REGIONAL INDICATORS

MEASURING OUR PROGRESS TO 2020

DELAWARE VALLEY
REGIONAL PLANNING
COMMISSION

APRIL 1998

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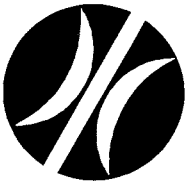
Created in 1965, the Delaware Valley Regional Planning Commission (DVRPC) is an interstate, intercounty and intercity agency which provides continuing, comprehensive and coordinated planning for the orderly growth and development of the Delaware Valley region. The region includes Bucks, Chester, Delaware, and Montgomery counties as well as the City of Philadelphia in Pennsylvania and Burlington, Camden, Gloucester, and Mercer counties in New Jersey. The Commission is an advisory agency which divides its planning and service functions between the Office of the Executive Director, the Office of Public Affairs, and three line Divisions: Transportation Planning, Regional Planning, and Administration. DVRPC's mission for the 1990s is to emphasize technical assistance and services and to conduct high priority studies for member state and local governments, while determining and meeting the needs of the private sector.



The DVRPC logo is adapted from the official seal of the Commission and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole while the diagonal bar signifies the Delaware River flowing through it. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey. The logo combines these elements to depict the areas served by DVRPC.

DELAWARE VALLEY REGIONAL PLANNING COMMISSION

Publication Abstract

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Geographic Area Covered: Nine-county DVRPC region.

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ABSTRACT

This report presents 27 indicators that collectively track the region's progress towards the adopted goals of Direction 2020, DVRPC's long range transportation and land use plan for the Delaware Valley. The indicators depict trends in eight issue areas: Physical Form, Traffic Congestion, Environment, Air Quality, Economic Development, Freight Movement, Mobility and Housing. The data provides a starting point for an ongoing assessment of regional goals and policies.

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INTRODUCTION

In November 1995, the Delaware Valley Regional Planning Commission (DVRPC) adopted DIRECTION 2020, the comprehensive long-range transportation and land use plan for the nine-county Philadelphia metropolitan area. The plan sets forth a vision for the region that couples a strong economy and seamless transportation system with a healthy environment and vibrant communities. DIRECTION 2020 envisions a more efficient, competitive and sustainable region by fostering new development in and around existing communities while easing traffic congestion and enhancing mobility through alternative travel modes and decreased reliance on the single occupant vehicle.

The plan presents a detailed physical plan for future development and transportation facilities in conjunction with goals, policies and recommended actions in eight specific areas:

Physical Form	Economic Development
Traffic Congestion	Freight Movement
Environment	Mobility
Air Quality	Housing

This report, *Regional Indicators: Measuring Our Progress to 2020*, advances the DIRECTION 2020 plan by presenting 27 indicators that collectively track the region's progress toward the adopted goals in these eight areas.

Selecting Meaningful Indicators: The Process

The indicators presented here were chosen from a list of more than 500 potential measures. With the help of a project steering committee, DVRPC narrowed the list and evaluated alternative data sources. The overriding objective was to develop meaningful indicators that would reflect the region's progress toward DIRECTION 2020 goals with a set of indicators that are:

- ***Outcome-based.*** The indicators focus on the results or outcomes of policies rather than simply reporting inputs such as dollars or labor hours invested.

- ***Regional in geographic scope.*** With very few exceptions, indicators report results for the entire Delaware Valley nine-county region. County or other local data are, in some cases, provided to illustrate differences within the region. Instances where Pennsylvania and New Jersey use different reporting standards or data definitions and therefore are not directly comparable are highlighted in the text and tables of this report.

- ***Measurable over the long range.*** In order to analyze trends, DVRPC relied on data series that have at least four or five years of historic data and that have a reasonably strong likelihood of continued availability in years to come.

- ***Publicly available data sources.*** Due to the high cost of data collection and the need for consistent and continuing reporting, DVRPC relied on existing public sources for the vast majority of indicators .

In addition to these characteristics of the data, DVRPC balanced the final selection of indicators so that they would collectively represent all eight DIRECTION 2020 issue areas. In order to keep the report widely accessible, DVRPC did not include any highly technical indicators that would have been of interest to only a small number of specialists in a particular discipline.

Twenty-seven indicators were selected through this process and are presented in this report. The document is divided into eight sections, each corresponding to a different DIRECTION 2020 issue area. Following a restatement of the adopted 2020 goal, each section reviews several indicators that were selected to measure progress toward the goal. Each indicator is introduced by a *Policy Background* section that describes the measure in the context of regional goals and objectives. The *Measurement* section identifies the data source, explains how the indicator is constructed and states whether a higher or lower number indicates progress toward 2020 goals. Data limitations and other special factors that have a bearing on the interpretation of the data are also identified in this section. Finally, the *Results* section summarizes recent trends and, where appropriate, compares results in different parts of the region. A comparison of conditions between a baseline year and the latest available year helps to assess whether the region is moving toward or away from the 2020 goals.

Data Limitations and Other Caveats

The single largest challenge to developing meaningful regional indicators is that relatively little data is collected at the regional level. Federal, state, county and local governments collect data for their own geographies and often use methodologies that are not directly transferable to other parts of the region. The fact that DVRPC is a bi-state region also posed a data collection challenge. Pennsylvania and New Jersey frequently have different regulations and standards of compliance and, consequently, state-level data may not be directly comparable. Data limitations and definitional issues between Pennsylvania and New Jersey are highlighted in the text and tables, as appropriate.

Use of U.S. Census data also posed a dilemma. While the decennial Census is an extensive data set that provides consistent and detailed coverage across the region, it is taken only once every ten years and at this stage of the decade, even the most recent Census (1990) is relatively dated. As a result, DVRPC attempted to collect more recent data from non-Census sources wherever possible. For two indicators, "Average Trip Length" and "Percent of Home to Work Trips in Single Occupant Vehicles," no other reliable data sources were available that could be used to update Census data.

Another consideration for interpreting the indicators is that unusually large changes in the data or sudden turning points may be due to factors unrelated to DIRECTION 2020 goals or regional policies. For example, one-time occurrences (a labor strike) or extraordinary events (extreme weather conditions) may be responsible for short-term changes. These events should not be confused with changes in underlying trends. Special one-time factors are highlighted in the discussion of individual indicators, as appropriate.

Finally, it is important to recognize that some goals lend themselves more easily to quantification than others. Concepts like "community character" and a "sustainable environment" may be harder to calculate than changes in traffic counts or number of building permits issued. The fact that they are harder to quantify does not mean that they are less important. Other goals such as air and water quality, while measurable, may be hard to reduce to a single, easily understandable number. It must also be noted that the DVRPC land use and transportation plan is still somewhat limited in its scope, and did not address other issues of great importance to the region such as the quality of education, health care, or crime.

The 27 indicators contained in this report are the starting point in an ongoing assessment of regional goals and policies. Like the eight 2020 issue areas, these measures should not be viewed in isolation, but as a part of a dynamic system that sheds light upon areas of relative progress and need. One indicator cannot accurately describe "how we are doing;" however, the entire series of regional measures allows for a broad regionwide assessment of progress.

Interpreting the Indicators

The indicators presented here paint a mixed picture of success toward meeting the DIRECTION 2020 goals. Of the 27 regional indicators presented here, 11 show an improving trend, 9 represent a decline in conditions, and 7 show mixed results. Of these, the mixed results category may be the most thought-provoking. For example:

On Physical Form:

While recent population growth has been greatest in the 29 growth centers identified in the plan, the City of Philadelphia lost almost seven percent of its population between 1990-1996 and the region continues to lose farmland at an alarming rate. There is also a significant need for additional parks and recreational open space in the region.

On Economic Development

The regional economy continues to be one of the most diverse in the nation, and regional per capita income increased at a rate greater than the nation's between 1990-1994. Area unemployment, however, which had traditionally been lower than the national average, increased beyond the national level between 1990-1995. Regional job growth during this period trailed both state and national levels.

On Traffic Growth

Average travel time to work decreased regionally between 1980 and 1990 but increased in many individual counties, and public transit usage declined significantly between 1990-1995 despite excellent on-time performance. On the other hand, as regional roadway conditions have improved, average daily traffic has increased by over 10% between 1990-1995.

On Air Quality

Environmental conditions are generally positive as reflected by solid waste and water quality indicators, yet increasing car ownership and single occupant automobile commuters will yield increasing congestion and declining air quality. From 1990 to 1995, the number of cars in the region increased almost four times more than the increase in population.

The trends captured by the indicators, though mixed, identify areas where the region is making progress and others that require renewed commitment. Looking across categories, the indicators can also be used to illustrate inter-relationships between variables. For example, these findings support the notion that decentralized growth is positively correlated with increasing auto-usage but negatively correlated with public transit usage. Finally, these indicators also create the foundation for targeting specific, numerical benchmarks to gauge progress toward selected goals over time.

SUMMARY OF REGIONAL INDICATORS PROGRESS

Progress Trend	
	PHYSICAL FORM
+/-	Growth Patterns: Population Growth in 2020 Centers and the Region
-	Farmland Preservation: Change in Acres of Agricultural Land
-	Parks and Recreational Open Space: Actual 1990 Acres versus Needs
+	Commercial Land Use: Office Occupancy Rates
	TRAFFIC CONGESTION
-	Auto Usage: Regional Traffic Counts
+/-	Public Transit Usage: Number of Public Transit Passengers
-	Vehicles: Vehicle growth versus Population Growth
	ENVIRONMENT
-	Waste Generation: Pounds Per Person Per Day
+	Recycling: Solid Waste Recycled
+	Water Quality: Dissolved Oxygen in the Delaware River
-	Energy Consumption: State Per Capita Usage
	AIR QUALITY
+/-	Ozone Pollution: Number of Exceedances in the DVRPC Region of the National Ambient Air Quality Standards for Ozone
-	Drive Alone: Percent of Home-to-Work Trips in Single Occupant Vehicles
	ECONOMIC DEVELOPMENT
-	Employment Growth: Percent Change in Total Employment
-	Unemployment Rate: Percent of Persons in the Labor Force seeking Jobs
+	Income Growth: Percent Change in Per Capita Personal Income
+	The 1995 Economic Diversity Index: A Measure of the Range of Jobs and Industries in the Regional Economy
	FREIGHT MOVEMENT
+/-	Port: Bulk and General Cargo at the Port of Philadelphia and Camden
+	Air: Tons of Air Cargo
+/-	Truck: Recorded Truck Movements
	MOBILITY
+	Safety: Total Automobile Crashes in the DVRPC Region
+/-	Road Condition: Percent of Highway Miles Rated in Poor Condition
+	Reliability of Public Transit: On-Time Performance of Public Transportation
+	Trip Length: Average Travel Time to Work in the DVRPC Region
	HOUSING
+	Housing Affordability: Increases in Housing Prices, the Consumer Price Index and Average Annual Wages
+/-	Jobs-Housing Balance: Ratio of Jobs to Resident Workers
+	Housing Prices: Change in Median Sales Prices

+ = positive regional trend; - = negative regional trend; +/- = mixed regional trend

PHYSICAL FORM

Encourage land use patterns that enhance community character, provide for a mix of residential, commercial, employment and recreational opportunities; and link these activities with transportation facilities.

