Route 1 Regional Growth Strategy

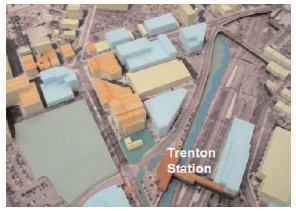
Final Report











New Jersey Department of Transportation

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Route 1 Regional Growth Strategy

New Jersey Department of Transportation

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I. INTRODUCTION

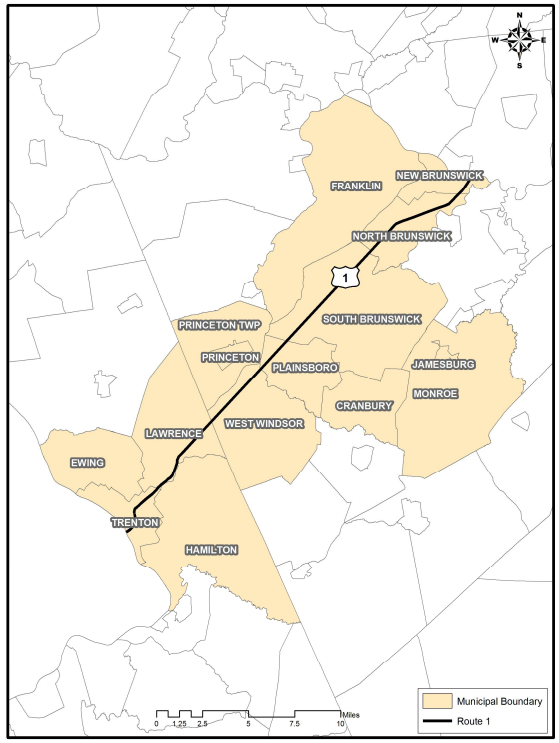
US Route 1 in central New Jersey is an important transportation link, and the Route 1 corridor between Trenton and New Brunswick is a major area of development. The corridor includes the state capital, universities and research institutions, and corporate facilities. Increasing development and congestion in the corridor are threatening prospects for future economic development and sustained quality of life.

The Route 1 Regional Growth Strategy (R1RGS) provides an integrated development and transportation vision, which is a framework for a built environment conducive to future economic growth and prosperity. The study area encompassed 15 towns in three counties (see Figure 1). The vision comprises mixed-use development centers linked by an enhanced regional transit network. This development and transportation vision is essential in maintaining and attracting quality businesses and workers. This strategy also will help to attain energy conservation and environmental protection objectives, including improved air quality and water quality.

The vision also will guide transportation agencies in investing in projects that support "smart" development and transportation objectives. "Smart growth" channels new development into urban areas, other developed areas, and new mixed-use centers, and "smart transportation" involves improving roadway connectivity, promoting system efficiency, and increasing multi-modal travel options, especially transit. These principles are consistent with the policies of the New Jersey State Development and Redevelopment Plan, as well as the recent federal Livable Communities initiative.

The study process for the Route 1 Regional Growth Strategy was a highly collaborative and interactive one involving many stakeholders, including representatives of state agencies, metropolitan planning organizations (MPOs), counties, municipalities, private sector businesses, and non-profit groups. Throughout the process, NJDOT also built upon relationships with other state agencies including the Office of Smart Growth (OSG), Department of Environmental Protection (DEP), and Department of Commerce. Appendix A provides a summary of the outreach activities.

Figure 1
Study Area



The outreach process helped to establish the following desired outcomes:

- More businesses with good jobs and strong future
- An even higher quality of life
- Efficient and effective transportation
- Travel choices
- Reduced demand for automobile travel
- Redevelopment of abandoned/underutilized properties
- A diversity of housing near employment
- Enhanced environment
- Fiscal balance and equity

The analytical process utilized a scenario planning approach, which involves evaluating different views of the future. The main steps in the process were to establish baseline conditions, assess trend projections and impacts, formulate alternative views of the future and test their impacts, and recommend a future development / transportation vision. The analysis used various planning techniques including GIS mapping, build-out analysis, travel demand modeling, and impact analysis. The analysis occurred at different geographic scales, with the aim of developing a vision that meets objectives at both the local and regional levels.

The analytical work included a detailed economic assessment that identified the region's economic strengths and opportunities. This work assisted in identifying key future development centers and the access needs for these centers, and it informed formulating the development and transportation visions.

The development vision derived from the economic assessment and from existing local plans, including redevelopment plans and proposals for mixed-use centers. The final proposed vision comprises over 40 centers of different types and sizes. Under this vision, all future employment and most future housing would be located in centers.

The main element of the transportation vision is a proposed regional bus rapid transit (BRT) system that would be the core of an enhanced public transit network. This system would run between I-295 in Lawrence to Route 522 in South Brunswick, and it would include several bus and shuttle feeder services and park-and-ride locations. The center-based development vision complements the proposed BRT system and an enhanced regional transit network.

The analysis found that the development / transportation vision would result in considerably more favorable outcomes for the region, compared to trend and existing zoning build-out. The vision would produce nearly the same amount of new employment as under build-out with more housing, less roadway congestion, greater transit accessibility, a higher percentage of transit use, less impervious surface, and less air pollution.

Absent the region establishing a framework for advancing toward the proposed development / transportation vision, however, development is likely to continue to occur in a fragmented pattern with its related negative impacts. Roadway congestion will continue to increase, and the region will become a less desirable location for economic development. This report includes an implementation agenda of strategies and actions for public and private agencies on all levels to undertake in order to attain the vision. It is vital for all agencies to begin immediately to align their decision-making to be consistent with the vision and implementation agenda. Only in this manner will the region realize its potential as a major economic generator, while maintaining mobility and access, preserving the environment, and enhancing the quality of life.

II. WHERE ARE WE TODAY?

The study area for this project includes 15 municipalities: Trenton, Ewing, Hamilton, Lawrence, West Windsor, Princeton Borough, and Princeton Township in Mercer County; Cranbury, Jamesburg, Monroe, New Brunswick, North Brunswick, Plainsboro, and South Brunswick in Middlesex County; and Franklin in Somerset County. This chapter provides baseline information on the region's economy, land use, demographics, and transportation system.

A. Economy

The global and national economies provide the broad context within which development and transportation decision-making occurs. Understanding economic forces and market conditions is especially important in this region because of its position in the global economic network. Global and continental trade patterns (see Figure 2) have led to North Jersey becoming the largest transportation hub on the East Coast. The Route 1 corridor, located between New York and Philadelphia, is near the center of the 52-million person Northeastern US market (see Figure 3). The corridor thus functions as part of a continuous urban network. Economic growth in the region has been attributable to several factors, including the following:

- Position in the global network and New York City metropolitan economy
- Knowledge-based job market
- Quality, well-educated workforce
- Good quality of life
- Good regional transportation facilities

Figure 2
Global Trade Flows

Figure 3
Study Area within Northeast U.S.

Between 1980 and 2005, the region gained over 100,000 jobs, and total employment increased by nearly 50%. Between 2005 and 2008, however, as the national economy entered into a recession, the region had no net employment growth.

Various economic markets and submarkets cover the region. These markets are defined by economic characteristics, not political jurisdictions. Nonetheless, the economic assessment identified four sub-areas, based upon municipal boundaries, for future analysis. Each sub-area has different characteristics and is connected to the economic marketplace at different scales – global to local. The sub-areas are the following:

Trenton (Trenton, Ewing, Hamilton, and Lawrence) -- State government dominates the core of this sub-area; employment in public administration is nearly three times the state average. Potential future growth in this sub-area will depend on its relationship to the state and the New York regional market.

Princeton (Princeton Borough, Princeton Township, West Windsor, and Plainsboro) -- This sub-area has the strongest overall private sector market. The Princeton University/Princeton address is a major economic driver, based upon the stature of the university and related research institutions, which link this sub-area to the global marketplace.

Turnpike (Monroe, Jamesburg, and Cranbury) -- This sub-area has the strongest private industrial market. Warehousing and wholesale trade are the dominant industries near Turnpike Exits 8 and 8A, which link to the New York and Philadelphia regional markets. Growth in the global marketplace will continue to drive economic development in this sub-area.

Brunswicks (South Brunswick, North Brunswick, New Brunswick, and Franklin) -- This sub-area has a complex geography that responds to different forces and levels of demand. The northern end, including New Brunswick with a strong health care and university base, is part of the New York regional marketplace, while local market forces drive the southern end.

Figure 4 shows the sub-areas, as described by the economic assessment. One can see the relationship of the sub-areas to each other, including some overlap. Figure 5 shows the sub-areas as delineated by the municipal boundaries described above.

Appendices B through F provide more background on the economic assessment.

Figure 4
Sub-Areas by Economic Markets

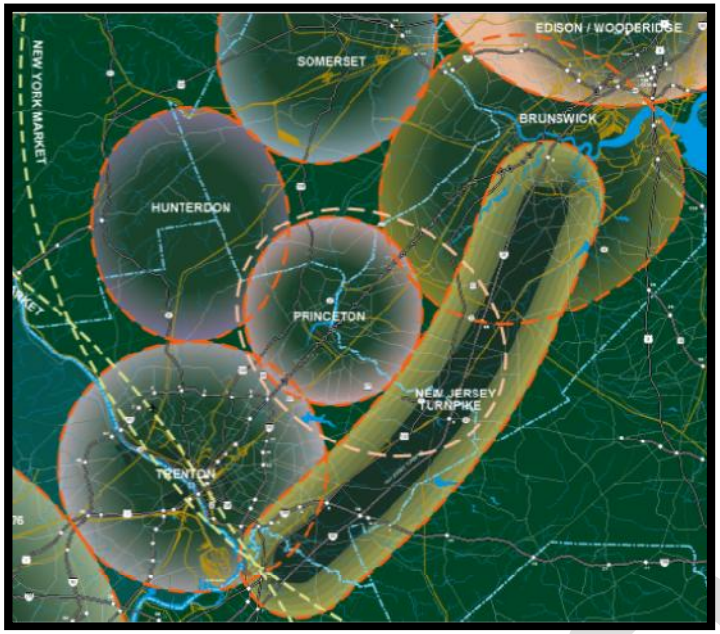
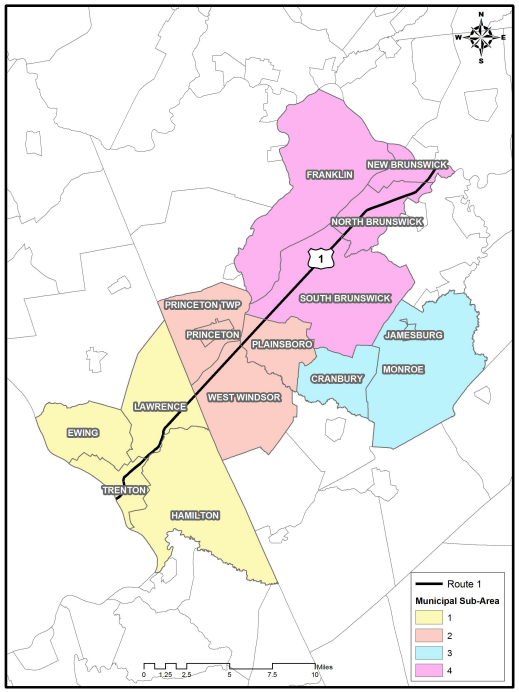


Figure 5
Sub-Areas by Municipality



Key Points – Economy

- Economic growth has benefitted from the region's position in the global and national networks.
- Other factors in economic growth have been the availability of an educated workforce, good access, and a good quality of life.
- The region has various economic markets and sub-markets, each with different characteristics.
- Overall economic growth has been stagnant over the past few years.

B. Land Use and Environment

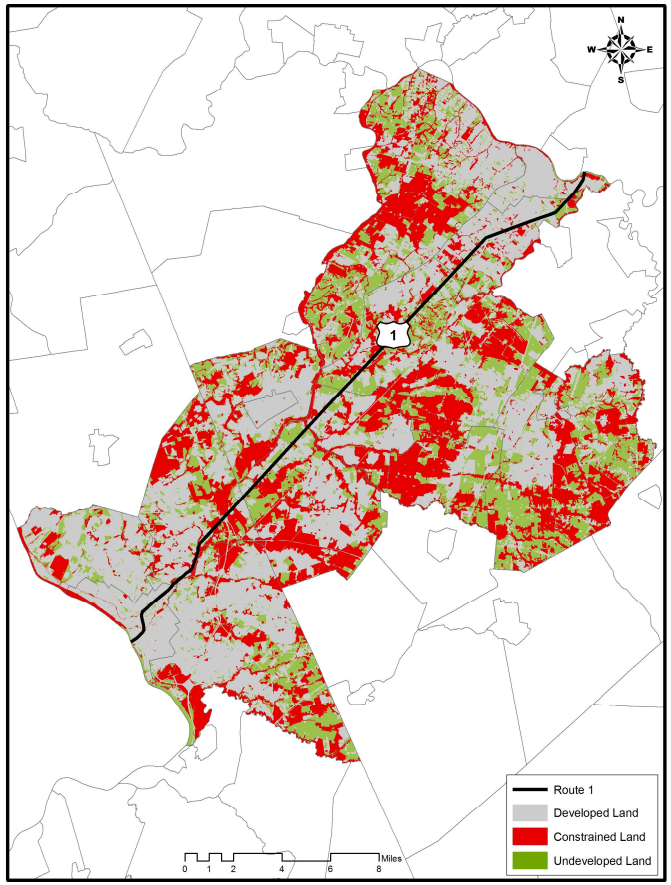
The general land use pattern in the Route 1 region shows concentrations of development in and near the urban centers of Trenton and New Brunswick, the Princeton area, other areas close to Route 1, and the Exit 8A area. Additional development has occurred in suburban areas. As of 2000, about 46% of the study area was developed.

The region's environmental features and natural resources include stream corridors, wetlands, and forests; and state and local programs have preserved considerable land for open space and recreation.

