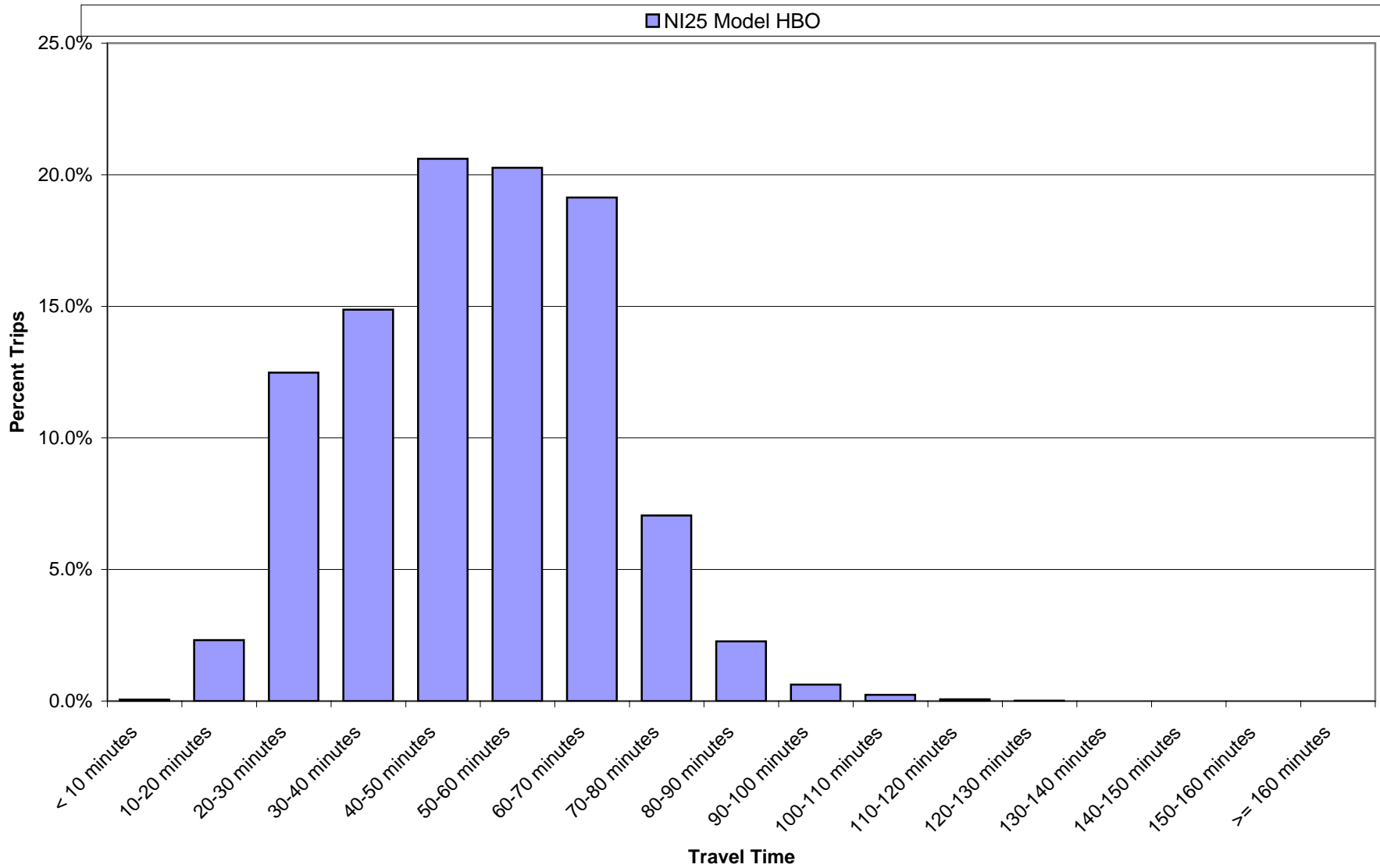
▶ Trips:

Zone Cell Block ID	Trip Description	Trips
I	NFR to DRCOG	1580
C	DRCOG to NFR	1580
I + C	Total COM Trips	3160

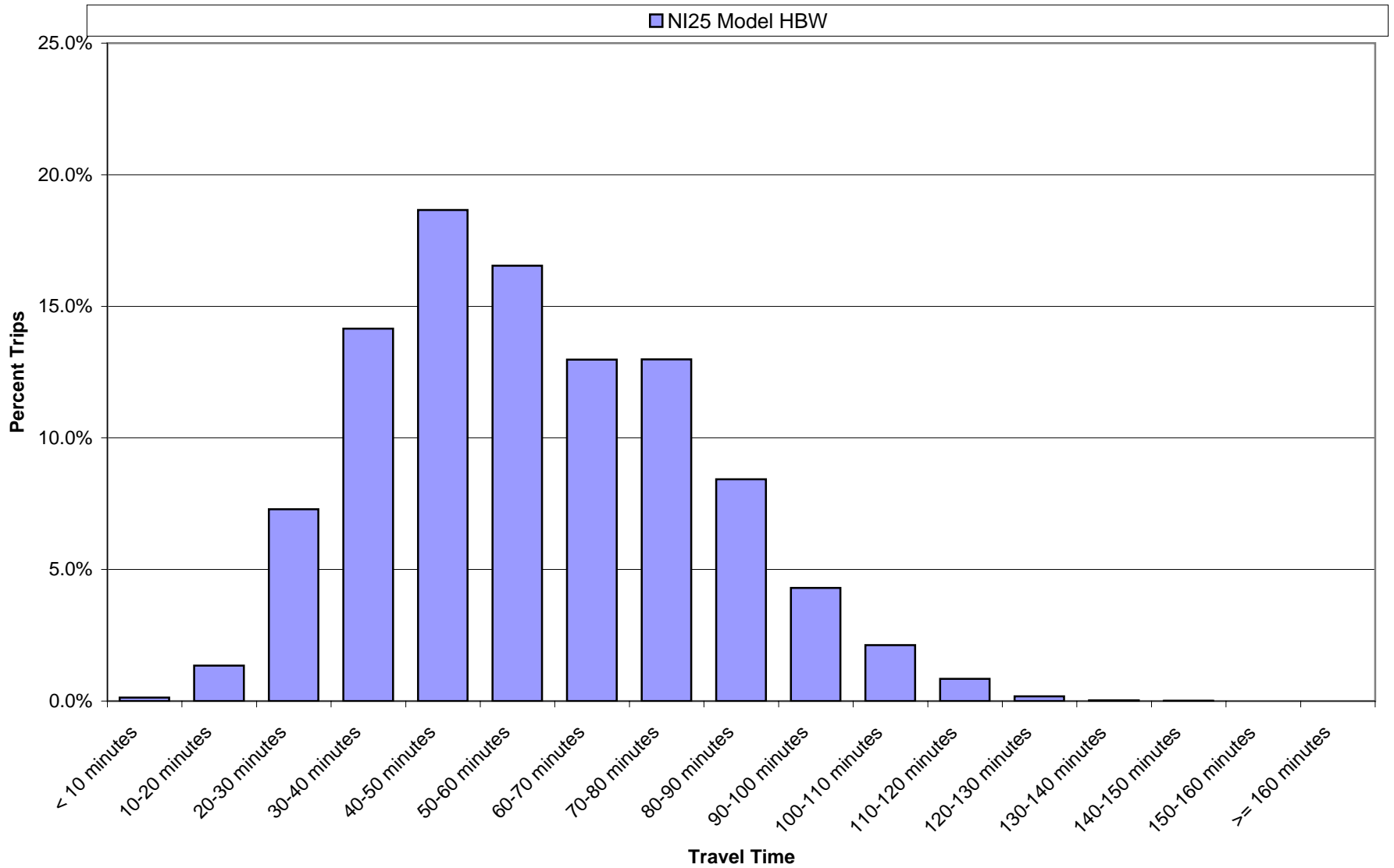
There were 954.11 trips both to and from zone 2577 to all other zones within the DRCOG system. These are DRCOG I to I trips that shouldn't be included in the COM trips

J:_Transportation\071609.400\model\model development\2001 model\Trip Table Comparison\Trip Table Verification Methodology.doc

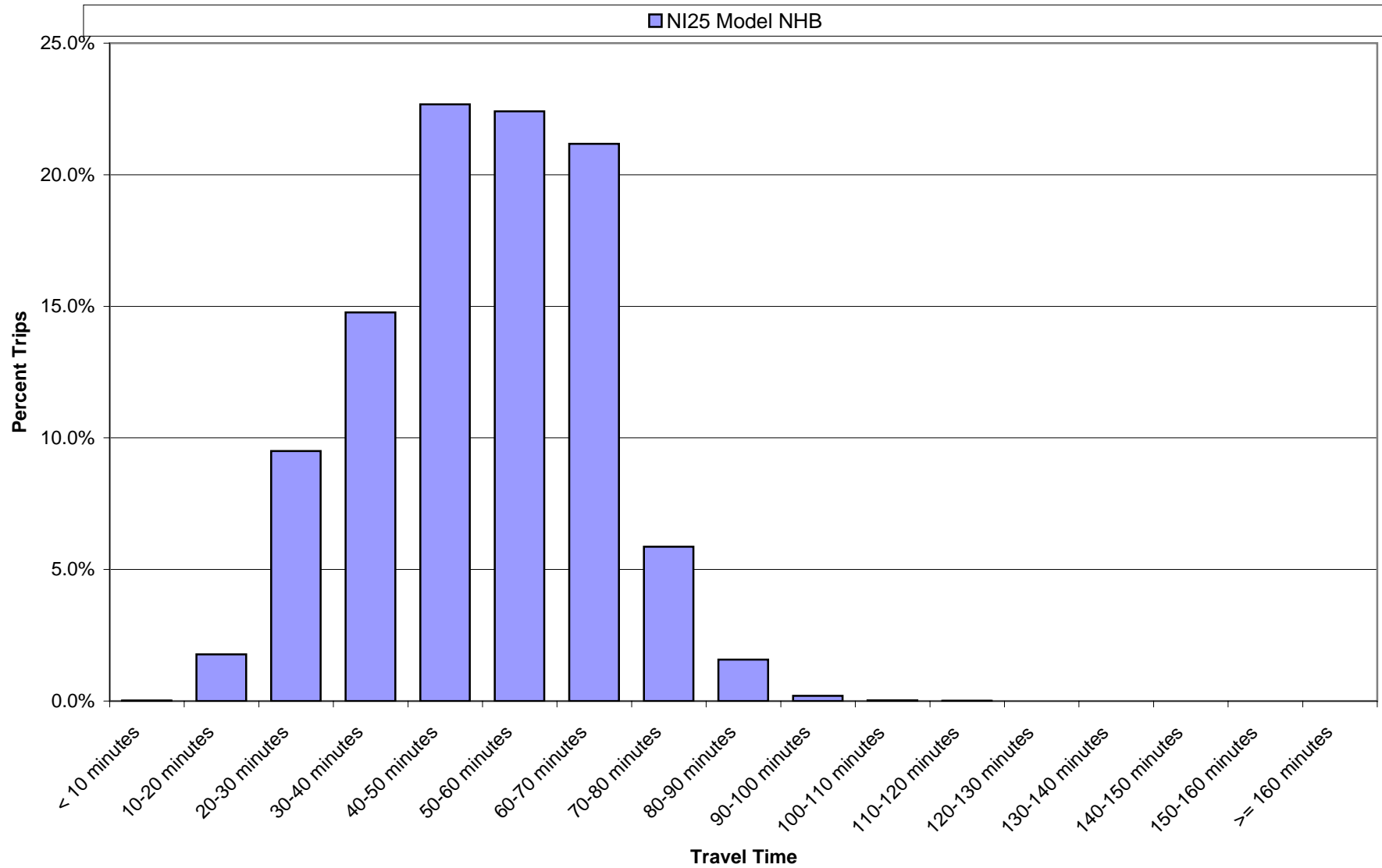
BiRegional Travel Time Distribution HBO



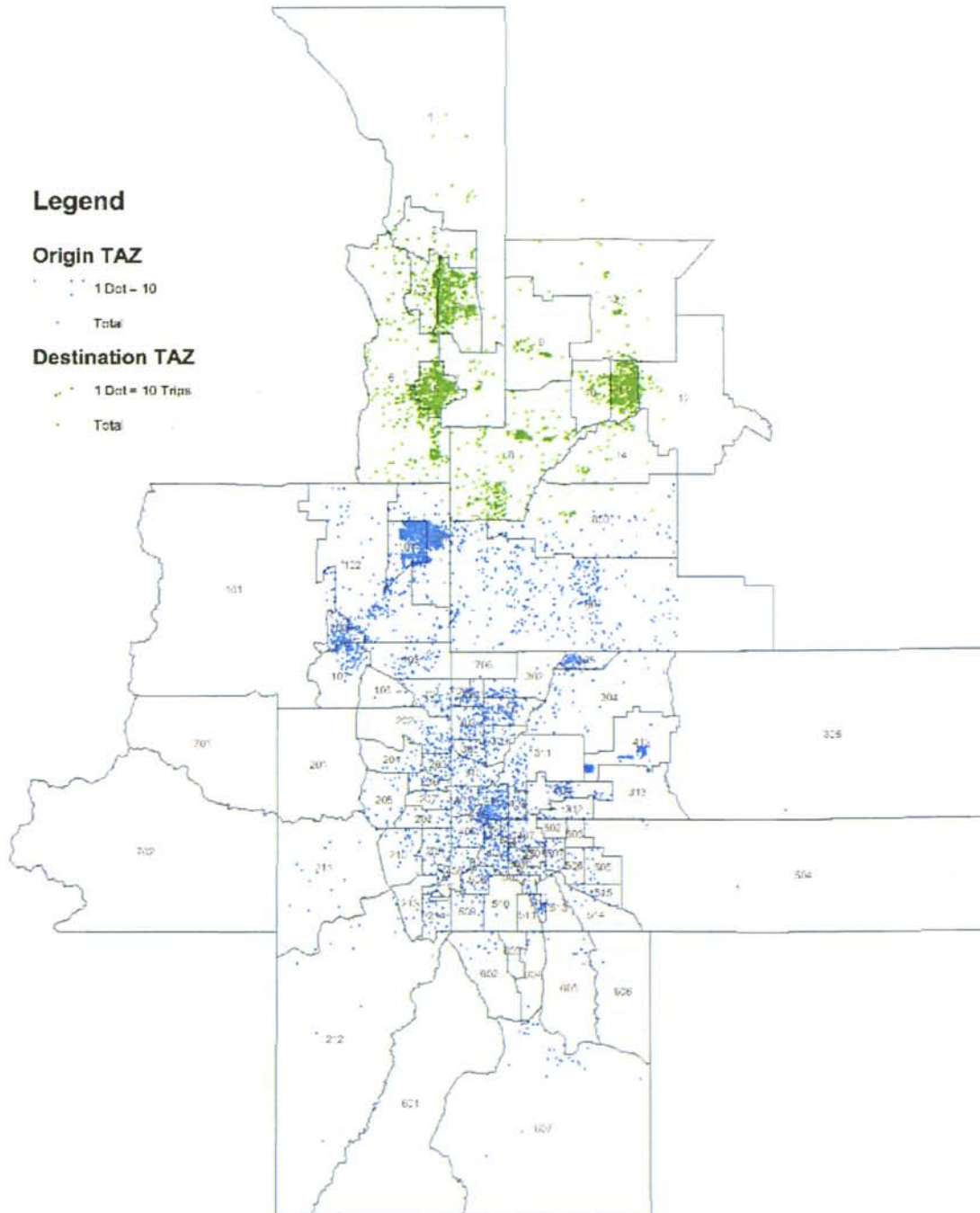
BiRegional Travel Time Distribution HBW



BiRegional Travel Time Distribution NHB



Combined Travel Model Bi-Regional Trips JRCOG Origin, NFRMPO Destination

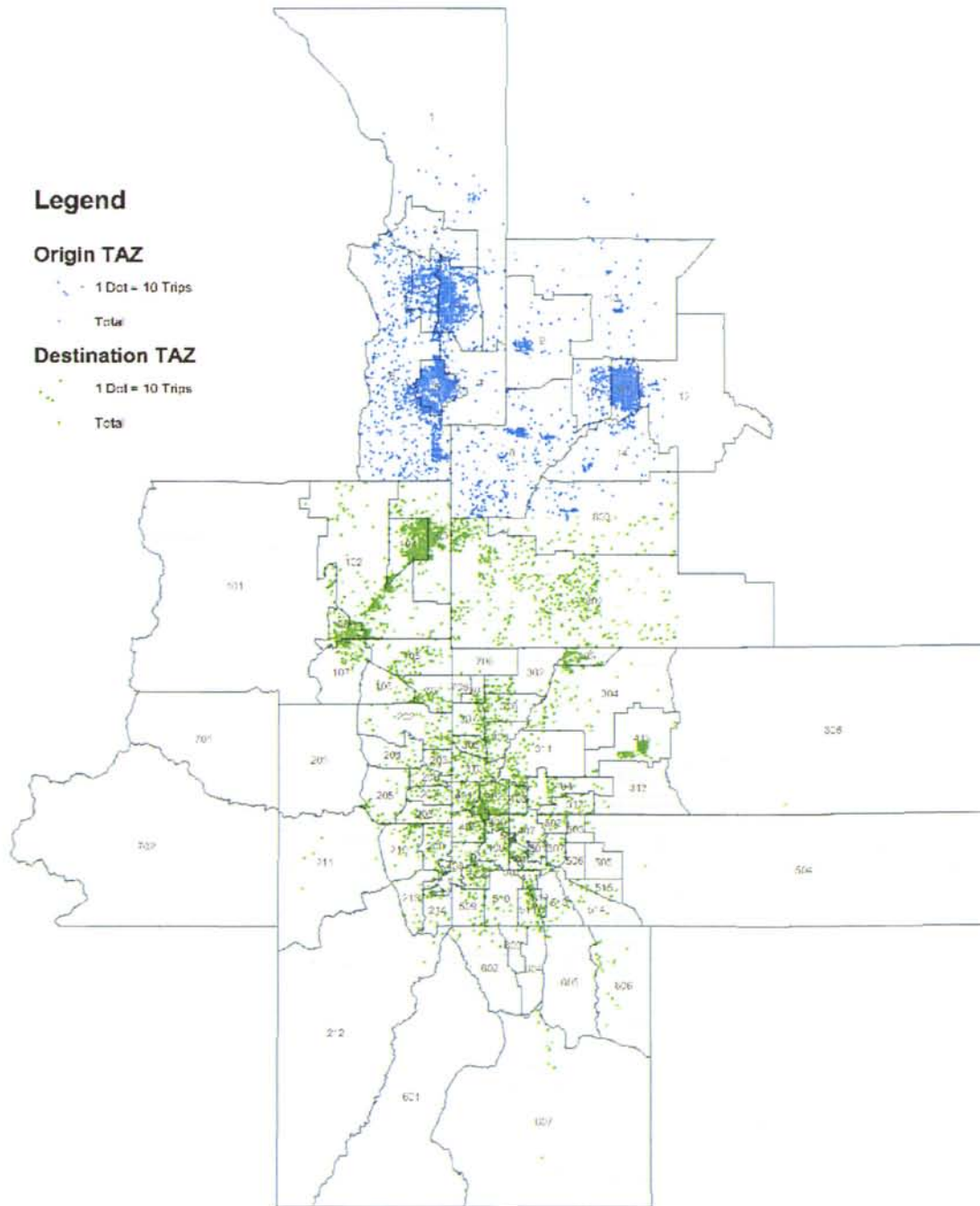


Year : 2000/2001
Trip Purpose : Home-based Work, Home-based Other, Non-home Based

FELSBURG HOLT & ULLEVIG — CARTER-BURGESS — PRACO



Combined Travel Model Bi-Regional Trips JFRMPO Origin, DRCOG Destination



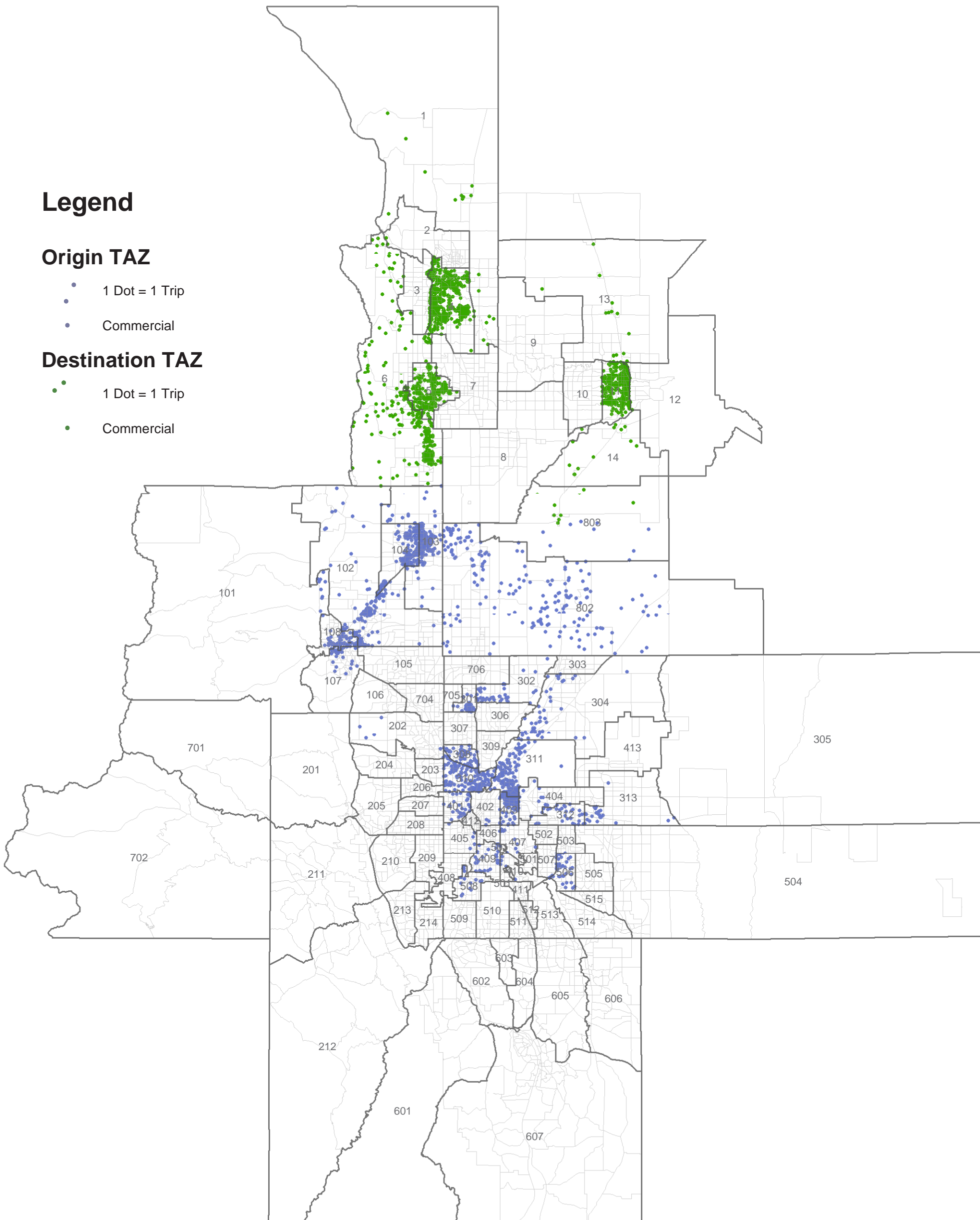
Legend

Origin TAZ

- 1 Dot = 1 Trip
- Commercial

Destination TAZ

- 1 Dot = 1 Trip
- Commercial



Trip Purpose: Commercial
Source: Bi-Regional Trip Table
Origin: DRCOG
Destination: NFR

