

Uses of CTPP 2000 at DVRPC

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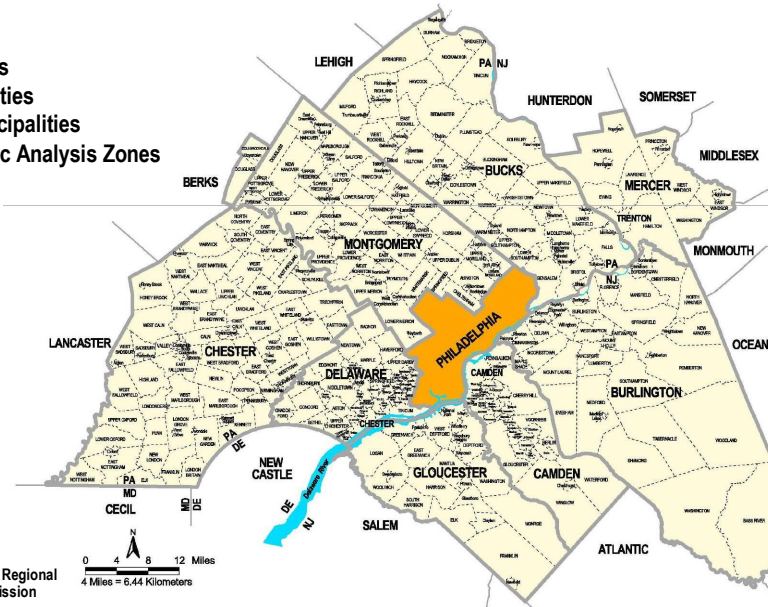


Delaware Valley Regional Planning Commission

Presentation for the TMIP Webinar
June 28, 2007

Delaware Valley Region

- 2 States
- 9 Counties
- 355 Municipalities
- 1,912 Traffic Analysis Zones

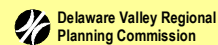


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Census Data

Zonal Data

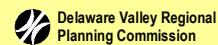
- **Short Form (100% Count): Population, Age, Sex, Relationship, Race, etc.**
- **Long Form (17% of Households): Journey-to-Work, Workers, Housing, Ethnic Groups, Income, Vehicle Availability, Education, Disability, etc. (CTPP)**
- **No Long Form in Census 2010: Replaced by the American Community Survey (ACS). The sampling and non-sampling errors in the ACS data will be much higher than the Long Form**



Use of CTPP 2000 at DVRPC

The major uses of CTPP 2000 at DVRPC are:

1. Calibration and validation of travel simulation models
2. Analysis of worker flows and travel trends
3. Preparation of a zonal database for transportation planning
4. Analysis of transportation facility improvements
5. Development of a complete zonal data file for workers and employment
6. Development of regional job access and reverse commute transportation plans and services
7. Preparation of an environmental justice assessment
8. Provision of census data to public agencies and private companies



Uses in Traffic Simulation Models

- Zonal data for trip generation
- Home to work trip origins and destinations
- Trip length and travel time by mode
- DVRPC work trips vs. CTPP 2000
- External work trips

1990 to 2000 Change in Worker Flows in the PA Counties (thousands)

Worker Flows	1990	2000	Percent Change
PA Suburbs to PA Suburbs	825	897	8.7%
PA Suburbs to Philadelphia	158	145	-8.2%
Philadelphia to PA Suburbs	98	113	14.6%
Philadelphia to Philadelphia	513	430	-16.3%
PA Counties to Outside Region	72	85	18.3%

Means of Transportation to Work in the Region


Means of Transportation	Share of Workers		Difference (%)
	1980	2000	
Drive Alone	61.0%	74.4%	22.0%
Carpool/Vanpool	18.1%	10.5%	-42.0%
Public Transportation	13.9%	9.9%	-28.8%
Walk	5.9%	4.2%	-28.8%
Other	1.1%	1.0%	-9.1%

Average Travel Time to Work in the Region by Travel Mode (minutes)

Means of Transportation	Average Travel Time		Difference (%)
	1990	2000	
Drive Alone	23.2	26.7	15.1%
Carpool/Vanpool	25.2	28.6	13.5%
Public Transportation	39.4	49.2	24.9%
Walk	11.4	13.0	11.0%