Various environmental programs and regulations relate to open space, wetlands, stream protection, stormwater run-off, and endangered species; and these programs limit future development potential. Assuming constraints on developing land with preserved open space, wetlands, or steep slopes; over one-half of the region's undeveloped land is constrained from future development (see Figure 6).

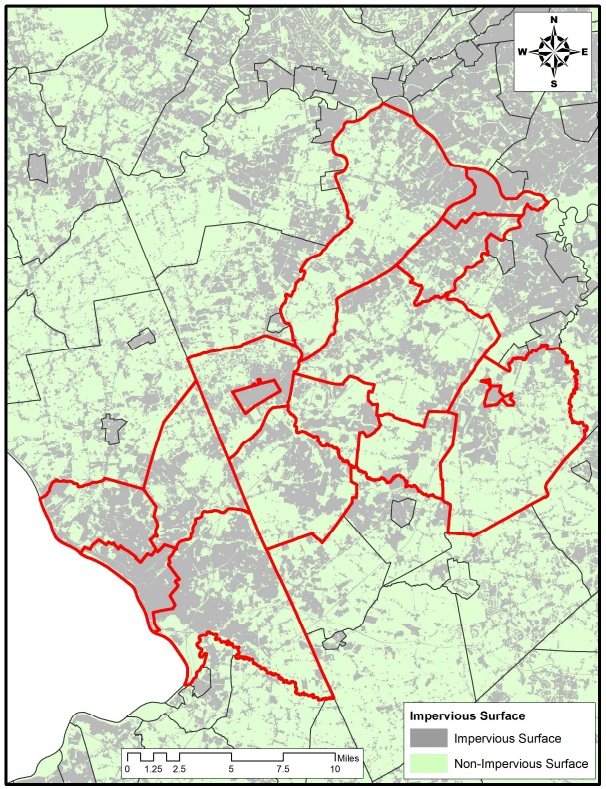
One fundamental measure of environmental health is water quality. Water quality is largely a function of non-point source water pollution, which is influenced by the amount of impervious surface such as buildings, roads, and parking areas. Impervious surface prevents natural percolation of water into soil and rapidly channels run-off into the stream network, degrading water quality and increasing flooding threats. Figure 7 shows the baseline impervious surface in the region.

Figure 6
Developed Land, Baseline



Source: NJDEP land use / land cover mapping and related data files.

Figure 7
Impervious Surface



Source: NJDEP land use / land cover mapping

Air quality is largely a function of vehicular emissions, which include air pollutants such as carbon dioxide, nitrogen oxides, and carbon monoxide. Research has shown that increased vehicular travel, as measured by vehicle miles traveled (VMT), correlates directly with increased emissions. Decreased air quality may relate to increases in respiratory problems, asthma, and cancer. The transportation modeling analysis for this project has calculated the baseline levels of motor vehicle emissions in the study area (see Figure 8).

Figure 8
Vehicular Emissions, Baseline

	Tons / year
Carbon Dioxide	4,239,767
Nitrogen Oxides	23,844
Carbon Monoxide	155,548

Key Points – Land Use and Environment

- The region has a diverse range of natural resources and environmental features, which contribute to its quality of life.
- Environmental factors will limit the amount of land available for future development in the study area.
- The remaining developable land provides both a need and opportunity to shape future land use and development patterns. The decreasing amount of available land suggests the potential for redevelopment opportunities to accommodate future growth and mitigate its environmental impacts.

C. Demographics

Residential growth in the region has been occurring at a relatively steady pace, although the rate of increase has been slowing in recent years. From 1980 to 2000, the rate of residential growth was lower than that of employment growth; since 2000, the rate of residential growth has been higher than that of employment growth (see Figure 9).

The jobs-to-housing ratio is a key indicator of the balance of residential and non-residential development. A high ratio indicates that many people who work in the region live outside the region, which translates into longer commuting distances and times and increased traffic and congestion.

Development Patterns

The distribution and density of residential and commercial development is an important factor in understanding travel demand and commuting patterns, as well as the potential for public transit service. Available measures of the distribution and density of development are journey-to-work data, the Transit Score index, and transit accessibility calculations.

Journey-to-Work

The transportation modeling analysis for this project included tabulating the origins and destinations of work trips to and from the region. The data show that under baseline conditions, about 40% of work trips to jobs in the region originate from residential locations outside the region.

Transit Score Index

NJ TRANSIT's Transit Score index is a measure of development density, which NJ TRANSIT uses to assess an area's suitability for public transit service (see Appendix G). The demographic input variables into the Transit Score are employment density, population density, and zero-vehicle household density. A higher concentration of development produces a higher Transit Score, which indicates that an area is more suitable for different types of transit. Figure 10 shows the current Transit Score for baseline conditions (2000) by traffic analysis zone (TAZ) in the study area. Of the region's 285 TAZs, only 93 (33%) currently have a Transit Score of Medium-High or High. These TAZs contain 43% of the region's jobs and 51% of its households.

Transit Accessibility

Another measure of the distribution of jobs and housing, relative to transit service, is the distance of residents and jobs from transit lines. Mapping analysis enables calculating how many (or what percentage) of population and employment is within a certain distance of a rail station or bus line. The data for baseline conditions show that 64% of jobs in the region are located within ½ mile of a rail station or bus stop (see Figure 11).

Figure 9
Regional Demographics, 1980-2008

	1980	2000	Annual Incr. 1980-2000	2005	Annual Incr. 2000-05	2008	Annual Incr. 2005-08
Jobs	237,841	336,528	1.8%	350,419	0.8%	350,270	- 0.01%
Households	145,434	185,354	1.2%	194,557	1.0%	197,920	0.6%
Jobs:Housing	1.64	1.82		1.80		1.77	

Sources: 1980 - US Census, 2000 - regional transportation model, 2005 - MPO data

Figure 10
Transit Score, Baseline

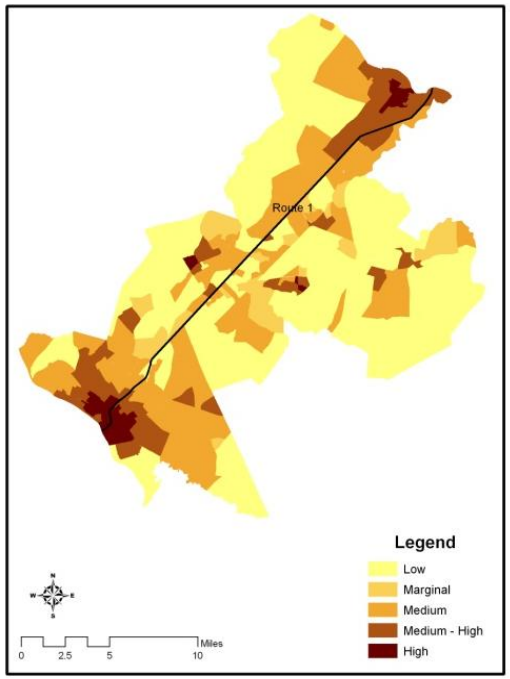


Figure 11
Transit Accessibility, Baseline

	Jobs	Households
¼ mile	49%	41%
½ mile	64%	57%
1 mile	74%	71%

Key Points – Demographics

- The study area's jobs-to-housing ratio and the distribution of the workforce highlight the existing dependence of the region's economy upon "imported" labor. This distribution affects commuting patterns and traffic conditions.
- The baseline demographic data show that a considerable amount of existing development is at relatively low-density, which makes such areas difficult to serve with public transit and contributes to continuing dependence upon the automobile.

D. Transportation System

Roads

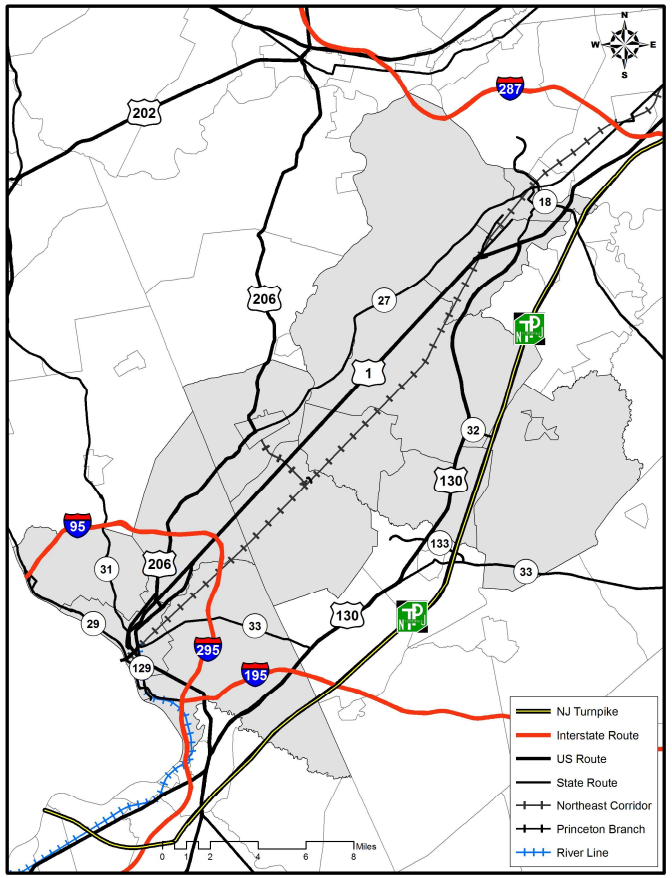
The current alignment of Route 1 between the Trenton area and New Brunswick was completed in the early 1930s. Today, the roadway is typically a 4-6 lane divided highway. For the most part, it is not limited-access, but it does have several grade-separated interchanges, and left turns occur only at interchanges or intersections with jughandles. Other main roads in the region include the New Jersey Turnpike, I-95, I-195, I-295, I-287, US 130, and US 206 (see Figure 12).

Public Transit

The region currently has various public transit services, including commuter rail, light rail, commuter bus, local bus, and shuttle services. The Northeast Corridor commuter rail line is the major transit facility serving the study area. NJ TRANSIT service serves stations at Trenton, Hamilton, Princeton Junction, Jersey Avenue, and New Brunswick, and the Princeton Branch line runs between Princeton Junction and Princeton. In addition, AMTRAK serves Trenton, Princeton Junction, and New Brunswick. The SEPTA R-7 and R-3 commuter rail lines serve Trenton and West Trenton (Ewing), respectively. In addition, the RiverLINE light rail line runs between Trenton and Camden, including three stops in Trenton. Several bus services serve the region, including the following:

- NJ TRANSIT local buses serving the Trenton / Princeton and New Brunswick areas.
- The Rutgers University bus system
- The Princeton University bus system
- County services, including shuttles and paratransit services for the elderly and disabled
- Private commuter bus service along lines oriented to New York City.
- Commuter shuttle services sponsored by the Greater Mercer TMA

Figure 12
Regional Transportation System



Roadway System Performance

Regional travel demand models evaluate roadway system performance based upon demographics and the transportation network. Such models calculate the future traffic volumes on specific roadway segments and determine how well traffic will flow based upon roadway capacity and other characteristics.

This project used a model based upon the Delaware Valley Regional Planning Commission (DVRPC) model. The period for analysis was a five-hour peak period including 7-9 AM and 3-6 PM. Appendix H provides more details on the modeling methodology.

The model found that the baseline total peak period person trips are over 760,000, with transit accounting for 5.8% of trips. The model also calculated the period congestion levels for each roadway segment using a volume-to-capacity (V/C) ratio. The analysis considered that any segment with a V/C ratio of 1 or more is congested. The orange and red lines on the map in Figure 13 show the congested roadway segments under baseline conditions. These links represent about 13% of total lane miles in the regional roadway network (see Figure 14).

Figure 13
Congested Roadway Segments, Baseline

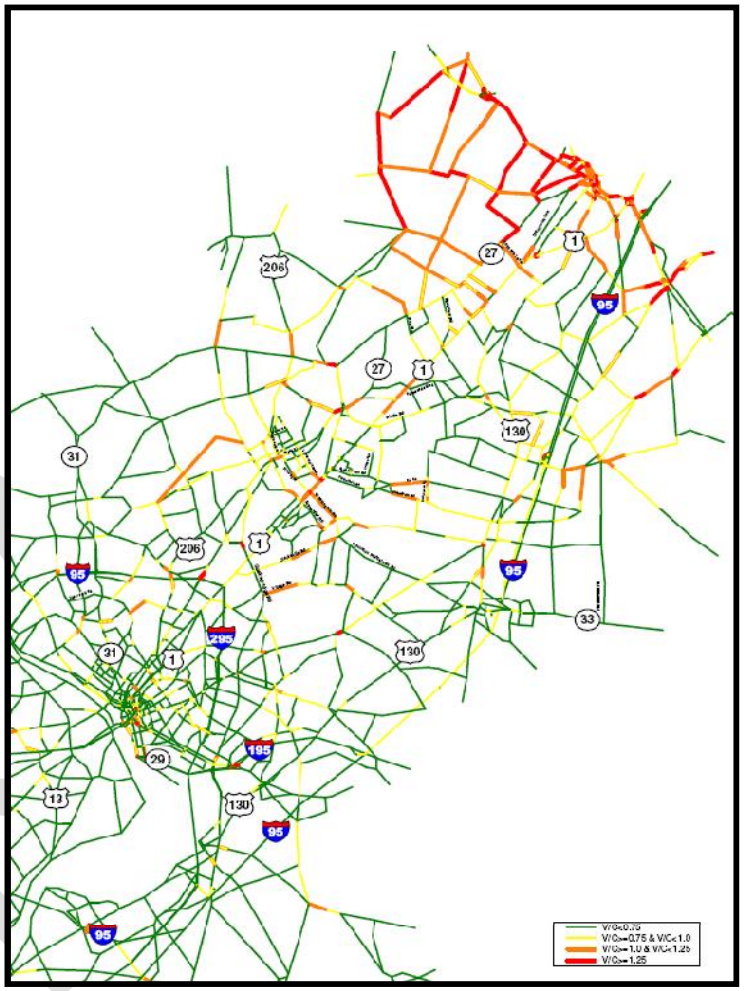
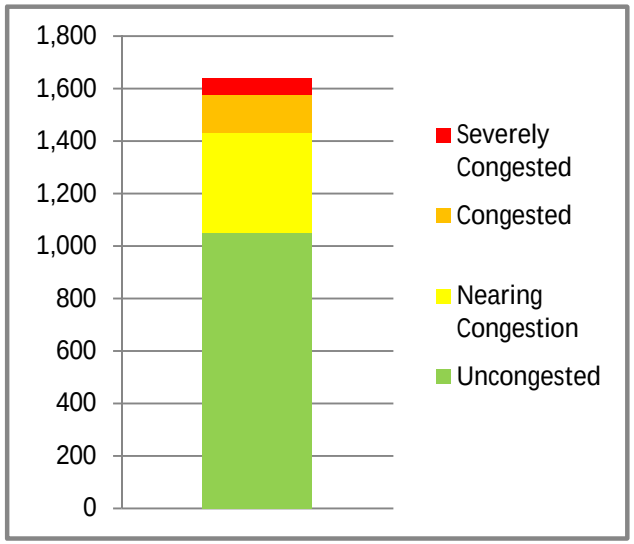


Figure 14
Congested Lane Miles, Baseline



Key Points – Transportation System and Roadway Performance

- The region is well-served by several major highways.
- The region has a range of public transit services, but transit accounts for less than 6% of total peak period person trips.
- The transportation modeling analysis shows that the roadway system operates reasonably well during the peak period under baseline conditions, but the analysis also indicates that several roadway segments are nearing congested levels.