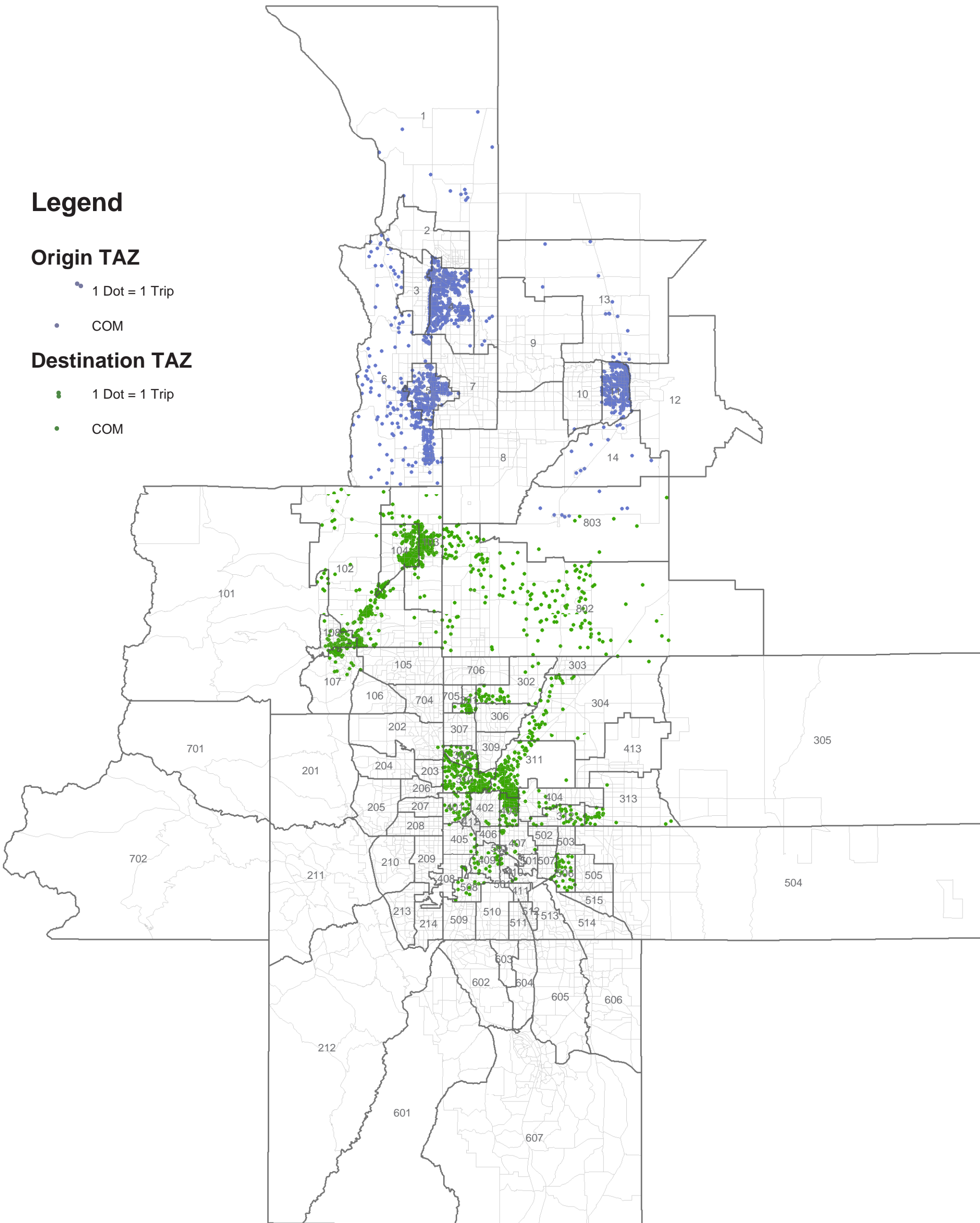
Legend

Origin TAZ

- 1 Dot = 1 Trip
- COM

Destination TAZ

- 1 Dot = 1 Trip
- COM



Trip Purpose: Commercial
Source: Bi-Regional Trip Table
Origin: NFR
Destination: DRCOG