CTPP 2000 Means of Transportation and Travel Time in Bucks County

Means of Transportation to Work	Number of Workers	Share of Workers	Average Travel Time (min)
Drove alone	252,000	86.1%	27.5
2-person carpool	21,894	7.5%	27.3
3-person carpool	2,141	0.7%	32.7
4-person carpool	705	0.2%	30.9
5-or-6-person carpool	266	0.1%	36.8
7-or-more-person carpool	210	0.1%	38.8
Bus or trolley bus	1,051	0.4%	51.9
Streetcar or trolley car	44	0.0%	58.6
Subway or elevated	417	0.1%	67.3
Railroad	6,781	2.3%	76.9

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CTPP 2000 Means of Transportation and Travel Time in Bucks County (Cont.)

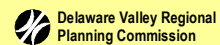
Means of Transportation to Work	Number of Workers	Share of Workers	Average Travel Time (min)
Ferryboat	12	0.0%	13.3
Bicycle	540	0.2%	15.4
Walked	5,020	1.7%	9.7
Taxicab	119	0.0%	17.7
Motorcycle	199	0.1%	16.8
Other means	1,175	0.4%	54.3
Worked at home	10,769	----	----
Total excluding "Worked at Home"	292,574	100%	28.6

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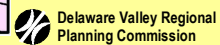
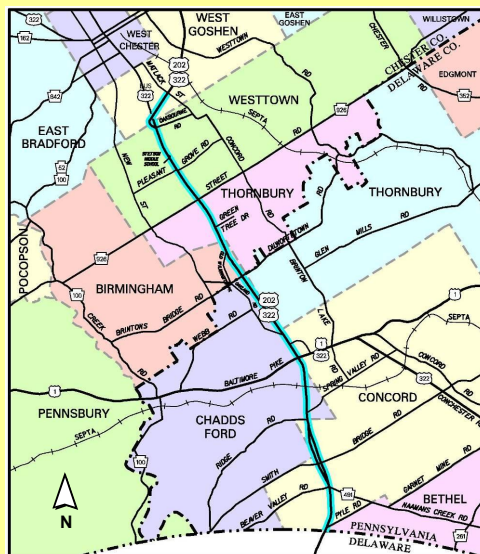
2000 Zonal and Municipal Population, Households, and Vehicle Availability

Bucks County, PA (example)

Municipality	TAZ		Pop.	HHlds.	Households with:				Vehicles Available
	1990	2000			0 veh.	1 veh.	2 veh.	3+ veh.	
Bedminster Township	944	1709	2,615	930	21	241	469	199	1,852
			<u>2,185</u>	<u>865</u>	<u>25</u>	<u>157</u>	<u>494</u>	<u>189</u>	<u>1,784</u>
	944		4,800	1,795	46	398	963	388	3,636
MCD Total			4,800	1,795	46	398	963	388	3,636
Bensalem Township	873	1677	3,315	1,215	116	382	473	244	2,153
			<u>4,440</u>	<u>1,780</u>	<u>287</u>	<u>794</u>	<u>499</u>	<u>200</u>	<u>2,468</u>
	1678		2,545	1,000	105	422	319	154	1,581
	873		10,300	3,995	508	1,598	1,291	598	6,202



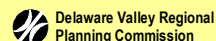
US 202 Section 100 Delaware State Line to Matlack St



Estimation of 2000 Zonal Employment

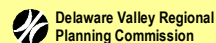
To develop zonal employment data from Census 2000, a three-step process was employed:

(1) estimate employment at the county level; (2) estimate employment at the municipal level; and (3) estimate employment at the zonal level. In this process, county employment numbers are estimated first and used as control totals for developing both municipal and zonal employment estimates.