III. WHAT CAN WE EXPECT?

A traditional transportation planning study typically uses information on current and projected trend conditions to assess the future, identify issues, and formulate alternatives. Metropolitan planning organizations (MPOs) prepare demographic trend projections for transportation planning purposes. The analysis for this study used trend projections that the study area MPOs (DVRPC and NJTPA) had prepared previously for 2025 (see Appendix I).

These projections showed that regional housing and employment would increase by about 1% annually, with housing continuing to increase at a slightly faster rate than employment (see Figure 15). It also is interesting to note, however, that build-out analysis (see next section) found that the zoned residential development potential of the region would not accommodate the projected trend increase in housing.

Figure 15
Trend Demographic Projections

			Increase 2000-25	
	2000	2025	Number	%
Employment	336,528	405,540	69,012	21%
Housing Units	185,354	239,252	53,898	29%
Jobs : Housing	1.8	1.7		

Source: Regional transportation model, Trend projections from Delaware Valley Regional Planning Commission (DVRPC) and North Jersey Transportation Planning Authority (NJTPA)

Demographic Patterns

Under the trend demographic scenario, the key indicators of residential and non-residential distribution and density would remain about the same as under the baseline conditions:

- The percentage of work trips originating within the region would increase slightly from 60% to 61%.
- Transit Score analysis for the trend scenario shows essentially the same pattern as for the baseline conditions.
- The percentage of jobs located within ½ mile of a rail station or bus stop would decrease from 64% to 61%.

These indicators show that the trend scenario would not increase the feasibility of additional public transit service in the region.

Transportation System

On the transportation side, the trend view of the future assumed a limited number of transportation system improvements that are in the project development pipeline. These improvements include the following:

- Improvements to Route 1 and surrounding area, as the Penns Neck EIS study recommended
- Widening the NJ Turnpike between Exits 6 and 9
- Route 1 improvements between I-95 / I-295 and Nassau Park
- Route 27 improvements in the Renaissance 2000 redevelopment area

The roadway improvements for the trend scenario would increase the total regional roadway lane miles from 1,637 to 1,706, a 4% increase. Most of this increase is attributable to widening the Turnpike, most of which is on the periphery of the study area. Financial, physical, and environmental factors combine to limit the possibility of further expanding the region's roadway network.

For public transit, the trend scenario includes no major transit system improvements within the study area. It does assume that NJ TRANSIT will complete its Access to the Region's Core (ARC) project, which will add a second rail tunnel under the Hudson River, thereby increasing the effective capacity on the Northeast Corridor and other commuter rail lines.

Roadway System Performance

The transportation modeling analysis for the trend scenario found that the number of peak period highway trips would increase by 28% over baseline, about the same rate as the projected residential and commercial growth. The increase in peak period transit trips would be somewhat lower, and the transit share would decrease slightly from 5.8% to 5.5%.

Vehicle miles traveled under trend would increase at a greater rate (41%) than vehicle trips. This increase is because more trips would come from outside the study area, and some motorists may choose longer but less-congested secondary routes to avoid greater congestion along the main roads.

The analysis thus found a substantial increase in roadway congestion under the trend scenario (see Figure 16). The data show that the percentage of peak period congested lane miles would increase from 13% under baseline conditions to 36% under the trend scenario (see Figures 17 and 18).

Figure 16
Congested Roadway Segments, Trend

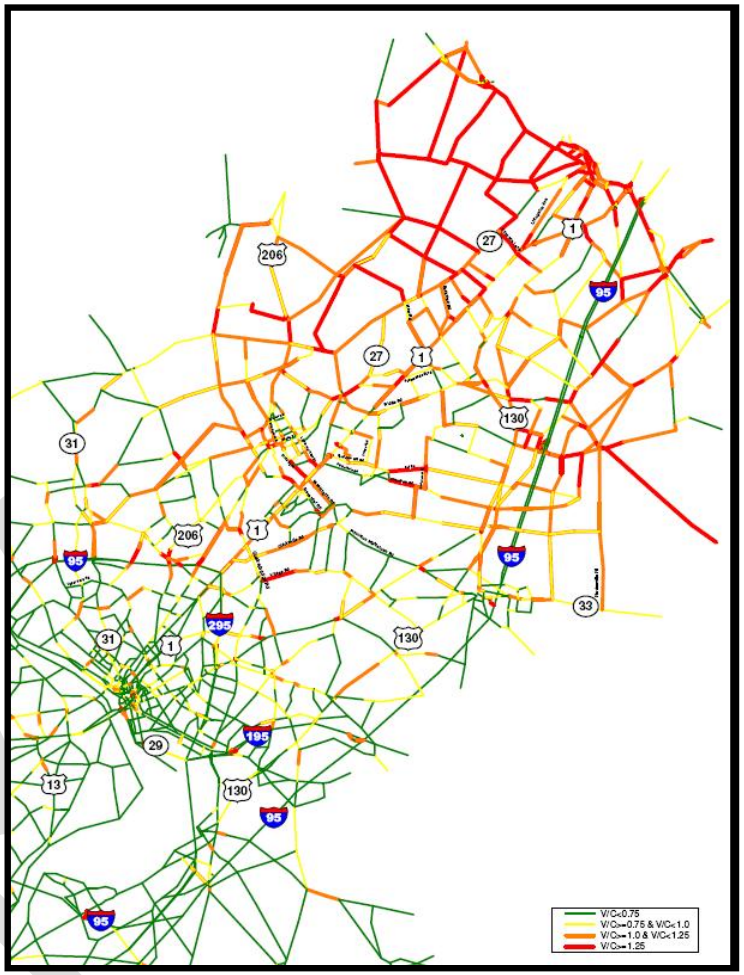


Figure 17
Congested Lane Miles, Baseline and Trend

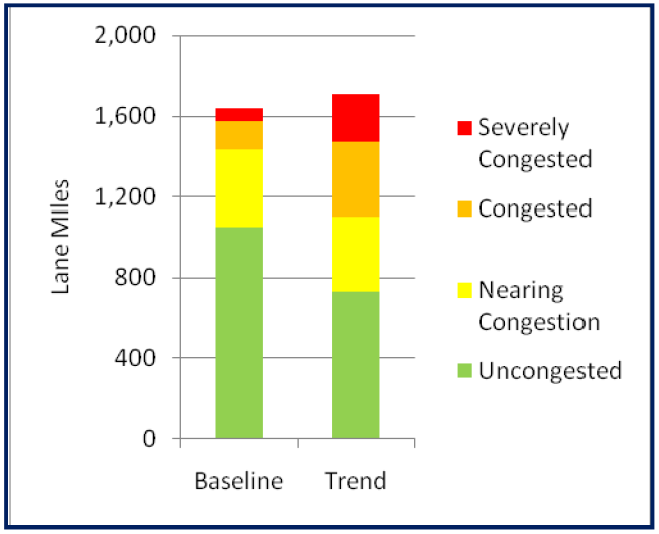
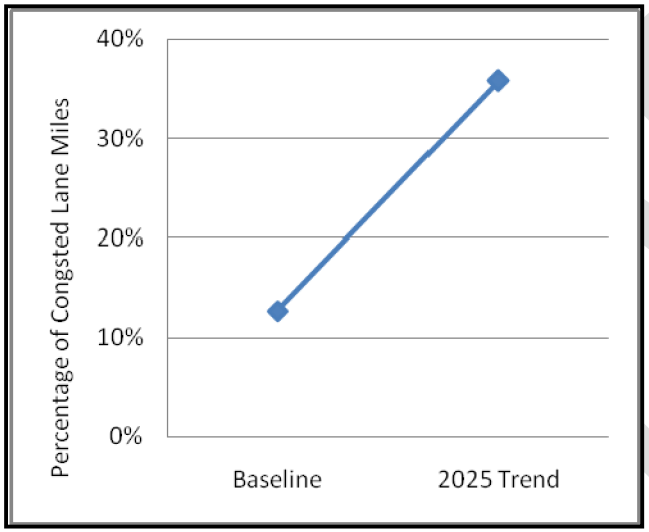


Figure 18
Summary of Congestion, Baseline v. Trend



Air Quality

Under the trend scenario, due to the increased vehicle miles traveled, the levels of most air pollutants, including carbon dioxide, would increase. The levels of some pollutants, including carbon monoxide and nitrogen oxides, would decrease, however, because of assumptions that newer vehicles with stricter emission standards will be replacing older vehicles (see Figure 19). The analysis of long-term scenarios, beyond 2025, assumes no further technological advances or regulations that further would reduce the rate of vehicular emissions.

Figure 19
Vehicular Emissions, Baseline and Trend

	Baseline	Trend
Carbon Dioxide	4,239,767	6,001,744
Nitrogen Oxides	23,844	2,352
Carbon Monoxide	155,548	72,467

Key Points - Trend Scenario

- The projected development patterns under the trend scenario would not improve the opportunity for expanding public transit service (see Figure 20).
- Some roadway improvements will occur, but a combination of financial, physical, and environmental factors limit the feasibility of expanding roadway capacity.
- The trend scenario results in a substantial increase in roadway congestion by 2025. A continuation of trend development beyond 2025 likely would result in proportionately increasing levels of travel demand and roadway congestion.

Figure 20
Summary of Key Indicators

	Baseline	Trend
Total Jobs	336,528	405,270
Total housing	185,354	239,252
Jobs:Housing	1.8	1.7
% peak period trips from outside region	40%	39%
% TAZs with medium-high and high transit score	33%	40%
% jobs in these TAZs	43%	46%
% households within ½ mile of bus route	57%	53%
% employees within ½ mile of bus route	64%	61%
Total trips	764,000	974,000
% Transit trips	5.8%	5.5%
Vehicle Miles Traveled	4.2M	5.9M
% congested lane miles	13%	36%
Vehicular Emissions (tons / year)		
Co2	4,239,767	6,001,744
NOx	23,844	2,352
CO	155,548	72,467

IV. WHERE ARE WE HEADING?

The next step in the scenario planning process was to consider longer-term future views other than trend. Zoning build-out analysis provides an appropriate scenario for evaluating long-term conditions in the region. Zoning build-out represents the theoretical maximum amount and type of new development that would occur if development occurred on all developable land according to its municipal zoning. Build-out analysis uses the basic inputs of undeveloped land, environmentally-constrained land, and zoning. Zoning build-out is a useful construct for analysis because municipal zoning essentially establishes a "blueprint" for future development. As such, build-out also provides a good framework for formulating and considering alternative long-term development patterns.

For build-out analysis for this project, the study team used PlanSmartNJ's Goal-Oriented Zoning (GOZ®) model, a GIS-based program for calculating build-out and related impacts. This model also enables users to change assumptions about the size of zones, classifications, and density / intensity, in order to formulate and evaluate alternatives to existing zoning. Appendix J provides more information on the GOZ® Model and its methodology.

Existing zoning build-out analysis found that most available land in the region has residential zoning (Figure 21), but most residentially-zoned available land has zoning for relatively low-density development (Figure 22). Over 80% of the available residential land has zoning for two units or less per acre (1/2-acre lots or greater). On the other hand, only 7% of available residential land has zoning for six or more units per acre, which is a common threshold for transit feasibility. Furthermore, towns have zoned only 1% of the available land for mixed-use development.