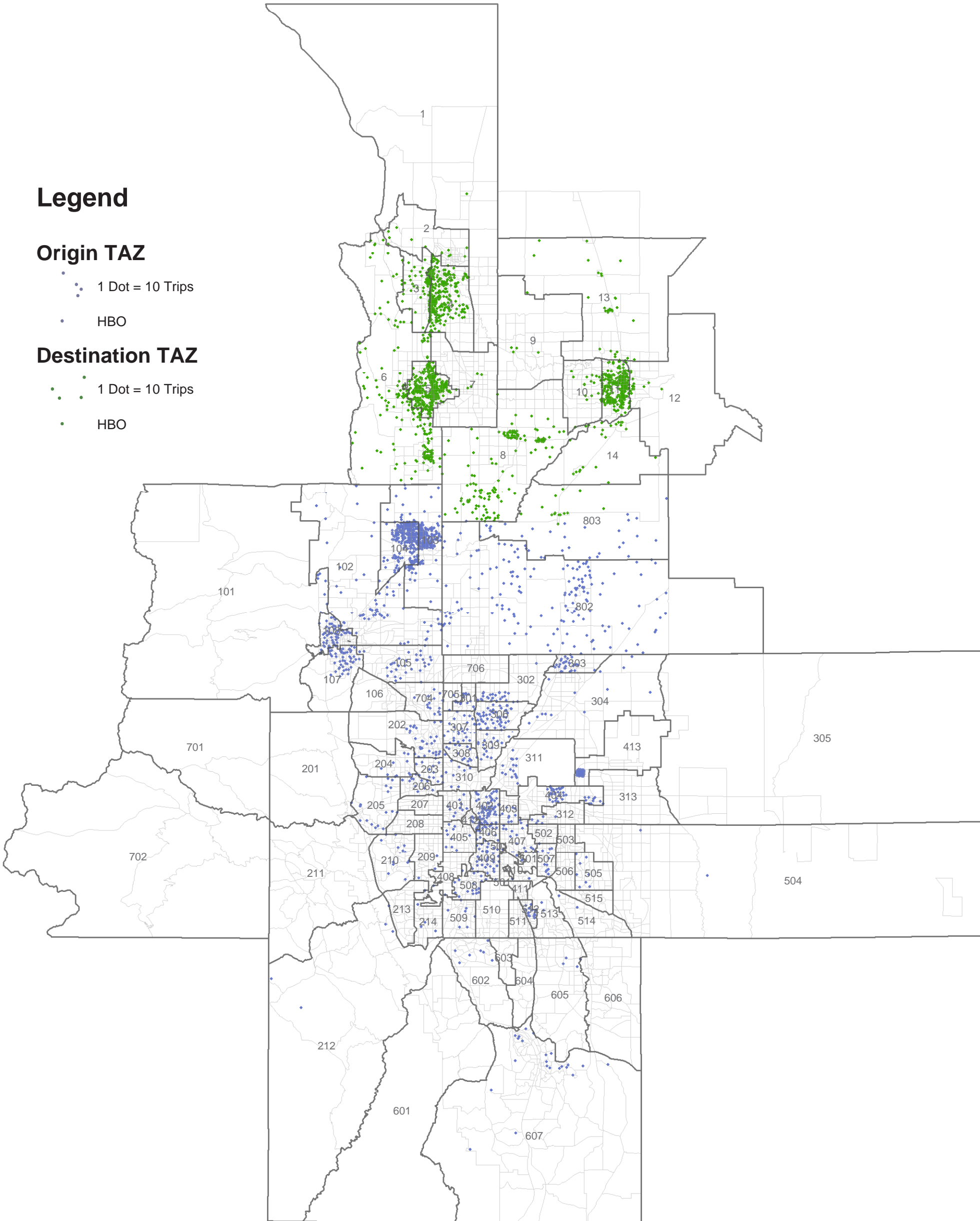
Legend

Origin TAZ

- 1 Dot = 10 Trips
- HBO

Destination TAZ

- 1 Dot = 10 Trips
- HBO



Trip Purpose: HBO
Source: Bi-Regional Trip Table
Origin: DRCOG
Destination: NFR

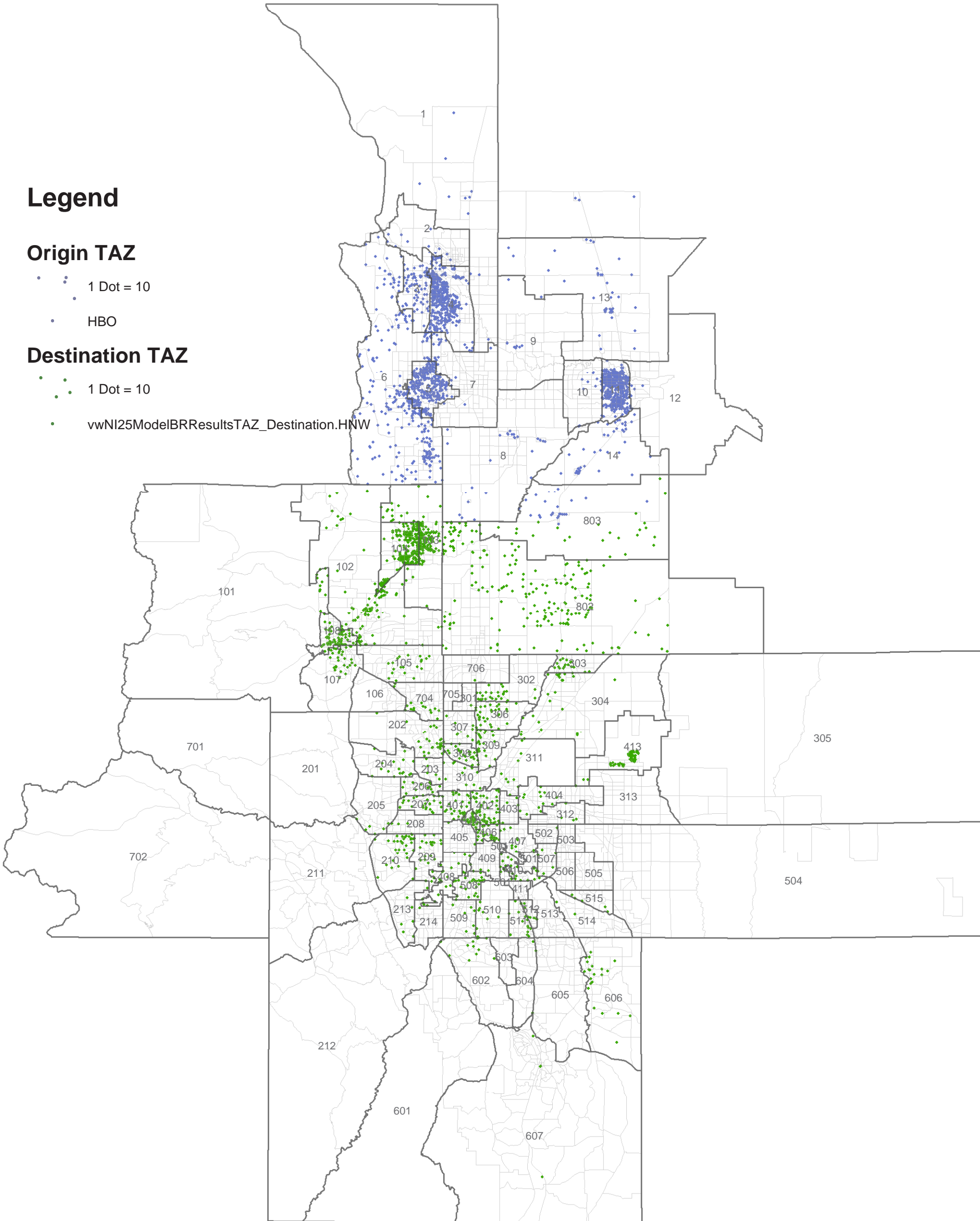
Legend

Origin TAZ

- 1 Dot = 10
- HBO

Destination TAZ

- 1 Dot = 10
- vwNI25ModelBRResultsTAZ_Destination.HNW



Trip Purpose: HBO

Source: Bi-Regional Trip Table

Origin: NFR

Destination: DRCOG

Legend

Origin TAZ

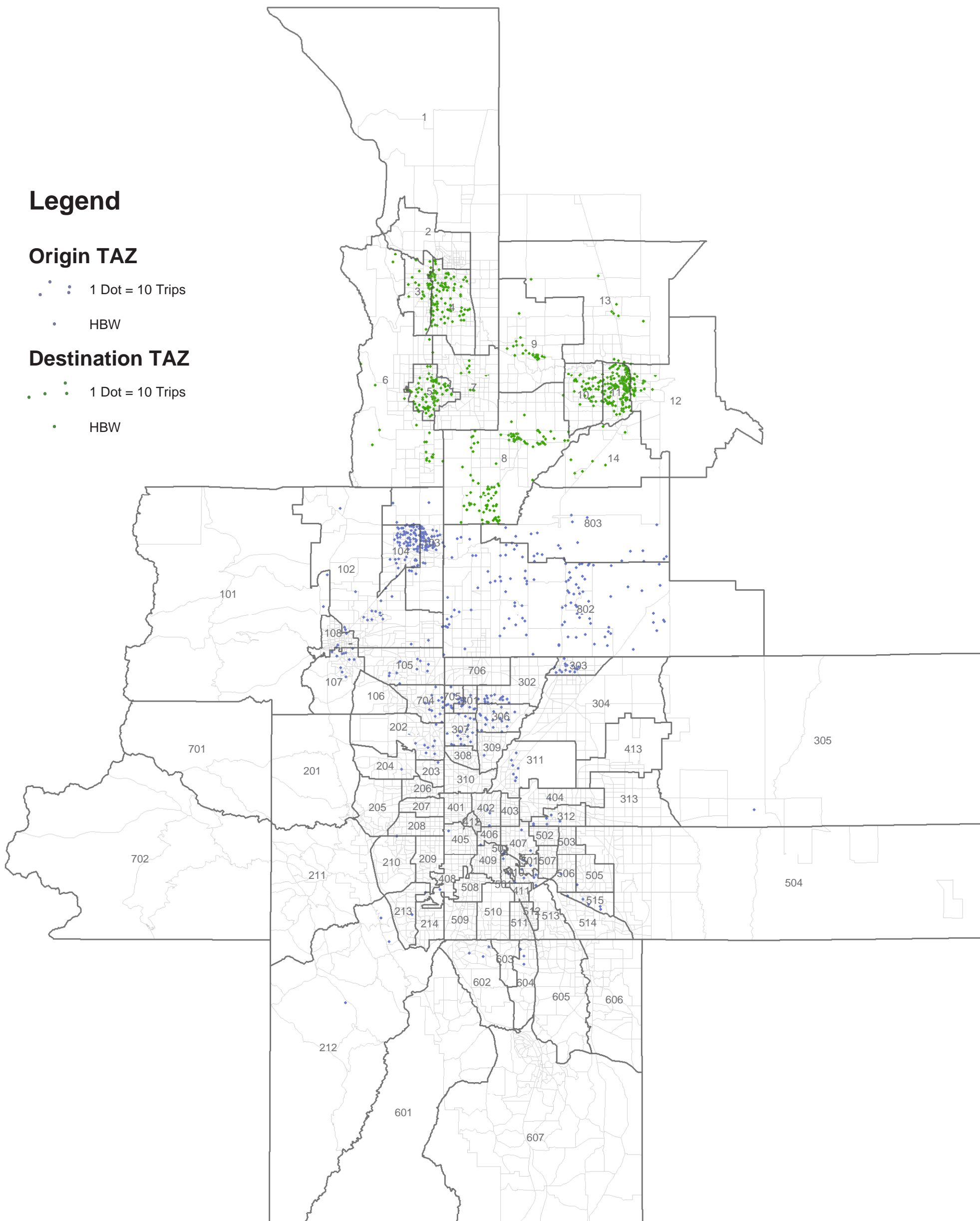
• 1 Dot = 10 Trips

• HBW

Destination TAZ

• 1 Dot = 10 Trips

• HBW



Trip Purpose: HBW
Source: Bi-Regional Trip Table
Origin: DRCOG
Destination: NFR

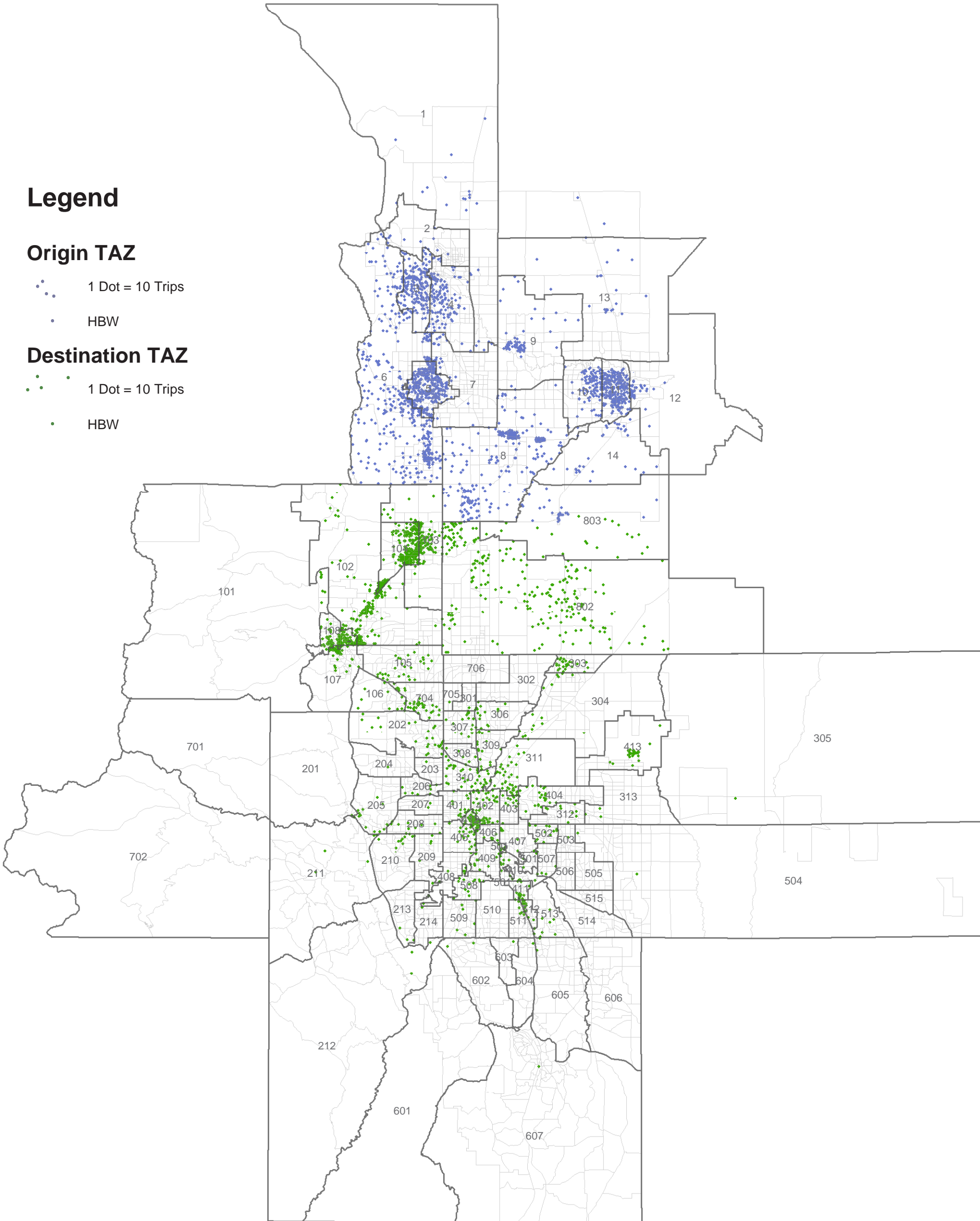
Legend

Origin TAZ

- 1 Dot = 10 Trips
- HBW

Destination TAZ

- 1 Dot = 10 Trips
- HBW



Trip Purpose: HBW

Source: Bi-Regional Trip Table

Origin: NFR

Destination: DRCOG

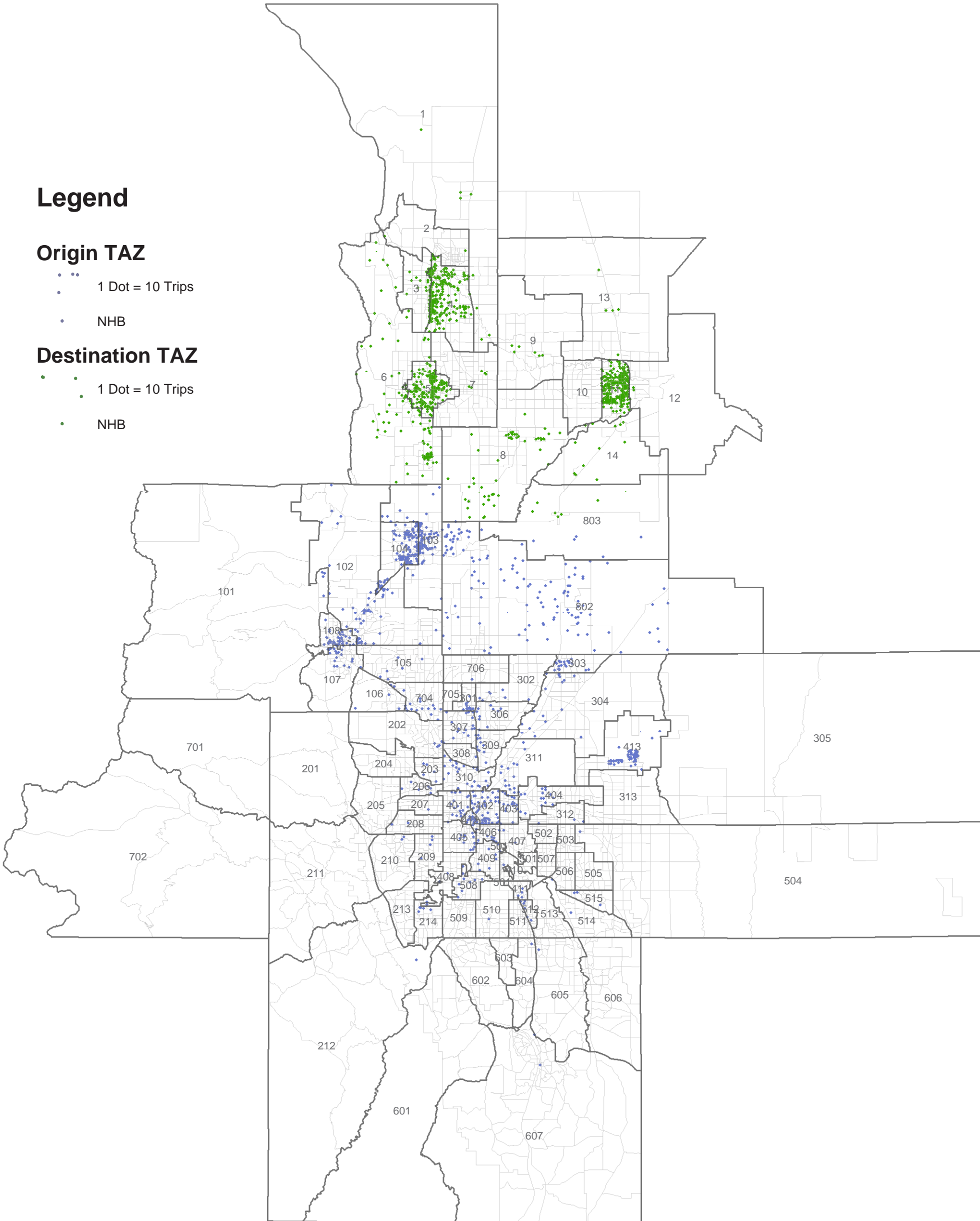
Legend

Origin TAZ

- 1 Dot = 10 Trips
- NHB

Destination TAZ

- 1 Dot = 10 Trips
- NHB



Trip Purpose: NHB
Source: Bi-Regional Trip Table
Origin: DRCOG
Destination: NFR

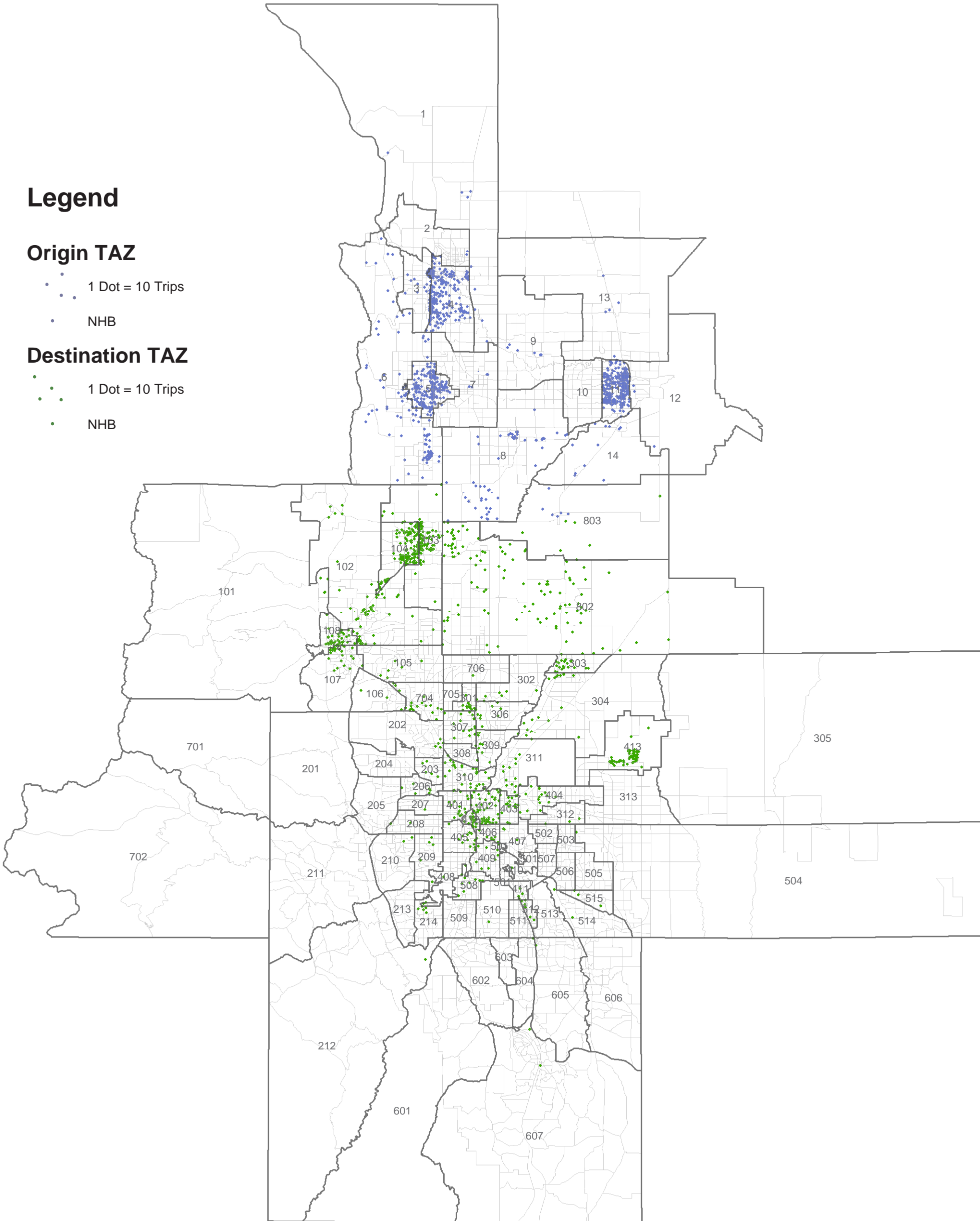
Legend

Origin TAZ

- 1 Dot = 10 Trips
- NHB

Destination TAZ

- 1 Dot = 10 Trips
- NHB



Trip Purpose: NHB
Source: Bi-Regional Trip Table
Origin: NFR
Destination: DRCOG

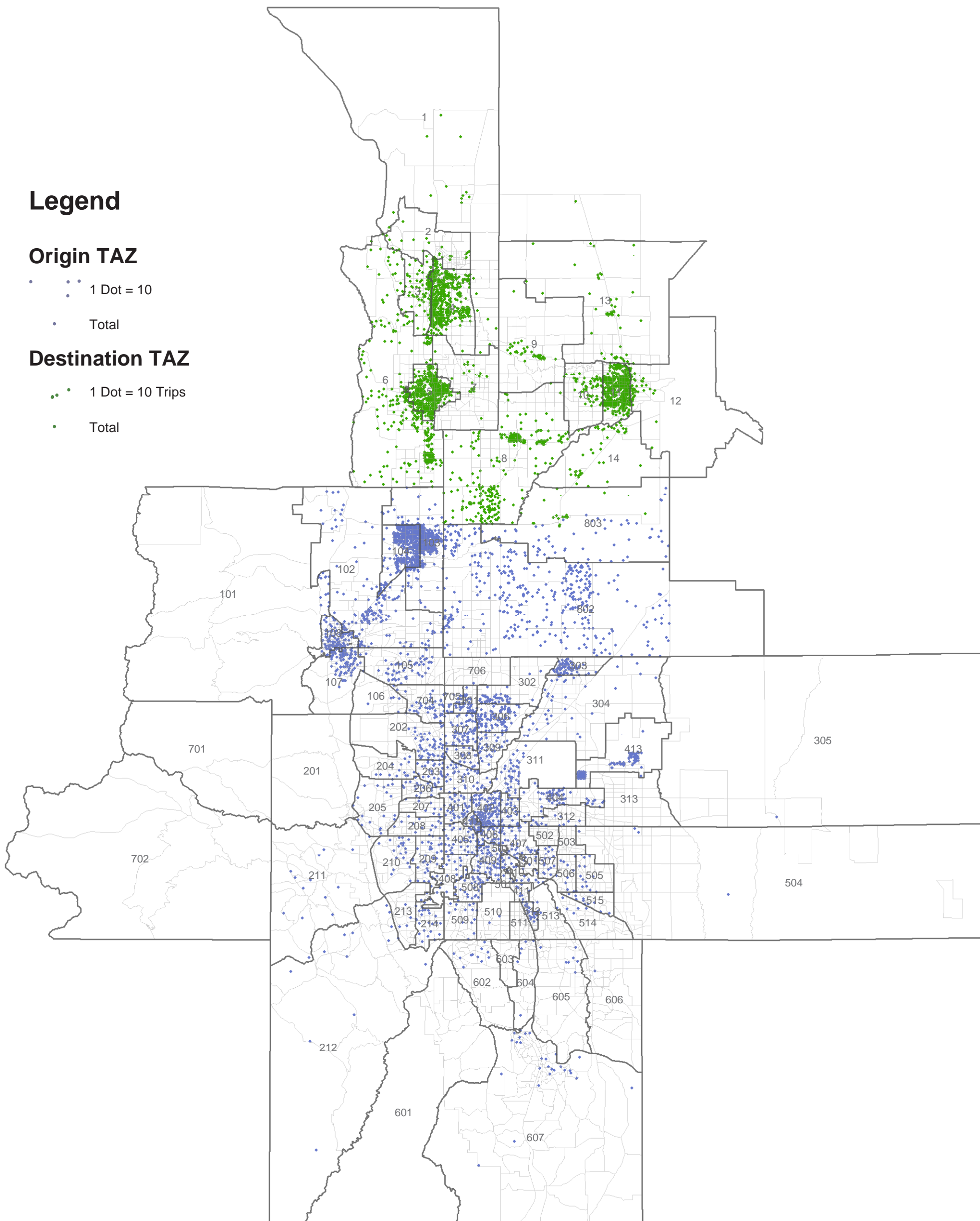
Legend

Origin TAZ

- 1 Dot = 10
- Total

Destination TAZ

- 1 Dot = 10 Trips
- Total



Trip Purpose: HBW + HBO + NHB

Source: Bi-Regional Trip Table

Origin: DRCOG

Destination: NFR

Legend

Origin TAZ

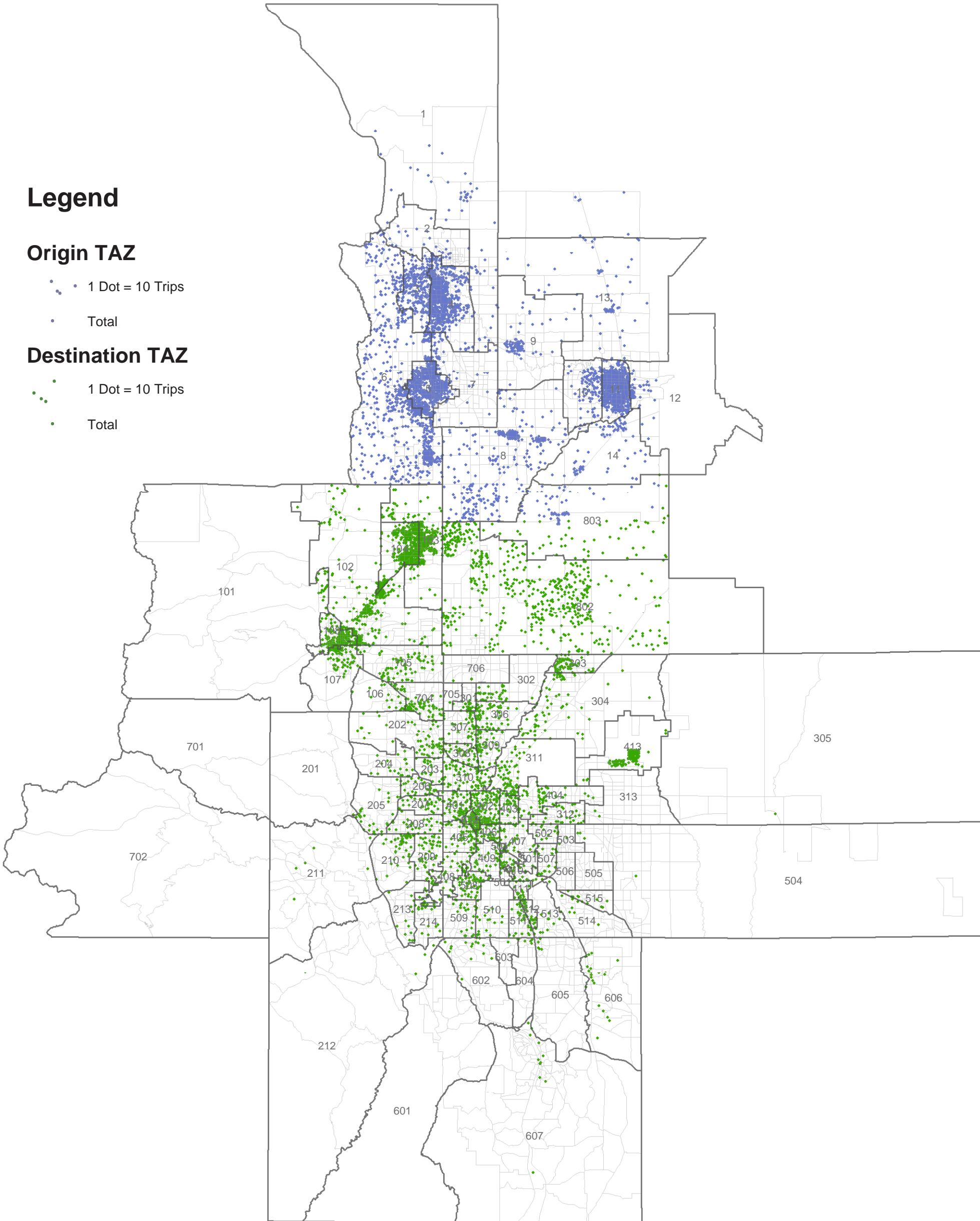
• 1 Dot = 10 Trips

• Total

Destination TAZ

• 1 Dot = 10 Trips

• Total



Trip Purpose: HBW + HBO + NHB

Source: Bi-Regional Trip Table

Origin: NFR

Destination: DRCOG

**North I-25
External Station Comparison at Common Boundary**

NFR Model

	I-25	US-287	US-85	Hwy Total	W CR13	W CR 19	B CR 23
2000	56,100	14,100	15,400	85,600	2,287	1,456	NA
2030	105,000	36,000	27,800	168,800	4,030	2,565	NA
Absolute Growth	48,900	21,900	12,400	83,200	1,743	1,109	
Percentage Growth	87%	155%	81%	97%	76%	76%	
Avg Ann. Growth	2.11%	3.17%	1.99%	2.29%	1.91%	1.91%	

DRCOG Model

	I-25	US-287	US-85	Total	W CR13	W CR 19	B CR 23
2001	54,600	16,200	17,200	88,000	NA	NA	6,600
2030	128,700	40,400	30,500	199,600	NA	NA	9,600
Absolute Growth	74,100	24,200	13,300	111,600	NA	NA	3,000
Percentage Growth	136%	149%	77%	127%			45%
Avg Ann. Growth	3.00%	3.20%	1.99%	2.86%			1.30%

2000 NFR compared to 2001 DRCOG (DRCOG - NFR)

	I-25	US-287	US-85	Total	W CR13	W CR 19	B CR 23
Absolute Difference	-1,500	2,100	1,800	2,400			
Percent Difference	-2.7%	14.9%	11.7%	2.8%			

2030 NFR compared to 2030 DRCOG (DRCOG - NFR)

	I-25	US-287	US-85	Total	W CR13	W CR 19	B CR 23
Absolute Difference	23,700	4,400	2,700	30,800			
Percent Difference	22.6%	12.2%	9.7%	18.2%			

DRCOG	
Skim	Distance
Peak	174,857,421
Off-Peak	170,319,843
Differential	4,537,578
Peak % Increase	2.66%

NFR	
Skim	Distance
Congested	11,332,361
Frre Flow	11,324,316
Differential	8,045
Congested % Increase	0.07%

j:\trans\071609\model\model development\matrices\Hwy Dist Skim Comparison.xls

**Inter-Regional Trip Tables
by Highway, Purpose, and Endpoint**

Trip Type	US 267				I-25				US 85				Total
	HBW	HBO	NHE	Sub Total	HBW	HBO	NHE	Sub Total	HBW	HBO	NHE	Sub Total	
I-E	1,522	1,870	870	4,262	8,199	6,957	5,963	21,118	1,403	2,572	1,286	5,261	30,642
E-E	12	15	7	34	1,141	968	830	2,939	124	228	114	466	3,439
I-I	3,766	4,627	2,152	10,546	8,914	7,564	6,483	22,961	2,388	4,378	2,189	8,955	42,462
Total	5,301	6,512	3,029	14,842	18,254	15,489	13,276	47,019	3,915	7,178	3,589	14,682	76,543

HBPurpose	Trips	Trips_0_10_mi	Trips_10_20_mi	Trips_20_30_mi	Trips_30_40_mi
HBW	26618.81628	269.2775834	2765.616226	4673.204821	6186.483263
HNW	35984.54034	317.1939862	4405.809625	5031.456567	6705.070717
NHB	21826.2179	125.2753219	1986.244007	2755.622606	4311.770225
R_HBO	19869.97854	763.3409689	2778.671213	2276.364035	3423.177698
R_HBW	17991.6633	246.2352256	2308.257737	2614.883939	3911.94265
R_NHB	13081.50784	202.0230087	1361.267879	1336.652051	2658.623612
	19869.97854				

Trips_40_50_mi	Trips_50_60_mi	Trips_60_70_mi	Trips_70_80_mi	Trips_80_90_mi	Trips_90_100_mi
4361.428887	4495.240324	2583.477576	1084.827585	163.2896821	29.49710303
5884.377751	6194.001277	5055.61501	1769.155898	365.9828682	206.4942447
3734.34829	4981.879921	2792.234033	984.8335655	112.5707658	33.40926568
2900.372475	3444.495767	2314.61192	1618.205572	173.9589664	84.06690964
2921.244846	3096.814582	2041.132149	675.0127733	83.55829876	65.55739746
1967.345951	2876.770152	1858.250163	696.2409859	70.48759811	53.8464382

Trips_100_110_mi	Trips_110_120_mi	Trips_120_mi	Trips_0_10_min	Trips_10_20_min
6.391021157	0.082211259	0	36.19764574	357.9682967
40.76195738	8.24647146	0.373966122	21.54900808	833.9190027
7.763207459	0.266689278	0	3.662559106	387.2203705
92.71301839	0	0		
27.02369793	0	0		
0	0	0		

Trips_20_30_min	Trips_30_40_min	Trips_40_50_min	Trips_50_60_min	Trips_60_70_min
1939.803331	3767.322661	4965.865405	4402.942196	3454.836551
4491.752954	5353.466534	7416.489107	7293.257812	6884.048682
2074.513573	3222.80605	4949.235561	4891.178271	4622.044703

Trips_70_80_min	Trips_80_90_min	Trips_90_100_min	Trips_100_110_min	Trips_110_120_min
3457.303516	2243.647412	1143.59612	565.9810545	224.4013321
2536.221282	815.025323	224.9024046	86.2469009	22.62653042
1279.650656	344.0649637	43.07729664	5.850833361	2.546669513

Trips_120_130_min	Trips_130_140_min	Trips_140_150_min	Trips_150_160_min	Trips_160_min
48.40572142	6.900568242	3.266542802	0.330952248	0.046978762
4.529069291	0.483910044	0.021818943	0	0
0.366391013	0	0	0	0

< 10 miles	10-20 miles	20-30 miles	30-40 miles	40-50 miles	50-60 miles	60-70 miles	70-80 miles
1.0%	10.4%	17.6%	23.2%	16.4%	16.9%	9.7%	4.1%
0.9%	12.2%	14.0%	18.6%	16.4%	17.2%	14.0%	4.9%
0.6%	9.1%	12.6%	19.8%	17.1%	22.8%	12.8%	4.5%
3.8%	14.0%	11.5%	17.2%	14.6%	17.3%	11.6%	8.1%
1.4%	12.8%	14.5%	21.7%	16.2%	17.2%	11.3%	3.8%
1.5%	10.4%	10.2%	20.3%	15.0%	22.0%	14.2%	5.3%

80-90 miles	90-100 miles	100-110 miles	110-120 miles	>= 120 miles	< 10 minutes	10-20 minutes
0.6%	0.1%	0.0%	0.0%	0.0%	0.1%	1.3%
1.0%	0.6%	0.1%	0.0%	0.0%	0.1%	2.3%
0.5%	0.2%	0.0%	0.0%	0.0%	0.0%	1.8%
0.9%	0.4%	0.5%	0.0%	0.0%	0.0%	0.0%
0.5%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%
0.5%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%

20-30 minutes	30-40 minutes	40-50 minutes	50-60 minutes	60-70 minutes	70-80 minutes
7.3%	14.2%	18.7%	16.5%	13.0%	13.0%
12.5%	14.9%	20.6%	20.3%	19.1%	7.0%
9.5%	14.8%	22.7%	22.4%	21.2%	5.9%
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

80-90 minutes	90-100 minutes	100-110 minutes	110-120 minutes	120-130 minutes	130-140 minutes
8.4%	4.3%	2.1%	0.8%	0.2%	0.0%
2.3%	0.6%	0.2%	0.1%	0.0%	0.0%
1.6%	0.2%	0.0%	0.0%	0.0%	0.0%
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

140-150 minutes	150-160 minutes	>= 160 minutes
0.0%	0.0%	0.0%
0.0%	0.0%	0.0%
0.0%	0.0%	0.0%
0.0%	0.0%	0.0%
0.0%	0.0%	0.0%
0.0%	0.0%	0.0%