Physical Form
Indicator: Growth Patterns: Population Growth in 2020 Centers and the Region

Policy Background
The health and vitality of the region depend upon creating strong urban centers, limiting suburban sprawl and preserving the rural character of the hinterlands. Cities such as Philadelphia, Trenton, Camden and Chester have been losing both residents and jobs over most of the second half of this century. Conversely, the suburban counties of the region have felt the brunt of growth pressures. In order to mitigate the negative impacts of these trends, urban centers must be stabilized, while suburban growth must be concentrated in designated areas with adequate infrastructure.

Measurement
This indicator measures the population change in municipalities of areas identified as growth, revitalized, regional or county centers. *Regional centers*, such as King of Prussia, are existing centers that serve a regional population with a stable concentration of people, employment and services. *County centers*, like Jenkintown, are existing centers of importance within the county that provide a stable concentration of housing, jobs and services. *Growth centers*, such as Voorhees, are emerging centers forecast for growth, which will see an increasing concentration of people, employment and services. *Revitalized centers*, like Camden, are existing regional or county centers in need of directed action to reverse the decline in people or employment.

Population changes in these centers are compared to the total county population excluding the population of centers, and to the population of the entire county. Ideally, population growth would occur more substantially in the designated centers than in the remainder of the county. Population data estimates for municipalities are collected bi-annually by the U.S. Department of Commerce's Bureau of the Census using the same methodology throughout the region. There are no bi-annual population estimates for centers located in Philadelphia which are delineated on a neighborhood level.

Results
A majority of the Direction 2020 revitalized centers and about half of the county/regional centers lost population between 1990 and 1996, while every county, except Philadelphia, gained in population. Only the regional growth centers gained in population in the same time span. Bucks, Chester, Montgomery and Gloucester counties had the greatest county population increases. The most significant increases in center population were in the growth centers of Montgomery (e.g., Limerick, Montgomery, Upper Providence) and Burlington (e.g., Mt. Laurel, Evesham) counties, which gained 25.3% and 13.7% respectively. Delaware County had the slowest growth center population increase at 0.6% (e.g., Springfield). Noteworthy population gains in revitalized centers were primarily located

in Chester (e.g., Coatesville, Phoenixville) and Burlington (e.g., Burlington City, Riverton) counties. Population losses in revitalized centers were felt in Delaware (e.g., Chester City, Norwood), Camden (e.g., Camden, Gloucester City), Gloucester (e.g., Paulsboro) and Mercer (e.g., Trenton) counties. Population growth in regional and county centers was concentrated in Bucks (e.g., Doylestown Borough, Sellersville/Perkasie), Burlington (e.g., Moorestown, Medford) and Gloucester (e.g., Glassboro) counties. Regional and county center declines were witnessed in Delaware (e.g., Media, Upper Darby), Montgomery (e.g., Upper Moreland, Jenkintown), Camden (e.g., Cherry Hill, Lindenwold) and Mercer (e.g., Hightstown) counties.

GROWTH PATTERNS: Population Growth in 2020 Centers and the Region

	DIRECTION 2020 CENTERS (% change 1990-1996)				
	Growth Centers	Revitalized Centers	Regional & County Centers	Non-Center County Total	County Total
Bucks	6.8	-0.9	0.6	9.1	6.9
Chester	11.1	0.2	0.0	10.8	9.1
Delaware	0.6	-2.6	-0.8	0.7	0.0
Montgomery	25.3	-1.9	-0.7	4.6	4.5
Philadelphia	NA	NA	NA	NA	-6.8
PA Four County*	**9.6**	**-1.6**	**-1.1**	**5.9**	**4.8**
Burlington	13.7	1.8	2.3	2.3	4.0
Camden	8.3	-3.0	-0.8	-0.8	0.7
Gloucester	5.8	-2.0	5.4	8.3	6.1
Mercer	6.3	-3.7	-3.3	9.8	1.4
NJ Four County	**8.6**	**-1.3**	**0.4**	**3.5**	**2.6**
REGION*	**9.1**	**-1.5**	**-0.3**	**5.3**	**3.9**

* Does not include Philadelphia.
Source: DVRPC calculations using 1994 U.S. Census population estimates.

Physical Form

Indicator: <u>Farmland Preservation</u>: Change in Acres of Agricultural Land

<u>Policy Background</u>

The agricultural heritage and rural character of the Delaware Valley are essential elements in the image, quality of life and economic stability of the entire region. Current development patterns have consumed vast amounts of farmland and continue to threaten the region's rural landscape.

Measurement

This indicator measures the change in acres of land used for agriculture. For purposes of this indicator, agricultural land means acres of cropland, woodland, pastureland and rangeland. Agricultural land changes are compared to themselves over time. Data for this indicator are collected every five years by the U.S. Department of Commerce's Bureau of the Census and published in the *Census of Agriculture*. The 1992 regional and Pennsylvania totals do not include data for Philadelphia County. The U.S. Census withheld this data to avoid disclosing information on individual farms. Measurements are uniform throughout the region.

Results

Between 1987 and 1992, the region lost 9.2%, or 51,000 acres of agricultural land. The five Pennsylvania counties lost 10.9% of their agricultural acres while the four New Jersey counties lost 6.5% of their farmland. The greatest acreage losses occurred in Chester, Montgomery, Burlington and Mercer counties. To address this issue, more than 23,000 acres of agricultural land have been permanently preserved to date in the region.

FARMLAND PRESERVATION: Change in Acres of Agricultural Land

County	1987 Acres	1992 Acres	Acres Preserved in Perpituity as of 1/98	% Change 1987 -1992
Bucks	85,113	76,790	2,645	- 9.7
Chester	189,943	176,643	6,566	- 7.0
Delaware	8,036	5,095	198	- 36.6
Montgomery	56,734	44,425	3,272	- 21.7
Philadelphia	47	*	0	*
PA Four County**	**339,826**	**302,953**	**12,681**	**- 10.9**
Burlington	103,224	97,186	8,054	- 5.8
Camden	10,033	7,799	0	- 22.3
Gloucester	62,128	61,748	1,255	- 0.6
Mercer	41,303	35,786	1,593	- 13.4
NJ Four County	**216,688**	**202,519**	**10,902**	**- 6.5**
REGION**	**556,514**	**505,472**	**23,583**	**- 9.2**

* Census withheld to avoid disclosing data on individual farms.

** Does not include Philadelphia.

Source: Acres - U.S. Department of Commerce; Acres in Perpituity - Pennsylvania and New Jersey Departments of Agriculture.

Physical Form
Indicator: Parks and Recreational Open Space: Actual 1990 Acres versus Needs

Policy Background
Providing adequate recreational land is an important component to enhance a community's image and quality of life. Recreational land not only provides aesthetic and sporting benefits, but encourages an overall sense of community. A regional loss of park and recreation acreage can be a contributor to or a result of sprawl and scatter development.

Measurement
This indicator measures the available publicly-protected recreational open space relative to the long-term needs of the region. Of the almost 2.5 million acres that comprise the Delaware Valley, almost 70% still remains as *"open space"*, incorporating farmlands, woodlands, vacant areas, and open water. Yet only 10% of the regional area is now protected as federal, state, county, or municipal parkland.

The DVRPC Year 2020 Plan identified the existing parks and natural resources of the region and utilized three different methodologies to assess the long-term needs. Protecting the critical natural resources of the region and using part of these areas to meet the future active and passive recreational needs of the growing population is a key objective of the plan. A proposed open space network map identifies river and stream corridors, woodlands, and unique natural resource lands while providing sufficient acreage to meet the quantified targets.

The first measurement presented here uses population-based standards to assess county and regional needs to 2020. National park standards, modified for use in the Delaware Valley, are applied to the 2020 population forecasts. These standards define the acres needed per 1,000 population in different density categories summed to calculate the individual county and regional (state and federal) needs in 2020. Surpluses in one area are not applied to deficits in another. The second measurement utilizes the Balanced Land Use Guidelines as developed by New Jersey, but modified to reflect the existing patterns of land use and development in this region. This approach sets a standard of recreational open space preservation based on the total percentage of existing undeveloped land area for federal, state, county, and municipal governments. Again, surpluses in one area are not applied to deficits in another.

Each of these analyses is appropriate for a given purpose. While the population-based standards may be viewed as an acceptable short-term goal under the time horizon of the 2020 plan, the land use standard sets its goal in perpetuity, recognizing that the land is finite and any preservation efforts now will benefit all generations to follow. Acquisition efforts, particularly at the county and state level, should focus immediately on meeting the population-based deficits but should work over time toward achieving the standards of the land use guidelines. Non-profit holdings and conservancy lands are also a valuable route for preserving open space. Data used for this analysis includes 1990 federal and state ownership from the Pennsylvania Department of Environmental Protection for Pennsylvania, and 1993 data from the New jersey Greenacres Program. Park resources under county and municipal ownership are based on information from

each county planning department as of 1995.

Results

Using the population-based standards, only Bucks, Philadelphia, and Mercer counties have sufficient public county parks to serve their population needs through the year 2020. Chester, Montgomery, and Gloucester counties would require modest park additions of up to 945 acres. Delaware, Burlington, and Camden counties would require additional county parkland of 2,000 acres or more. Regional (state and federal) parkland is in deficit in southeastern Pennsylvania, with a need for 69,091 acres by 2020. In the New Jersey sub-region, the extensive state forest holdings in Burlington County provide a net surplus, but this does not make up for other regional deficits.

Viewing the land use-based standards, every county except Philadelphia has a current deficit, ranging from 2,620 acres needed in Delaware County to 24,342 acres needed in Chester County. Sub-regional needs for state and federal parkland using the land use standards are 107,526 acres in southeastern Pennsylvania and 14,774 acres in the New Jersey portion of the region.