Figure 21
Zoning of Developable Land

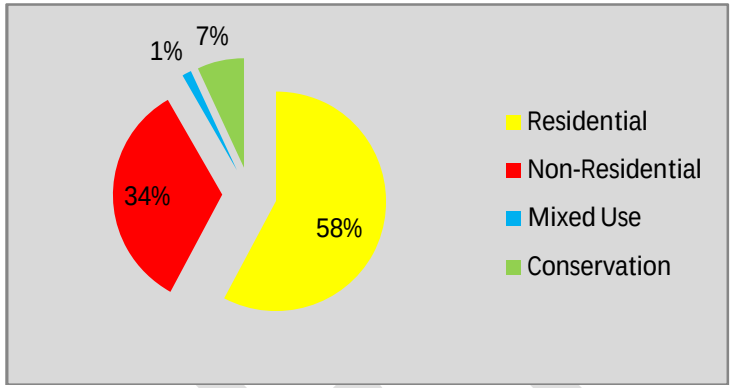
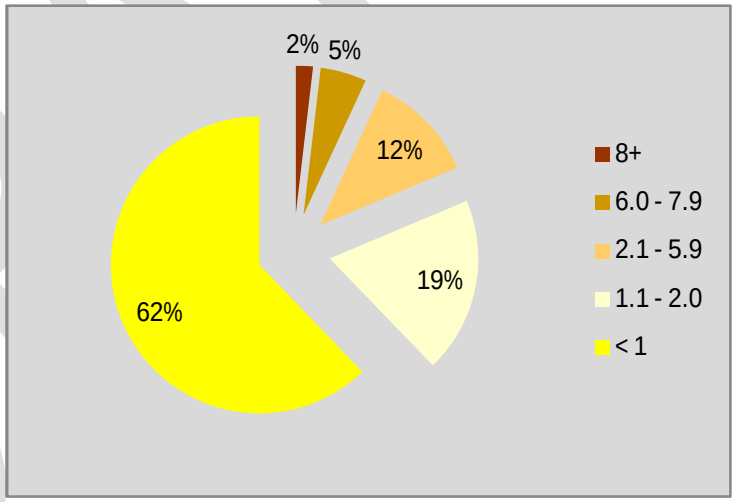


Figure 22
Zoned Density (units / acre) of Developable Residential Land

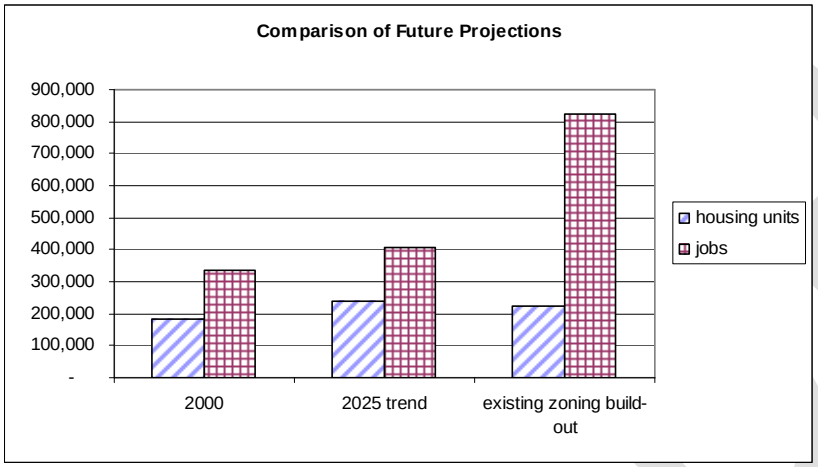


The build-out calculations found that the increase in employment under existing zoning build-out would be far greater than the increase in housing. The projected regional employment and housing totals at build-out show that the jobs-to-housing ratio would more than double (see Figures 23 and 24). These totals likely reflect municipalities' preferences to attract commercial "ratable" development rather than residential development.

Figure 23
Projections under Existing Zoning Build-Out

			Increase	
	2000	Build-out	Number	%
Employment	336,528	824,402	487,874	145%
Housing Units	185,354	222,302	36,948	20%
Jobs : Housing	1.8	3.7		

Figure 24
Comparison of Demographic Scenarios



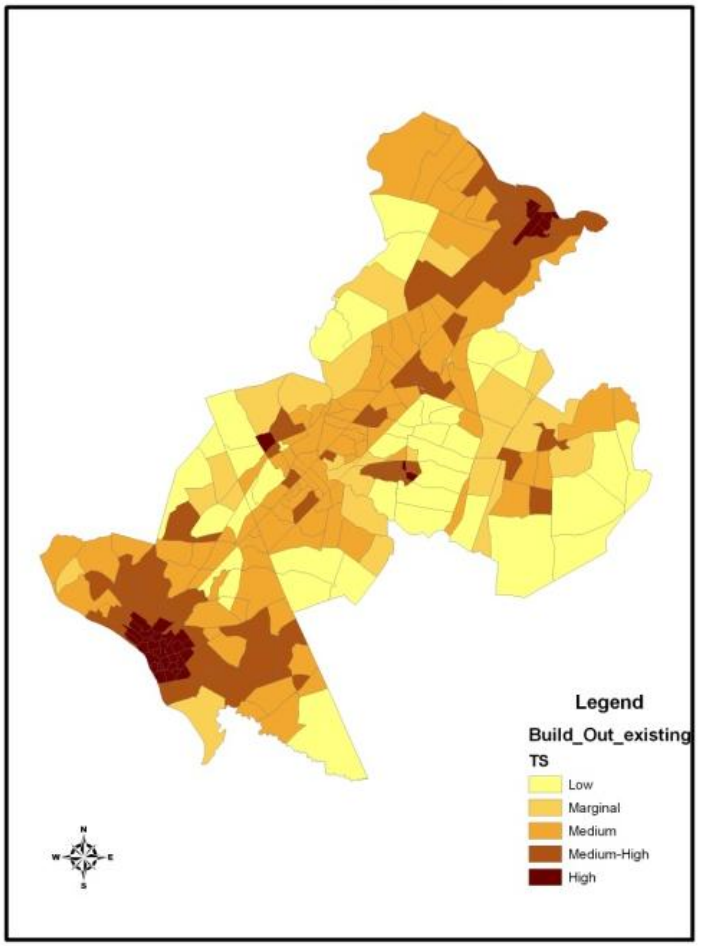
Demographic Patterns

Under existing zoning build-out, the distribution of housing and jobs across the region would be much different from under the baseline and trend scenarios.

- For journeys-to-work, only 36% of work trips would originate inside the region, meaning the bulk of workers would live outside the region.
- Transit Score analysis for existing zoning build-out finds that the number of TAZs with Medium-High and High transit scores would increase, but the percentage of total regional jobs and housing units located in these TAZs would decrease, to 38% and 44%, respectively. These findings indicate a spread of future development across the region (see Figure 25).
- For transit accessibility, the percentage of jobs located within ½ mile of a rail station or bus stop would fall to less than 50%.

These indicators show that the feasibility of additional transit service in the region would decrease under the existing zoning build-out scenario.

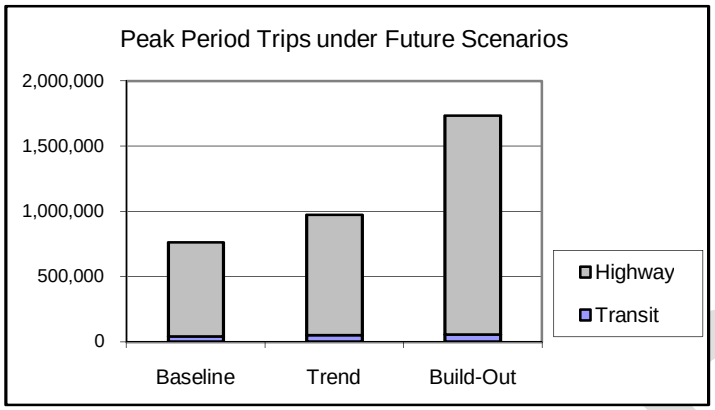
Figure 25
Transit Score, Existing Zoning Build-Out



Roadway System Performance

The transportation model analysis for existing zoning build-out assumed the same future transportation improvement projects as under the trend scenario. The analysis found that under existing zoning build-out, the number of peak period roadway trips would more than double the baseline number (see Figure 26). Transit trips would increase by less than 25%, and the transit share of trips under existing zoning build-out would only be 3.1%.

Figure 26
Comparative Peak Period Trips



In simple terms, travel demand under existing zoning build-out would far exceed the capacity of the region's roadway system. While the number of trips would increase greatly, transportation system capacity would not. The overwhelming majority of the region's roads would experience peak period congestion (see Figure 27). The peak period percentage of congested lane miles would be 93%, most of which would have severe congestion (see Figures 28 and 29).

Figure 27
Roadway Congestion, Existing Zoning Build-Out

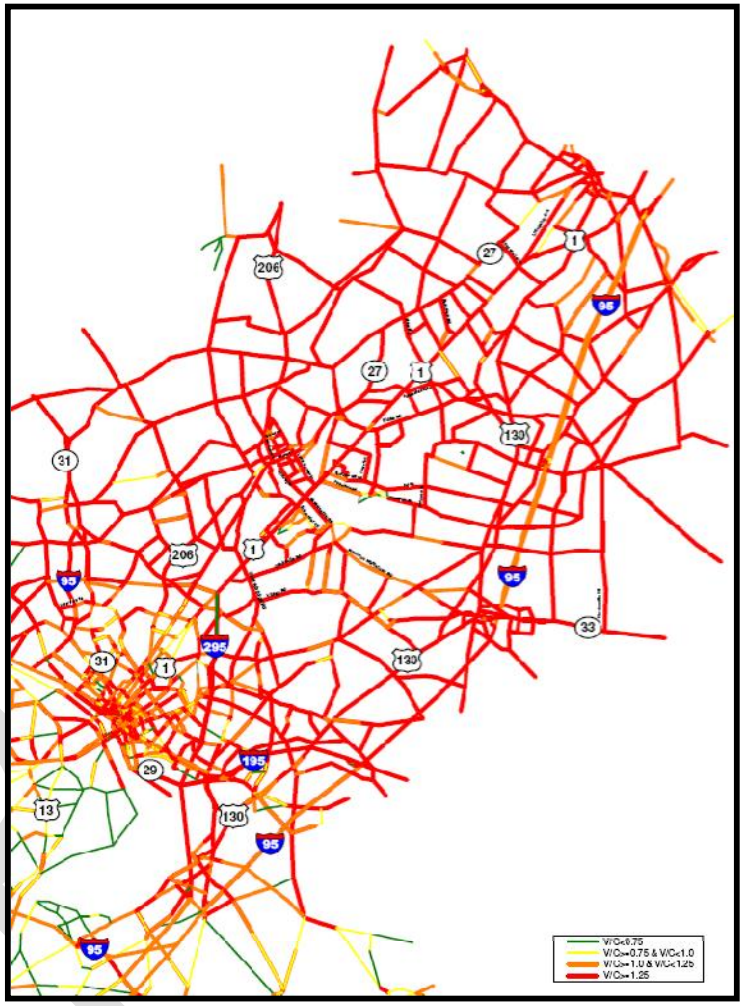


Figure 28
Congested Lane Miles by Scenario

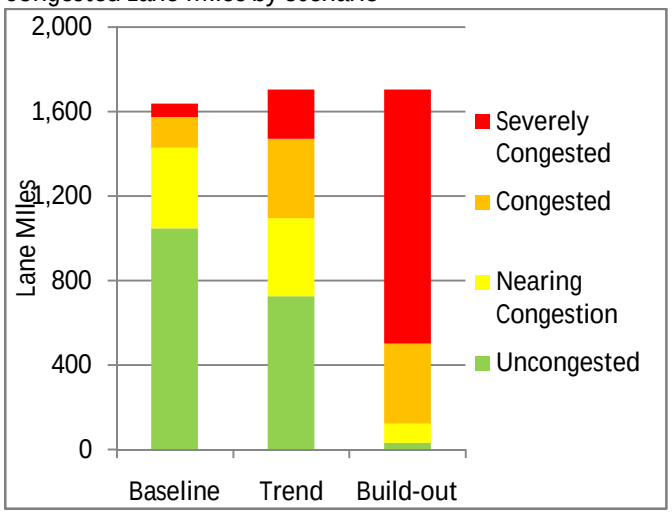
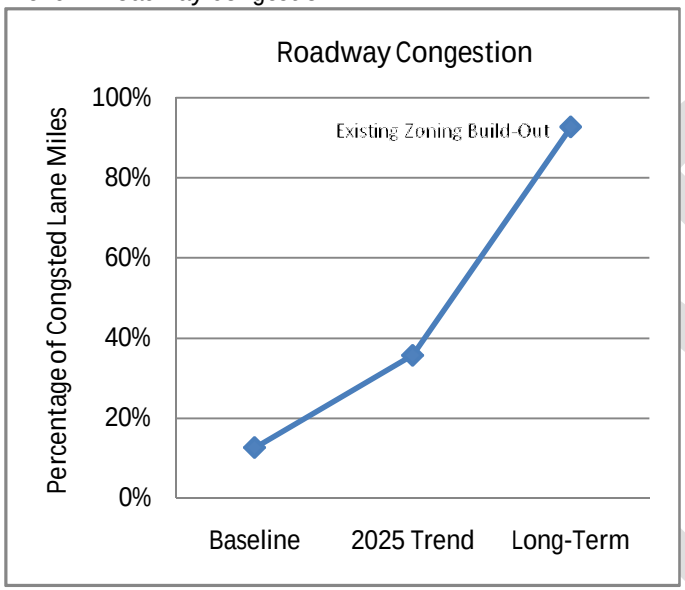


Figure 29
Trend in Roadway Congestion



Air Quality

Under existing zoning build-out, the peak period vehicle miles traveled (VMT) would be twice the level as under trend; therefore, the levels of vehicle emissions would be similarly higher than under trend (see Figure 30).

Figure 30
Vehicular Emissions, Trend and Existing Zoning Build-Out

	Trend	Build-Out
Carbon Dioxide	6,001,744	12,501,744
Nitrogen Oxides	2,352	4,097
Carbon Monoxide	72,467	149,936

It is important to recognize that build-out is not a forecast or prediction; rather, it is an estimate based upon its various assumptions. Actual development will depend upon additional factors such as financial markets, developer preferences, and environmental permitting. Furthermore, given the projected increase in roadway congestion, it seems unlikely that the region would ever realize the full build-out level of development. Nonetheless, the existing zoning build-out scenario is useful because it portrays a path of sprawl and congestion that the region is following, and it provides a framework for assessing alternative paths.