North I-25
RSA to RSA Trip Comparison

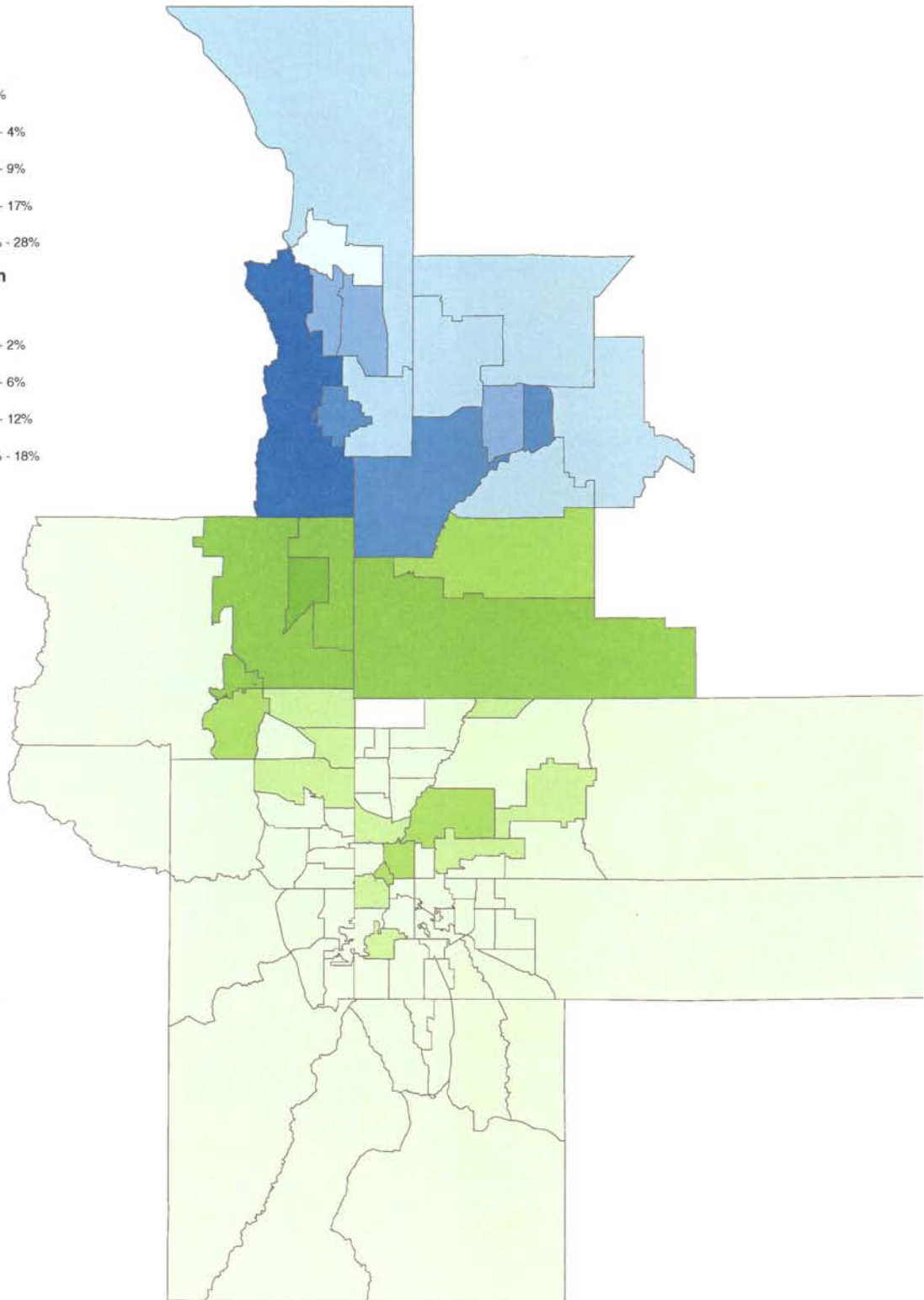
Top 10 RSA to RSA interchanges (survey source)
Top 10 RSA to RSA interchanges (biregional trip table)

HBW					
Origin RSA	Destination RSA	Roadside CTPP	2000 Trip Survey	2000 Trip Table	2030 Trip Table
6	104	1736	299	1195	364.01
8	104	1160	46	798	309.06
5	104	1108	488	763	994.38
6	102	910	87	626	455.79
11	802	902	272	621	1587.23
6	108	724	131	498	444.98
6	103	560	187	386	535.23
5	103	541	248	373	1352.77
5	102	522	151	360	1382.31
802	11	521	309	359	960.42
8	102	518	81	357	450.79
8	802	459	57	316	761.49
8	103	458	46	315	474.26
10	802	436	19	300	1215.21
5	108	383	58	264	1427.24
803	11	374	35	102	492.64
103	8	371	123	255	414.41
3	104	339	97	233	399.1
8	108	333	19	229	24.3
11	412	312	12	215	418.7
9	802	289		199	1803.63
5	802	288	224	198	32.02
11	104	266	251	183	649.28
5	412	266	29	183	325.59
104	8	262	67	180	401.3
802	8	255	124	176	778.18
4	104	247	260	170	802.65
104	5	235	498	162	622.49
12	802	234		161	1818.09
104	4	212	327	146	377.12
6	107	212	75	146	27.21
4	412	198	19	137	17.34
3	412	192		132	914.76
11	803	178	11	41	1201.23
11	311	174	85	120	894.14
4	102	167	233	115	1127
103	5	166	465	114	393.69
5	107	161	44	111	916
6	704	161	31	111	1004.79
6	802	158	88	109	243.41
14	802	154	66	97	695.07
11	103	151	111	104	47.67
6	105	150	54	103	628.29
802	10	150	16	103	2.15
104	11	149	59	102	1746.98
8	412	149		102	103.03
103	4	146	212	100	220.64
802	9	144	16	99	737.54
303	11	140		97	749.03
3	802	140	54	97	14.83
11	402	138	57	95	674.97
3	102	136	27	94	309.49

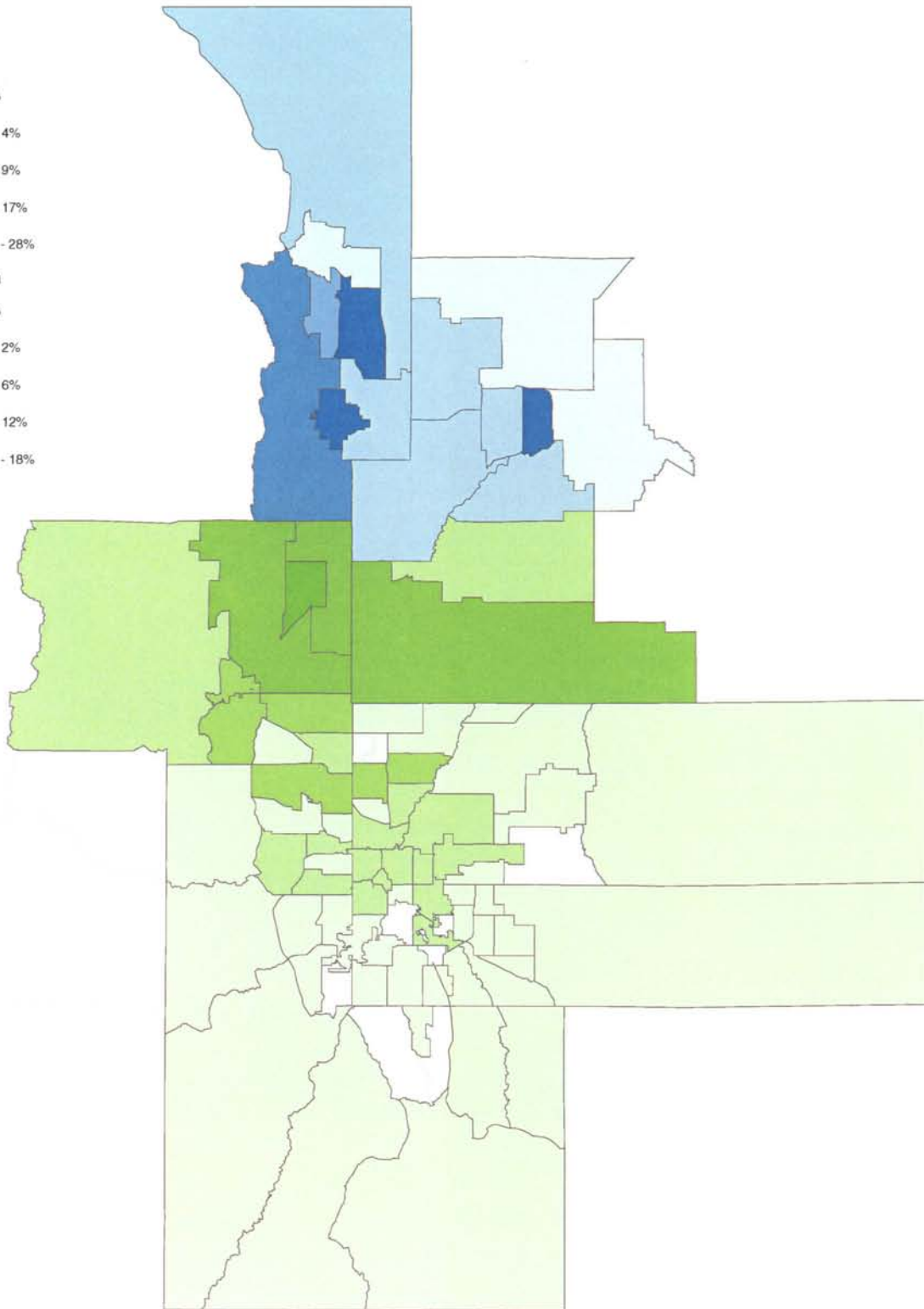
HBO				
Origin RSA	Destination RSA	Roadside Survey	2000 Trip Table	2030 Trip Table
6	104	917	1118	93.02
104	5	823	1004	77.98
103	5	709	865	602.65
103	6	648	790	201.41
802	11	594	725	1177.16
6	103	554	675	305.24
5	104	540	659	159.04
104	6	531	647	701.77
4	104	420	513	1103.99
11	802	409	499	1841.76
4	103	390	475	306.94
413	4	379	462	300.65
104	4	359	438	196.96
5	802	316	386	826.53
802	5	313	382	1969.72
5	103	309	377	778.35
413	11	279	340	415.76
104	11	253	309	257.01
103	4	248	302	62.2
4	802	231	282	216.7
11	104	217	265	1054.9
11	306	213	260	130.43
5	102	210	256	409.34
413	5	205	250	375.24
4	102	198	242	498.77
11	413	194	237	844.24
4	108	193	235	1191.04
107	8	189	230	645.57
4	402	187	228	5628.96
11	402	184	224	344.38
4	210	184	224	151.34
306	5	180	220	63.21
6	102	178	217	725.29
102	8	171	209	924.99
303	11	171	208	1244.9
11	304	170	207	1343.5
4	413	168	205	119.86
4	406	164	200	277.42
14	802	163	199	742.7
108	4	162	198	61.35
11	412	161	196	1130.09
802	8	155	189	151.95
11	803	153	187	785.47
103	11	151	184	0.32
402	3	150	183	4175.14
108	5	149	181	194.89
607	4	146	178	55.89
104	8	145	177	2462.34
404	4	143	174	504.11
701	11	138		88.74
103	8	136	165	583.88
11	103	127	154	134.08

NHB				
Origin RSA	Destination RSA	Roadside Survey	2000 Trip Table	2030 Trip Table
802	11	450	510	226.88
11	402	450	299	181.1
104	5	413	435	570.22
11	802	389	510	373.25
104	6	384	359	1118.25
4	102	368	270	405.05
104	4	341	287	315.52
103	5	327	302	704.31
5	104	302	435	806.89
103	6	299	251	1138.87
5	802	251	222	414.13
413	4	241	287	422.76
4	413	231	287	298.24
413	11	216	233	841.41
103	4	209	201	1100.83
6	104	206	359	301.72
5	103	170	302	738.96
802	8	167	101	336.94
11	413	167	233	5.84
108	4	155	144	232.88
103	11	150	152	983.01
304	11	145	95	9.4
4	402	142	122	446.72
802	4	142	144	187.43
11	303	140	154	426.81
4	412	133	116	1432.43
4	104	132	287	625.48
104	11	131	155	429.37
11	104	124	155	1540.05
14	802	122	83	379.26
4	103	122	201	12.33
403	4	117	71	15.38
802	5	114	222	665.7
303	11	113	154	1775.34
6	103	113	251	803.16
307	5	107	65	790.98
5	108	107	103	361.18
4	107	107	106	485.57
306	4	101	62	673.46
11	103	100	152	203.74
301	11	99	60	895.61
401	11	97	92	19.6
107	5	96	74	481.87
4	802	95	144	0.65
405	5	94	57	1766.68
5	102	94	91	232.53
104	8	91	67	74.6
310	4	90	97	1336.06
409	4	90	77	1089.97
704	8	86	53	13.46
102	11	84	87	960.63
108	8	83	50	265.6

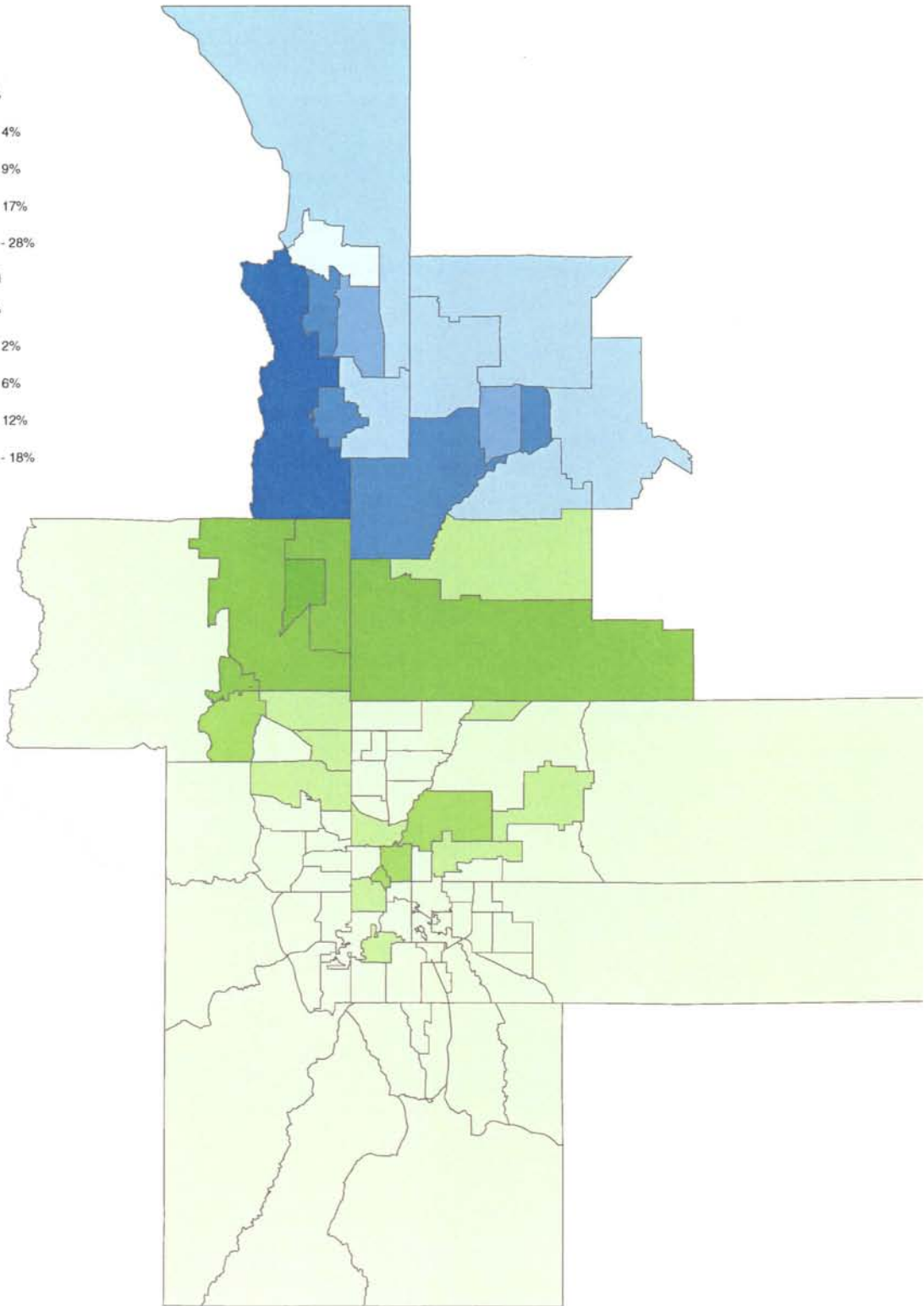
COM			
Origin RSA	Destination RSA	Roadside Survey	Trip Table
4	310	147	158
310	4	147	158
6	103	106	114
103	6	106	114
4	311	80	86
311	4	80	86
6	104	78	84
104	6	78	84
4	403	72	78
403	4	72	78
5	104	66	71
104	5	66	71
11	802	64	69
802	11	64	69
4	102	59	63
103	4	59	63
4	103	59	63
102	4	59	63
4	802	48	52
802	4	48	52
6	102	39	42
5	108	39	42
5	802	39	42
11	102	39	42
802	5	39	42
102	11	39	42
108	5	39	42
102	6	39	42
506	11	39	42
301	11	39	42
11	301	39	42
11	506	39	42
5	103	39	42
103	5	39	42
5	107	39	42
107	5	39	42
308	4	38	41
4	308	38	41
11	311	34	36
311	11	34	36
401	11	28	30
11	401	28	30
11	409	28	30
409	11	28	30
4	104	21	23
104	4	21	23
302	4	21	23
312	4	21	23
5	403	21	23
4	312	21	23
4	313	21	23
403	5	21	23



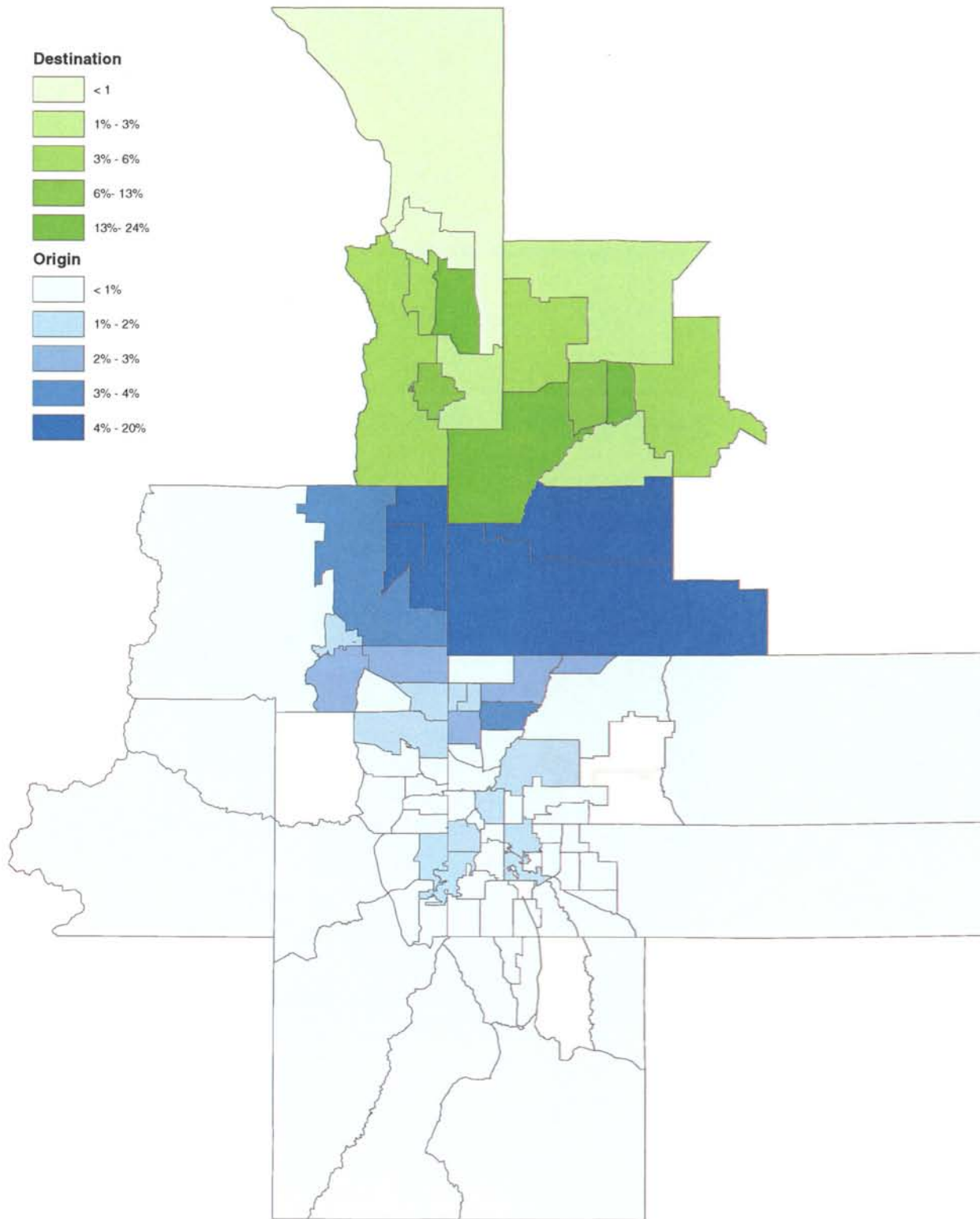
Trip Purpose: HBW
 Source: 2000 Census CTPP
 Origin: NFR
 Destination: DRCOG