PARKS AND RECREATIONAL OPEN SPACE: Actual 1990 Acres versus 2020 Needs

County	Public Park Acreage	Surpluses/Deficits (+/-)	
		Population-Based Acreage	Land Use-Based Acreage
Bucks	21,606	+457	-16,887
Chester	14,112	-384	-24,342
Delaware	5,999	-3,181	-2,620
Montgomery	17,404	-690	-10,431
Philadelphia	10,655	+2,114	0
PA Regional	**30,584**	**-69,091**	**-107,526**
Burlington	138,848	-3,608	-8,838
Camden	21,933	-2,196	-2,839
Gloucester	10,354	-945	-9,502
Mercer	10,526	+1,867	-4,675
NJ Regional	**158,645**	**+114,570**	**-14,774**
REGION	**251,437**	**-80,125**	**-202,434**

Source: Delaware Valley Regional Planning Commission.

Physical Form
Indicator: Commercial Land Use: Office Occupancy Rates

Policy Background
While the region's manufacturing base has shrunk in recent decades, the Delaware Valley has become a hotbed for technological advancements including biotechnical, pharmaceutical, and medical innovations. Further, business services, insurance and data processing have rapidly expanded throughout the Delaware Valley. Commercial land use patterns can be illustrated by analyzing office occupancy rates. High occupancy rates may mean that either the demand for office space is high or a shortage of office space exist. Conversely, low occupancy rates may mean that the demand for office space is low or there is an abundance of existing space.

Measurement
This indicator measures the vitality of the region's commercial real estate market. Occupancy rates are provided for the nine county region and Philadelphia's Central Business District (Center City). Data is supplied by Black's Guide, Inc., Jackson-Cross Oncor International and Teleres and is updated annually. It is important to note that during the reporting time period for this indicator, Black's Guide was taken over by Teleres which facilitated a change in their building database. Statistical analysis of regional office space conducted by Teleres for the 1995 data differs from and is not directly comparable to the 1992 Black's Guide data. This indicator will be compared to itself over time (building database held constant), in addition to a comparison of city versus suburban occupancy rates.

Results
Office occupancy rates have generally increased throughout the suburban counties and Center City between 1992 and 1995. Delaware, Montgomery, Burlington and Mercer counties, along with Center City, had the highest occupancy rates. Gloucester County showed the lowest occupancy rate at 61.3%.

COMMERCIAL LAND USE: Office Occupancy Rates

County	1992 % Occupied	1995 % Occupied
Bucks	75.1	84.6
Chester	85.7	83.3
Delaware	86.4	85.1
Montgomery	75.8	86.3
Philadelphia Center City *	83.1 82.8	84.3 85.8
PA Five County	**81.6**	**84.8**
Burlington	78.8	84.8
Camden	73.3	80.3
Gloucester	42.4	61.3
Mercer	83.7	84.8
NJ Four County	**79.7**	**83.4**
REGION	**81.1**	**84.5**

Source: County Data - Black's Guide/Teleres;
* Center City Data - Jackson Cross Oncor International.

TRAFFIC CONGESTION

Ease traffic congestion through the reduction of single occupant vehicles by better integrating automobile, public transit, bicycle and pedestrian facilities; encouraging changes in commuters' travel habits; and improving the efficiency of existing transportation services.

Traffic Congestion
Indicator: Traffic Growth: Regional Traffic Counts

Policy Background
The automobile has been an integral part of the American landscape for decades. Most households in the region have at least one car, and virtually every portion of the region is now auto accessible. However, widespread automobile use has had certain negative effects upon the region. Degraded air quality from increased auto emissions, pressure on the regional highway infrastructure and increased traffic congestion are all direct results of increasing vehicle miles.

Measurement
This indicator measures the level of traffic using DVRPC's 1995 traffic count surveys, and assesses highway travel trends by comparing 1990 and 1995 traffic volumes. Traffic counts were gathered by DVRPC along two cordons (inner and outer), the Delaware River bridges, as well as counts from turnpike interchanges. The Penn Jersey Transportation Study of 1960 (PJTS), the first large-scale travel data collection effort in the Delaware Valley, designated the region's original inner and outer cordons. The cordons represent lines that enclose portions of the region. Along the cordons, traffic counting stations are established to track the number of vehicles crossing the cordon line.

While comprising approximately one-third of the land area in the region, the inner cordon contains about three-quarters of its total population. Considerable commercial and residential growth has occurred in many areas along the inner cordon since its original designation. Accordingly, the 1990 station locations were reviewed for adequacy and suitability and 46 new stations were added, raising the total to 183, in order to ensure that all significant traffic was being captured. These are either new roads, or once minor local streets that are now handling increased traffic.

In 1976, the DVRPC study area was expanded from the 1960 PJTS original cordon to the nine county boundary covering a territory of 3,817 square miles. Traffic counts were taken at stations along the nine county boundary, and the new cordon was designated as the outer cordon. In 1990, the cordon was pushed outward slightly to include three municipalities in Berks County defined by the U.S. Census as part of the Pottstown Urbanized Area.

It should be noted that all 1995 traffic counts reflect the total Average Annual Daily Traffic (AADT), whereas the 1990 counts are based upon total Average Annual Weekday Traffic (AAWT). National and state transportation trends now analyze AADT, but the measures do not vary significantly. Counts obtained from toll authorities (PA and NJ Turnpikes and the Delaware River bridges) are based on AADT for both years.

Results

Traffic has grown in the Delaware Valley by 10.5% between 1990 and 1995. DVRPC traffic counts reveal that the greatest traffic growth is occurring at the inner cordon (+15.9%), the Pennsylvania Turnpike (+10.5%), and at the outer cordon (+7%). All sections of the region where DVRPC traffic counts occur have shown traffic increases since 1990.

TRAFFIC GROWTH: Regional Traffic Counts

Description	1990 Annual Average Daily (or Weekday*) Traffic	1995 Annual Average Daily Traffic	% Change 1990-1995
Outer Cordon	1,145,606*	1,225,661	7.0
Inner Cordon	2,018,132*	2,337,901	15.9
Delaware River Bridges	492,475	513,903	4.4
PA Turnpike	495,504	547,487	10.5
NJ Turnpike	655,235	685,156	4.6
REGIONAL TOTAL	**4,806,952**	**5,310,108**	**10.5**

* 1990 Inner and Outer Cordons use Average Annual Weekday Traffic.
Source: Delaware Valley Regional Planning Commission.

Traffic Congestion

Indicator: Public Transit Usage: Number of Public Transit Passengers

Policy Background

Public transit in the Delaware Valley developed as a series of rail and bus systems that over a period of time were combined to form a regional system. The early system evolved in a manner that allowed central city residents to move out into the suburban counties yet still commute to downtown employment centers. Decentralization eventually led to a changing regional population and employment landscape. Presently, the regional transit network, made up of the Southeastern Pennsylvania Transportation Authority (SEPTA), NJ Transit and Port Authority Transit Corporation (PATCO), consists of commuter rail, light rail, elevated rail, subway and bus systems. Decreasing ridership, attributed to a number of factors, has contributed to the region's congested highways.

Measurement

This indicator illustrates the coverage and operation of public transit by measuring regional ridership. Statistics are provided on an annual basis by SEPTA, NJ Transit and PATCO. SEPTA data is based upon unlinked ridership which comprises all riders regardless of mode transfers. This indicator will be compared to itself over time.

Results

Transit ridership has declined in the region from 380.9 million riders in 1990 to 342.4 million riders in 1996, a drop of 10.1%. SEPTA and PATCO saw declines in ridership of 12.4% and 6.1% respectively, during this period. The declining ridership for both SEPTA and PATCO reflects, in

part, sustained population and job loss in Philadelphia and its Center City business district. Conversely, NJ Transit saw ridership increase 8.6% in the same time period which, according to NJ Transit officials, can be attributed to a robust economy, an increase in suburban employment, and the fact that NJ Transit has not raised its Southern Division fares since 1989.

PUBLIC TRANSIT USAGE: Number of Public Transit Passengers

Transit Agency	1990 Passengers (millions)	1996 Passengers (millions)	% Change 1990-1996
NJ Transit	**38.1**	**41.5**	**8.9**
Rail: Atlantic City Line	0.2	0.9	353.7
Northeast Corridor	19.8	19.9	0.5
Bus: Southern Division	18.2	20.7	13.7
PATCO	**11.4**	**10.7**	**-6.1**
SEPTA*	**331.3**	**290.2**	**-12.4**
City Transit Division	290.1	251.9	-13.2
Suburban Transit Division	16.8	15.8	-6.0
Regional Rail	24.4	22.5	-7.9
TOTAL	**380.9**	**342.4**	**-10.1**

* unlinked trips
Source: NJ Transit; PATCO; SEPTA.

Traffic Congestion
Indicator: Vehicles: Vehicle Growth versus Population Growth

Policy Background
While total population in the Delaware Valley has remained relatively flat, the number of vehicles has risen sharply. Rapid vehicle growth is problematic for two reasons. Traffic congestion worsens since the region's road network is unable to accommodate the increase in vehicle volume. Subsequently, the characteristics of congestion, such as slow travel speeds and stop and go traffic, are detrimental to overall regional air quality.

Measurement
This indicator focuses on the change in the total number of vehicles available for all households relative to population change from 1990 to 1995. This includes passenger cars, vans, pick ups and panel trucks of one ton or less. Vehicles rented or leased for one month or more, company vehicles, and police and government cars are included if kept at home and used for non-business purposes. Data are based upon DVRPC calculations using U.S. Census figures on occupied housing units by vehicle availability (one-vehicle households, two-vehicle households, etc.). Population change is provided by the Census. This indicator will be compared to itself over time.

Results
Total available vehicles in the region have increased 4.8% to almost three million vehicles between 1990 and 1995 despite the fact that the regional population grew by less than one percent during this

period. In the Pennsylvania portion of the region, Chester County had the greatest increase vehicle at 10.2% versus a County population increase of 7.6%, while Bucks and Montgomery counties also saw significant increases in available vehicles. Philadelphia County was the only county in the region to experience a decline in vehicle availability, due to the net population loss of the City during this period. All four counties in the New Jersey portion of the region witnessed significant increases in vehicle availability that far exceed the rate of population growth. Gloucester County had the greatest increase at 9.8%, versus a population increase of 5.9%. Camden County vehicles increased by 5% despite a less than 1% population growth.