Key Points -- Existing Zoning Build-Out

The analysis shows that if all existing zoning build-out development were to occur, then the regional roadway network would approach gridlock during the peak period. Existing zoning build-out also would result in longer commute distances and times, lost productivity, and increased emissions, among other impacts (see Figure 31). In reality, as the region moves along this path, it is possible, if not probable, that increasing levels of roadway congestion would stifle future economic growth. In other words, it is likely that the region would reach a point of gridlock and no growth before reaching full build-out. In sum, the analysis of existing zoning build-out shows an unsustainable path forward. This view of the future has the following main characteristics:

- Imbalance between jobs and housing - The huge amount of potential commercial development, accompanied by a relatively small increase in low-density residential development, would leave employers looking for workers and workers looking for affordable housing within reasonable commuting distance. Where would all the new workers live? How would they get to work?
- Relatively low-density development - The location and density of development would continue to limit the feasibility of alternative travel modes.
- Region-wide constraints upon mobility and access - The continued reliance upon the automobile and limited transit options would place increased pressure on roadway system and would lead to peak period gridlock along the main roads.
- Continuing impacts upon the environment - Existing zoning build-out would lead to a large increase in the amount of impervious surface and water pollution, increased air pollution from vehicular emissions, and increased demands for water and sewer service.

How can the region address this view of the long-term future? Is there another view that would provide a better balance between jobs and housing, maintain mobility and access, and minimize impacts upon the environment?

Figure 31
Summary of Key Indicators

	Baseline	Trend	Existing Zoning Build-Out
Total Jobs	336,528	405,270	824,043
Total housing	185,354	239,252	222,300
Jobs:Housing	1.8	1.7	3.7
% peak period trips from within region	60%	61%	36%
% TAZs with medium-high and high transit score	33%	40%	41%
% jobs in these TAZs	43%	46%	38%
% households within ½ mile of bus route	57%	53%	53%
% employees within ½ mile of bus route	64%	61%	49%
Total trips	764,000	974,000	1.74 M
% Transit trips	5.8%	5.5%	3.1%
Vehicle Miles Traveled	4.2M	5.9M	10.9M
% congested lane miles	13%	36%	93%
Vehicular Emissions			
Co2	4,239,767	6,001,744	12,501,744
NOx	23,844	2,352	4,097
CO	155,548	72,467	149,936

V. IS THERE ANOTHER PATH?

The previous analysis shows that future development under existing zoning, with minimal improvements to the transportation system, does not provide a sustainable long-term path for attaining objectives relating to economic development, transportation efficiency, and environmental protection. Is there another view of the future?

- One possibility is to build more roads and continue to rely upon the automobile to accommodate increasing travel demand. Experience has shown, however, that increasing roadway capacity typically soon is matched by increased traffic. The analysis of the trend and existing zoning build-out scenarios has indicated that increasing roadway capacity, while maintaining the same general land use patterns, will have little effect on reducing congestion and other desired outcomes. Furthermore, the possibilities of expanded or new roads in the region are limited by development patterns and environmental considerations.
- Another possibility is to increase transit system capacity. Providing more public transit under trend or existing zoning build-out development patterns would not be cost-effective, however, because transit requires concentrations of population and employment in order to generate ridership levels that generate sufficient revenues to support capital and operating costs.

An alternative vision for the long-term future involves re-orienting land use and development into more concentrated "center-based" forms complemented by a substantial increase in public transit services. Research has documented that mixed-used center-based development can allow for the same amount of development as under conventional zoning, while generating fewer impacts upon infrastructure and the environment. Such development increases the mix of jobs and housing, provides a diversity of housing types, and is complementary to potential expansions of public transit service.

The work on this project, including extensive stakeholder input, led to formulating a future long-term regional vision based upon center-based development linked with an enhanced regional public transit network. The following sections describe each component of this vision.

Economic Overview

The basis for the development vision for the region started with the economic assessment. This assessment was based on several factors including the existing economic structure, development centers, and the transportation system, along with an assessment of future economic forces.

The national economy has undergone a fundamental transformation to a knowledge-based economy based upon information technology, innovation, and entrepreneurship. This new economy depends upon an educated, skilled workforce, which is seeking good jobs and a good quality of life. The Route 1 region already fares relatively well in providing the necessary elements to support knowledge-based economic development, but more work is necessary to support and promote future economic growth. In particular, the economic assessment identified two key potential obstacles to future economic growth.

- Limitations on access to markets and workers
- Lack of available affordable workforce housing

The economic assessment of the region by market areas identified current economic strengths as well as the prospects for future development. The market analysis led to identifying numerous

economic "Opportunity Zones" based upon translating economic characteristics and submarket geographies into broad areas with the potential to capture markets in new development or redevelopment. The analysis identified seven different types of opportunity zones (see Figure 32):

Global/Super Regional –Industrial Distribution
Global/Super Regional –Multi-dimensional
Super Regional/NY Regional
Statewide Public and Educational Services
Regional Service Area
Local Demand
Local High Amenity

After identifying the opportunity zones, the next step in the assessment was to identify Growth Locations, or specific areas where future development can harness economic market forces based on the location of the Opportunity Zones, current development information, and general knowledge of the area.

The assessment classified the Growth Locations, based on existing land use, into the following four categories:

- Greenfield development–convert open land to new housing and/or commercial land uses
- Brownfield redevelopment–clean up and reuse contaminated sites for new housing, commercial development and/or open space
- "Greyfield" redevelopment–reuse previously developed commercial land that is abandoned, vacant or underutilized, but not contaminated
- "Orangefield" redevelopment–retrofit and infill single-use non-residential sites with complementary residential and commercial uses

Figure 33 shows the economic Opportunity Zones and Growth Locations for each of the region's four sub-areas.

These Growth Locations are potential locations for future center-based mixed-use development. Recent development trends and consumer preferences bolster the prospects for center-based development in the region.

Developers are becoming more interested in centers since centers can provide a high rate of return on relatively small sites. Research has suggested that the synergy and appeal of a quality mixed-use development can increase office and retail prices, rents and occupancy rates as well as accelerate absorption rates. Retail tenants may be willing to pay higher rents because of the increased customer traffic generated by the compatible and complementary uses. In turn, the convenient location of dining, retail and entertainment venues on the site may make residential development attractive.

Mixed-use development is penetrating commercial real estate markets, and such projects are a viable option for many developers. Research shows that mixed-use projects consistently outperform standard single-use projects in terms of commercial lease rates, residential sales and rental prices, retail sales and sales tax revenues, hotel occupancy rates, and property values.

On the consumer side, a mix of housing unit types is consistent with changing household characteristics and residential market preferences. Research indicates that older "empty-nesters" and young urban professionals will comprise an increasing share of the residential market. One study projects that nearly 90% of future housing demand will be from families without children.

Figure 32
Proposed Economic Opportunity Zones

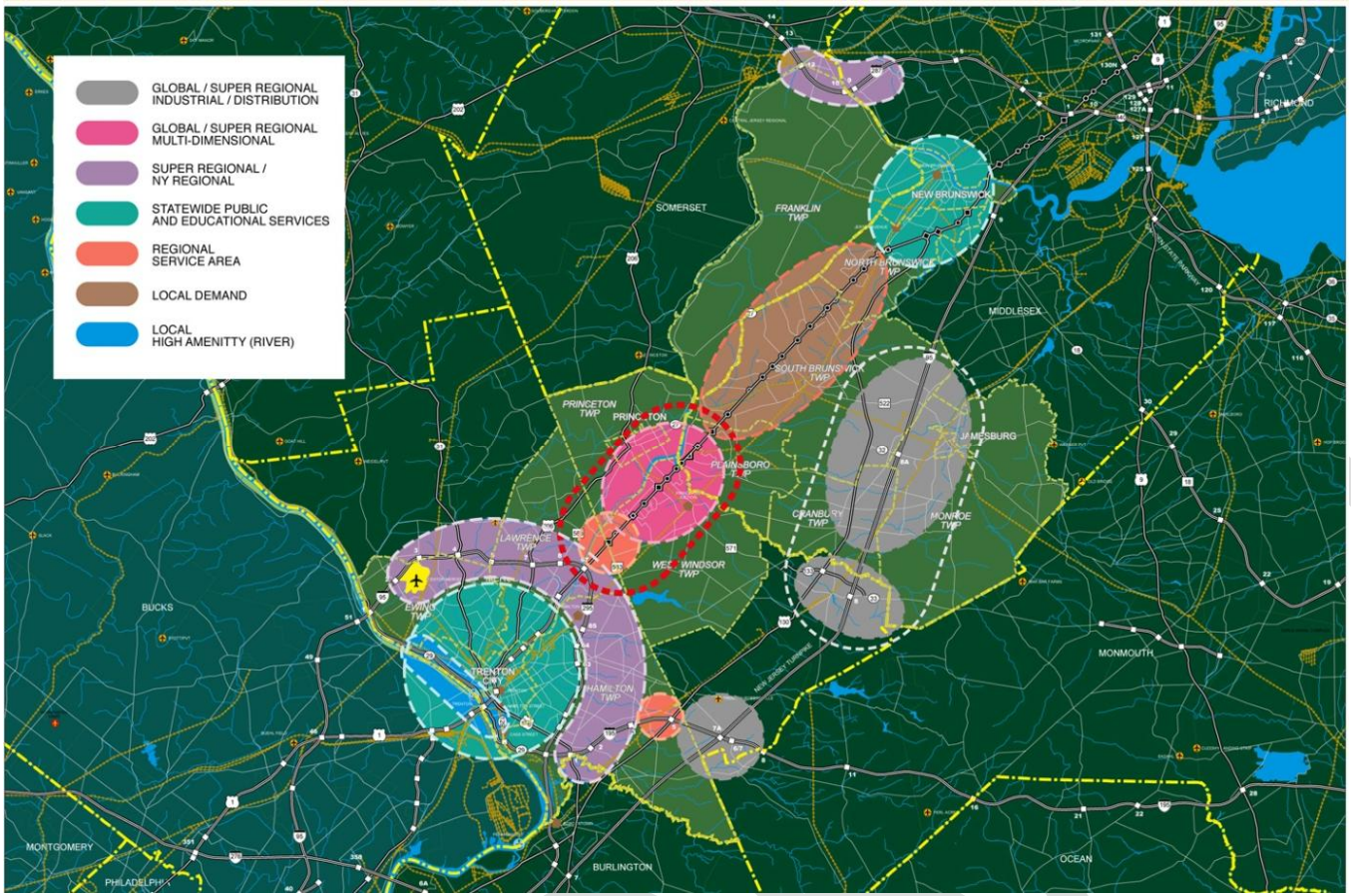
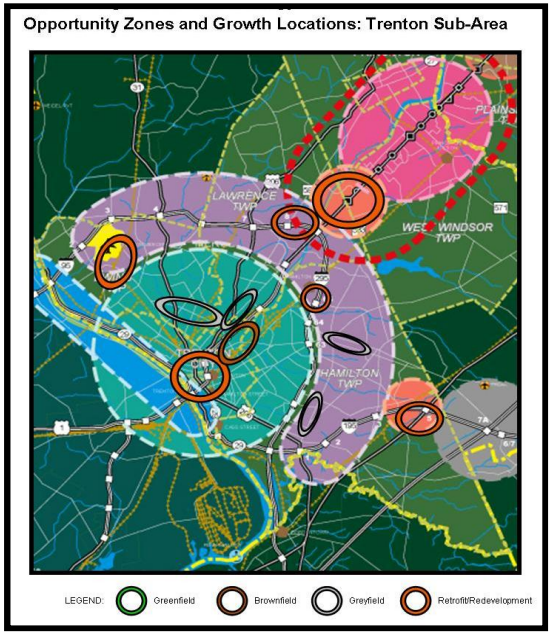
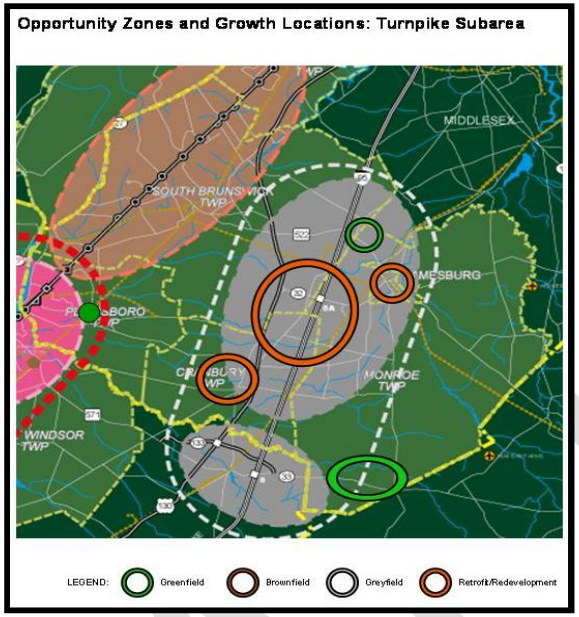
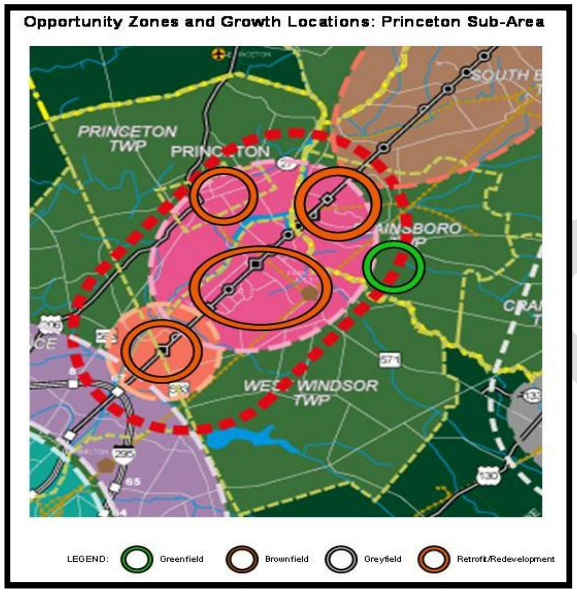
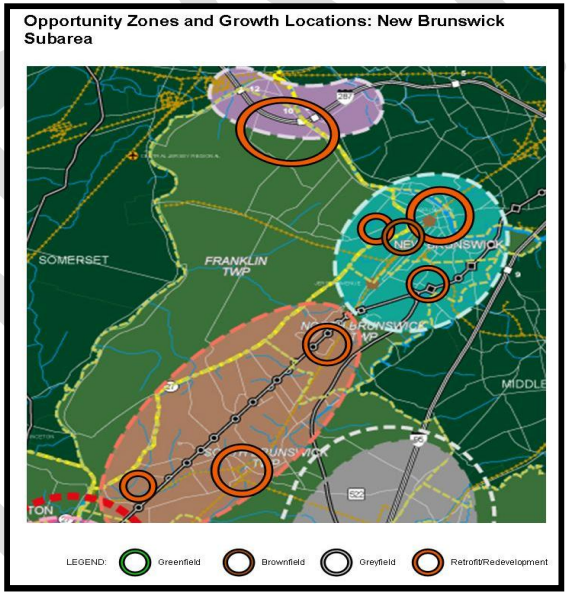


Figure 33
Proposed Opportunity Zones and Growth Locations by Sub-Area









Land Use / Development Vision

After reviewing the proposed economic opportunity zones and growth locations, the next step was to obtain updated information on local planning initiatives for the proposing growth locations. This research led to identifying about 40 locations for potential mixed-use development centers, based upon local land use and development plans. These locations range from the cities of New Brunswick and Trenton, which have ongoing redevelopment activities, to North Brunswick, West Windsor, Hamilton, and Ewing, all of which are advancing plans for transit-oriented development. The list of potential centers also includes "nodes," or existing concentrations of commercial development, such as office parks, that are likely to remain as employment centers.