Comparison of 2000 BEA, DVRPC, ES 202 Employment Sectors Estimates for the Delaware Valley Region

Employment Sector	2000 Employment Sector Estimates			CTPP 2000 Employment Sectors
	BEA	DVRPC	ES 202	
Agriculture & Mining	31,956	25,245	25,326	10,728
Construction	144,754	130,814	101,573	135,498
Manufacturing	321,035	312,145	300,646	290,145
Wholesale Trade	152,534	133,923	129,876	92,831
Retail Trade	482,860	435,850	431,325	278,054
Transportation & Utilities	133,180	118,190	110,659	121,210
F.I.R.E.	278,271	212,911	168,625	202,730
Services	1,191,172	982,300	877,934	1,180,063
Government & Public Administration	350,126	351,222	354,080	128,172
Military	22,458	9,366	NA	8,685
Region Total	3,121,554	2,717,857	2,524,272	2,448,116



Comparison of CTPP 2000 with DVRPC Employment Estimates


Areal Units	CTPP Employed Persons at Work	DVRPC Employment Estimates	DVRPC - CTPP	
			Diff.	% Diff.
TAZ				
500	595	633	38	6.4%
1700	2,760	2,982	222	8.0%
MCD				
Oxford Bor, PA	1,925	2,197	272	14.1%
Monroe Twp, NJ	6,325	7,377	1,052	16.6%
County				
Mercer, NJ	200,235	220,915	20,680	10.3%
Region	2,449,108	2,717,851	268,743	11.0%

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1990 and 2000 Zonal and Municipal Employed Persons and Employment

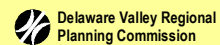
Bucks County, PA (example)

Municipality	TAZ		Employed Persons (Place of Residence)		Employment (Place of Work)	
	1990	2000	1990	2000	1990	2000
Bedminster Township	944	944		1,300		842
		1709		<u>1,195</u>		<u>417</u>
			2,463	2,495	820	1,259
MCD Total			2,463	2,495	820	1,259
Bensalem Township		873		1,615		1,750
		1677		1,920		376
		1668		<u>1,335</u>		<u>1,139</u>
	873		5,025	4,870	1,798	3,265

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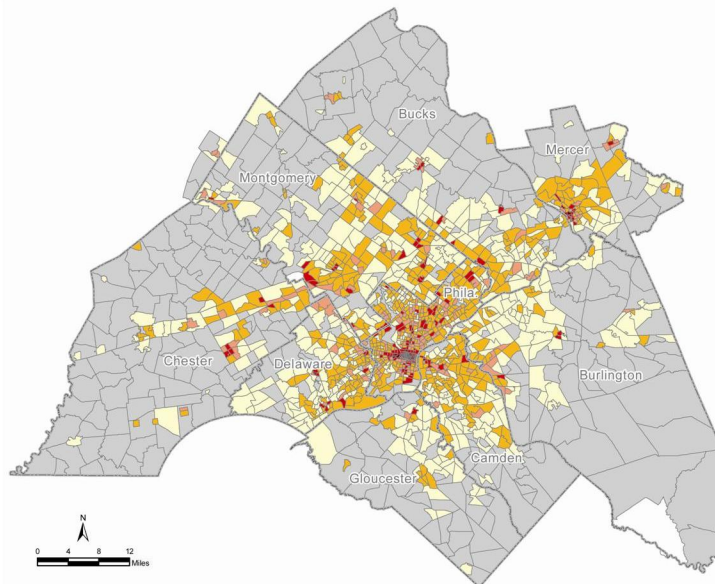
CTPP 2000 Worker Flows Data

- The rounding and threshold requirements have destroyed the value of Part 3 data. More than 3 percent of the journey-to-work data in the region was lost due to the rounding requirement, and 62 percent was lost due to the disclosure threshold.
- Tables 3-08 and 3-14 contain mean travel time and aggregate travel time by means of transportation to work, respectively. If the cells in Table 3-14 are divided by the corresponding cells in Table 3-08, it will produce zone-to-zone worker flows by 8 modes not 18 originally designed for CTPP 2000.



