Dover/Kent County RTP

Regional Transportation Plan Update

Adopted January 28, 2009

Dover/Kent County MPO
Metropolitan Planning Organization

DOVER/KENT COUNTY
METROPOLITAN PLANNING ORGANIZATION

REGIONAL TRANSPORTATION PLAN: A LONG RANGE TRANSPORTATION PLAN FOR 2030

Adopted January 28, 2009

Prepared by the
Dover/Kent County Metropolitan Planning Organization

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Dover/Kent County MPO
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Dover/Kent County Metropolitan Planning Organization

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RESOLUTION BY THE DOVER/KENT COUNTY METROPOLITAN PLANNING ORGANIZATION ADOPTING THE 2009 UPDATE TO THE REGIONAL TRANSPORTATION PLAN

WHEREAS, the Dover/Kent County Metropolitan Planning Organization (Dover/Kent County MPO) as designated by the Governor of the State of Delaware, is the Metropolitan Planning Organization (MPO) for Kent County, Delaware, including those portions of Smyrna and Milford located in contiguous counties; and

WHEREAS, the federal regulations require a long range Regional Transportation Plan (RTP) be adopted and updated at least every four years and, as may be necessary, amended by resolution of the Dover/Kent County MPO Council; and

WHEREAS, Dover/Kent County MPO, per federal regulations, by quantitative analytic methodology, has found the RTP to be air quality conforming, as mandated by the federal Clean Air Act, as Amended; and

WHEREAS, the Dover/Kent County MPO, in the development of the RTP, per federal regulations, has, at a minimum, considered the seven (7) metropolitan planning factors mandated by the federal Safe, Accountable, Flexible, Efficient Transportation Equity Act - A Legacy for Users (SAFETEA-LU); and

WHEREAS, the Dover/Kent County MPO, in the development of the RTP, per federal regulations, has found the RTP to be financially reasonable; and

WHEREAS, the development process of the RTP followed, at a minimum, the prescribed policies and practices set forth in the officially adopted Dover/Kent County MPO Public Participation Plan, which in turn meets or exceeds all federal requirements for public participation;

NOW, THEREFORE, BE IT RESOLVED, that the Dover/Kent County MPO Council does hereby adopted the ***Dover/Kent County Metropolitan Planning Organization 2009 Update of the Regional Transportation Plan for 2030.***

DATE: 1/28/09

Bradley S. Eaby, Chairperson
Dover/Kent County MPO Council

JSW:crs

Acknowledgements

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1. Introduction

1.1 Plan Background

This Dover/Kent County Metropolitan Planning Organization (MPO) Regional Transportation Plan (RTP) Update serves to update the existing transportation plan adopted May 4, 2005, and forms the basis of the Mobility Element of the Kent County Comprehensive Plan. Through these efforts, the MPO, in partnership with the Delaware Department of Transportation (DelDOT) and the public, continues to coordinate transportation planning and investments to support future land use changes anticipated in Kent County over the next 25 years.

This RTP update was created through a collaborative process involving state, county, and local officials, as well as public input. To coordinate with the update of the Kent County Comprehensive Plan, which Kent County Levy Court adopted on October 7, 2008, the RTP update was launched in late 2006, two years after the previous plan was completed. The updated plan reflects changes in demographics as well as regional goals, objectives, policies, strategies, and projects. This RTP also was updated to comply with the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), a federal law that authorizes the federal surface transportation programs for highways, highway safety, and transit for the five-year period of 2005 through 2009. The RTP's proposed date of adoption is January 28, 2009, with consequent development of the MPO's Transportation Improvement Program in March, 2009.

By law, urbanized areas with a population greater than 50,000 must have an MPO. MPOs are mandated to develop long-range transportation plans (LRTPs), including a prioritized Transportation Improvement Program (TIP), plus programs, projects, and monitoring efforts. An LRTP is a comprehensive strategy for transportation and development in a region and is required by the U.S. Department of Transportation (USDOT) as a prerequisite for federal funding. The Dover/Kent County MPO's LRTP, the RTP, is a strategic planning tool providing a blueprint for integrating transportation, land use, and Livable Delaware strategies to help define and prioritize transportation programs and projects.