The project team then worked closely with local stakeholders to review and validate the potential locations for center-based development. In particular, the charrette format of the September 2006 outreach event enabled stakeholders to provide input into the proposed centers.

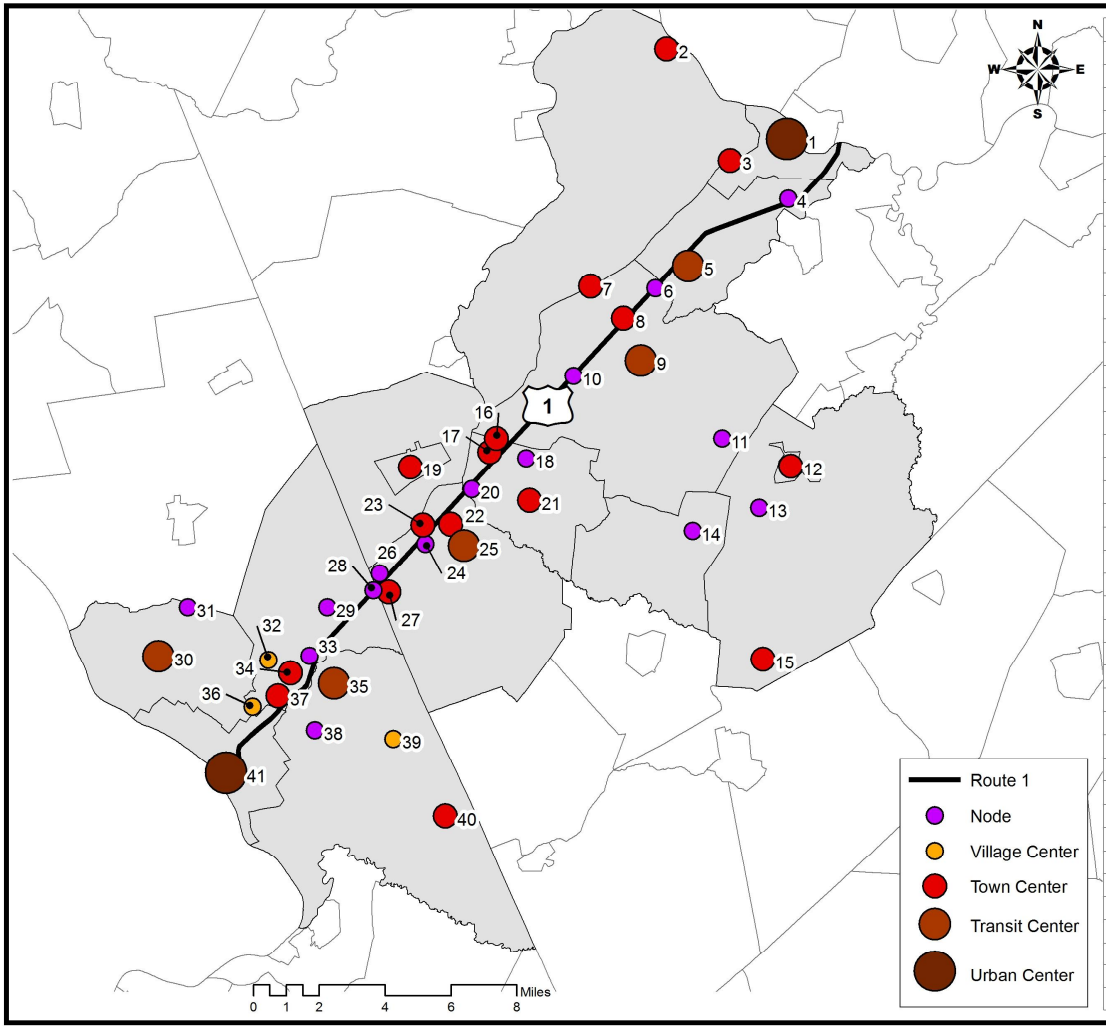
Based upon this input, the project team refined and finalized the list of potential centers and nodes, including classifying the centers into various types, ranging from urban to village (see Figure 34). Most centers provide for a mix of jobs and housing, and nearly all centers assume some level of redevelopment. Appendix K describes how the centers relate to the regional economic assessment, and Appendix L provides technical detail on identifying the centers for analytical purposes. Figure 35 shows the proposed centers.

The review process included meeting with staff of the New Jersey Department of Environmental Protection (NJDEP) to discuss and review the proposed centers relative to the new wastewater management planning process. These discussions led to determining that the proposed centers essentially were consistent with the draft sewer service areas, as of May 2009.

Figure 34
Classification System for Proposed Centers

Type	Area	Housing	Jobs	Jobs:Housing
Urban	5-25 sq mi	20,000 - 50,000	40,000 - 100,000	< 5:1
Transit-Oriented	< 125 acres	500 - 1,000	2,000 – 10,000	<20:1
Town	< 2 sq mi	1,000 - 4,000	500 - 5,000	< 5:1
Village	< 1 sq mi	100 – 2,000	50 - 1,000	<10:1
Node	< 5 sq mi	0	< 75,000	NA

Figure 35
Proposed Centers



	Location	Type
1	New Brunswick	Urban Center
2	Easton Avenue / I-287	Town Center
3	Renaissance Redevelopment	Town Center
4	Technology Center	Node
5	J&J Property TOD	Transit Center
6	Black Horse Lane	Node
7	Kendall Park	Town Center
8	Beekman Rd.	Town Center
9	South Brunswick Station	Transit Center
10	Whispering Woods	Node
11	8A - South Brunswick	Node
12	Downtown Jamesburg	Town Center
13	8A - Monroe	Node
14	8A - Cranbury	Node
15	Route 33 Town Center	Town Center
16	Princeton Nurseries	Town Center
17	Forrestal Village	Town Center
18	Forrestal Center	Node
19	Princeton Downtown	Town Center
20	Route 1 - Plainsboro Rd	Node
21	Plainsboro Village Center	Town Center
22	University Square	Town Center
23	Canal Pointe	Town Center
24	Carnegie Center	Node
25	Princeton Junction	Transit Center
26	Nassau Park	Node
27	Wyeth Tract	Town Center
28	Quaker Bridge and Mercer Malls	Node
29	Princeton Pike Office Park	Node
30	West Trenton	Transit Center
31	Atchley Tract	Node
32	St Ann's	Village Center
33	Route 1 commercial	Node
34	Lawrence Shopping Center	Town Center
35	Hamilton Station	Transit Center
36	Mercer Crossings	Village Center
37	Brunswick Pike Main St.	Town Center
38	Suburban Plaza	Node
39	Hamilton Square	Village Center
40	Hamilton Marketplace	Town Center
41	Trenton	Urban Center

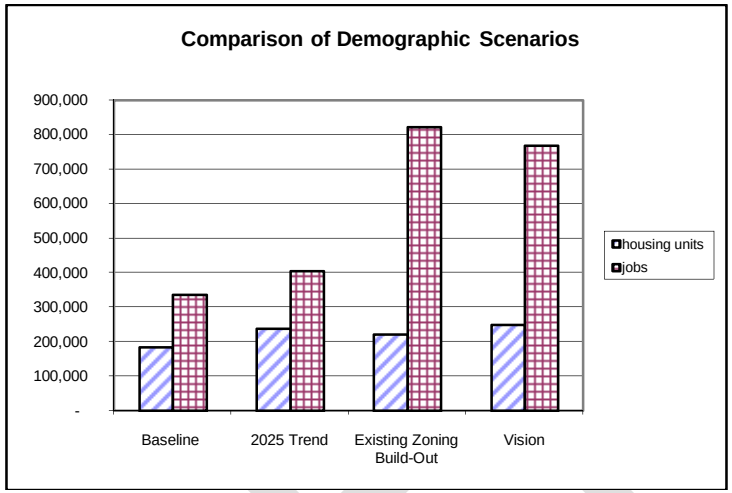
The proposed centers provided the basis for preparing a corresponding set of long-term demographic projections for the region. The project team used the center classification system to convert the centers and nodes into an alternative zoning scheme using the GOZ Model's classification system. The result was a long-term future development scenario that is an alternative to build-out under existing zoning.

The GOZ Model then calculated build-out under this alternative development scenario, or vision scenario. The results showed that this scenario would provide nearly as many jobs as under build-out and somewhat more housing; thus, the jobs-to-housing ratio for the vision would not be as high as under existing zoning build-out (see Figures 36 and 37). The proposed centers and nodes would accommodate nearly all future commercial development and the bulk of future residential development in the region.

Figure 36
Demographic Projections under Various Scenarios

	Baseline	2025 Trend	Existing Zoning Build-out	Vision
Jobs	336,258	405,270	824,043	770,364
Housing units	185,354	239,252	222,300	249,463
Jobs:Housing	1.8	1.7	3.7	3.1

Figure 37
Comparative Demographic Projections



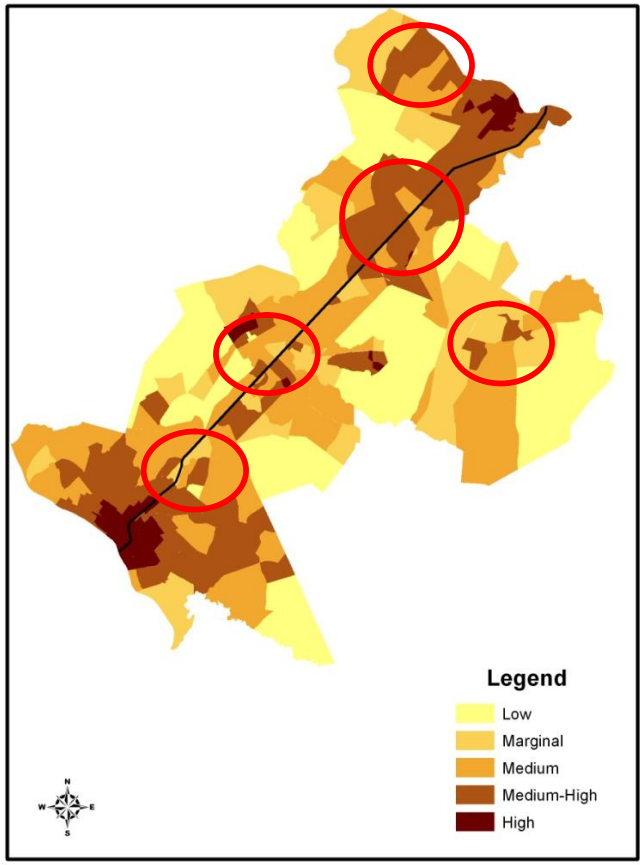
Demographic Patterns

Under the vision scenario, although the total development will be about the same as under build-out, the distribution of housing and employment would be quite different, as follows:

- Under the vision scenario, the percentage of work trips from inside the region would be 48%, versus 36% under existing zoning build-out.
- The Transit Score for the vision shows a greater concentration of development than under existing zoning build-out. The percentage of TAZs with Medium-High or High scores increases to 44%, and the percentage of employees in these zones reaches 59%. The red circles in Figure 38 show areas with higher concentrations of development under the vision scenario – these areas include areas along US 1, as well as the Exit 8A and Easton Avenue areas.
- For transit acessibility, the percentage of jobs located within ½ mile of a rail station or bus stop jumps to 74%, which not only is higher than under existing zoning build-out, but also is higher than under the baseline or trend scenarios.

These indicators all reflect a much greater feasibility for increased public transit services under the vision scenario than under trend or existing zoning build-out.

Figure 38
Transit Score, Vision



C. Transportation Vision

The third complementary component of the long-term future regional vision is a proposed program of transportation investments, emphasizing enhanced public transit services. The objective is for the proposed transportation improvement concepts to work in tandem with the development vision to create a sustainable region that produces the desired outcomes related to employment, housing, travel, and quality of life.

The project team assembled the regional transportation vision based upon reviewing existing plans and feasibility studies and receiving stakeholder input. An important activity in this regard was a series of sub-area stakeholder workshops that occurred in January and February of 2009. These workshops focused upon presenting background transportation information and facilitating discussion on potential transportation improvement concepts.

Based on the input from these workshops, the study team prepared a technical memorandum describing a conceptual "Next Generation Transportation System" (see Appendix M). This summary provided the framework for preparing a list of proposed transportation projects that would complement the proposed development vision for the region (see Figures 39 and 40).

Several of these projects are in various phases of planning and design by agencies including NJDOT and NJ TRANSIT. This list, however, does not represent a commitment by any public agency to fund any project. The main purpose of the list is to provide an illustrative future transportation system that complements the development vision and provides a scenario for evaluation. The implementation of proposed transportation investment projects will depend upon various factors including funding availability, as well as progress toward implementing center-based development on the local level.