VEHICLES: Vehicle Growth versus Population Growth

County	1990 Vehicle Availability	1995 Vehicle Availability	% Change Vehicle Availability 1990-1995	% Change Population 1990-1995
Bucks	359,451	392,845	9.3	6.0
Chester	251,320	276,963	10.2	7.6
Delaware	315,970	324,042	2.6	0.2
Montgomery	450,510	479,004	6.3	4.0
Philadelphia	533,212	516,595	-3.1	-5.5
PA Five County	**1,910,463**	**1,989,449**	**4.1**	**0.1**
Burlington	251,344	267,246	6.3	2.1
Camden	280,459	294,489	5.0	0.9
Gloucester	142,129	156,078	9.8	5.9
Mercer	187,505	198,637	5.9	1.4
NJ Four County	**861,437**	**916,450**	**6.4**	**2.1**
REGION	**2,771,889**	**2,905,889**	**4.8**	**0.7**

Source: Vehicle Availability - DVRPC analysis using U.S. Department of Commerce data; Population - U.S. Department of Commerce.

ENVIRONMENT

Assure a clean and sustainable environment for existing and future residents of the region, and integrate environmental protection objectives in all planning activities.

Environment
Indicator: Waste Generation: Pounds Per Person Per Day

Policy Background
According to the Environmental Protection Agency (EPA), rapid population growth has caused waste production in the U.S. to double since 1960. This alarming trend is projected to continue into the next century. The EPA estimates that in 1990, 64% of garbage was disposed in landfills, 18% was recycled and 18% incinerated. Waste reduction programs in the Delaware Valley include Pennsylvania's Act 101 and the Statewide Recycling Act in New Jersey.

Measurement
This indicator gauges the effectiveness of regional waste reduction programs by measuring the pounds of waste generated per person per day. The lower the waste generated, the closer the county is to achieving Pennsylvania and New Jersey state goals. In Pennsylvania, the Municipal Waste Planning Recycling and Waste Reduction Act (Act 101) of 1988, set the goals of stabilizing the weight or volume of waste generated per capita in the Commonwealth to be the same or less on January 1, 1997 as it was on the effective date of the Act (September 1988). Act 101 further stated that at least 25% of all municipal waste and source-separated recyclable materials generated in the Commonwealth on and after January 1, 1997, should be recycled. The New Jersey Department of Environmental Protection (NJDEP) tried to cap waste generation from 1990 to 1995 and intends to reduce waste generation during the following ten years.

Waste generation data for this indicator are supplied annually by the counties to the Pennsylvania Department of Environmental Protection (PADEP) and by the solid waste industry to NJDEP. In Pennsylvania, the parameters of waste generation are based upon those materials collected under Act 101 and include aluminum and tin cans, corrugated, newsprint and office paper, clear and colored glass, PET (Polyethelene Terephthalaye), HDPE (high density Polyethelene Terephthalaye) and mixed plastics, leaf and yard waste, car batteries, and comingled waste. The New Jersey waste generation figures contain the same elements as in Pennsylvania in addition to other waste materials such as aluminum scrap, white goods, sheet iron, junked autos, wood waste, asphalt, concrete, masonry, and tires. **Because each state defines waste generation differently, Pennsylvania and New Jersey data are not directly comparable.** Population figures are based upon the 1992 and 1995 Census estimates for counties. This indicator will be compared to itself over time.

Results
Pounds of waste generated per person per day increased in the New Jersey four-county region from 10.3 pounds in 1992 to 11.1 pounds in 1995. Gloucester County witnessed the largest increase at 3.0 pounds per person per day, while Burlington and Camden counties saw more modest increases. Mercer County had no change. Similarly, the Pennsylvania five-county region had an increase from

4.4 pounds in 1992 to 4.6 pounds in 1995, still above the Act 101 goals.

The reported decrease in Bucks County's pounds per person per day is probably largely related to a change in reporting requirements. Bucks County Ordinance # 80, passed in 1993, requires municipalities, waste haulers, and processing and disposal site owners to document amounts of waste generated. Prior to 1993, documentation was sporadic, which may account for the significant difference in 1992 between Bucks County and the four other Pennsylvania counties. Differences between Pennsylvania and New Jersey are due to the different definitions for solid waste that each state uses and eliminates any comparisons between the two states. For example, New Jersey recognizes many materials, such as construction waste, tires and junked autos, while Pennsylvania does not consider these when reporting solid waste generated.

WASTE GENERATION: Pounds Per Person Per Day

PA County	1992 pounds per person per day	1995 pounds per person per day
Bucks	5.1	4.2
Chester	4.0	4.1
Delaware	4.2	4.5
Montgomery	4.2	5.3
Philadelphia	4.4	4.6
PA Five County	**4.4**	**4.6**

NJ County	1992 pounds per person per day	1995 pounds per person per day
Burlington	9.1	10.1
Camden	9.4	9.5
Gloucester	9.3	12.3
Mercer	13.7	13.7
NJ Four County	**10.3**	**11.1**

Source: NJDEP; PADEP.

Environment
Indicator: Recycling: Percent of Solid Waste Recycled

Policy Background
Solid waste generation is largely determined by population and business growth. Recycling saves resources, landfill space, and reduces air and water pollution.

In Pennsylvania, Act 101 required curbside recycling in larger communities, and established a statewide goal of 25% of solid waste generated to be recycled by 1997. The New Jersey counterpart is the Statewide Mandatory Source Separation and Recycling Act of 1987 which required each county to provide a system for collecting recyclables. The New Jersey Act set a statewide recycling goal of 60% recycling by 1995.

Measurement

This indicator measures the extent to which the Delaware Valley has reduced solid waste disposal through the use of recycling. A higher percent means more waste is being recycled. Data for this indicator are collected annually by PADEP based upon county reports and NJDEP from reports by the solid waste industry. This indicator will be compared to itself over time as well as to a defined recycling goal. For the purpose of this indicator, Pennsylvania waste recycled includes: metals (aluminum and tin cans); paper (corrugated, newsprint, office paper, other); glass (clear and colored); plastics (PET, HDPE and mixed); leaf and yard waste; car batteries and commingled waste. The higher recycling rates in Burlington, Camden, Gloucester and Mercer counties are due in part to the fact that recycled waste in New Jersey comprises thirty separate waste categories including construction and industrial waste. Further, NJDEP has stressed the importance of the tonnage grant program which awarded grant money to municipalities through December 31, 1996 based upon the amount of solid waste recycled. **Because each state defines recyclables differently, Pennsylvania and New Jersey data are not directly comparable.**

Results

Between 1992 and 1995, the percentage of solid waste generated that was recycled increased from 16.5% to 22.3% in the five Pennsylvania counties. In the four New Jersey counties, recycled solid waste has also increased from 50.9% to 56.6% of waste generated between 1992 and 1995. Delaware County was the only Pennsylvania county to exceed the Act 101 goal, recycling 32% of its waste stream in 1995. Both Delaware and Montgomery Counties were above target in 1992. Large percentage increases occurred in Chester and Philadelphia counties during the same time period. Mercer County recycled almost 67% of its solid waste generated, the highest amount of the four New Jersey counties. Burlington and Gloucester counties also witnessed significant increases in solid waste recycled between 1992 and 1995.

RECYCLING: Percent of Solid Waste Recycled

PA County	1992 % Solid Waste Recycled	1995 % Solid Waste Recycled
Bucks	8.6	18.0
Chester	15.4	21.0
Delaware	26.2*	32.0*
Montgomery	28.1*	22.0
Philadelphia	11.6	21.0
PA Five County	**16.5**	**22.3**

NJ County	1992 % Solid Waste Recycled	1995 % Solid Waste Recycled
Burlington	43.2	50.5
Camden	47.4	50.4
Gloucester	46.5	60.0**
Mercer	62.8**	66.8**
NJ Four County	**50.9**	**56.6**

* meets PA Act 101 goals for recycling.
** meets NJ Statewide Mandatory Source Separation and Recycling Act goals.
Source: PADEP; NJDEP.

Environment
Indicator: Water Quality: Dissolved Oxygen in the Delaware River (mg/l)

Policy Background
Dissolved oxygen levels in natural and wastewater depend on the physical, chemical and biochemical activities in the water body. Waters classified for the protection and propagation of fish and wildlife, such as the Delaware River, must contain sufficient dissolved oxygen to support aquatic life. Reduced concentrations of dissolved oxygen can lead to detrimental effects such as taste and odor in waters, and limit the kinds of numbers of fish and other aquatic life present.

Measurement
This indicator measures the change in water quality in the Delaware River. Flowing for nearly 330 miles from New York State to the Delaware Bay, the Delaware River is the primary drainage basin for the region. Large regional tributaries such as the Schuylkill River, Neshaminy Creek and Rancocas Creek drain urban, suburban and rural lands into the Delaware River carrying with them potential pollutants threatening its water quality and living resources. Dissolved oxygen (DO) is an indicator that is commonly utilized to measure the ability of a water body to sustain aquatic life.

Data for DO is collected annually by the Delaware River Basin Commission (DRBC) at numerous water quality monitoring stations along the Delaware River throughout the region. The DRBC data is assembled into the U.S. Environmental Protection Agency's Storage and Retrieval data base for water quality (STORET). Measurements are commonly taken by DRBC between late March and late December at slack tide and three feet below the surface of the channel. A higher DO number means that there is a greater concentration of dissolved oxygen in the water at a particular monitoring station which may imply better water quality. The DRBC has established water quality objectives for DO for the STORET stations in the region. Changes in water quality will be compared to themselves and to the DRBC's water quality objectives over time. The monitoring stations are analyzed from north (Fieldsboro) to south (Marcus Hook) and illustrate changes in water quality at those stations located in the Delaware Valley.

Results

The monitoring stations at Bristol and Torresdale were the only stations to experience a measure that did not meet the DRBC water quality objectives in 1990. All stations met these objectives in 1995. Water entering the region at Fieldsboro contained the greatest DO content than water leaving the region at Marcus Hook. Decreases in average DO between 1990 and 1995 occurred at the Betsy Ross Bridge, Ben Franklin Bridge, Paulsboro, Eddystone, and Marcus Hook monitoring stations - all heavily industrialized areas. Increases in DO were witnessed at the Fieldsboro, Bristol, Torresdale, and Navy Yard stations during the same time period.