1.1.1 Relationship of the RTP Update to the Kent County Comprehensive Plan

This RTP update confirms the common vision set forth in the MPO's 2005 plan *"Moving Forward Together,"* and is supported by revised plan goals and objectives. These guiding principles are confirmed through an assessment of the current transportation system, trends and implications for future transportation needs, and a list of actions to be implemented during the 2005 to 2030 time period.

Funding for the recommended actions is described in a financial plan. This means that the projects programmed for the first four years of the RTP (2009 through 2012) reflect funding that is currently projected to be available through 2012. This first four-year segment of near-term projects is known as the Transportation Improvement Program (TIP). Funding for actions scheduled for years 2013 through 2030 is based on public and private sources that are reasonably expected to be available during that time period. The revenue and cost

estimates for the recommended actions use an inflation rated to reflect "year of expenditure" dollars.

Additional projects the MPO desires, for which funding is not expected to be available, are included in an "aspirations" list and will only advance when additional funding becomes available. These projects will likely be considered in future plans.

The MPO's first LRTP was adopted in 1996. In 2001, the plan was updated through 2025. In 2004, an interim plan extending the planning horizon to 2030 was adopted to comply with federal laws on air quality. The 2004 interim plan supplemented the 2025 plan and served as a companion document until the 2030 update in 2005. This 2008 document constitutes the transportation plan for the region through January of 2030.

Since the completion of the previous RTP in 2005, several initiatives and areas of focus have emerged specific to Kent County that further support the common vision that was prepared for the 2005 plan. The concept of relating transportation and land use continues to be a more visible and important consideration when selecting projects that will impact quality of life for current and future generations. As described in the 2008 Kent County Comprehensive Plan, land use, growth management, and transportation planning are inextricably linked. As such, the MPO, county and DelDOT continue to partner with other state agencies to better coordinate transportation and land use decision-making. This long-recognized relationship will continue to play an important role in informing infrastructure investment decisions in Kent County and statewide.

The Kent County Comprehensive Plan Update focuses on specific opportunities and challenges facing the county and assesses how those trends are likely to impact future growth and preservation. These areas include:

- Population and Demographics
- Land Use
- Community Design
- Community Facilities
- Transportation
- Economic Development
- Housing
- Natural Resources
- Agriculture
- Historic Preservation
- Intergovernmental Coordination

The Comprehensive Plan examines current conditions, articulates goals, and describes actions to achieve those goals. The document examines all elements of Kent County listed above and summarizes them into how the county intends to develop and invest over the next 25 to 30 years. Excerpts from this RTP update were used to prepare the Mobility Element chapter of the 2008 Kent County Comprehensive Plan.

1.1.2 Strengthening the Linkages between Transportation and Land Use

Continual population growth, expansion of development into lightly-developed areas farther from municipalities, and higher rates of automobile ownership are three primary factors that have led to noticeable increases in traffic congestion and related impacts in Kent County and the United States, which affect quality of life. While building new roads and widening highways can provide some initial congestion relief, such measures are expensive, have environmental and community impacts, might encourage further undesirable growth patterns, and rarely solve congestion problems over the long term. Therefore, rather than continued, widespread expansion of roadways, planning practices such as "sustainability," "right-sizing," and "smart growth" have emerged as ways to counter the unmanaged land development pattern commonly referred to as sprawl. Sustainable development trends also help reduce greenhouse gas emissions. Transportation has a large role in realizing the benefits of these sound planning practices.

Sustainable development is not just "smart," it is essential in order to accommodate growth in ways that will support economic development while maintaining the county's cultural and natural resources without bankrupting its citizens. In a broad sense, sustainability is viewed as an approach to planning that focuses on the long term — essentially, using long-term strategies to best meet present and future needs. In finding this balance, a number of factors are considered, including:

- Preserving quality of life.
- Protecting the natural environment.
- Preserving rural character and farming traditions.
- Growing in a compact manner to preserve open space, clean air, and community appeal.
- Taking advantage of existing investments in transportation and sewers.
- Fostering citizen involvement.
- Providing economic opportunity for citizens.
- Understanding and shifting away from polluting and wasteful practices.