The following sections provide a summary of the main proposed transportation improvement concepts.

Inter-regional Rail Network

One major element of the transportation vision is greater utilization of the Northeast Corridor commuter rail line, including the following improvements:

- New stations at North Brunswick and South Brunswick, and enhanced station facilities and access at Jersey Avenue.
- Increased service frequency, including for the "reverse commute," i.e., westbound in the morning and eastbound in the evening
- Improved connections, including feeder bus service to and from rail stations

These improvement concepts assume that NJ TRANSIT will complete the ARC commuter rail tunnel project, which will enable increased service on the Northeast Corridor.

The transportation vision also assumes restoring commuter rail service on the West Trenton Line, which would connect Ewing with Newark and points north.

Intra-regional Transit Network

The centerpiece of the regional transportation vision is a Bus Rapid Transit (BRT) system in the Route 1 corridor. BRT is something of a cross between light rail and conventional local bus service. It can run along dedicated right-of-ways (such as the Pittsburgh busway service), along exclusive roadway bus lanes, or in shared roadway lanes. BRT aims to provide premium service through a limited number of major stops (possibly with station facilities), express scheduling, and high-quality vehicles. It thus seeks to provide a service approximating light rail at a considerably lower cost.

Figure 39
Proposed Transportation Improvement Projects

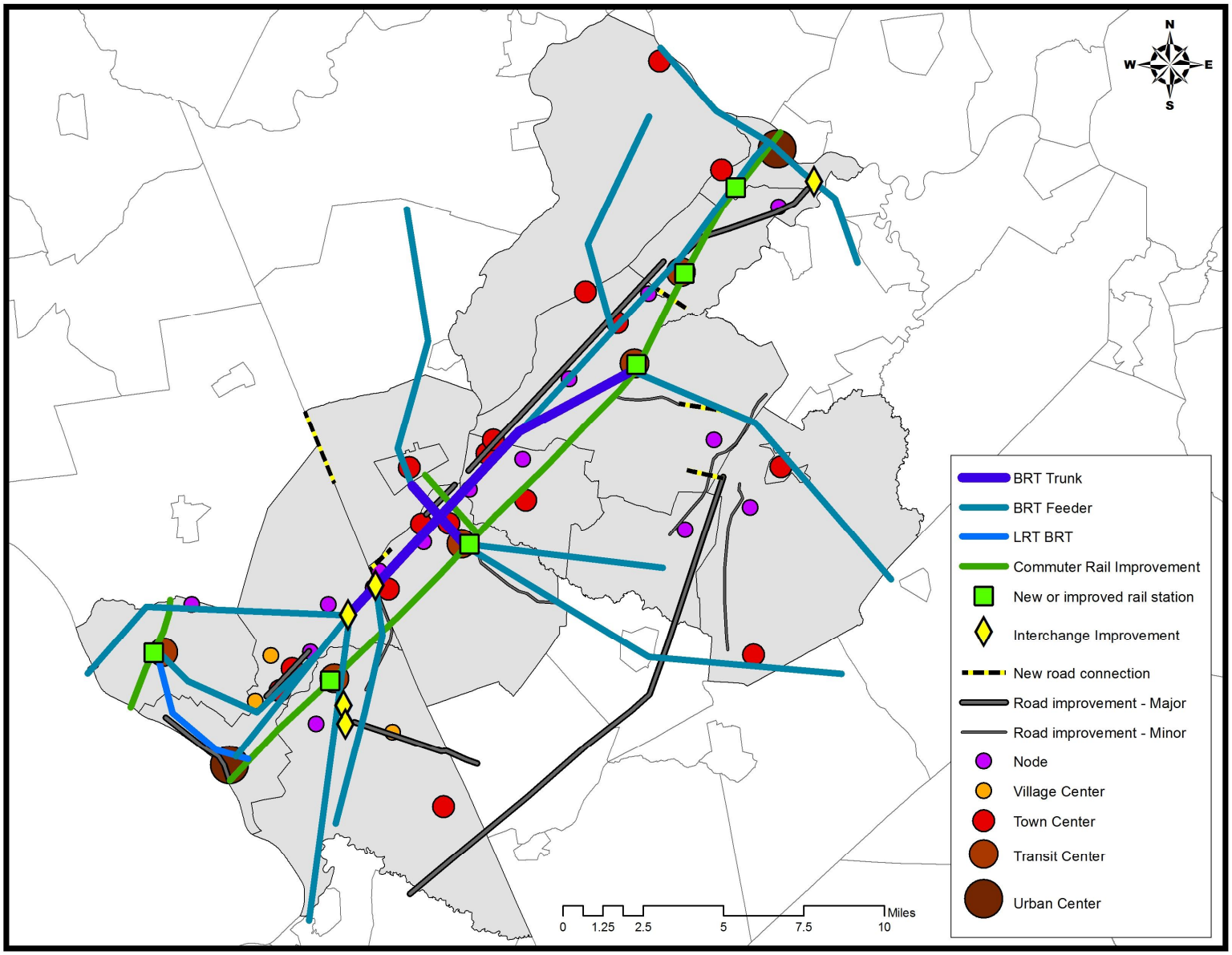


Figure 40
List of Transportation Improvement Concepts

Rail Service
- Northeast Corridor increased service
- West Trenton line new service
- Dinky Line increased service

Rail Stations
- Jersey Ave expanded station
- North Brunswick new station
- South Brunswick new station
- West Trenton relocated / expanded station
- Hamilton Station expanded parking
- Princeton Junction expanded parking

Light Rail
- RiverLINE Extension

Bus Rapid Transit
- Route 1 BRT Trunk Line

BRT Feeder Services
- Route 571 / Route 33
- Plainsboro Rd
- Route 522
- Easton Ave
- Route 1 - New Brunswick
- I-295 - Burlington Co
- I-95 - Bucks Co
- Quakerbridge Rd
- Route 1 - Trenton
- Olden Ave / Brunswick Pike
- Route 18
- US 206
- Middlebush Rd

Road Improvements - Major
- New Jersey Turnpike widening
- Scudders Falls Bridge widening
- Penns Neck area improvements
- Forrestal Rd - Aaron Rd improvements
- North Brunswick improvements
- Brunswick Pike boulevard
- Route 29 urban boulevard
- Route 33 corridor improvements

Interchange Improvements
- Route 1 & Route 18
- I - 95 / I - 295 & Route 1
- Route 1 & Quakerbridge Road
- I-295 & Sloan Ave
- I-295 & Route 33

Minor Road improvements
- Quakerbridge Rd
- Route 571
- Route 522
- Route 535
- Route 619

New Road Connections
- Route 522
- Finnegan Lane
- Route 32
- Province Line Rd
- Canal Pointe Blvd

Other U.S. cities with some version of BRT include Boston, Cleveland, and Los Angeles; and New York City currently is considering potential BRT routes. In Newark, NJ TRANSIT has proposed BRT service along Springfield and Bloomfield Avenues, and it already has implemented the GO Bus, express bus service with enhanced amenities, along Springfield Avenue.

NJ TRANSIT has been investigating the feasibility of a BRT in the Route 1 corridor for several years. The proposed BRT system would extend along Route 1 between I-95 / I-295 and South Brunswick, and it would include a network of feeder bus services that connect with the Route 1 BRT spine route. These services may run along I-95 / I-295, Quakerbridge Road, Route 33 / 571, Plainsboro Road, and Route 522. In addition, the system would include a series of enhanced and new park-and-ride facilities.

In addition to the Route 1 BRT, NJ TRANSIT also is studying the possibility of a New Brunswick area BRT system. For purposes of analysis, the transportation vision currently classifies this service as a BRT feeder route.

Local Transit

The vision also proposes enhanced local bus and shuttle services, which will help to link development centers and the intra-regional and inter-regional transit services. Among the potential locations for improved or new services are the cities of Trenton and New Brunswick, the Princeton area, connections to the Exit 8A area, and southern Middlesex County. Proposed new service will emphasize connecting key activity centers such as office parks, shopping centers, hospitals, and universities and schools.

Strategic Roadway Investments

The transportation vision includes various strategic roadway investments aimed at improving system efficiency and connectivity. One potential major new roadway expansion project is widening Route 1 between Forrestal Road and Aaron Road. Other proposed projects include completing "missing links" such as Route 522 and Finnegan Lane, reconstructing interchanges, and improving operations along important corridors such as Route 130, Route 27, Route 33, Business Route 1, and key county roads. Such operational improvements may include minor widening, intersection improvements, and access management measures.

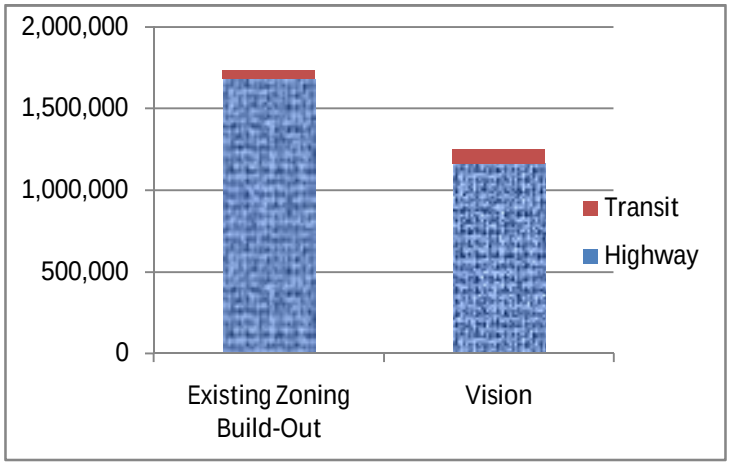
Supportive Policies

In addition, the transportation vision assumes several supportive policies, including travel demand management, bicycle and pedestrian facilities, and intelligent transportation system (ITS) applications.

Roadway System Performance

The regional transportation model evaluated the traffic impacts of future development under the proposed development / transportation vision compared with existing zoning build-out. This analysis found that the vision would have far less impacts on the regional roadway system than existing zoning build-out. Under the vision, the region would have over 30% fewer peak period highway trips than under existing zoning build-out, but the number of transit trips would be 60% greater (see Figure 41).

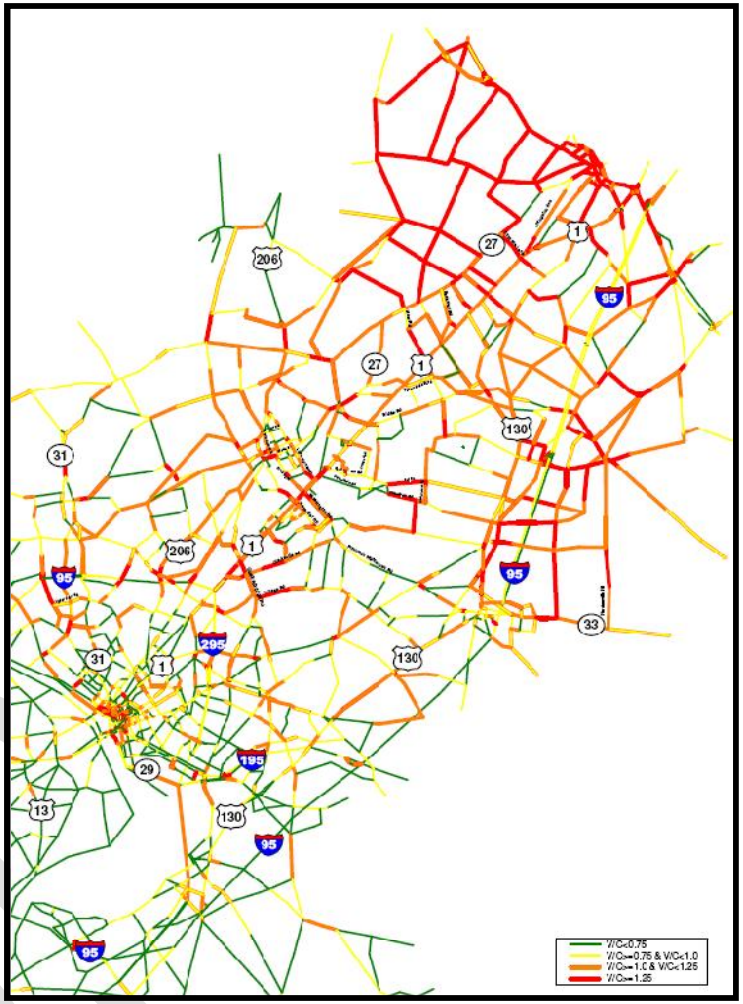
Figure 41
Peak Period Trips, Build-Out v. Vision



This difference is due largely to the new pattern of center-based development, coupled with the increased availability of public transit service. In addition, compact, mixed-use development will facilitate a greater share of travel by non-motorized modes. The modeling methodology applied trip reduction factors attributable to center-based development. The process linked these factors to the change in zonal trips between the baseline and vision scenarios – a greater change in trips led to a greater trip reduction factor. The analysis led to estimating an overall 10% reduction in trips due to center-based development.

The analysis found that the regional roadway network would experience much less peak period congestion under the vision than under existing zoning build-out (see Figure 42). The percentage of congested lane miles under the vision would be 47%, compared to 93% under build-out (see Figure 43).

Figure 42
Congested Roadway Segments, Vision



The analysis shows that the congestion levels under the vision are about the same as under trend, but development under the vision is far greater. In other words, the vision would facilitate a considerably greater amount of economic development while generating only slightly more congestion. Figure 44 shows how the vision would place the region a much different long-term path than would build-out.

Figure 43
Summary of Congested Lane Miles

Air Quality

Also under the vision, the region would have nearly 40% fewer peak period vehicle miles traveled (VMT) than under existing zoning build-out. As a result, vehicular emissions would be much less than under build-out (see Figure 45).