WATER QUALITY: Dissolved Oxygen in the Delaware River (mg/l)

Water Quality Monitoring Station	1990 Avg. DO (mg/l)	# Times Did Not Meet Water Quality Objectives (1990)	1995 Avg. DO (mg/l)	# Times Did Not Meet Water Quality Objectives (1995)
Zone 2 Water Quality Objective: > 5.0 mg/l minimum 24 hr. average				
Fieldsboro	8.3	0	8.4	0
Bristol	7.5	1	7.8	0
Torresdale	7.6	1	7.8	0
Zone 3 Water Quality Objective: > 3.5 mg/l minimum 24 hr. average				
Betsy Ross Bridge	7.8	0	7.6	0
Ben Franklin Bridge	7.2	0	7.2	0
Zone 4 Water Quality Objective: > 3.5 mg/l minimum 24 hr. average				
Navy Yard	6.9	0	7.0	0
Paulsboro	7.1	0	6.8	0
Eddystone	7.1	0	6.9	0
Zone 5 Water Quality Objective: > 3.5 mg/l minimum 24 hr. average				
Marcus Hook	7.2	0	6.9	0

Source: Delaware River Basin Commission; EPA.

Environment
Indicator: Energy Consumption: State Per Capita Usage, 1990-1994 (million Btus)

Policy Background
Energy consumption has major, if conflicting, implications for the economic health and quality of the environment of the Delaware Valley. On the one hand, energy consumption tends to increase with economic activity. At the same time, higher energy use is typically associated with more impacts to the environment.

Measurement
This indicator measures the extent to which the residential, commercial, industrial, institutional and transportation entities of Pennsylvania and New Jersey engage in energy efficient practices. The greater the number, the more energy is being consumed. Data are reported annually by state through the U.S. Department of Energy. Comprehensive regional data is not available. This indicator will be compared to itself and other states over time.

Results
Energy consumption increased in New Jersey by 8.2% and in Pennsylvania by 3% between 1990 and 1994. New Jersey consumed more than 322 million Btus per capita in 1994, while Pennsylvania consumed approximately 317 million Btus per capita during the same time period. National energy consumption increased by just 1% to 341 million Btus in 1994.

ENERGY CONSUMPTION: State Per Capita Usage, 1990-1994

State	1990 Million Btus Per Capita	1994 Million Btus Per Capita	% Change 1990-1994
Pennsylvania	**308.2**	**317.6**	**3.0**
New Jersey	**297.7**	**322.2**	**8.2**
United States	337.5	341.0	1.0
California	258.2	240.5	-6.9
Florida	243.9	242.3	-0.7
Illinois	313.5	314.2	0.2
Massachusetts	234.4	246.2	5.0
Maryland	259.7	256.6	-1.2
Michigan	305.6	325.1	6.4
New York	207.0	213.0	2.9
Ohio	349.4	356.1	1.9
Texas	581.0	564.0	-2.9

Source: U.S. Department of Energy.

AIR QUALITY

Improve the region's air quality by reducing the number of single occupant vehicles, promoting alternative travel modes and encouraging other measures which will limit emissions from mobile sources.

Air Quality Indicator: **Ozone Pollution: Number of Exceedances in the DVRPC Region of the National Ambient Air Quality Standards (NAAQS) for Ozone**

Policy Background

Air quality is fundamental to the health of people, the environment and the economy. Air quality is strongly affected by production, transportation and population patterns and practices. Poor air quality diminishes the attractiveness of the region as a place to work and live.

The Delaware Valley has been classified as a severe ozone non-attainment area. Attainment of the federal ozone standards is required by 2005. The complete ozone non-attainment area for the Philadelphia region encompasses the nine county DVRPC region plus Salem and Cumberland Counties, New Jersey; New Castle and Kent Counties, Delaware; and Cecil County, Maryland.

Measurement

This indicator, which gauges the effectiveness of air quality regulations from all sources, measures the number of times the Philadelphia non-attainment area exceeded the federal ozone standard for a particular year. Data is collected at ozone monitoring stations by Pennsylvania, New Jersey, Delaware, Maryland and the City of Philadelphia, and will be compared to itself over time.

Results

While this measure can be strongly affected by public policy, it is also influenced by annual weather conditions in the summer season. In order to reach attainment status, the Philadelphia non-attainment area can record no more than three exceedances within a three-year period. After this is accomplished, the EPA can be petitioned to redesignate the region to attainment. During the most recent three-year period of 1994-1996, the region had 12, 47, and 9 exceedances, respectively. While this is an improvement over the 1990-1993 period which saw 47, 83, 14, and 40 exceedances, respectively, the region remains far from achieving compliance. In 1997, the EPA has proposed a new, more stringent ozone standard. However, the region will most likely have additional time to meet the new standard if it is instituted.

OZONE POLLUTION: Number of Exceedances in the DVRPC Region of the National Ambient Air Quality Standards (NAAQS) for Ozone

	1990	1991	1992	1993	1994	1995	1996
Philadelphia	47	83	14	40	12	47	9

Source: EPA.

Air Quality
Indicator: Drive Alone: Percent of Home-to-Work Trips in Single Occupant Vehicles

Policy Background
This indicator measures the extent to which commuting alternatives are being used throughout the region. Motor vehicle exhaust, which is a primary catalyst for ozone, is exacerbated by the increasing number of people who drive alone. These single occupancy vehicle (SOV) trips contribute significantly to the degradation of regional air quality. Alternatives to SOV trips include carpools, vanpools, public transit and biking or walking.

Measurement
The number of resident worker SOV home-to-work trips are provided by the U.S. Department of Commerce's Bureau of the Census every ten years. Resident worker data refers to where workers live as opposed to their place of employment. A lower percentage of SOV trips indicates a greater usage of transportation alternatives and generally correlates with improved air quality. Data analysis based upon Census information is calculated by DVRPC and is compared to itself over time.

Results
The percentage of SOV trips increased in every county within the Delaware Valley between 1980 and 1990. The region saw the percentage of these trips increase from 59.4% in 1980 to 68.0% in 1990. Bucks and Philadelphia counties occupied the endpoints of the range in 1990, with 80.6% and 44.7% of resident worker SOV trips respectively in 1990.

DRIVE ALONE: Percent of Home-to-Work Trips in Single Occupant Vehicles (SOV)

County	1980 % SOV Trips	1990 % SOV Trips
Bucks	71.3	80.6
Chester	69.6	78.8
Delaware	60.9	70.9
Montgomery	68.9	78.9
Philadelphia	40.7	44.7
PA Five County	**56.8**	**65.3**
Burlington	68.2	78.0
Camden	64.7	71.8
Gloucester	70.2	79.0
Mercer	63.5	71.5
NJ Four County	**66.2**	**74.7**
REGION	**59.4**	**68.0**

Source: U.S. Department of Commerce.

ECONOMIC DEVELOPMENT

Ensure a diverse and competitive regional economy by supporting the retention of existing business and by encouraging new enterprise that create employment opportunities in close proximity to the labor force.

Economic Development
Indicator: Employment Growth: Percent Change in Total Employment

Policy Background
As the number of job holding residents increases, more money enters the economic stream and the economy gains in vitality. An increase in total employment promotes a positive regional image along with enhancing the competitiveness of the Delaware Valley.

Total employment figures are based upon the number of regional residents who are currently employed. Employed persons are defined as those who worked as paid employees, worked in their own businesses, or who worked 15 hours or more per week as unpaid workers in a family-owned business. It also includes those who did not work but had jobs from which they were temporarily absent.

Measurement
This indicator measures the growth of nonfarm payroll jobs in the Delaware Valley. Data are measured on an annual basis by the U.S. Department of Commerce Bureau of Economic Analysis *Regional Economic Information System* (REIS) data. It is important to note that there are a variety of employment data sources such as the U.S. Census, Bureau of Labor Statistics, and State Data Centers, and the REIS data may not be the same as data from other sources. The important factor in this indicator is the rate of change between the measures. Information is provided for the eight county Philadelphia PMSA. Mercer County is reported separately. This indicator will be compared to employment changes in Pennsylvania, New Jersey and the U.S.

Results
Between 1990 and 1995, there were gains in total employment in seven of the nine Delaware Valley counties. Employment growth for the region as a whole remained flat, with no change. Chester and Gloucester counties had increases of 8.1% and 11%, respectively, while Philadelphia lost 8.6% of its total employment. Meanwhile, the U.S. had a total employment gain of 6.7%, Pennsylvania had a total employment gain of 2.1%, and New Jersey saw an employment gain of 0.9% during the same time period.

EMPLOYMENT GROWTH: Percent Change in Total Employment

County	1990 Total Employment	1995 Total Employment	% Change 1990-1995
Bucks	276,449	290,091	4.9
Chester	217,667	235,321	8.1
Delaware	262,442	264,667	0.8
Montgomery	519,679	539,848	3.9
Philadelphia	850,037	777,155	-8.6
PA Five County	**2,126,274**	**2,107,082**	**-0.9**
Burlington	203,671	207,449	1.9
Camden	251,789	248,103	-1.5
Gloucester	92,856	103,066	11.0
Mercer	221,343	229,285	3.6
NJ Four County	**769,659**	**787,903**	**2.4**
REGION	**2,895,933**	**2,894,985**	**0.0**
PA	6,367,246	6,498,716	2.1
NJ	4,368,240	4,409,461	0.9
U.S.	139,891,300	149,290,100	6.7

Source: U.S. Department of Commerce.

Economic Development
Indicator: Unemployment Rate: Percent of Persons in the Labor Force Seeking Jobs

Policy Background
The unemployment rate provides a consistent measure of labor utilization in the region. It represents the number of unemployed persons as a percent of the civilian labor force. Until recently, unemployment in the Delaware Valley has generally been slightly lower than the national rate.

Measurement
This indicator measures the proportion of unemployed job seekers in the labor force. Data are supplied monthly by the U.S. Department of Labor's Bureau of Labor Statistics. This measure will be compared to unemployment rates in Pennsylvania, New Jersey and the nation.

Results

Unemployment rates throughout the Delaware Valley tended to fluctuate significantly between 1990 and 1995 as the economy cycled through the end of a long period of expansion to a relatively short but deep recession that began in 1991. As a whole, the region had an unemployment rate of 4.6% in 1990 and 5.9% in 1995. County level unemployment rates ranged from a low of 3.2% in Chester County in 1990 to a high of 7.7% in Philadelphia in 1995. During this time period, every county in the region experienced an increase in their respective unemployment rates. Similarly, Pennsylvania and New Jersey have had increases in statewide unemployment rates, while the national unemployment rate remained unchanged in 1990 versus 1995. The regional unemployment rate remained below the statewide rates in 1990 and 1995, but moved higher than the national average during this period.