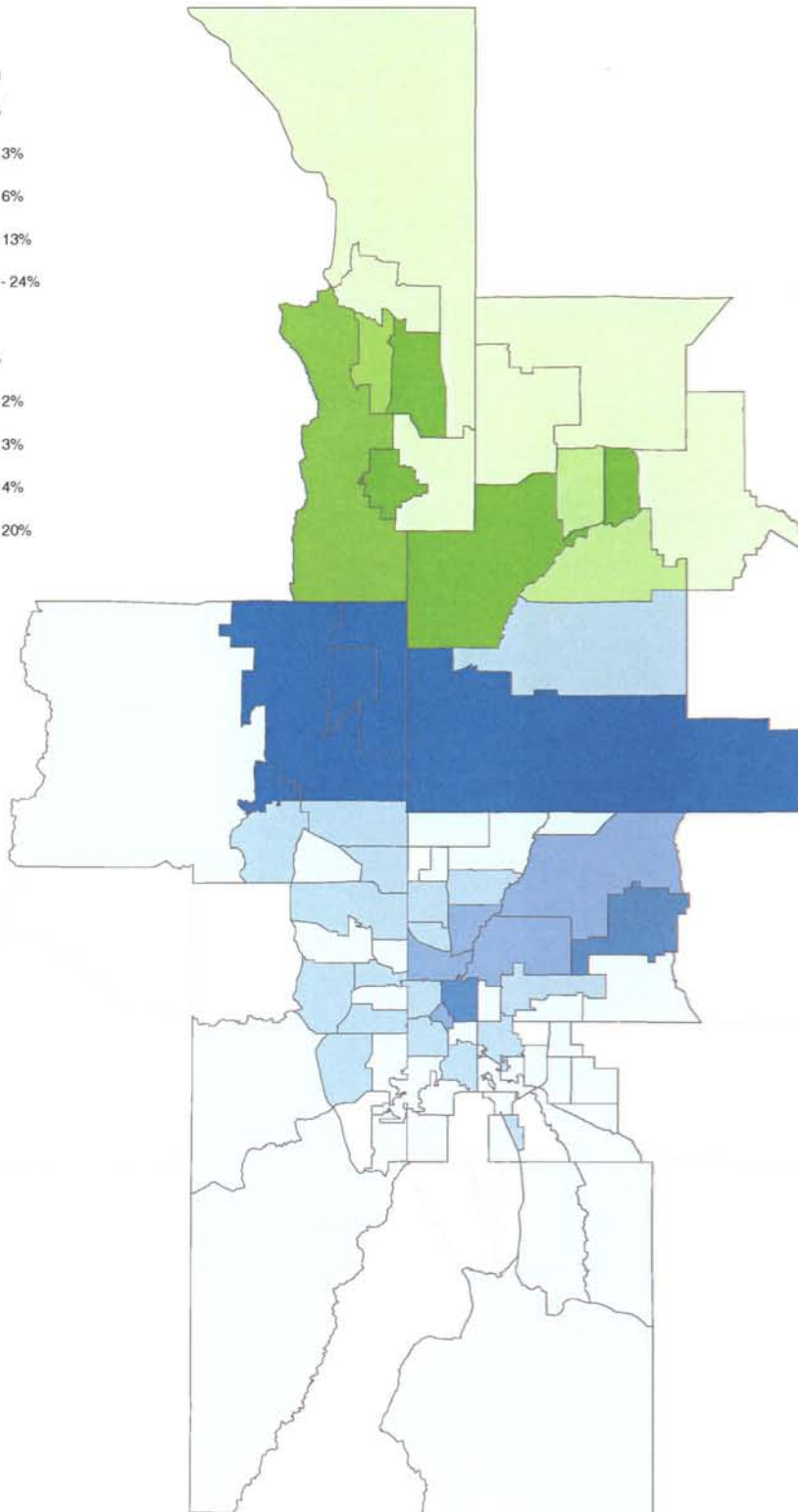
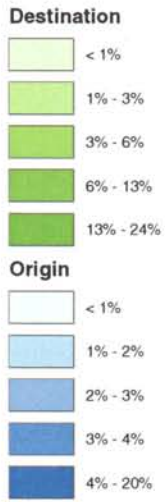
Trip Purpose: HBW
 Source: DRCOG 1998 Roadside Survey
 Origin: NFR
 Destination: DRCOG



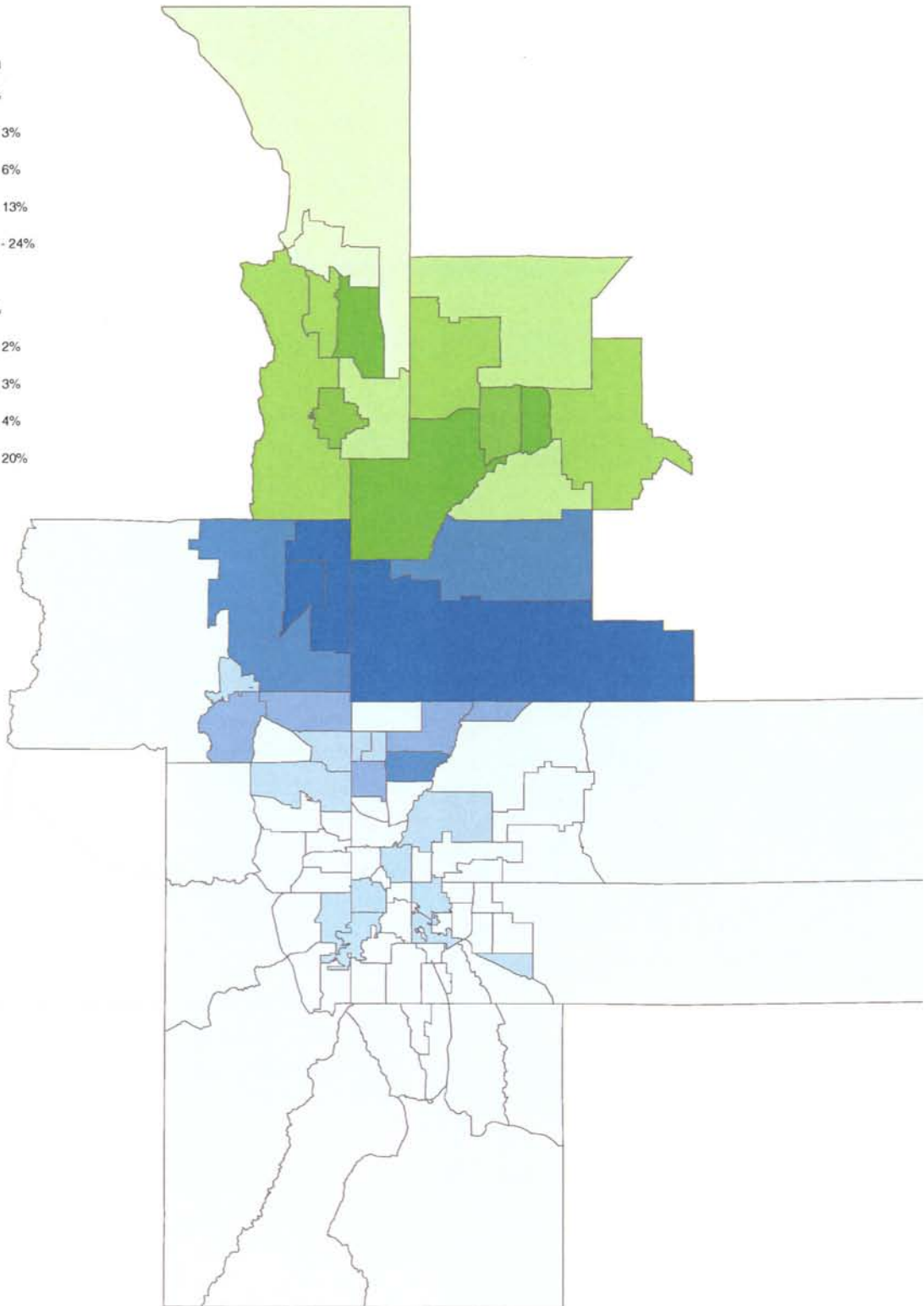
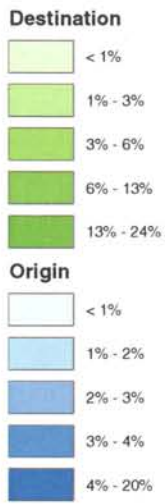
Trip Purpose: HBW
 Source: Bi-Regional Trip Table
 Origin: NFR
 Destination: DRCOG



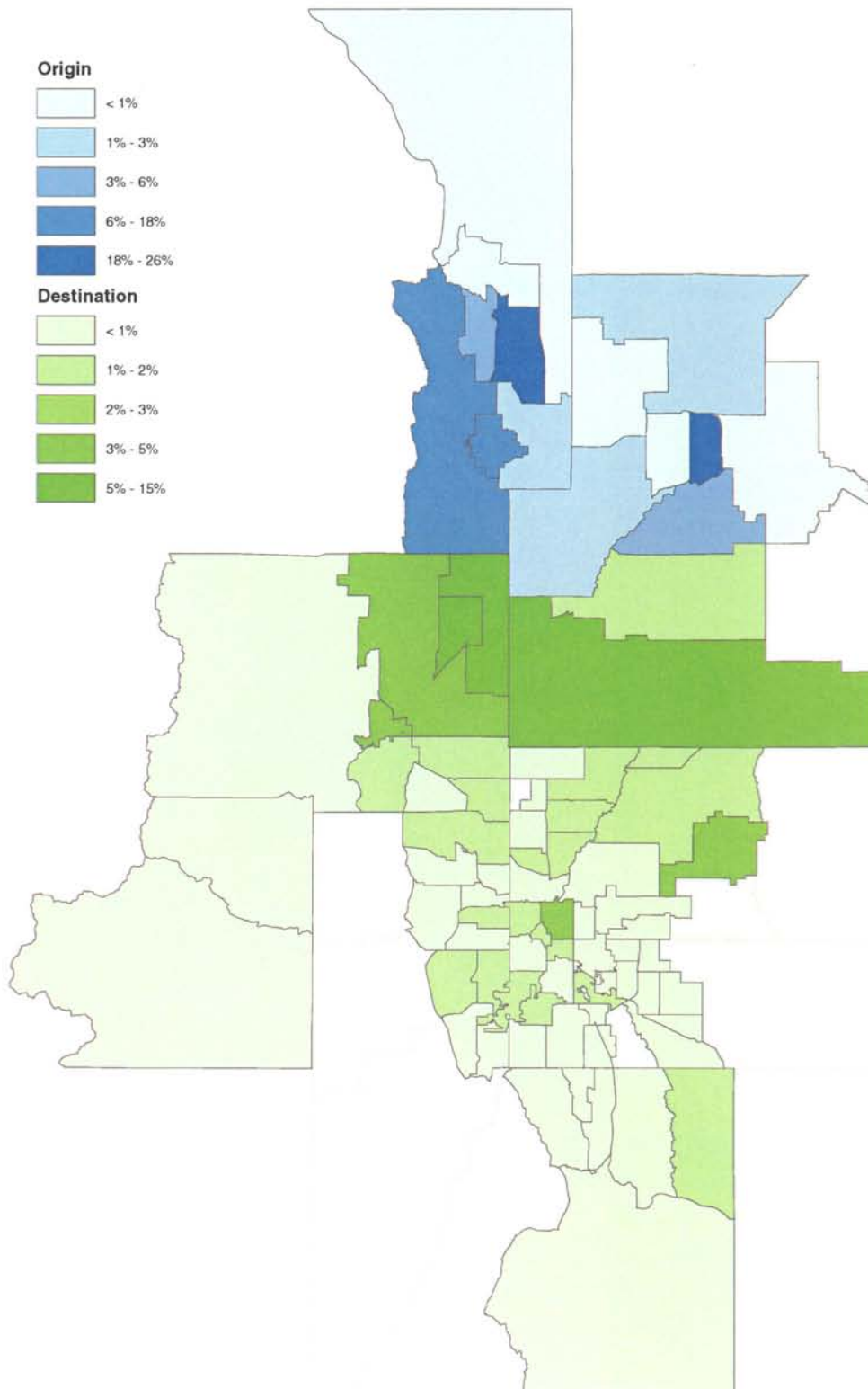
Trip Purpose: HBW
 Source: 2000 Census CTPP
 Origin: DRCOG
 Destination: NFR



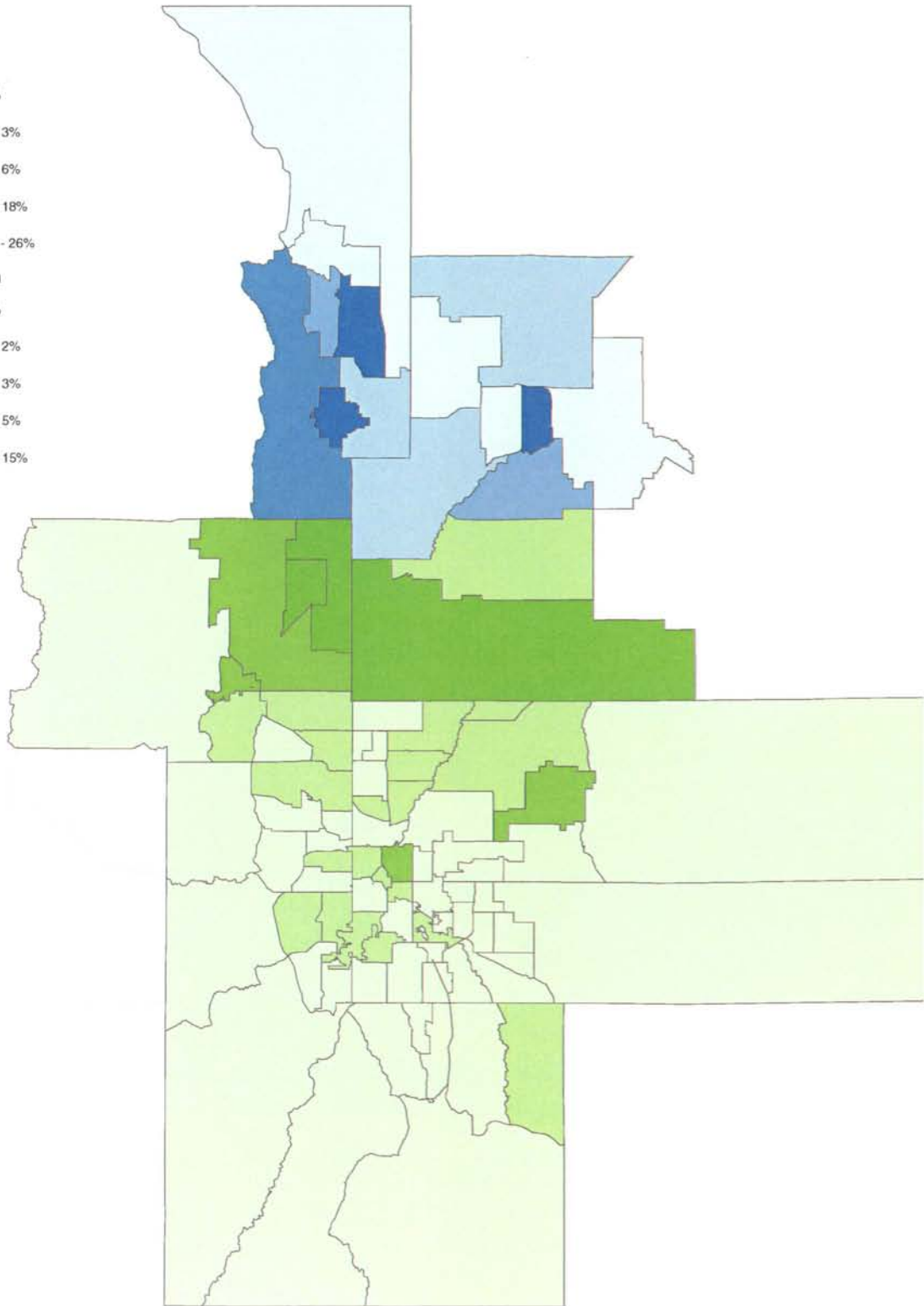
Trip Purpose: HBW
 Source: DRCOG 1998 Roadside Survey
 Origin: DRCOG
 Destination: NFR



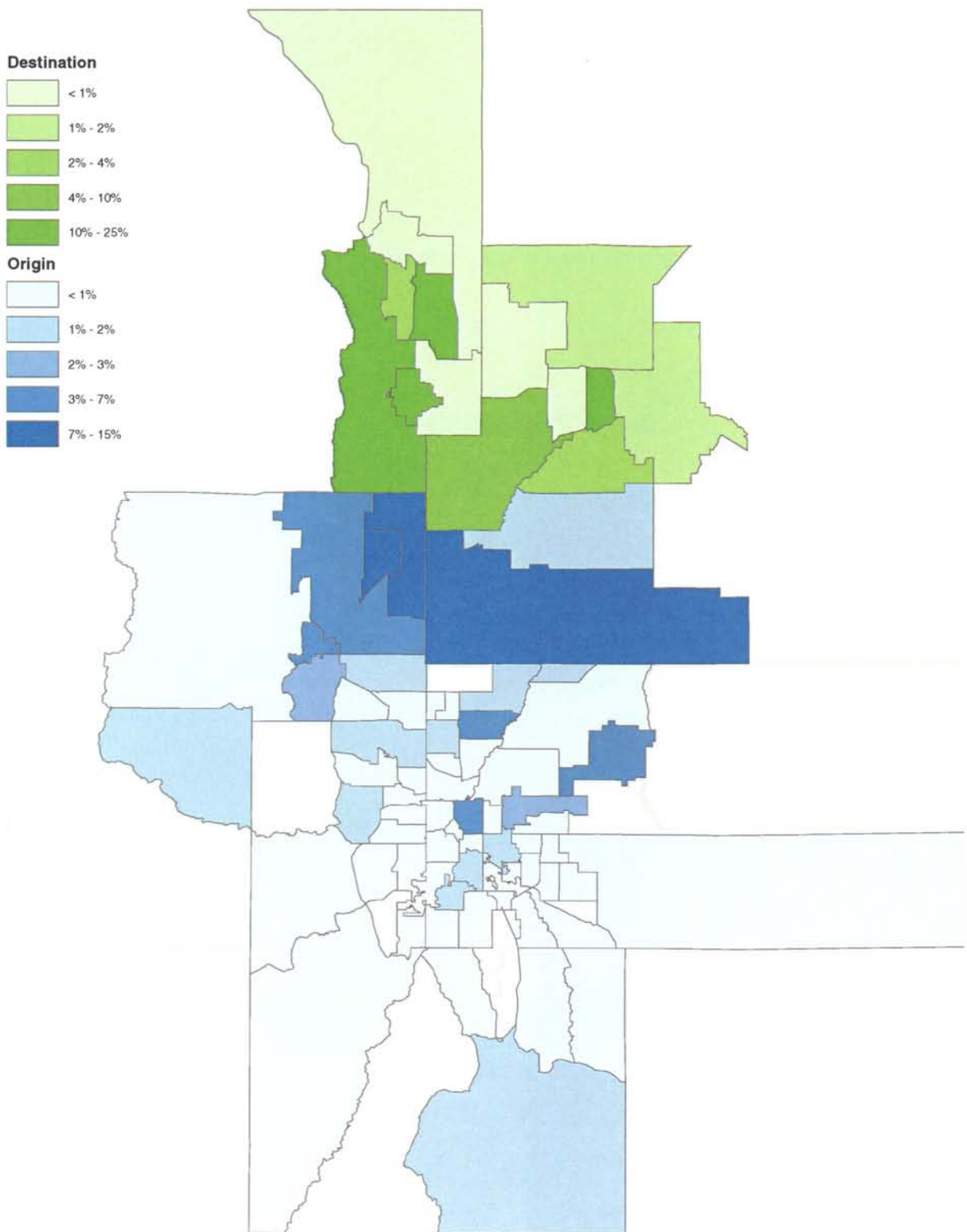
Trip Purpose: HBW
 Source: Bi-Regional Trip Table
 Origin: DRCOG
 Destination: NFR



Trip Purpose: HBO
 Source: DRCOG 1998 Roadside Survey
 Origin: NFR
 Destination: DRCOG



Trip Purpose: HBO
 Source: Bi-Regional Trip Table
 Origin: NFR
 Destination: DRCOG



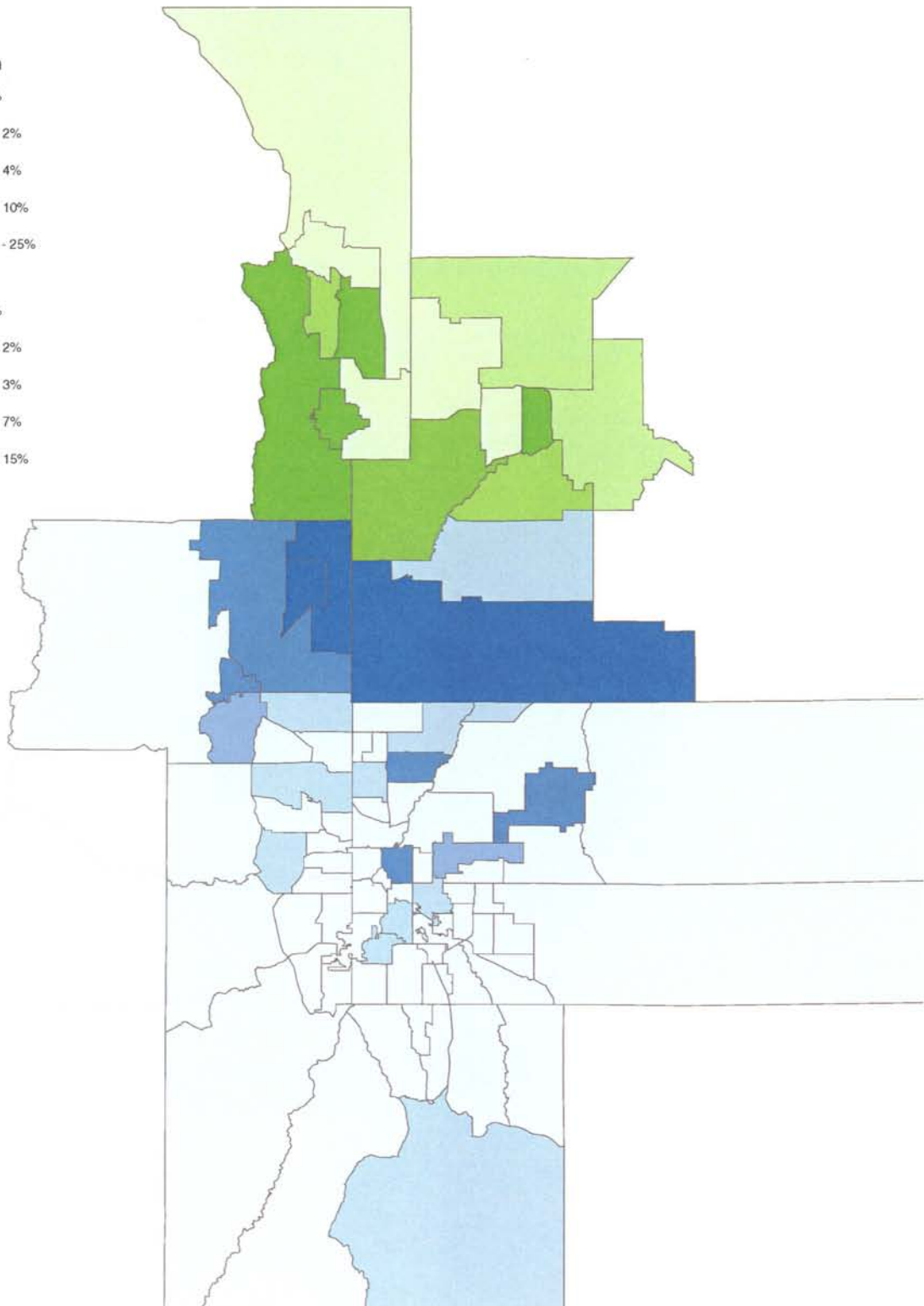
Trip Purpose: HBO
 Source: DRCOG 1998 Roadside Survey
 Origin: DRCOG
 Destination: NFR