2000 Employment Density by TAZ

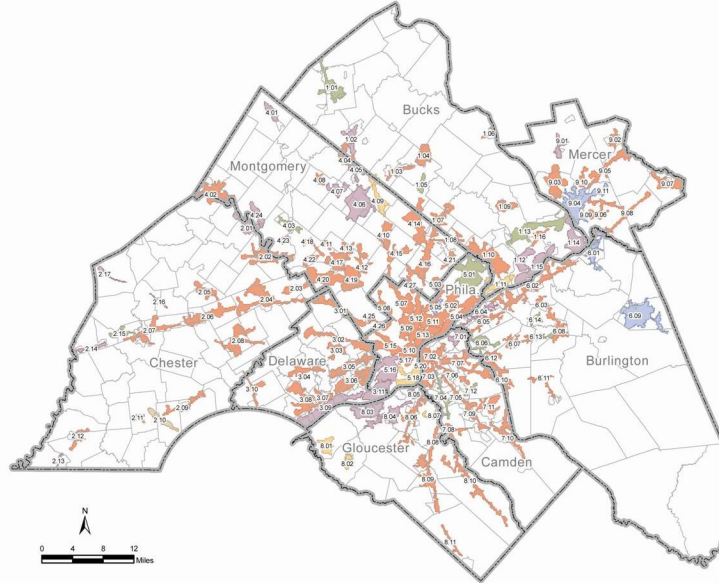
Employees per acre



2000 Employment Centers

Primary Sector

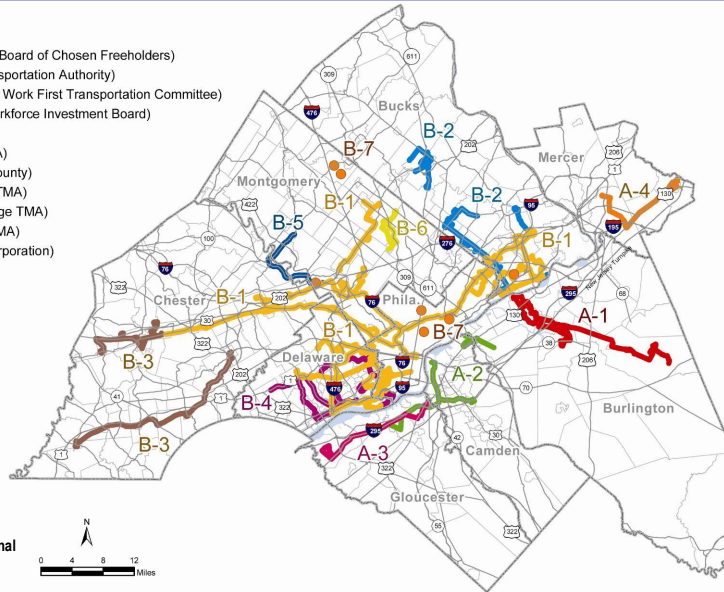
- Agriculture
- Government
- Industry
- Multi-Purpose
- Service
- Wholesale-Retail



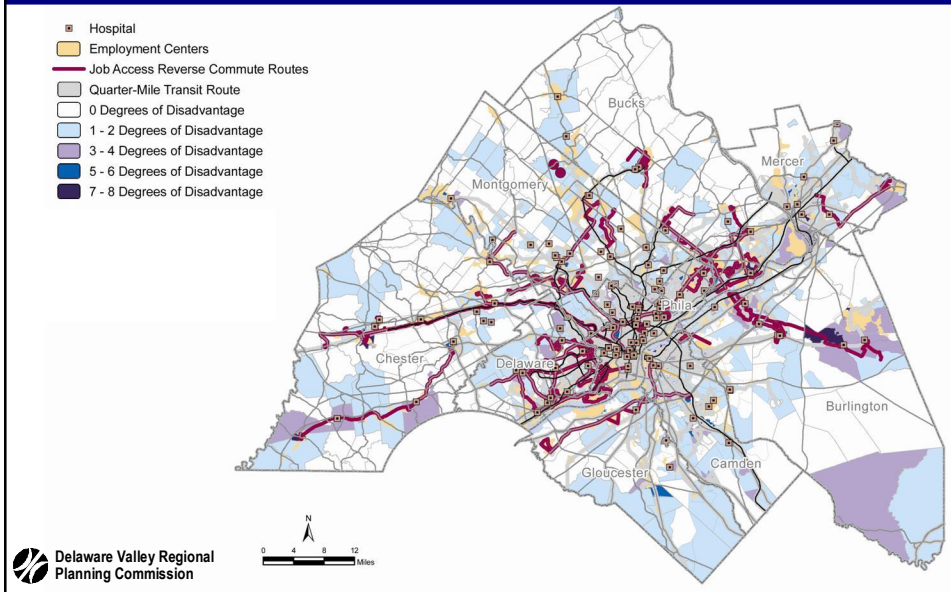
Job Access Reverse Commute Routes, 1999 - 2007