UNEMPLOYMENT RATE: Percent of Persons in the Labor Force Seeking Jobs

County	1990 Unemployment Rate (%)	1995 Unemployment Rate (%)
Bucks	4.2	5.2
Chester	3.2	4.0
Delaware	3.9	5.6
Montgomery	3.7	4.5
Philadelphia	6.2	7.7
Burlington	3.9	5.1
Camden	5.0	6.5
Gloucester	4.7	6.6
Mercer	4.1	5.4
REGION	**4.6**	**5.9**
PA	5.4	5.9
NJ	5.1	6.4
U.S.	5.6	5.6

Source: U.S. Department of Labor.

Economic Development

Indicator: Income Growth: Percent Change in Per Capita Personal Income

Policy Background

Although the numbers of employed residents may increase, it is also important to track the wages being earned by those working. A gain in jobs may only be indicative of an increase in low paying

jobs that require little skill. Improvements in employment numbers coupled with an increase in personal income can illustrate that the Delaware Valley is employing more highly educated and skilled workers whose increased earnings and subsequent spending drive the regional economy.

Measurement

This indicator measures the annual income per person in the region and may be indicative of the kinds of jobs being created in the Delaware Valley. The county listings are for county residents. Data for this indicator are supplied annually by the U.S. Department of Commerce Bureau of Economic Analysis REIS data. Income data from the REIS differs from Census-based income data since the REIS income series is estimated largely on the basis of administrative records of business and governmental sources, and the Census data are obtained directly from households. Moreover, the definitions of income are different. The REIS data includes some items not included in the Census income data, such as income "in kind," income received by nonprofit institutions, and Medicare payments. This measure will be compared to changes in earnings in Pennsylvania, New Jersey and the U.S.

Results

Per capita personal income has risen from 1990 through 1995. Regional per capita personal income in 1995 was $27,369, up 25.3% in five years. Chester County experienced a per capita personal income increase of 32.9%, and Mercer County had an increase of 26.1%. Regional income growth was ahead of the comparable figures for Pennsylvania (+24.9%), New Jersey (+23.8%), and the nation as a whole (+24.3%).

INCOME GROWTH: Percent Change in Per Capita Personal Income

County	1990 Per Capita Personal Income	1995 Per Capita Personal Income	% Change 1990-1995
Bucks	$22,482	$27,746	23.4
Chester	$25,939	$34,469	32.9
Delaware	$22,533	$27,927	24.0
Montgomery	$29,468	$37,011	25.6
Philadelphia	$17,432	$21,136	21.2
Burlington	$21,132	$26,628	26.0
Camden	$20,181	$24,963	23.7
Gloucester	$18,436	$22,875	24.1
Mercer	$25,877	$32,633	26.1
REGION	**$21,836**	**$27,369**	**25.3**
PA	$18,883	$23,588	24.9
NJ	$24,182	$29,941	23.8
U.S.	$18,666	$23,196	24.3

Source: U.S. Department of Commerce.

Economic Development
Indicator: <u>The 1995 Economic Diversity Index</u>: A Measure of the Range of Jobs and Industries in the Regional Economy

<u>Policy Background</u>
Recently, many metropolitan regions have shown a decline in their manufacturing base and an increase in service-related employment. However, individual regions tend to have concentrations of employment in particular sectors. For example, of the twelve areas examined, Washington D.C. had the highest percentage of government workers, Houston has the highest percentage of mining-related workers and Detroit lead in manufacturing employment. Philadelphia does not have the highest concentration in any one sector, but instead, and more importantly, can boast the second most diverse economy of the twelve metro areas. When compared with the average distribution of the 25 largest Consolidated Metropolitan Statistical Areas (CMSA) across the country, only San Francisco's labor force distribution is more diverse than Philadelphia's. A CMSA is a Census defined urbanized area with a population of one million or more.

<u>Measurement</u>
The analysis involves taking the absolute difference between a metro area's percent of the labor force

in each sector from the percent per sector in the 25 largest CMSAs. The absolute differences for all eight sectors were summed to arrive at the "diversity index" for each metro area. The lower the number, the closer the metro area's labor force distribution is to the 25 largest CMSAs, which represents the average national distribution. This indicator measures the diversity of the regional economy in eight economic sectors (mining, construction, manufacturing, utilities/transportation, wholesale/retail/, FIRE, services and government). Data is provided annually from the U.S. Department of Labor's Bureau of Labor Statistics and the index created using DVRPC calculations. This indicator will be compared to other metropolitan regions.

Results

The Delaware Valley (Philadelphia) had a diversity index of 50, which is the second lowest index of the 25 largest CMSA's. Only San Francisco, with an index of 38, had a more diverse economy than the Delaware Valley in 1995.

THE 1995 ECONOMIC DIVERSITY INDEX: A Measure of the Range of Jobs and Industries in the Regional Economy

Metro Area	1995 Diversity Index
San Francisco	38
Philadelphia	**50**
Los Angeles	54
Chicago	82
New York	100
Boston	100
Dallas	106
Pittsburgh	126
Baltimore	133
Houston	148
Detroit	172
Washington, DC	344

Source: DVRPC analysis using U.S. Department of Labor data.

FREIGHT MOVEMENT

Promote cooperation among freight movement interests and development of an intermodal freight movement plan with improvements to air, highway, port and rail systems.

Freight Movement
Indicator: Port: Bulk and General Cargo at the Port of Philadelphia and Camden

Policy Background
The maritime facilities of the Delaware River comprise one of the largest freshwater shipping complexes in the world, handling the second largest volume of international tonnage on the East Coast. These facilities are strategically located in the middle of a metropolitan corridor which extends from Boston to Norfolk, and is closer to more major cities than any other port on the Atlantic seaboard. Port facilities on both sides of the Delaware River provide numerous distribution options to the world's shippers and includes both public and private facilities. The volume of cargo imported and exported from the shipping facilities is a measure of the economic vitality of the Delaware Valley. Increased port activity is a sign of a strong economy and a healthy intermodal freight system.

Measurement
This indicator measures the amount of freight being imported and exported from the Port of Philadelphia and Camden (PPC) including both general and bulk cargo. Historically, bulk cargo such as petroleum products, chemicals, coal, and other earth minerals, have comprised the majority of freight tonnage passing through the region's ports. Although still smaller in overall tonnage as compared to bulk cargo, general cargo products like iron and steel, electronic goods, and fruit, command a higher value in the world marketplace. Port data is provided by PPC, updated annually, and will be compared to itself over time.

Results
Port freight at PPC has seen a slight drop in tonnage from 1990 through 1995. Bulk tonnage, such as coal, petroleum and fertilizer, decreased almost 4%, while general tonnage, such as electronic equipment, fruit, and automobiles increased 3.1%.

PORT: Bulk and General Cargo at the Port of Philadelphia and Camden (million tons)

Cargo	1990 Million Tons	1995 Million Tons	% Change 1990-1995
Bulk	59.2	56.9	-3.9
General	5.7	5.8	3.1
TOTAL	**64.9**	**62.7**	**-3.4**

Source: Port of Philadelphia and Camden.

Freight Movement
Indicator: Air: Tons of Air Cargo

Policy Background
Air cargo comprises a smaller percentage of regional freight than goods transported by rail or ship. The importance of Philadelphia International Airport (PHL) to the regional freight system is primarily for high-value, time-sensitive cargoes and commodities.

Measurement
This indicator measures the amount of domestic and international cargo traveling through PHL which consists of onloaded and offloaded cargoes. Air cargo data is supplied by PHL and is updated annually.

Results
Air cargo tonnage has increased significantly at PHL between 1990 and 1996. PHL reports that flights are carrying 63.7% more air cargo tons in 1996 than in 1990. According to the Division of Aviation Records at PHL, this increase is primarily due to both United Parcel Service (UPS) and U.S. Airways establishing international cargo hubs at PHL within the past six years.

AIR: Tons of Air Cargo

1990 Tons	1996 Tons	% Change 1990-1996
290,295	475,139	63.7

Source: Philadelphia International Airport.

Freight Movement
Indicator: Truck: Recorded Truck Movements

Policy Background
Freight movement by truck allows smaller and local shippers "door-to-door" access to the regional freight network by permitting local firms to get their products quickly to market. Trucks provide the widest freight coverage in the Delaware Valley in addition to having a significant impact on intermodal transfers. Increased truck traffic may be indicative of an enhanced regional economy.

Measurement
This indicator measures the change in truck movements and provides one assessment of the health of the regional on-road freight network. Data are based upon movements along the Pennsylvania and New Jersey Turnpike regional interchanges and truck crossings on the Ben Franklin, Betsy Ross, Commodore Barry, Walt Whitman, Trenton-Morrisville, New Hope-Lambertville, Tacony-Palmyra and Burlington-Bristol bridges. Data are provided on an annual basis from the Pennsylvania Turnpike Commission, New Jersey Turnpike Authority, Delaware River Port Authority (DRPA), Delaware River Joint Toll Bridge Commission (DRJTBC) and the Burlington County Bridge Commission (BCBC). These measures will be compared to themselves over time.

Results

Regional truck traffic increased slightly, from 13.9 million movements in 1990 to 14 million movements in 1995. The greatest increases during this time period occurred along the Pennsylvania Turnpike and the DRPA bridges (Ben Franklin, Betsy Ross, Commodore Barry and Walt Whitman). Truck traffic decreased significantly across the DRJTBC bridges (Trenton-Morrisville and New Hope-Lambertville), and the BCBC bridges (Tacony-Palmyra and Burlington-Bristol). In 1995, the DRPA offered monthly passes to trucking companies, making it more attractive for trucks to use these bridges than others. The BCBC decided not to offer this service in an effort to dissuade trucks from utilizing their bridges in hopes of slowing the wear and tear of the bridge surfaces. This caused the decline in BCBC bridge truck movements as a majority of those trucks that formerly used the BCBC bridges switched to using the DRPA bridges. According to the DRJTBC's District 1 office, the decline in recorded truck movements on the DRJTBC bridges can be attributed to two factors. First, a new toll plaza was constructed on the Trenton-Morrisville Bridge causing a decrease in total vehicles in the early 1990s. Second, the severe winter of 1995, forced many trucks to find alternate crossings. Since the DRJTBC bridges are served by local roads, it was extremely difficult to access the bridges during these ice and snow events. Many truck drivers opted for the better maintained access of the interstate-linked bridges, such as the Ben Franklin and Turnpike bridges.