Destination

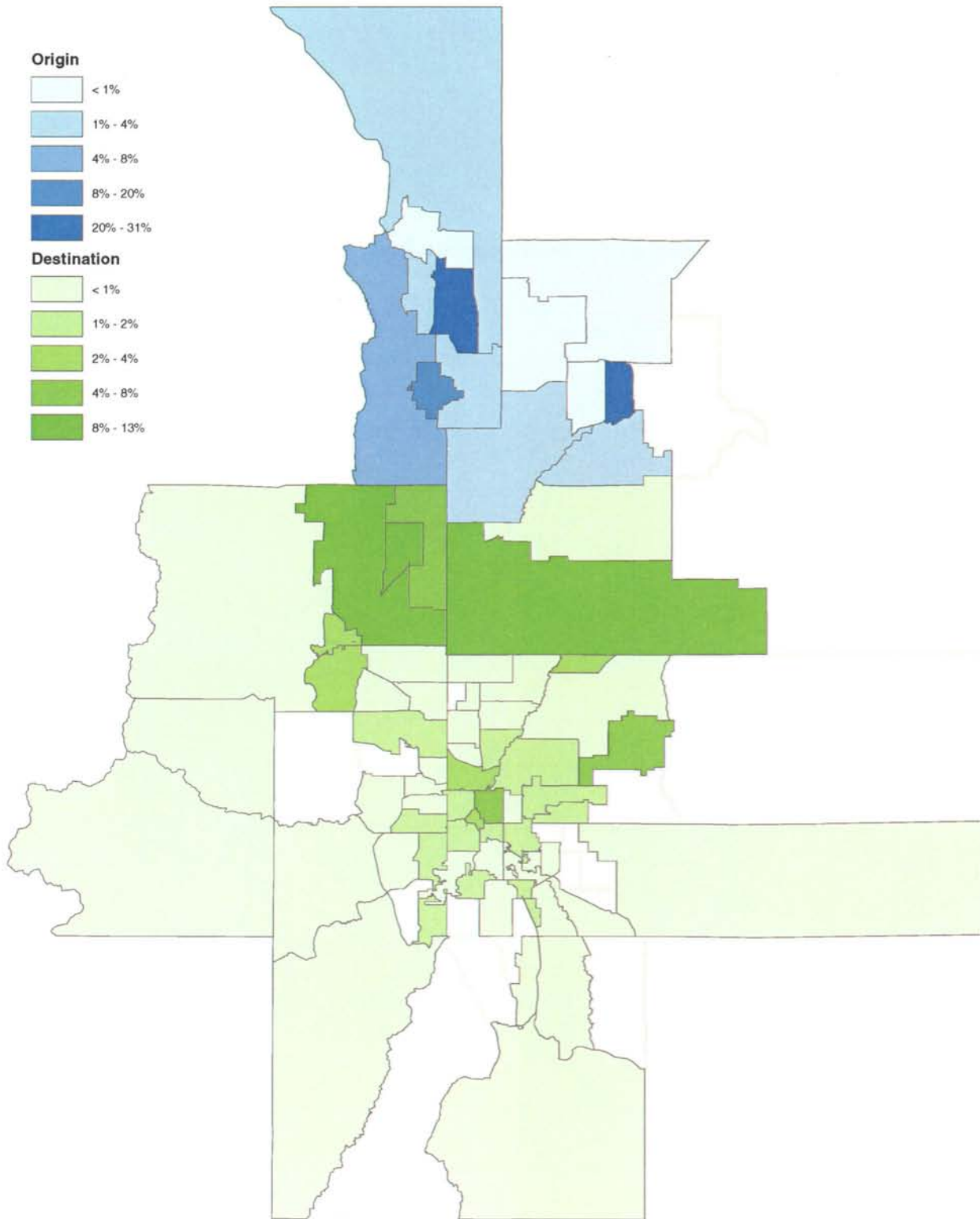
- < 1%
- 1% - 2%
- 2% - 4%
- 4% - 10%
- 10% - 25%

Origin

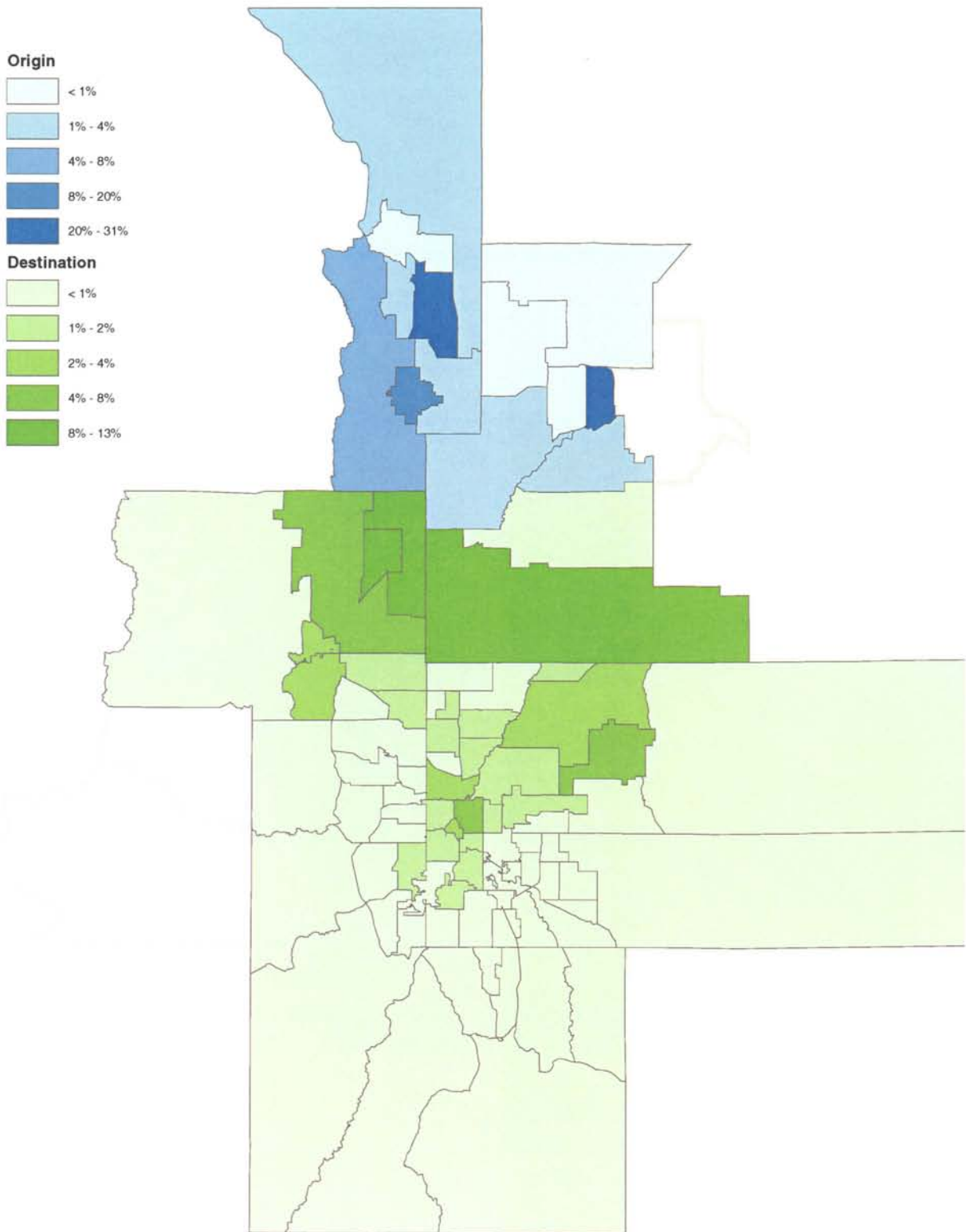
- < 1%
- 1% - 2%
- 2% - 3%
- 3% - 7%
- 7% - 15%



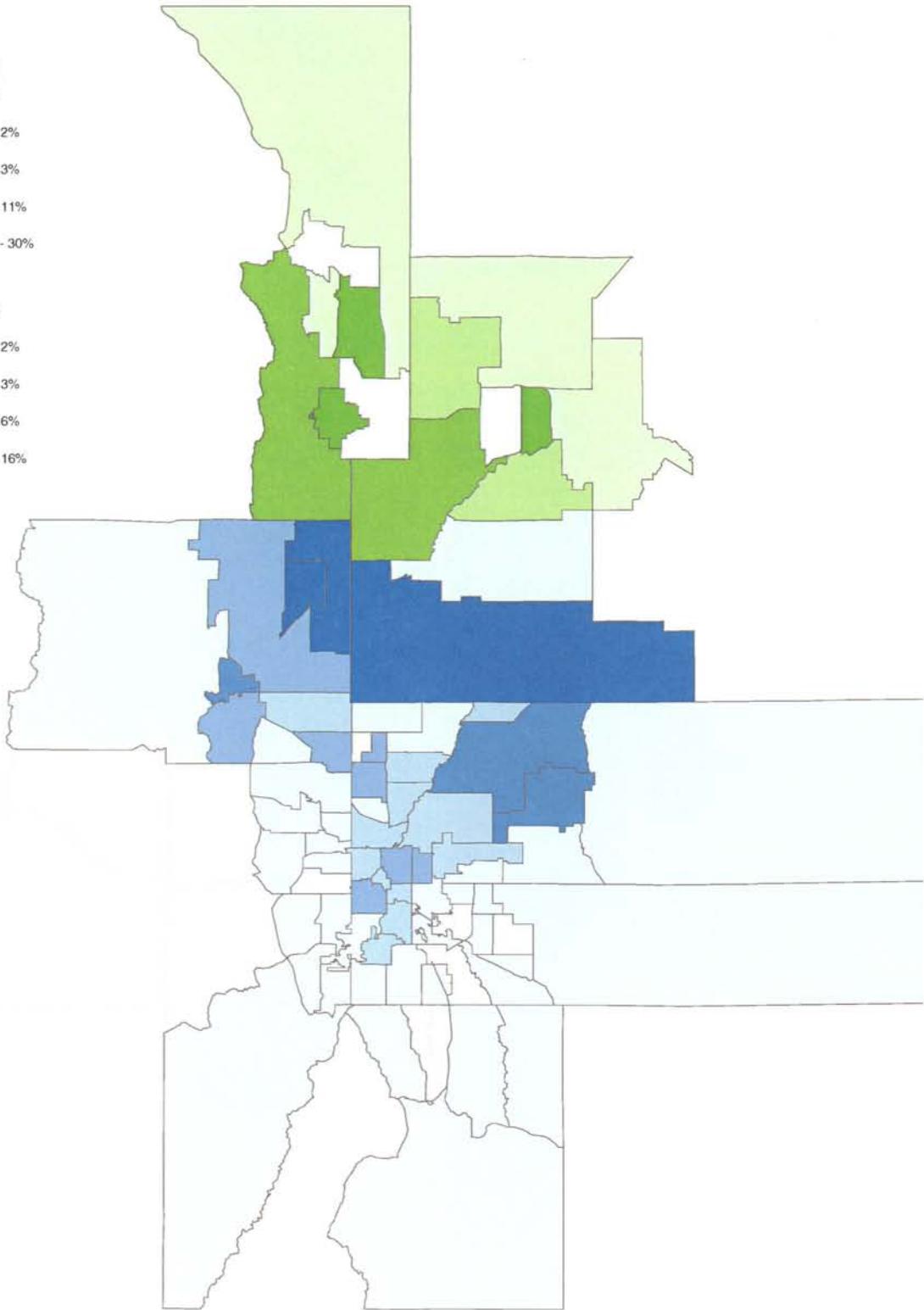
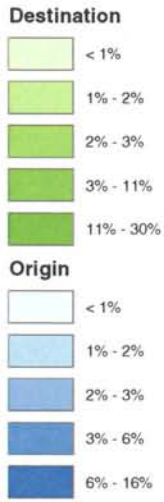
Trip Purpose: HBO
Source: Bi-Regional Trip Table
Origin: DRCOG
Destination: NFR



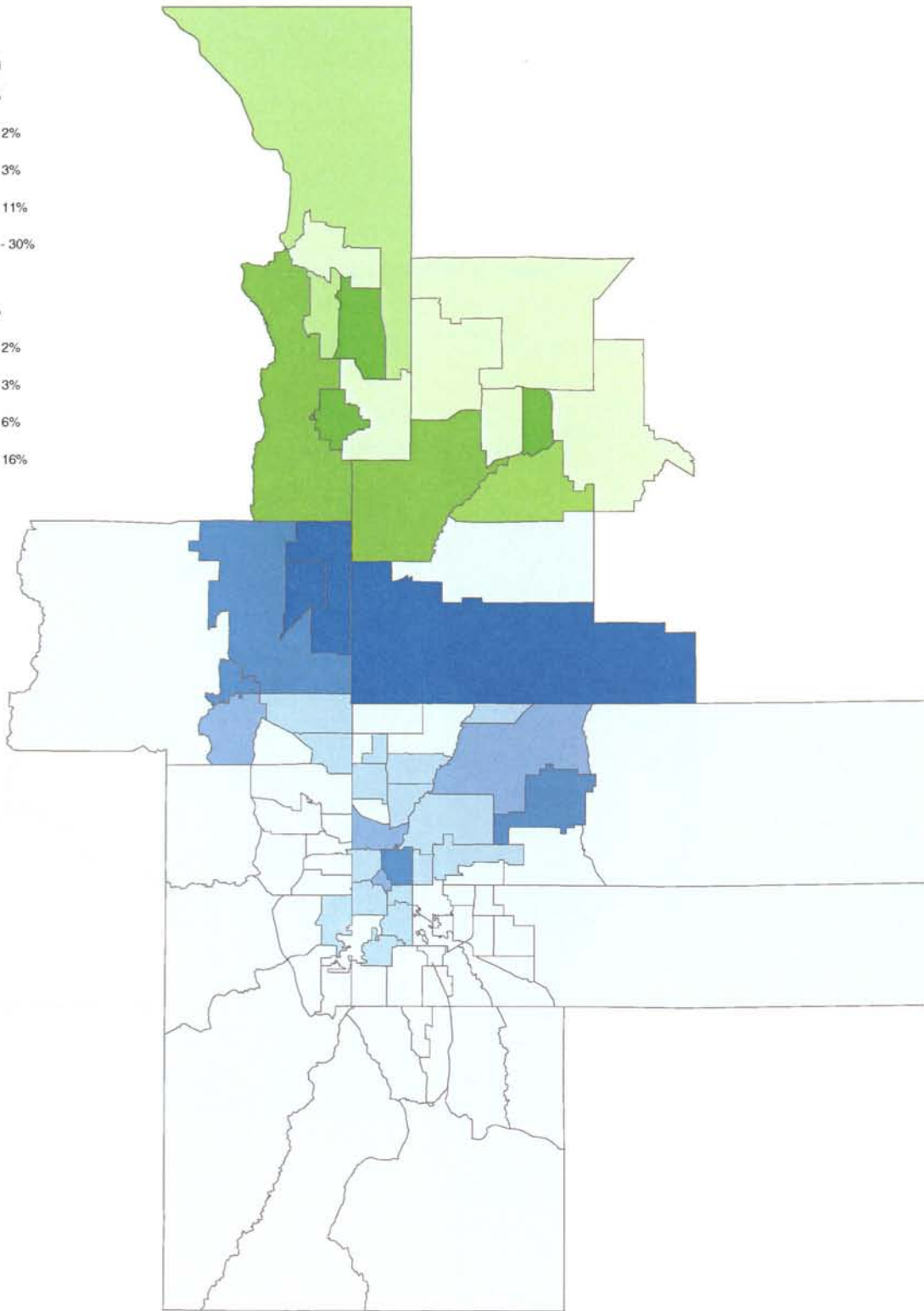
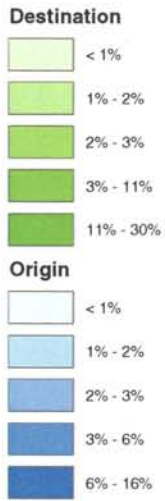
Trip Purpose: NHB
 Source: DRCOG 1998 Roadside Survey
 Origin: NFR
 Destination: DRCOG



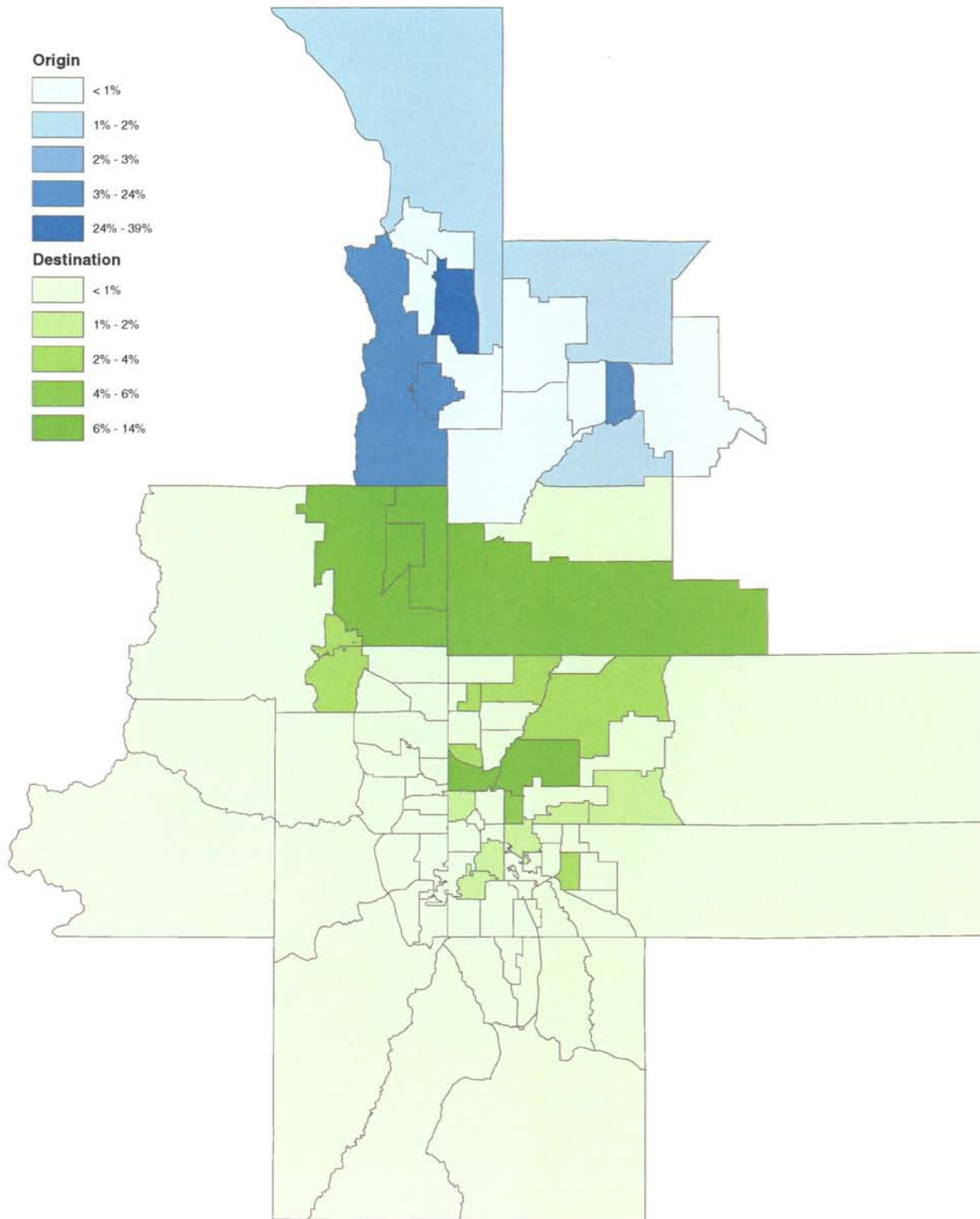
Trip Purpose: NHB
 Source: Bi-Regional Trip Table
 Origin: NFR
 Destination: DRCOG