Sponsor

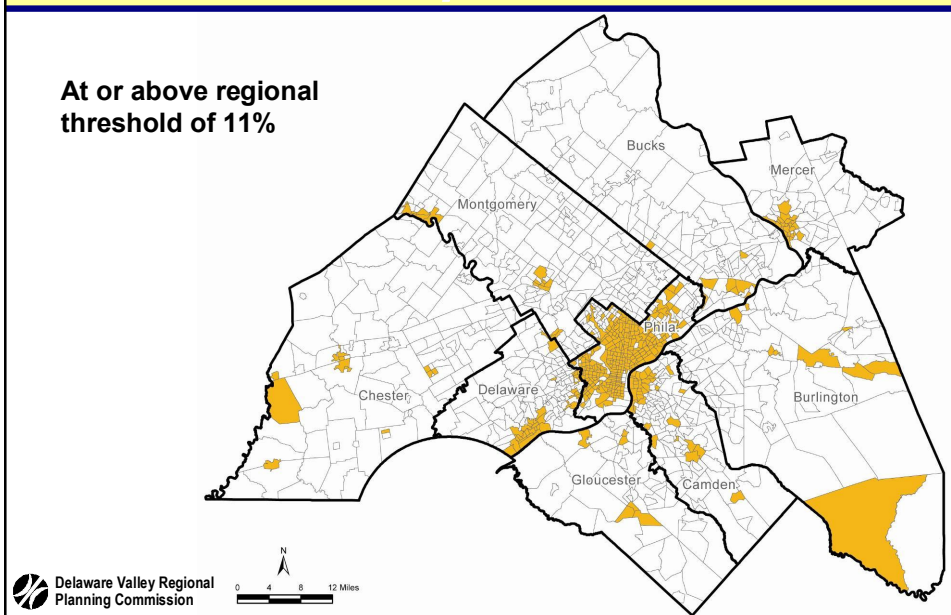
- A-1 (Burlington County Board of Chosen Freeholders)
- A-2 (South Jersey Transportation Authority)
- A-3 (Gloucester County Work First Transportation Committee)
- A-4 (Mercer County Workforce Investment Board)
- B-1 (SEPTA)
- B-2 (Bucks County TMA)
- B-3 (TMA of Chester County)
- B-4 (Delaware County TMA)
- B-5 (Greater Valley Forge TMA)
- B-6 (The Partnership TMA)
- B-7 (Impact Service Corporation)