TRUCK: Recorded Truck Movements

Roadway/Bridges	1990 Recorded Truck Movements	1995 Recorded Truck Movements	% Change 1990-1995
PA Turnpike	4,957,435	5,618,772	13.3
NJ Turnpike	4,885,109	4,960,863	1.6
DRPA Bridges Betsy Ross Ben Franklin Walt Whitman Commodore Barry	2,207,000	2,434,000	10.3
DRJTBC Bridges Trenton-Morrisville New Hope-Lambertville	1,173,203	787,722	-32.9
BCBC Bridges Tacony-Palmyra Burlington-Bristol	700,056	246,967	-64.7
REGIONAL TOTAL	**13,922,803**	**14,048,324**	**0.9**

Source: PA Turnpike, NJ Turnpike, DRPA, DRJTBC, BCBC.

MOBILITY

Improve access to and efficiency of the region's transportation network, and ensure the safety and security of the system's users.

Mobility
Indicator: Safety: Total Automobile Crashes in the DVRPC Region

Policy Background
Automobile crashes threaten the personal safety of motorists on the roads and highways of the Delaware Valley. Roads that are congested and in poor condition tend to present a greater likelihood of crashes. This not only poses a physical hazard to the region's motorists but also slows the movement of goods which directly affects the economy.

Measurement
This indicator measures the safety of the regional highway system consisting of state, county and local roads. The number of crashes consists of fatal crashes, injury crashes and property damage only crashes (crashes where at least one vehicle must be towed). Data is reported on a county by county basis and is collected annually by PennDOT's Bureau of Highway Safety and Traffic Engineering and NJDOT's Accident Records Section. The data will be compared to itself over time. **Methods of reporting and displaying accident information differ in Pennsylvania and New Jersey such that state figures are not directly comparable.**

Both DOTs list three crash types (fatal crashes, injury crashes and property damage only crashes) which are aggregated for the purposes of this indicator. In Pennsylvania, property damage only crashes are reported only when one or more motor vehicles incurs disabling damage as a result of the accident, requiring the vehicle to be transported away from the scene by a tow truck or other vehicle. The New Jersey State Police report only those accidents where one or more motor vehicles sustain at least $500 worth of damage. This damage assessment is determined by the responding officers at the time of the accident.

Results
The total number of automobile crashes in the Delaware Valley declined 17.2% between 1988 and 1994 with every county in the region experiencing a net decline. Total crashes within the five Pennsylvania counties decreased 16.8% from 47,442 in 1988 to 39,456 in 1994. The four southern New Jersey counties experienced a 17.5% decline in the total number of automobile crashes between 1988 and 1994.

Since there are more vehicles traveling the region's roads and congestion has increased, it is logical to expect an increase in vehicle crashes, or at least in minor accidents. However, the data illustrates the opposite seems to be true. According to traffic engineers in PennDOT's Bureau of Highway Safety and Traffic Engineering, better educated drivers coupled with advanced vehicle engineering, such as anti-lock brakes, may be a reason for this decline. According to the New Jersey State Police,

the number of crashes on state highways has historically fluctuated and is primarily dependant upon the weather. Although neither source could pinpoint a cause for this decline, it appears that reporting minimums (i.e. monetary thresholds or the need for towing) may exclude the reporting of many minor fender-bender type accidents, accounting for at least part of the observed trend.

SAFETY: Total Automobile Crashes in the DVRPC Region

PA County	1988 Total Crashes	1994 Total Crashes	% Change 1988-1994
Bucks	8,452	7,034	-16.8
Chester	6,031	5,072	-15.9
Delaware	6,324	5,249	-17.0
Montgomery	10,875	9,330	-14.2
Philadelphia	15,760	12,771	-19.0
PA Five County	**47,442**	**39,456**	**-16.8**

NJ County	1988 Total Crashes	1994 Total Crashes	% Change 1988-1994
Burlington	11,974	9,258	-22.7
Camden	14,132	12,889	-8.8
Gloucester	6,192	5,226	-15.6
Mercer	12,853	9,855	-23.3
NJ Four County	**45,151**	**37,228**	**-17.5**
REGION	**92,593**	**76,684**	**-17.2**

Source: NJDOT; PennDOT.

Mobility
Indicator: <u>Road Condition</u>: Percent of Highway Miles Rated in Poor Condition

<u>Policy Background</u>
The physical composition of the regional highway system is an important component in the physical safety and economic health of the Delaware Valley. Highways that are rated in poor condition are hazardous to the motoring public. In addition, these highways cause numerous delays, jeopardizing the efficiency of the regional freight movement network and slowing the daily commutes of thousands of workers. Highway pavement performance is affected by two parameters: environment and traffic.

Measurement

This indicator measures the physical condition of the regional highway system. A higher percentage means that more road miles are in poor condition. Primarily based upon pavement conditions, this indicator is reported annually by PennDOT (Overall Pavement Index) and NJDOT (Surface Distress Index). Both measures include only those roadways that fall under the jurisdiction of the respective state DOTs. It is important to note that there are other agencies that oversee roadways in the region including turnpike commissions, bridge commissions and counties. This data only includes the state DOT reports. **Pennsylvania and New Jersey data are not directly comparable due to differences in their data collection and reporting methodologies.**

Results

The percentage of southern New Jersey state highways in poor and very poor condition increased from 14% in 1990 to 22% in 1995. According to NJDOT, the severe winters and long hot summers of the early 1990s, coupled with a significant increase in truck traffic carrying heavier loads, are the primary causes for the increase in poor highway miles. The percentage of southeastern Pennsylvania highways under PennDOT jurisdiction in mediocre and poor condition decreased from 58% in 1990 to 26% in 1995. Widescale resurfacing projects in the region are attributed to the decrease in poor highway miles in southeastern Pennsylvania.

ROAD CONDITION: Percent of Highway Miles Rated in Poor Condition

	1990 % Highway Miles	1995 % Highway Miles
NJ Four County*	14.0	22.0
PA Five County**	58.0	26.0

* Based upon NJDOT's Surface Distress Index (SDI) for "poor" and "very poor" conditions.

** Based upon PennDOT's Overall Pavement Index (OPI) for "mediocre" and "poor" conditions.

Source: NJDOT; PennDOT.

Pennsylvania and New Jersey data are not directly comparable due to differencies in their data collection and reporting methodologies.

Mobility

Indicator: Reliability of Public Transit: On-Time Performance of Public Transportation

Policy Background

The Delaware Valley contains numerous rail and bus transit routes that provide alternatives to the automobile. Choices range from regional rail to elevated trains and from subway to bus. A major factor in the choice between public transit and automobile, is the efficiency at which the transit system performs. By making reliable transit a viable option for commuters, air quality will improve due to declining numbers of commuters driving alone and sprawl will be limited as more compact development patterns are created around transit stations.

Measurement

This indicator measures the scheduled performance of the region's three primary public transit providers (SEPTA, NJ Transit and PATCO). NJ Transit and PATCO define on-time performance as arriving within five minutes of the scheduled time, while SEPTA defines on-time performance as arriving within 15 minutes of scheduled time. On-time performance information is available annually from all three public transit providers.

Results

On-time performance increased between 1990 and 1995 on both the Atlantic City and Northeast Corridor NJ Transit rail lines operating in the Delaware Valley. PATCO's on-time performance decreased from 99.2% in 1990 to 99% of scheduled trains on-time in 1995. SEPTA has a varied on-time record depending upon the mode analyzed. The SEPTA mode with the highest on-time performance is the Broad Street Subway. The Subway's on-time performance increased slightly from 98.9% in 1993 to 99.0% in 1995. The SEPTA mode with the lowest on-time performance is the Suburban Division Bus, which decreased from 89.8% in 1990 to 87.7% in 1995. Regional Rail on-time performance decreased from 93.6% on-time in 1993 to 91.3% on-time in 1995.

RELIABILITY OF PUBLIC TRANSIT: On-Time Performance of Public Transportation

Agency	1990 % On-Time	1995 % On-Time
NJ Transit		
Northeast Corridor	88.1	94.0
Atlantic City Line	93.2	95.5
PATCO	99.2	99.0
SEPTA*		
City Division Bus	92.0	93.5
Suburban Division Bus	89.8	87.7
Regional Rail	93.6	91.3**
Subway	98.9	99.0
Light Rail	94.9	90.1
Elevated	97.6	98.5
Media/Sharon Hill	95.8	93.3
Norristown High Speed	92.4	93.9
Trackless	97.1	95.7

* 1993 data.

** At final destination. Prior to 1994, on-time performance was reported at Suburban Station.

Source: NJ Transit; PATCO; SEPTA.

Mobility

Indicator: Trip Length: Average Travel Time to Work in the DVRPC Region

Policy Background

The last twenty years have seen a pronounced decentralization of residents and jobs from the city to the suburbs. Work travel trips have shifted as a result with county-to-county trips increasingly

replacing the traditional suburb-to-city commute. This indicator provides insight into how well the transportation system is functioning and whether regional congestion can be expected to increase.

Measurement

This indicator measures the average time workers spend traveling to their jobs. An increase means workers are spending more time commuting to their jobs. All modes of transportation are combined for this indicator including: drive alone, 2, 3 and 4+ person carpools, bus, trolley/subway, railroad, bicycle/walked and other. Data for the Pennsylvania suburbs are analyzed seperately than the City of Philadelphia due to disparate commuting behaviors, such as a heavy reliance upon public transit in Philadelphia. Average travel times for the Pennsylvania suburbs are compared to the Philadelphia travel times to arrive at the five county average. Data are provided for county residents every ten years by the U.S. Department of Commerce's Bureau of the Census and will be compared to themselves over time.

Results

The average travel time for work trips in the region has decreased 2.8% from 25.3 minutes in 1980 to 24.6 minutes in 1990. A decrease in travel time of 3.5% occurred in the five Pennsylvania counties while travel times for the four New Jersey counties remained unchanged. Delaware, Camden and Philadelphia counties experienced significant decreases in travel time for work trips while the remaining six counties all saw increasing travel times for work trips.