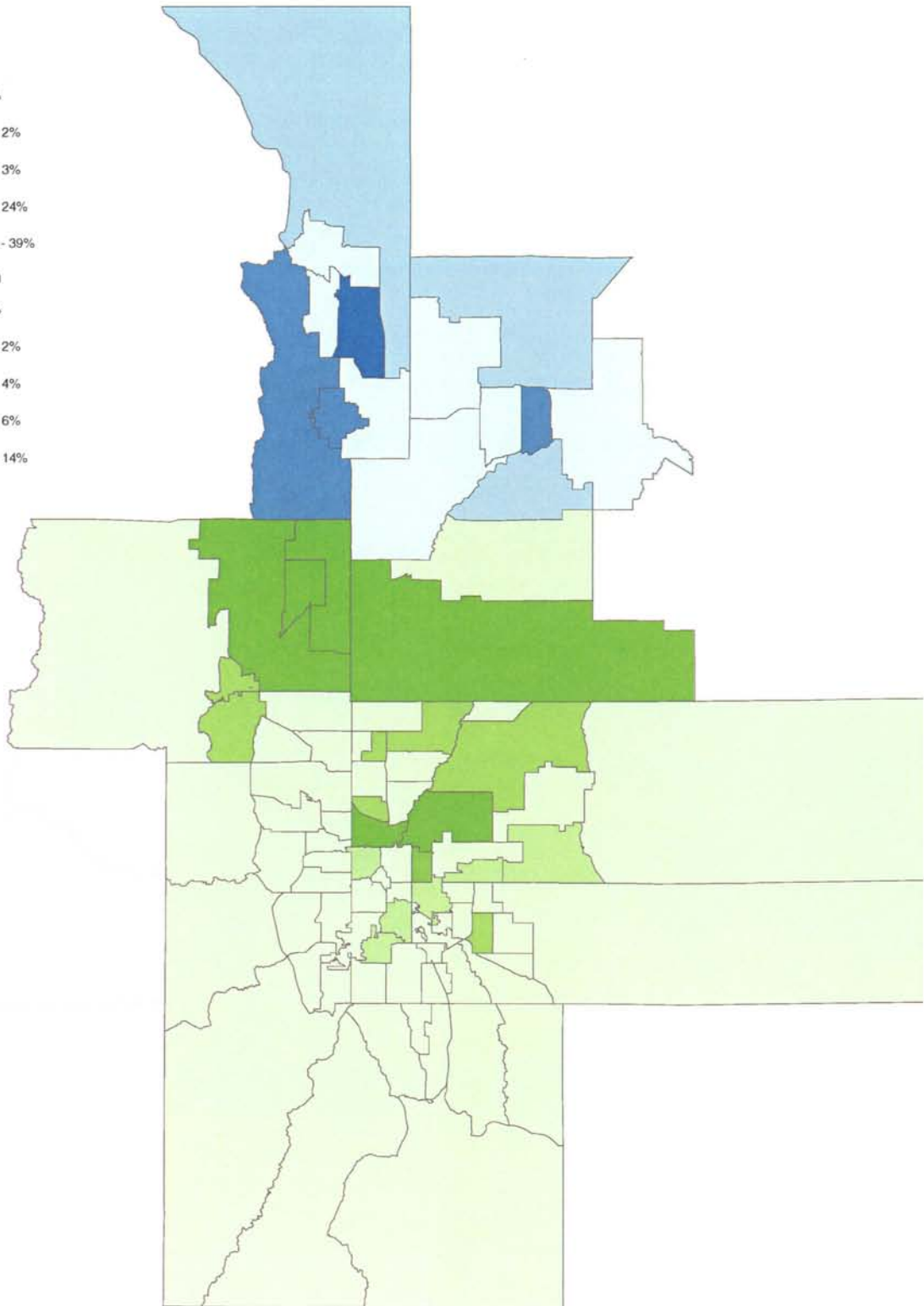
Trip Purpose: NHB
 Source: DRCOG 1998 Roadside Survey
 Origin: DRCOG
 Destination: NFR



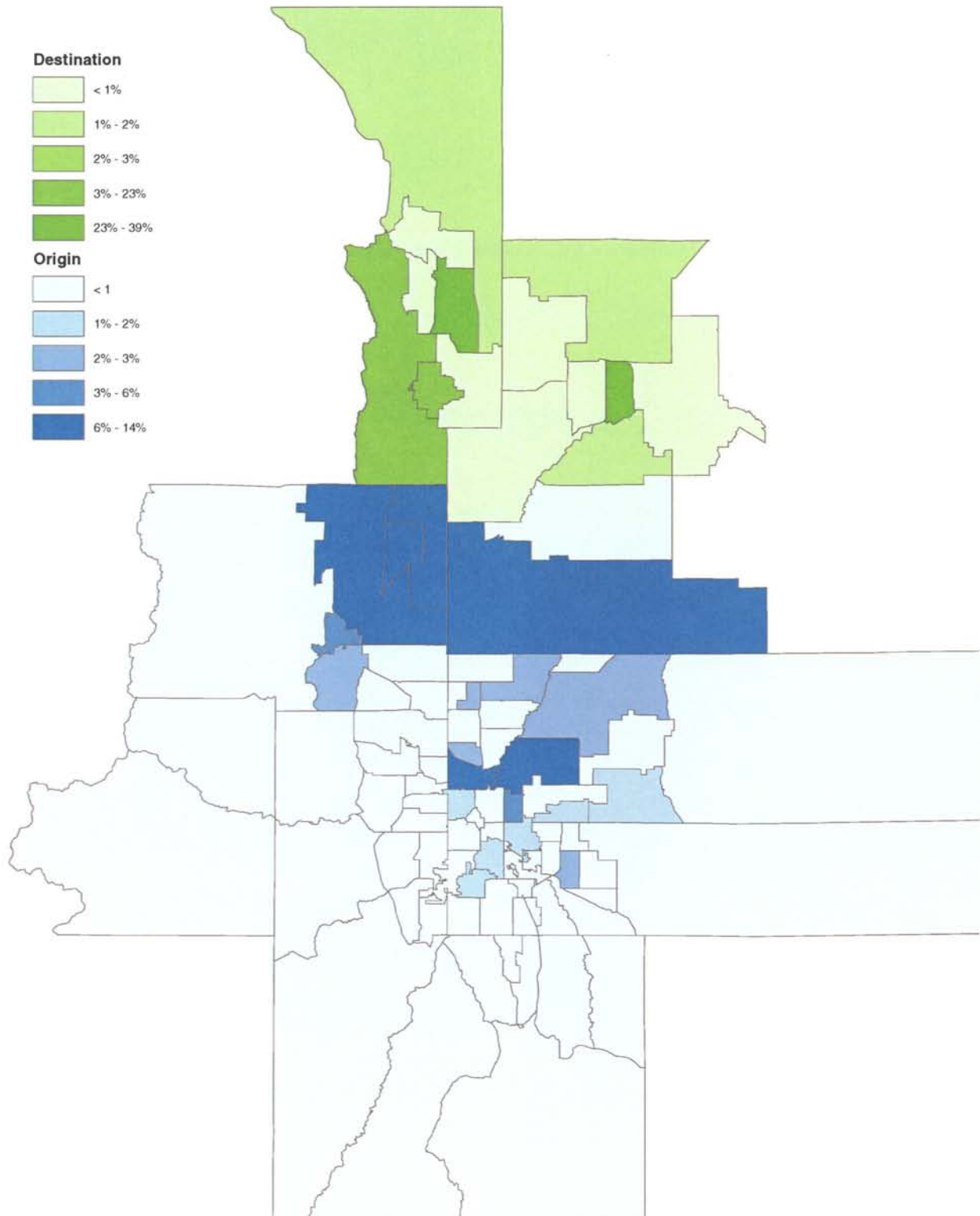
Trip Purpose: NHB
 Source: Bi-Regional Trip Table
 Origin: DRCOG
 Destination: NFR



Trip Purpose: COM
 Source: 1998 DRCOG Roadside Survey
 Origin: NFR
 Destination: DRCOG

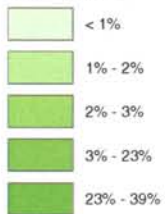


Trip Purpose: COM
 Source: Bi-Regional Trip Table
 Origin: NFR
 Destination: DRCOG

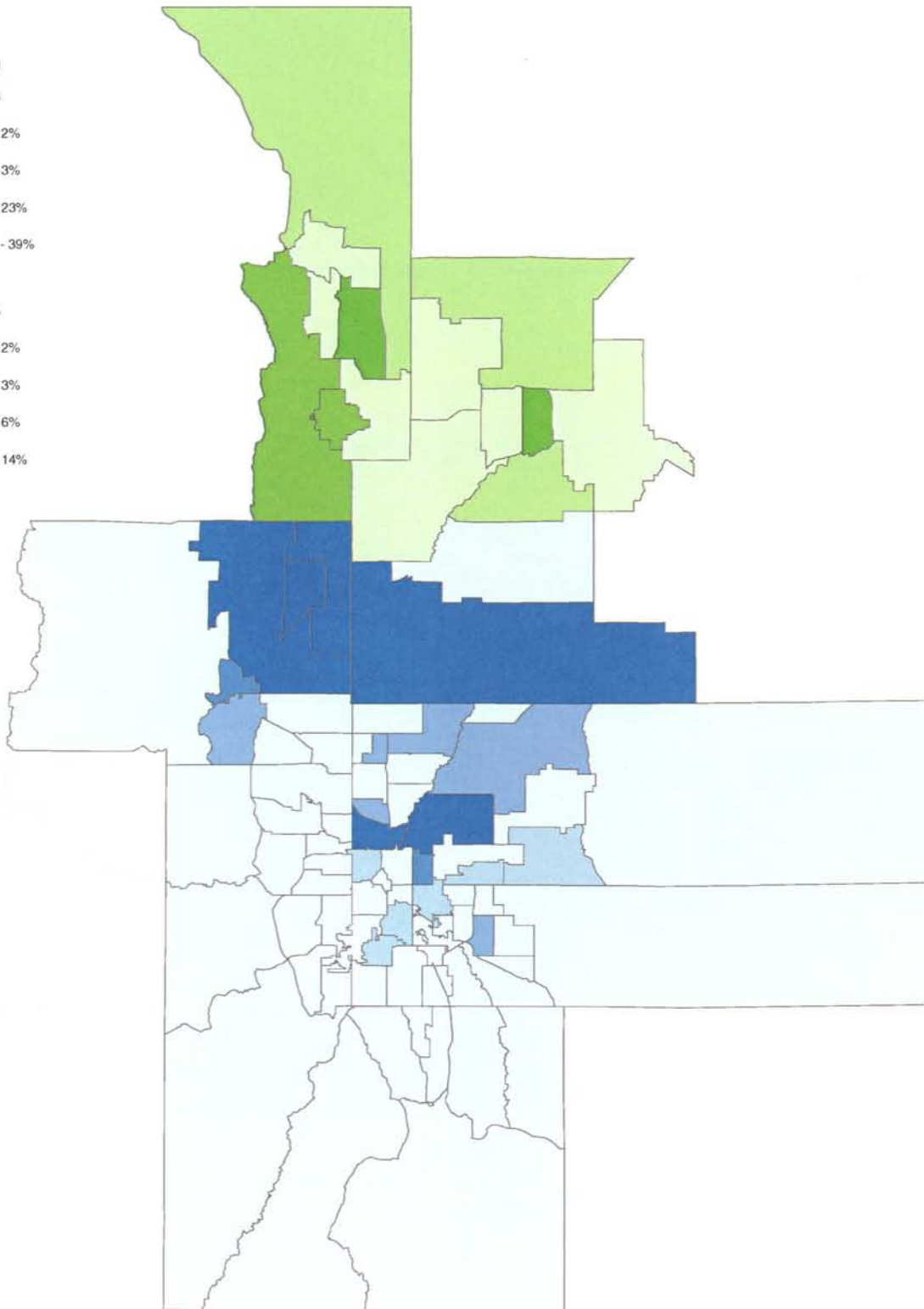
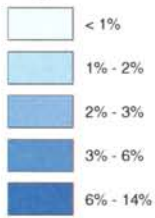


Trip Purpose: COM
 Source: DRCOG 1998 Roadside Survey
 Origin: DRCOG
 Destination: NFR

Destination

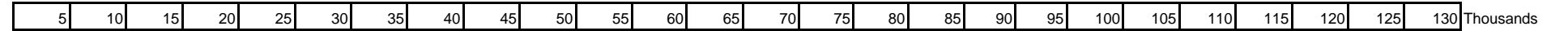


Origin



Trip Purpose: COM
Source: Bi-Regional Trip Table
Origin: DRCOG
Destination: NFR

Combined Travel Model
Summary of Border Trips



TOTAL

MPO Models	NFR 2000	Vehicle Trips	Highways	89,000	I-25 56k			US-287 14k	US-85 15k	CR
		External Trip Types	89,000	E-E 24k	I-E 32k		4k	I-E 10k	5k	I-E 10k
	DRCOG 2001	Vehicle Trips	Highways	95,000	I-25 55k			US-287 16k	US-85 18k	CR
		External Trip Types	95,000	E-E 8k	I-E 47k		I-E 16k	2k	I-E 16k	I-E 7k

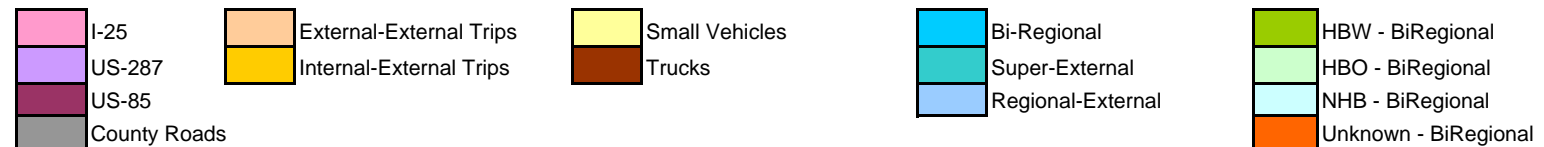
1998 Roadside Survey	Vehicle Trips	Highways	I-25, US-287, US-85									
		Total Vehicles	81,000	Small Vehicles 71k					Trucks 10k			
		Endpoint Types	81,000	Bi-regional Vehicles 54k				2k	R-E 15k	3k	2k	5k
		BiRegional Trip Purposes	81,000	HBW 18k	HBO 20k	NHB 13k	3k	2k	R-E 15k	3k	2k	5k
	Person & Vehicle Trips	Highways	I-25, US-287, US-85									
		Endpoint Types	100,000	Bi-regional Person Trips 73k					2k	R-E 15k	3k	2k
BiRegional Trip Purposes		100,000	HBW 21k	HBO 29k	NHB 18k	5k	2k	R-E 15k	3k	2k	5k	

Survey Processing	Person & Vehicle Trips	Distribution of Unknown	100,000	HBW 23k	HBO 31k	NHB 19k	2k	R-E 15k	Trucks 10k
		Inclusion of County Road	111,000	HBW 26k	HBO 36k	NHB 22k	2k	R-E 15k	Trucks 10k
		Factoring to 2001	116,000	HBW 28k	HBO 38k	NHB 23k	2k	R-E 15k	Trucks 10k

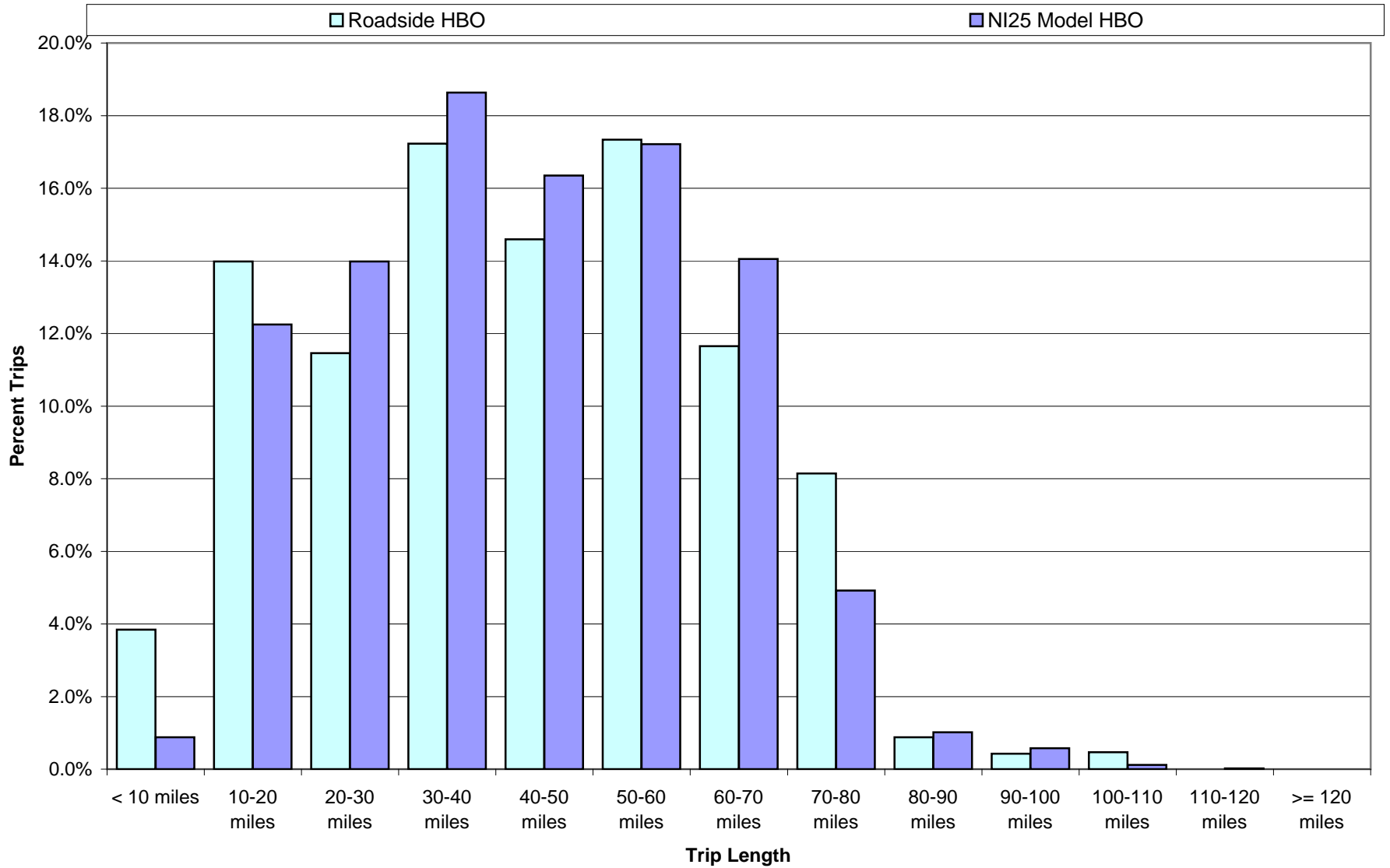
Trip Table	Person & Vehicle Trips	Bi Regional	88,000	HBW 27k		HBO 36k		NHB 22k	3k		
		BiRegional & External	118,000	L 4k	M 16k	H 7k	HBO 36k		NHB 22k	3k	3k
	Vehicle Trips	Estimated Avg Auto Occup	97,000	HBW 23k		HBO 25k		NHB 16k	3k	3k	Regional-External 27k

Not to Scale.
Numbers are rounded.

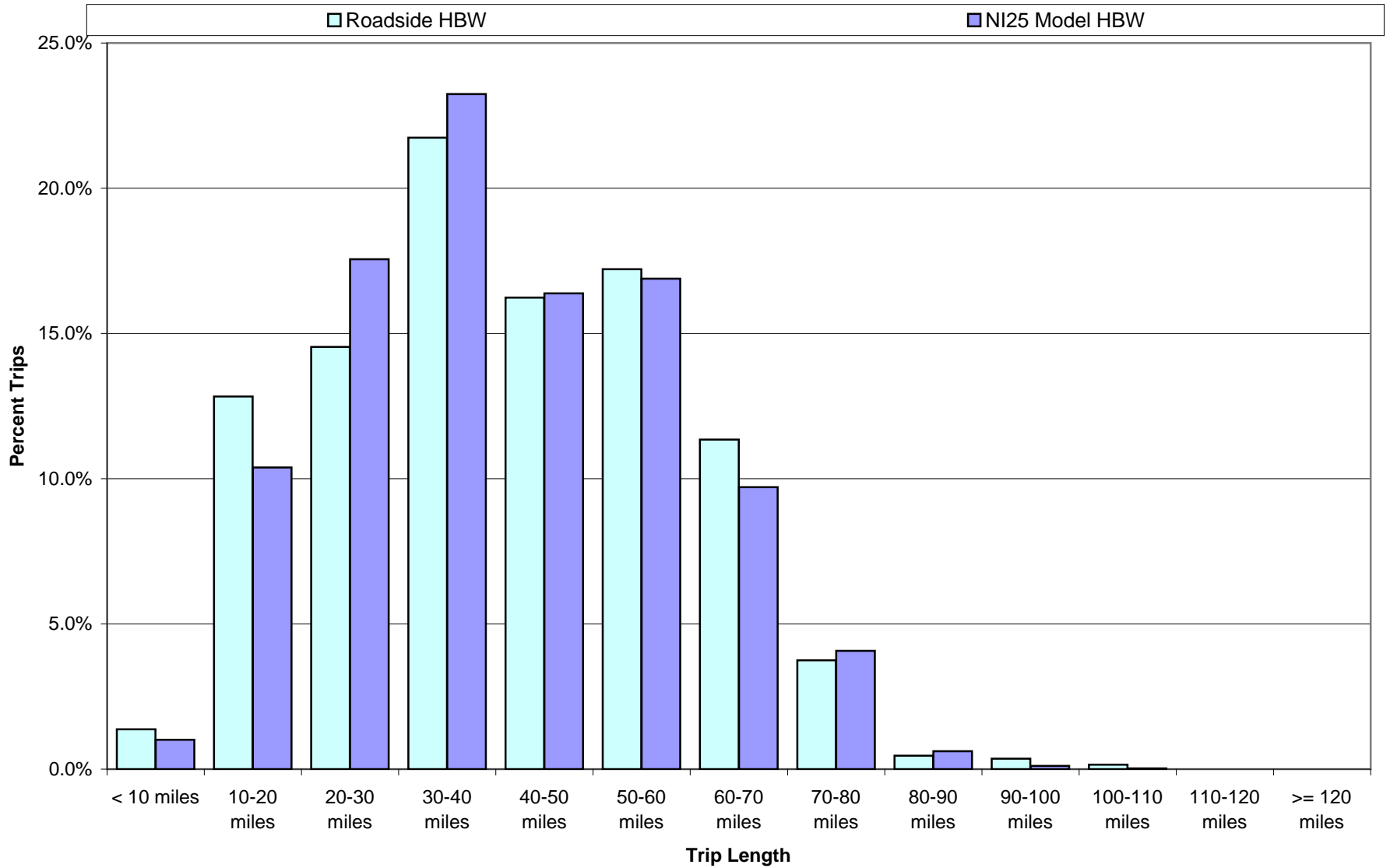
Italic Text: Vehicle Trips
White Text: Trucks