Figure 44
Trend in Roadway Congestion

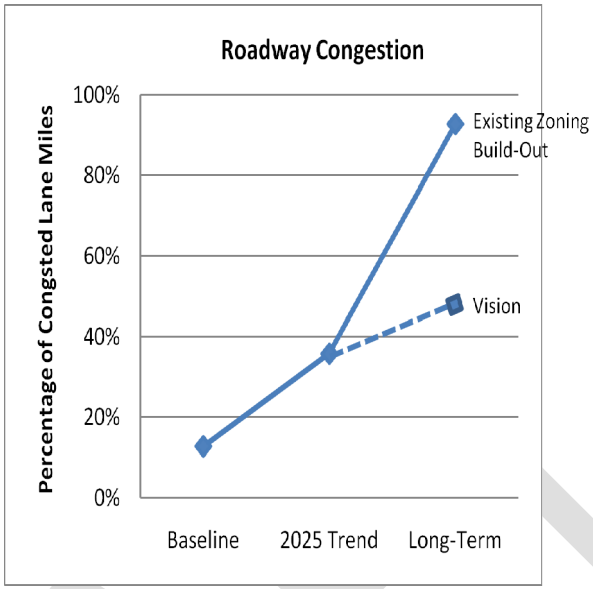


Figure 45
Vehicular Emissions, Existing Build-Out and Vision

	Existing Zoning Build-Out	Vision
Carbon Dioxide	12,501,744	7,320,631
Nitrogen Oxides	4,097	2,418
Carbon Monoxide	146,936	87,617

It is important to recognize that, like existing zoning, development under this vision scenario is only a theoretical maximum. Actual development under this scenario probably would place the region on a total development path somewhere between trend and existing zoning build-out. The importance of this alternative scenario is that this path appears to be one of sustainability, in terms of its impacts on the transportation system.

Summary

In sum, the analysis found that the vision scenario generally results in more favorable outcomes than existing zoning build-out (see Figure 46). The key outcomes are a better jobs-to-housing balance, more transit-friendly development patterns, reduced travel demand and roadway congestion, and improved environmental protection.

Jobs-to-Housing Balance

Under the vision scenario, the region would gain nearly as many jobs and more housing than under build-out, resulting in a better jobs-to-housing balance. In addition, more employees of regional workplaces would live within the region, which would mean shorter commuting distances and lower travel time and costs than under build-out. In addition, the vision scenario likely would generate a greater diversity of housing unit types including a higher proportion of multi-family units, smaller units, and less expensive units. This residential mix would improve affordability for all income levels and provide greater housing opportunities for persons who work in the region.

Development Patterns

With the concentration of future development into mixed-use centers under the vision scenario, more zones would have higher Transit Scores, and more jobs and housing would be located in these zones. In addition, more jobs and housing would be located within one-half mile of a rail station or bus stop. This concentrated development would increase the feasibility not only for public transit service but also for walking and bicycling as travel modes. The increase multi-modal opportunities would reduce reliance upon the automobile and improve mobility and access, particularly for certain population segments such as the young and elderly.

Travel Demand and Roadway Congestion

Future development under the vision scenario would generate fewer total peak period trips but more transit trips, which would result in fewer vehicle miles traveled and less roadway congestion. This lower travel demand and congestion would result in travel time savings, and it would lessen the need for investing in roadway capacity expansion and maintenance.

Environmental Protection

The lower amount of vehicle miles traveled under the vision scenario would result in less vehicular emissions and better air quality than under build-out. In addition, the concentration of future development into centers would reduce the increase in impervious surface, which would lessen impacts upon stormwater run-off and water pollution. Also, center-based development would increase the opportunities for preserving larger contiguous amounts of open space and environmentally-sensitive land.

Absent the region establishing a framework for advancing toward the proposed development / transportation vision, development is likely to continue to occur in a fragmented manner, which will have negative impacts upon workforce housing, multi-modal transportation options, mobility and access, and environmental protection. Roadway congestion will continue to increase, and the region will become a less desirable location for economic development. The proposed bus rapid transit system provides an excellent opportunity to break the downward cycle of sprawl and congestion and start the region on a path toward the long-range vision. Public and private agencies must begin to work together now to implement the vision, and the next chapter provides an implementation plan / agenda for attaining the vision.

Figure 46
Summary of Key Indicators

	Baseline	Trend	Existing Zoning Build-Out	Vision	Vision v. Build-Out
Total Jobs	336,528	405,270	824,043	770,364	------
Total housing	185,354	239,252	222,300	249,463	
Jobs:Housing	1.8	1.7	3.7	3.1	
% peak period trips from outside region	40%	39%	64%	52%	
% TAZs with medium-high and high transit score	33%	40%	41%	44%	-----
% jobs in these TAZs	43%	46%	38%	59%	
% households within ½ mile of bus route	57%	53%	53%	72%	
% employees within ½ mile of bus route	64%	61%	49%	74%	
Total trips	764,000	974,000	1.74 M	1.25 M	
% Transit trips	5.8%	5.5%	3.1%	6.9%	
Vehicle Miles Traveled	4.2M	5.9M	10.9M	7.0M	
% congested lane miles	13%	36%	93%	47%	
Vehicular Emissions					
Co2	4,239,767	6,001,744	12,501,744	7,320,631	
NOx	23,844	2,352	4,097	2,418	
CO	155,548	72,467	146,936	87,617	

----- less than 10% difference

 - 10+% favorable difference for Vision

 - 10+% unfavorable difference for Vision

VI. HOW TO REACH THE VISION

Implementing the Route 1 Regional Growth Strategy will require effort and action by all levels of government, citizens, and the private sector. Implementation will also require a long-term focus and sustained attention over time. As part of the Route 1 Regional Growth Strategy planning process, many regional stakeholders recognized that the integrated land use transportation "vision" embodied in the growth strategy was meritorious and not in itself controversial; however, they acknowledged that implementing the vision would be very difficult. For this reason, the study culminated in a final collaborative workshop designed to focus on future implementation. The majority of the meeting was devoted to small group work prioritizing next steps and developing action plans for priority implementation strategies.

The overall implementation agenda identified by regional stakeholders to move the Route 1 Regional Growth Strategy from paper to reality includes actions in four main categories:

- Planning, Zoning, and Economic Development – Municipalities must undertake work to revise their planning documents, particularly their master plan and zoning ordinance, to allow and promote mixed-use centers.
- Transportation Project Development and Investment – Public agencies, particularly on the state level, need to identify funding for, design and construct proposed transportation projects.
- Public Engagement, Education, and Influence – Civic leaders at all levels need to engage and educate decision-makers and citizens about the benefits of implementing the Route 1 Regional Growth Strategy.
- Coordinated Decision-Making – Local and state agencies must strive to attain coordinated and consistent decision-making in support of regional planning efforts and implementing the Route 1 Regional Growth Strategy.

The four actions identified by stakeholders as "high priority" next steps for implementing the growth strategy were:

1. Establish a Regional Entity to "Own" the R1RGS – Stakeholders agreed that establishing "ownership" of the growth strategy would be critically important to ensuring implementation. One option suggested was The Central Jersey Transportation Forum (CJTF), which provides an existing regional entity, but it does not have administrative authority, and its membership is not coterminous with the R1RGS study area. Other suggested options include creating some type of inter-agency partnership or creating an entirely new entity with true regional "ownership."

2. Identify New Sources of Funding for Transportation and Other Investments – Also recognized as critically important to implementation was the need to identify existing and new sources of funding necessary to support design and construction of the transportation project and other investments identified as part of the growth strategy. Various options may be available for targeting new funding sources. Options include those relating to re-authorizing the Transportation Trust Fund, using Urban Hub Tax Credit funding, revising funding formulae to provide increased funding in support of increased

residential development and school costs, and providing funding to preserve targeted open space.

3. Construct the BRT Core System – A central component of the transportation vision of the regional growth strategy is creating a regional Bus Rapid Transit system starting with the Route 1 BRT core system. The focus of this action is to secure priority funding or new funding for an early action plan, which would involve design and funding for Phase I of the BRT system. Possibilities include obtaining project earmarks or innovative funding, such as through public-private partnerships.

4. Provide "Carrots and Sticks" – Regional stakeholders recognized that an important way to encourage implementation, especially with regard to the land use component of the regional growth strategy, is to provide both incentives and disincentives, or "carrots and sticks," for agency decision-making in support of the vision. Toward this end, they suggested a number of ways to improve interagency coordination and coordinated decision-making to achieve desired outcomes. Among the possible actions are streamlining planning and regulatory approvals for center-based development that meet established criteria and utilizing an incentive system to encourage agreements.

Figure 47 provides the complete Route 1 Regional Growth Strategy Implementation Agenda.

Figure 47
Implementation Agenda

Actions	Timing	Responsibility
Planning, zoning and economic development:		
1. Develop guidance materials to assess municipal/county plans/zoning consistency with *Regional Growth Strategy*	Short	NJDOT
2. Create and fund an MPO-based planning grant program for counties and municipalities to support local planning activities (including public engagement) designed to implement the regional growth strategy.	Short	DVRPC, NJTPA
3. Reexamine municipal/county land use, economic development, circulation and transportation plans and ordinances for consistency with the *Regional Growth Strategy*	Short	Municipal planning boards
4. Facilitate the creation of transit-oriented infill development and redevelopment, including workforce housing, at key locations consistent with the *Regional Growth Strategy* by changing plans and zoning to encourage mixed-used development at transit-supportive densities at those locations	Short/ Medium	Municipal planning boards / Governing bodies
5. Change plans/zoning to protect areas outside of identified centers and nodes by limiting development of new housing and non-residential development in those areas	Medium/ Long	Municipal planning boards / Governing bodies
6. Re-orient regional and local economic development activities to support implementation of the *Regional Growth Strategy.*	Short, Medium & Long	Chambers of commerce, state, county and municipal economic development agencies
7. Use the current economic downturn to re-position the region to take advantage of opportunities to enhance and create new industry clusters that reflect 21st century economic realities and regional market strengths	Short, Medium & Long	Chambers of commerce, state, county and municipal economic development agencies
8. Use the land development approval process to reserve rights-of-way for future transportation improvements and secure travel amenities such as interconnected sidewalks, bike paths and transit amenities consistent with the *Regional Growth Strategy.*	Short, Medium & Long	Municipal planning boards
9. Use planning/implementation tools such as redevelopment planning; transfer of development rights, non-contiguous parcel clustering and conservation zoning to support implementation of the *Regional Growth Strategy*. Provide technical support/guidance and incentives as needed to encourage the use of these tools.	Short, Medium & Long	All

10. Use Fair Housing Act requirements and the COAH process as an opportunity to facilitate the creation of affordable workforce housing throughout the region in a manner consistent with the *Regional Growth Strategy*	Short, Medium & Long	Municipal planning boards
Transportation project development and investment:		
1. Work cooperatively with the Governor and Legislature to reauthorize the NJ Transportation Trust Fund in a manner that assures a stable, recurring source of funding to support implementation of the *Regional Growth Strategy*	Short	All
2. Examine opportunities for creating regional funding sources that can pay for transit capital improvement and on-going transit operating expenses. Examples might include: a local purpose sales tax, regional parking fees, and special transportation assessment districts	Short/ Medium	NJDOT, NJ TRANSIT, counties, municipalities
3. Continue to advance planning, design and construction of the Route 1 BRT Core System and the Greater New Brunswick Area BRT	Short/ Medium	NJ TRANSIT
4. Identify and advance strategic highway and transit investments designed to connect centers and nodes identified for growth and/or otherwise support implementation of *Regional Growth Strategy*	Medium/ Long	NJDOT, NJ TRANSIT and Municipalities
5. Use planning and implementation tools such as access management, context-sensitive design, traffic calming and travel demand management to support implementation of the *Regional Growth Strategy*. Provide technical support/guidance and incentives as needed to encourage the use of these tools.	Short, Medium & Long	All
Public engagement, education and influence:		
1. Explore alternative mechanisms and/or governance structures to establish "ownership" of the Regional Growth Strategy and to monitor and support plan implementation	Short	All
2. Use the agreed upon governance structure to provide a unified "regional voice" in advocating for the investments needed to implement that *Regional Growth Strategy*	Short	All
3. Discuss coordination, advocacy and leadership mechanisms for the *Regional Growth Strategy* with DVRPC / CJTF and other regional planning and coordinating bodies	Short & Medium	All
4. Adopt municipal resolutions endorsing the *Regional Growth Strategy* including the shared growth principles, desired community and regional outcomes, integrated land use–transportation vision and	Short	Mayors / Governing bodies

implementation agenda.		
5. Prepare support materials (presentation slides, handouts, etc) and develop a strategy for undertaking *Regional Growth Strategy* "road-show"	Short	NJDOT
6. Brief local boards and commissions in each municipality and county on the *Regional Growth Strategy* initiative.	Short	All
7. Brief relevant state and regional agency staff on the *Regional Growth Strategy* initiative.	Short	NJDOT
8. Educate residents and other local stakeholders regarding why the *Regional Growth Strategy* is important to ensuring a sustainable and prosperous future for the region. Topics discussed should include all four components of the strategy and the benefits and costs of transit-oriented and other types of development.	Short	Municipal leaders
Coordinated decision-making:		
1. Consider the *Regional Growth Strategy* when making government decisions (large and small) related to land use, economic development and transportation matters. Evaluate how short term decisions may affect long-term implementation of the strategy and strive to make all decisions consistent with the strategy.	Short, Medium & Long	All
2. Build on existing coordination processes (e.g., State Plan cross-acceptance, plan endorsement etc.) to ensure local and state agency decisions support implementation of the *Regional Growth Strategy*	Short, Medium & Long	State agencies, counties and municipalities
3. Expedite state agency review processes and use discretionary agency funding to prioritize and advance implementation of the *Regional Growth Strategy*	Short, Medium & Long	State agencies
4. Consider streamlining planning and regulatory approvals for center-based development that is consistent with the Regional Growth Strategy	Short, Medium & Long	Counties and municipalities
5. Encourage shared services to balance fiscal inequities between local governments	Short, Medium & Long	Counties and municipalities