TRIP LENGTH: Average Travel Time of Trips to Work (minutes)

County	1980 Average Travel Time (minutes)	1990 Average Travel Time (minutes)	% Change 1980-1990
Bucks	24.0	24.2	0.8
Chester	22.3	23.9	7.2
Delaware	25.6	24.5	-4.3
Montgomery	21.9	22.5	2.7
PA Suburbs	23.5	23.7	0.9
Philadelphia	29.8	27.4	-8.1
PA Five County Average	**26.0**	**25.1**	**-3.5**
Burlington	24.0	24.1	0.4
Camden	24.4	23.7	-2.9
Gloucester	23.9	24.3	1.7
Mercer	21.7	22.1	1.8
NJ Four County Average	**23.6**	**23.6**	**0.0**
REGION AVERAGE	**25.3**	**24.6**	**-2.8**

Source: U.S. Department of Commerce.

HOUSING

Develop an adequate supply of quality housing affordable to all income groups in the region, located in accordance with regional land use and transportation goals.

Housing Indicator: Housing Affordability: Increase in Housing Prices, the Consumer Price Index and Average Annual Wages

Policy Background

Affordable housing opportunities have become more limited across the region. Once an issue only for low income households, many moderate and median income households now have difficulty securing affordable housing.

The Consumer Price Index (CPI) is a measure of the change over time in the prices paid by urban consumers for a fixed market basket of consumer goods and services. The market basket represents goods and services such as: food, clothing, homes, automobiles, fuel; fees to doctors, lawyers and beauty shops; and rent, repair costs, public utility rates, and others. While the broadly defined CPI is a general measure of inflation, the CPI's housing component is more narrowly focused providing data for homeowners' and renters' costs, fuel and utilities, and household furnishings and operation. Many of these housing variables are higher in the Delaware Valley than the nation.

In addition to changes in the cost of housing, regional wages must be at levels that allow a family earning the regional median income to be able to purchase a house. According to a 1990 DVRPC analysis of regional housing prices, a family earning the regional median income could not afford to purchase the median priced home in 81% of the region's 353 municipalities. An affordability rule of thumb says that the proportion of a household's gross family income spent on rent or mortgage payments and other housing expenses should be less than 30%. To increase affordability, regional earnings should rise at the same rate, if not faster, than the rate of change in the cost of housing.

Measurement

This indicator measures the change in the cost of housing relative to the change in the cost of all other goods and services and the rate of wage increases. The CPI is produced by the U.S. Department of Labor's Bureau of Labor Statistics and reflects 1982-84 spending patterns which are set as a benchmark of 100. This indicator is based upon data from the March 1990 and March 1995 CPI. The Philadelphia Consolidated Metropolitan Statistical Area (CMSA) CPI data includes the nine county DVRPC region and Cumberland and Salem Counties, New Jersey, New Castle County, Delaware and Cecil County, Maryland. Average annual wage data are found in the *Regional Economic Information System* by the U.S. Department of Commerce's Bureau of Economic Analysis. This indicator will be compared to the U.S. and itself over time. The U.S. CPI is the U.S. City Average.

Results

Between 1990 and 1995, the cost of goods and services in the region increased faster than the cost of housing. The CPI rose 18.3 % in the Delaware Valley, which was a greater increase than the U.S. The CPI Housing component in the region rose at 15.5% between 1990 and 1995 versus 16.2% for the nation. Average annual wages for the region increased by 21.2% from $24,832 in 1990 to $30,104 in 1995, while wages in the U.S. increased by 17.0% from $23,430 in 1990 to $27,419.

This data suggests that wage growth in both the region and across the nation surpassed the overall rate of inflation and the increase in housing costs. The affordability gap appears to be shrinking for the typical wage earner.

HOUSING AFFORDABILITY: Increase in Housing Prices, the Consumer Price Index and Average Annual Wages

	March 1990	March 1995	% Change 1990-1995
CPI - All Items			
Phila. CMSA	133.6	158.0	18.3
U.S.	128.7	151.4	17.6
CPI Housing Component			
Phila. CMSA	136.2	157.3	15.5
U.S.	126.8	147.4	16.2
Average Annual Wages			
DVRPC Region	$24,832	$30,104	21.2
U.S.	$23,430	$27,419	17.0

Source: CPI - U.S. Department of Labor; Wages- U.S. Department of Commerce.

Housing Indicator: Jobs-Housing Balance: Ratio of Jobs to Resident Workers

Policy Background

The Delaware Valley has seen a dramatic shift in the location of jobs in recent years. Between 1974 and 1994, the City of Philadelphia lost over 260,000 jobs while employment in the surrounding eight suburban counties grew by 750,000 jobs. Chester, Montgomery and Mercer counties were net importers of labor, meaning that the number of people entering the county to work each day exceeded the number of residents leaving the county to work in other locations. Although Philadelphia remains a net importer, the outward migration of employment opportunities to suburban locations has serious implications for the region's travel patterns, particularly the mass transit network which was designed primarily to move suburban residents to employment locations in the city.

The balancing of jobs and workers is related to numerous factors including the physical location of jobs and the labor force, the transportation network, the affordability of housing and the variation

in the tax and business climate across the region. By creating a symmetry between the number of workers and regional employment opportunities, many benefits can be gained. These include reduced congestion, improved commuting patterns, more walking trips and fewer motorized trips resulting in reduced energy consumption and improved air quality. Poorer inner-city residents, often isolated from jobs appropriate to their skill level, can benefit from a balanced residential and job base.

Measurement

This indicator measures the extent to which there exists a balance between the number of jobs and resident workers within individual counties. Ratios of jobs-to-resident workers of less than one indicate counties where there are fewer jobs than resident workers, while ratios of more than one indicate more jobs than resident workers. Data on employment are estimated by the Bureau of Economic Analysis on an annual basis. Resident worker information is from the U.S. Department of Commerce's Bureau of Economic Analysis. This indicator will be compared to itself over time.

The employment data includes both full-time and part-time positions. One worker may hold two or three part-time jobs. Further, workers from outside of the region that work within the Delaware Valley will account for jobs but not population. Both of these factors would tend to support an overall jobs-to-resident workers ratio of greater than one.

Results

This indicator reveals the polarization between the job rich counties and bedroom communities within the Delaware Valley. A ratio of jobs to resident workers that is greater than one indicates that there are more jobs located in that county than there are resident workers. For example, both Montgomery County (with 1.37 jobs per resident worker) and Mercer County (1.31 jobs per resident worker), were substantial net importers of workers.

Conversely, a ratio of jobs-to-resident workers that is less than one indicates that the county contains more resident workers than jobs. In these instances, residents must travel outside of their home county to find employment. Bucks (0.93) and Gloucester (0.81) counties export workers to other counties. Burlington and Camden counties went from being net importers of labor to net exporters between 1988 and 1994, primarily because modest job growth in these counties did not keep pace with population growth. Gloucester County, which experienced significant job growth during this period, showed an even greater rate of population growth which explains the net decline in the ratio.

JOBS-HOUSING BALANCE: Ratio of Jobs to Resident Workers

County	1988 Ratio of Jobs to Resident Workers	1994 Ratio of Jobs to Resident Workers
Bucks	.88	.93
Chester	1.00	1.09
Delaware	.85	.95
Montgomery	1.31	1.37
Philadelphia	1.18	1.17
Burlington	1.07	.98
Camden	1.07	.97
Gloucester	.85	.81
Mercer	1.25	1.31

Source: U.S. Department of Commerce.

Housing
Indicator: Housing Prices: Change in Median Sales Prices

Policy Background
The lack of affordable housing is now recognized as a serious problem in the Delaware Valley. Limited affordable housing opportunities have numerous negative outcomes upon residents and employers. A lack of affordable housing in proximity to the work place may lead to difficulties in attracting and retaining a qualified work force, and may act as a deterrent to prospective employers seeking to expand or relocate within the region. Moreover, air pollution and traffic congestion levels increase within the Delaware Valley as employees unable to secure housing close to employment centers are forced to commute long distances.

Measurement
This indicator measures how quickly housing prices are changing throughout the region. Data on county median sales prices in Pennsylvania are provided by the Bucks, Chester and Montgomery County Planning Commissions, Delaware County Department of Housing and Community Development, and Realist Company (Philadelphia County data only). Data on county median sales prices in New Jersey are provided by The Management Institute at Rowan College. Data on the Metropolitan Statistical Area (MSA), Primary Metropolitan Statistical Area (PMSA) and national levels were provided by the National Association of Realtors. The Trenton MSA includes Mercer County only, while the Philadelphia PMSA includes data for Salem County, New Jersey. Median sales prices are updated annually. This indicator will be compared to itself and the nation over time.

Results

Between 1990 and 1995, the median sales price in the Philadelphia PMSA increased 9.2% from $108,700 to $118,700. Between 1990 and 1995 median sales prices for the entire nation increased 18.4% from $95,500 to $113,100. The super-inflated housing markets, prevalent throughout central New Jersey during the late 1980s and early 1990s, were influenced by the double digit housing price increases in the New York metropolitan region at this time. This phenomenon caused the housing market to borrow from future appreciation making the market unstable. Eventually, the housing market stalled, prices decreased and then stabilized to reflect a more realistic pattern. During this time period, housing prices in Mercer County declined by 1.2% from $124,000 in 1990 to $122,500 in 1995.

HOUSING PRICES: Change in Median Sales Prices

County	1990 Median Sales Price	1995 Median Sales Price	% Change 1990-1995
Bucks	$137,400	$139,900	1.8
Chester	$149,999	$155,000	4.0
Delaware	$115,000	$117,000	1.7
Montgomery	$135,000	$140,000	4.3
Philadelphia	$38,500	$42,900	11.4
Burlington	$121,600	$126,600	4.1
Camden	$98,500	$100,000	1.5
Gloucester	$100,000	$106,000	6.6
Mercer	$124,000	$122,500	-1.2
Philadelphia PMSA	**$108,700**	**$118,700**	**9.2**
U.S.	$95,500	$113,100	18.4

Source: PA Sales Data - County Planning Departments, County Housing Departments; Philadelphia Sales Data - Realist; NJ Sales Data - Rowan College; PMSA/U.S. Sales Data - National Association of Realtors.

APPENDIX A:

DATA SOURCES

PHYSICAL FORM

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Income Growth: Percent Change in Per Capita Personal Income, 1990-1995: Bureau of Economic Analysis, *Regional Economic Information System (REIS)*, 1996.

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Trip Length: Average Travel Time of Trips to Work: U.S. Census, 1990.

HOUSING

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