2000 Degrees of Disadvantage and Quality-of-Life Factors

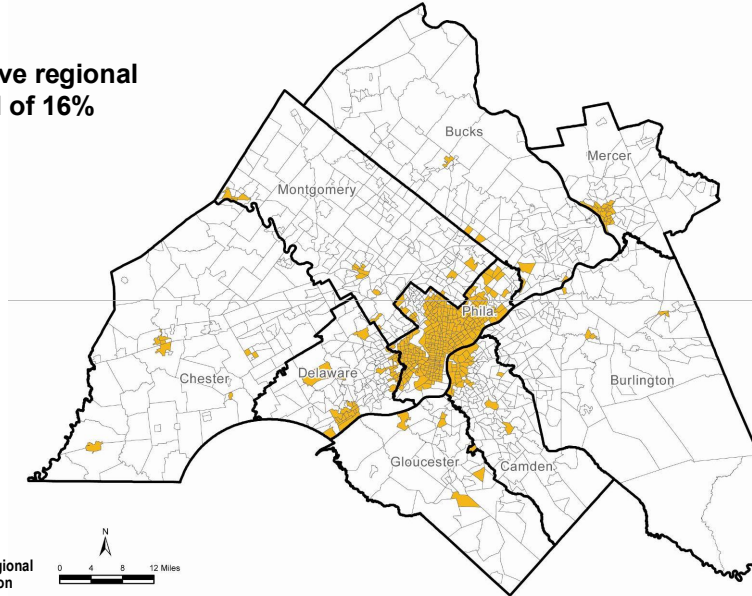


2000 Poverty Concentrations



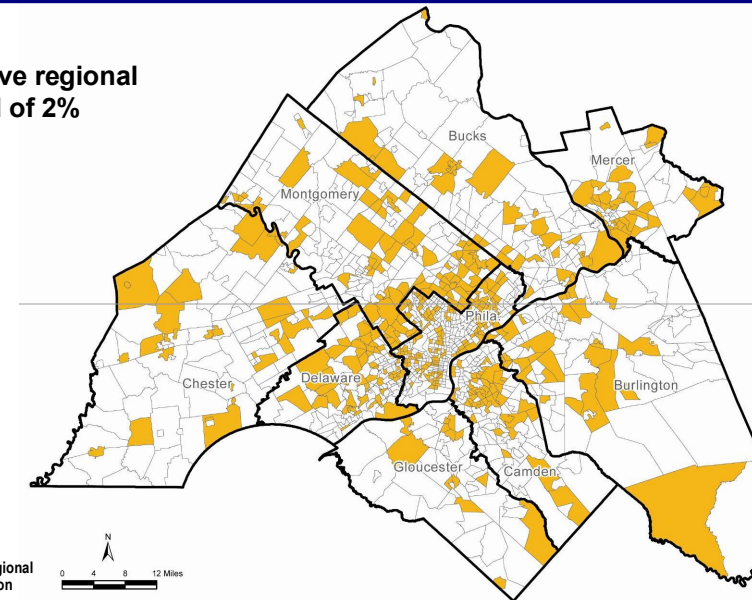
2000 Carless Household Concentrations

At or above regional
threshold of 16%

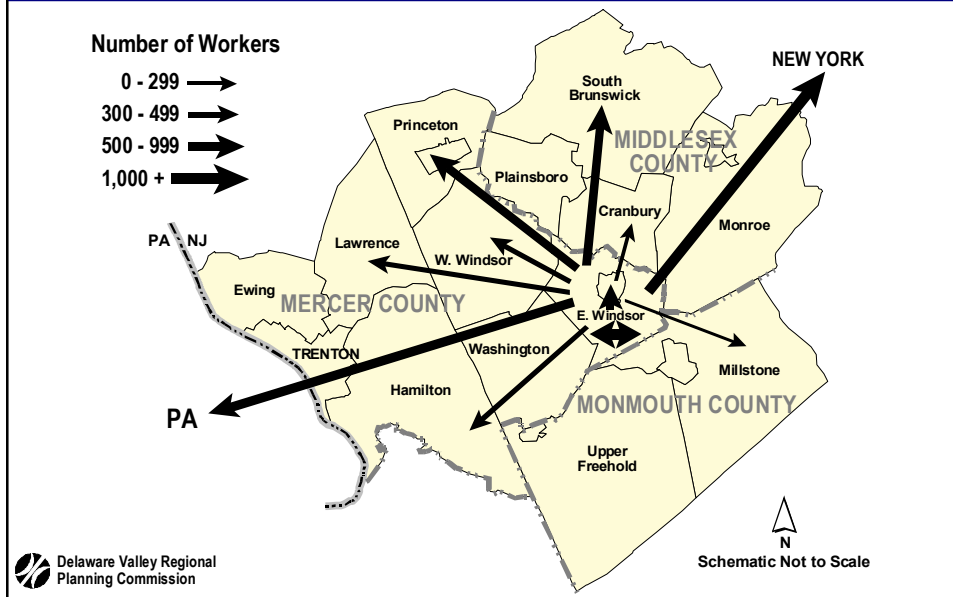


2000 Elderly Population Concentrations (85 & over)

At or above regional
threshold of 2%



Commuting Patterns from East Windsor Township, NJ



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