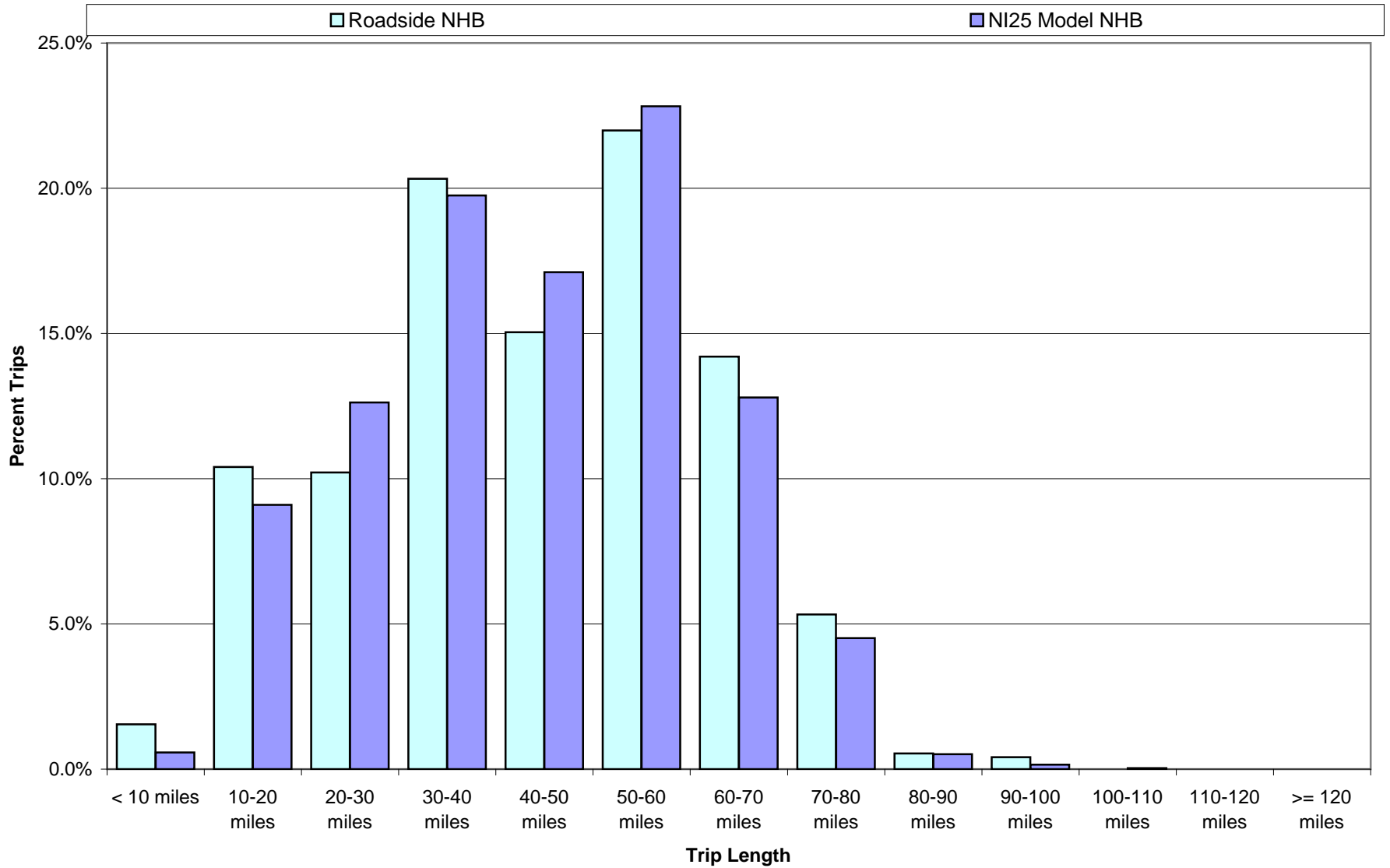
BiRegional Trip Length Distribution HBO



BiRegional Trip Length Distribution HBW



BiRegional Trip Length Distribution NHB



Model/roadside
sta sum

Source	SiteName	HBPurpose	TripLength_0_10	TripLength_10_20	TripLength_20_30	TripLength_30_40	TripLength_40_50	TripLength_50_60	TripLength_60_70	TripLength_70_80	TripLength_80_90	TripLength_90_100	TripLength_100	SUM		
NI25 Model	I25	NHB	0.620387836	22.12031596	158.477796	585.9420343	1210.417936	1641.642549	1540.548581	905.8197252	332.6663794	68.02590861	16.85159824	6483.133		
NI25 Model	I25	HBO	0.723785809	25.80703529	184.8907621	683.59904	1412.154259	1915.249641	1797.306678	1056.789679	388.1107759	79.36356005	19.66019795	7563.655		
NI25 Model	I25	HBW	0.853033275	30.41543444	217.9069696	805.6702971	1664.324663	2257.258505	2118.254299	1245.502122	457.4162717	93.53562434	23.17094758	8914.308	22961.1	
NI25 Model	US287	NHB	32.49303637	396.0688483	509.2450526	499.5299539	301.6321982	185.0392353	122.0092521	69.47517247	27.94885459	6.773897408	1.976134068	2152.192		
NI25 Model	US287	HBW	56.86281365	693.1204845	891.178842	874.1774194	527.8563468	323.8186618	213.5161911	121.5815518	48.91049553	11.85432046	3.45823462	3766.335		
NI25 Model	US287	HBO	69.8600282	851.5480238	1094.876863	1073.989401	648.5092261	397.8343559	262.319892	149.3716208	60.09003736	14.56387943	4.248688247	4627.212	10545.74	
NI25 Model	US85	NHB	0.70626882	11.90269644	80.84393666	283.5808462	416.3432294	474.4820961	462.6162539	318.023539	103.9592528	28.21130109	8.265524574	2188.935		
NI25 Model	US85	HBW	0.770475077	12.98475975	88.19338544	309.3609231	454.1926139	517.6168321	504.672277	346.9347698	113.410094	30.77596483	9.016935899	2387.929		
NI25 Model	US85	HBO	1.412537641	23.80539287	161.6878733	567.1616924	832.6864588	948.9641923	925.2325078	636.0470779	207.9185056	56.42260218	16.53104915	4377.87	8954.734	42461.57
Roadside	I25	NHB	101.3488381	293.2961316	1161.135148	1276.641265	1839.638117	1950.665688	924.6441135	240.1047521	94.9527772	0	140.2975132	8022.724		
Roadside	I25	HBO	116.2500177	819.8755529	1095.106703	1715.714728	1874.2257	2207.000159	1232.83174	192.5146567	105.5943391	96.99581756	62.03069781	9518.14		
Roadside	I25	HBW	159.7312743	1103.238765	2023.720272	2422.043007	2182.133952	2107.204781	621.2360417	95.89285764	65.55739746	27.02369793	0	10807.78	28348.65	
Roadside	US287	NHB	420.8550551	865.4686958	723.4639101	373.1385552	193.7451556	65.61596936	38.23511914	0	0	10.14651015	0	2690.669		
Roadside	US287	HBW	640.8158885	1813.53567	1464.064406	572.2340586	250.92653	25.80089981	17.66786969	10.54248025	9.926729783	0	9.926729783	4815.441		
Roadside	US287	HBO	1258.906212	2209.340187	1065.439091	682.9329762	359.0823247	151.7916869	65.92589953	8.547630147	29.95112976	15.87417003	0	5847.791	13353.9	
Roadside	US85	HBW	104.9709599	660.172731	569.8889958	741.8421012	755.2404734	510.0494224	74.22171866	0	24.41339948	0	0	3440.8		
Roadside	US85	NHB	135.4931001	309.0942044	712.7082872	568.9037396	980.7025028	400.9174422	140.6011373	40.42763958	8.411039653	16.82207931	17.08343961	3331.165		
Roadside	US85	HBO	401.0544224	1173.779749	957.7151584	926.6002603	1496.824504	794.7686438	201.0675641	44.68067823	0	8.945639976	0	6005.437	12777.4	54479.95
Source	SiteName	HBPurpose	TripLength_0_10	TripLength_10_20	TripLength_20_30	TripLength_30_40	TripLength_40_50	TripLength_50_60	TripLength_60_70	TripLength_70_80	TripLength_80_90	TripLength_90_100	TripLength_100	SUM		
NI25 Model	I25	NHB	0.01%	0.34%	2.44%	9.04%	18.67%	25.32%	23.76%	13.97%	5.13%	1.05%	0.26%	1		
NI25 Model	I25	HBO	0.01%	0.34%	2.44%	9.04%	18.67%	25.32%	23.76%	13.97%	5.13%	1.05%	0.26%	1		
NI25 Model	I25	HBW	0.01%	0.34%	2.44%	9.04%	18.67%	25.32%	23.76%	13.97%	5.13%	1.05%	0.26%	1		
NI25 Model	US287	NHB	1.51%	18.40%	23.66%	23.21%	14.02%	8.60%	5.67%	3.23%	1.30%	0.31%	0.09%	1		
NI25 Model	US287	HBW	1.51%	18.40%	23.66%	23.21%	14.02%	8.60%	5.67%	3.23%	1.30%	0.31%	0.09%	1		
NI25 Model	US287	HBO	1.51%	18.40%	23.66%	23.21%	14.02%	8.60%	5.67%	3.23%	1.30%	0.31%	0.09%	1		
NI25 Model	US85	NHB	0.03%	0.54%	3.69%	12.96%	19.02%	21.68%	21.13%	14.53%	4.75%	1.29%	0.38%	1		
NI25 Model	US85	HBW	0.03%	0.54%	3.69%	12.96%	19.02%	21.68%	21.13%	14.53%	4.75%	1.29%	0.38%	1		
NI25 Model	US85	HBO	0.03%	0.54%	3.69%	12.96%	19.02%	21.68%	21.13%	14.53%	4.75%	1.29%	0.38%	1		
Roadside	I25	NHB	1.26%	3.66%	14.47%	15.91%	22.93%	24.31%	11.53%	2.99%	1.18%	0.00%	1.75%	1		
Roadside	I25	HBO	1.22%	8.61%	11.51%	18.03%	19.69%	23.19%	12.95%	2.02%	1.11%	1.02%	0.65%	1		
Roadside	I25	HBW	1.48%	10.21%	18.72%	22.41%	20.19%	19.50%	5.75%	0.89%	0.61%	0.25%	0.00%	1		
Roadside	US287	NHB	15.64%	32.17%	26.89%	13.87%	7.20%	2.44%	1.42%	0.00%	0.00%	0.38%	0.00%	1		
Roadside	US287	HBW	13.31%	37.66%	30.40%	11.88%	5.21%	0.54%	0.37%	0.22%	0.21%	0.00%	0.21%	1		
Roadside	US287	HBO	21.53%	37.78%	18.22%	11.68%	6.14%	2.60%	1.13%	0.15%	0.51%	0.27%	0.00%	1		
Roadside	US85	HBW	3.05%	19.19%	16.56%	21.56%	21.95%	14.82%	2.16%	0.00%	0.71%	0.00%	0.00%	1		
Roadside	US85	NHB	4.07%	9.28%	21.40%	17.08%	29.44%	12.04%	4.22%	1.21%	0.25%	0.50%	0.51%	1		
Roadside	US85	HBO	6.68%	19.55%	15.95%	15.43%	24.92%	13.23%	3.35%	0.74%	0.00%	0.15%	0.00%	1		
														0		

Note bi-regional only

Sort	X										
O_NI25RSA	D_NI25RSA	C_HBW	HBW	R_HBW	R_HBO	HBO	R_NHB	NHB	R_COM	COM	
6	104	1736	1195	299	917	1118	206	359	78	84	
8	104	1160	798	46	27	32	19	67	0	0	
5	104	1108	763	488	540	659	302	435	66	71	
6	102	910	626	87	178	217	26	37	39	42	
11	802	902	621	272	409	499	389	510	64	69	
6	108	724	498	131	86	105	56	45	0	0	
6	103	560	386	187	554	675	113	251	106	114	
5	103	541	373	248	309	377	170	302	39	42	
5	102	522	360	151	210	256	94	91	9	9	
802	11	521	359	309	594	725	450	510	64	69	
8	102	518	357	81	19	23	69	42	0	0	
8	802	459	316	57	64	78		101	0	0	
8	103	458	315	46	33	40		11	0	0	
10	802	436	300	19		0		0	0	0	
5	108	383	264	58	120	147	107	103	39	42	
803	11	374	102	35	42	51	19	20	8	9	
103	8	371	255	123	136	165	17	11	0	0	
3	104	339	233	97	9	11	27	27	0	0	
8	108	333	229	19		0		50	0	0	
11	412	312	215	12	161	196	73	87	0	0	
9	802	289	199			0		0	0	0	
5	802	288	198	224	316	386	251	222	39	42	
11	104	266	183	251	217	265	124	155	0	0	
5	412	266	183	29	18	22		0	0	0	
104	8	262	180	67	145	177	91	67	0	0	
802	8	255	176	124	155	189	167	101	0	0	
4	104	247	170	260	420	513	132	287	21	23	
104	5	235	162	498	823	1004	413	435	66	71	
12	802	234	161			0		5	0	0	
104	4	212	146	327	359	438	341	287	21	23	
6	107	212	146	75	31	38	33	46	0	0	
4	412	198	137	19	32	39	133	116	0	0	
3	412	192	132			0		0	0	0	
11	803	178	41	11	153	187	13	20	8	9	
11	311	174	120	85	34	42		22	34	36	
4	102	167	115	233	198	242	368	270	59	63	
103	5	166	114	465	709	865	327	302	39	42	
5	107	161	111	44	68	83	26	74	39	42	
6	704	161	111	31		0		0	0	0	
6	802	158	109	88	76	92	73	73	19	21	
14	802	154	97	66	163	199	122	83	0	0	
11	103	151	104	111	127	154	100	152	0	0	
6	105	150	103	54	29	36		10	0	0	
802	10	150	103	16		0		0	0	0	
104	11	149	102	59	253	309	131	155	0	0	
8	412	149	102			0		0	0	0	
103	4	146	100	212	248	302	209	201	59	63	

TRIP TABLE VERIFICATION METHODOLOGY & RESULTS YEAR 2001 AND 2030 COMBINED MODELS

The methodology for verifying the combined model trip table matrices is detailed below. The results are shown in the model summaries following the methodology section.

TRIP TABLE VERIFICATION METHODOLOGY

EE Trip Matrix

- ▶ Compare DRCOG 2001 dst_ee.mtx with N. I-25 combined model br_dst_ee.mtx file.
 1. Look at top 5 to 10 zones with external-to-external trip totals.
 2. Compare To (columns) and From (rows) sums. All zones should match except for zones 2651, 2652, and 2653. These external zones were eliminated in the combined model and therefore receive zero trips.
 3. Compare individual cells for the top 10 zones in both rows and columns, except 2651, 2652, and 2653. All cells should match.

- ▶ Compare NFRMPO EEtrips.dbf with N. I-25 combined model br_dst_ee.mtx file.
 1. Look at top 5 to 10 zones with external-to-external trip totals.
 2. Compare To (columns) and From (rows) sums. All zone sums should match.
 3. Compare individual cells for the top zones in both rows and columns. All cells should match except 3472, 3470, and 3467. These external zones were eliminated in the combined model and therefore receive zero trips.

- ▶ Check NFR & DRCOG overlapping external zones.
 1. DRCOG external zone 2654 should be zeroed out (along with 2651, 2652, and 2653).

2. NFR external zones 804, 805, and 807 should be zeroed out. These correspond to zones 3468, 3469, and 3471 in the N. I-25 Combined Model.
- ▶ Check N. I-25 Combined EE Table for proper EE movements.
 1. DRCOG to/from DRCOG = 2629-2664 to/from 2629-2664 (this is **1** block of cells).
 2. NFR to/from NFR = 3462-3479 to/from 3462-3479 (this is **1** block of cells).
 3. NFR to/from DRCOG = 2629-2664 to/from 3462-3479 (this is **2** blocks of cells).
 - ▶ Check N. I-25 Combined EE Table Sum Total.
 1. Add up the sums for rows 2651, 2652, and 2653.
 2. Add to it the sums for columns 2651, 2652, and 2653.
 3. Subtract out the 9 individual cells where these 3 rows and columns intersect (so as not to double count them).
 4. Subtract this new total from the original DRCOG EE total.
 5. Open the N. I-25 Combined EE matrix. Add up the sums of the rows and columns 2629-2664.
 6. The totals from bullet 4 and bullet 5 should match.

Commercial (COM) Trips

- ▶ Check the total sum of the BR_dst_com.mtx file.
 1. Look at total sum.
 2. Sum the NFR to DRCOG trips = cell block 2665-3461 to 2629-2664.
 3. Sum the DRCOG to NFR trips = cell block 2629-2624 to 2665-3461.
 4. The sum of steps 2 & 3 should = the total sum from step 1.
 5. If these are not equal, check the rest of the matrix, especially zone 2577 which may need to be zeroed out later.
 6. Add up row and column sums that lie outside the cell blocks mentioned in steps 2 & 3. Subtract overlapping cell totals.
 7. Subtract the sum in step 6 from the total sum in step 1. This should match the sum of steps 2 & 3.

Home Based Work (HBW) Trip Matrix & Non-Work (NWK) Trip Matrix

- ▶ Check each HBW matrix (LI, MI, & HI) and two of the NWK matrix (HNW & NHB) within the BR_dst_hbw.mtx and BR_dst_nwk.mtx files.

1. Sum the NFR to DRCOG trips = cell block 2665-3461 to 2629-2664.
2. Sum the DRCOG to NFR trips = cell block 2629-2624 to 2665-3461.
3. Sum of 1 & 2 should equal the overall sum total.
4. If these are not equal, check the rest of the matrix, especially zone 2577 which may need to be zeroed out later.

▶ Check the IE matrix within the BR_dst_nwk.mtx file.

1. Sum the NFR E's to DRCOG I's = 3462-3479 to 1-2628.
2. Sum the DRCOG I's to NFR E's = 1-2628 to 3462-3479.
3. Sum the NFR I's to DRCOG E's = 2665-3461 to 2629-2664.
4. Sum the DRCOG E's to NFR I's = 2629-2664 to 2665-3461.
5. The sum of these 4 cell blocks should equal the overall sum total.

TRIP TABLE VERIFICATION RESULTS

Year 2001 Model

▶ EE Trips:

▶ COM Trips:

Zone Cell Block ID	Trip Description	Trips
I	NFR to DRCOG	1580
C	DRCOG to NFR	1580
I + C	Total COM Trips	3160

There were 954.11 trips both to and from zone 2577 to all other zones within the DRCOG system. These are DRCOG I to I trips that shouldn't be included in the COM trips matrix. $954.11 + 954.11 = 1908.22$. Subtracted from this total is the 247.40 trips in the 2577 to 2577 cell due to double counting. Thus, the new total is approximately 1661. The actual total in the matrix was 4821. 4821 minus the 1661 equals the appropriate total of COM trips at 3160.

▶ Trips:

Zone Cell Block ID	Trip Description	Trips
I	NFR to DRCOG	1580
C	DRCOG to NFR	1580
I + C	Total COM Trips	3160

There were 954.11 trips both to and from zone 2577 to all other zones within the DRCOG system. These are DRCOG I to I trips that shouldn't be included in the COM trips

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North I-25 EIS

Development of Combined Travel Model

Preservation of Trips

Trip Generation

	Original NFR 2000 Model
	Run #25
Trip Purpose	# of Trips
HBW	305,526
TOTAL HBW	305,526
HBSshop	248,869
HBUniv_CSU	78,688
HBUniv_UNC	48,034
HBOther	590,134
TOTAL HNW	965,725
WBO	187,855
OBO	325,080
TOTAL NHB	512,935
IE	77,855
TOTAL IE	77,855

	Original DRCOG 2001 Model
	Cycle 12
Trip Purpose	# of Trips
HBW_Low	95,005
HBW_Middle	1,255,315
HBW_High	554,196
TOTAL HBW	1,904,516
HNW	4,592,737
TOTAL HNW	4,592,737
NHB	3,010,018
TOTAL NHB	3,010,018
IE	290,028
TOTAL IE	290,028
COM	1,135,739
TOTAL COM	1,135,739

Sources: NFR -- TGN_ZONEPABAL.bin

DRCOG -- pa_balan.bin

North I-25 EIS

Development of Combined Travel Model

Preservation of Trips

Trip Distribution

	Original NFR 2000 Model	Original DRCOG 2001 Model	Bi-Regional Trips
	Run #25	Cycle 12	Run #38
Trip Purpose	# of Trips	Trip Purpose	# of Trips
HBW	305,526	HBW_LI 95,005	3,916
		HBW_MI 1,255,315	15,774
		HBW_HI 554,196	6,916
TOTAL HBW	305,526	TOTAL HBW 1,904,516	26,606
HBS	248,869	HNW	
HBU	126,721		
HBO	590,134		
TOTAL HNW	965,724	TOTAL HNW 4,592,737	35,985
WBO	187,885	NHB	
OBO	325,080		
TOTAL NHB	512,965	TOTAL NHB 3,010,018	21,826
IE	77,855	IE	
TOTAL IE	77,855	TOTAL IE 290,028	248,930
		COM	
		TOTAL COM 1,142,805	3,368
EE	30,192	EE	
TOTAL EE	30,192	TOTAL EE 13,685	7,653

n/a: not applicable

Sources: DRCOG -- dst_hbw.mtx, dst_nwk.mtx, dst_com.mtx , dst_ee.mtx NFR -- dst_PersonPA.mtx

COMBINED -- dst_hbw.mtx, dst_nwk.mtx ,dst_ee.mtx

Preservation of Trips

Modal Choice

	Original NFR 2000 Model		Original DRCOG 2001 Model		Bi-Regional Trips		DRCOG + NFR + Bi-Regional		Combined Model
	Run #25		Cycle 12		Run #38		# of Trips		Run #38
Trip Purpose	# of Trips	Trip Purpose	# of Trips	Trip Purpose	# of Trips	# of Trips	# of Trips	# of Trips	# of Trips
HBW	292,792	HBW DA	1,558,395						1,823,678
		HBW SR2	192,127						226,343
		HBW SR3	61,131						72,540
		HBW T-DACC	29,898						30,003
		HBW T-WACC	62,965						65,904
TOTAL HBW*	292,792	TOTAL HBW	1,904,516		26,606		2,223,914		2,218,468
HBO	886,030	HNW DA	1,944,222						2,337,019
		HNW SR2	1,472,532						1,768,042
		HNW SR3	1,111,507						1,328,720
		Subtotal Auto	4,528,261						5,433,781
		HNW T-DACC	16,085						16,061
		HNW T-WACC	48,389						52,520
TOTAL HNW*	886,030	TOTAL HBNW	4,592,735		35,985		5,514,750		5,502,362
NHB	489,927	NHB DA	1,554,846						1,817,615
		NHB SR2	840,688						982,766
		NHB SR3	596,372						697,161
		Subtotal Auto	2,991,906						3,497,542
		NHB Transit	49,566						50,648
TOTAL NHB*	489,927	TOTAL NHB**	3,041,472		21,826		3,553,225		3,548,190

* Motorized person trips

**Additional NHB trips are added during mode choice for mall shuttle activity

Sources: NFR -- mod_Other.mtx , DRCOG & COMBINED -- mod_hbw.mtx, mod_hbnw.mtx, mod_nhb.mtx

Preservation of Trips

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