When planning for the future, these factors can be applied during planning, design, construction, and operation of the transportation system. Some examples of incorporating sustainability include:

- Increasing collaboration between transportation agencies and other entities responsible for land use, environmental protection, and natural resource management to foster more integrated transportation-land-use decision-making.
- Reconstructing facilities in highly vulnerable locations to high design standards.
- Providing redundant power and communications systems to ensure rapid restoration of transportation services in the event of failure.
- Treating wastewater and runoff in a long-term environmentally-responsible way.
- Using alternatives to road salt and roadside herbicide treatments for weeds that are less harmful to the environment.
- Fostering growth in less environmentally sensitive areas.

The concept of sustainable development is inherent to the plan's vision, themes, goals, and objectives discussed in Chapter 2.

Coordinated land use and transportation planning requires the participation of all stakeholders. Kent County, the MPO, the county's 20 municipalities, DelDOT, and the State of Delaware must be committed to growth in a coordinated manner. These entities need to work together so that land development complies with state land use policies and investment strategies while reflecting local goals and objectives. Understanding the transportation-land-use connection in a local, multi-municipal, and county-wide context is critical in determining the extent to which DelDOT will be able to provide future transportation facilities and services to ensure mobility and economic viability. To that end, three new concepts/policies are included in this plan — Complete Streets, Transportation Investment Districts and Transit-Ready Development.

1.1.3 Complete Streets

Roadways are the primary means by which people travel from one place to another, but historically, many roadways have been built with only automobile users in mind. As a consequence, many streets and highways actually act as an impediment to travel by other means such as walking, bicycling, or transit. Further, streets that are solely automobile-oriented often result in environments that are not conducive to the formation and preservation of quality, livable neighborhoods; business districts; and recreational areas.

The concept of "complete streets" is for roadways to be designed and operated with all users in mind. While there is no single design or "recipe" for what complete streets should look like, such roadways should provide safe access and quality environments for not only motorists, but also pedestrians, bicyclists, and public transit users. Users of all ages and abilities should be able to move safely along and across a complete street. Complete streets can be achieved by requiring that all user groups be considered when new streets are constructed, when existing streets are expanded, or through the redesign of existing streets with the primary objective of increasing their usefulness for additional user groups. Establishing street design standards that meet the objectives of the complete streets concept is also financially responsible, as it avoids the need to later retrofit existing streets to accommodate all users.

Many states have passed laws requiring their DOT to include bicycling and walking facilities in all of its urban-area projects. While no such law exists in Delaware, encouraging the development of complete streets is a priority for the MPO and county.

Further explanation on recommended actions for complete streets is provided in Chapter 5.

1.1.4 Transportation Improvement Districts (TIDs)

The County Comprehensive Plan also introduces the concept of Transportation Improvement Districts (TIDs) to geographically show the developing areas where the transportation system must be integrated with land use and significant investment in the transportation system is required. In the 11 TIDs that are currently identified, Kent County, DelDOT, the MPO, and the community will develop a plan for transportation improvements including road upgrades, interconnection of local roads, and bicycle and pedestrian facilities. The intent of these districts is to create a transportation network where

residents can rely upon interconnected local roads for everyday needs, including work, school, and recreation. TIDs in Kent County are intended to be drivable, walkable, safe and comfortable, with part of the corridors able to accommodate future transit service.

Additional discussion on how TIDs will be used to focus transportation investments can be found in Chapter 5.

1.1.5 Transit-ready development

Transit-oriented development and transit-ready development are two similar concepts which differ by whether or not transit is already present in the community. While transit-oriented development, or TOD, is built around existing transit stations or corridors, transit-ready development prepares for future transit service with neighborhoods and road networks designed for maximum efficiency of all transportation modes.

Development centered around transit is typically built in a more compact manner, within easy walking distance of transit stations (on average a quarter mile) that contains a mix of uses such as housing, jobs, shops, restaurants, and entertainment. Similar to TOD, transit-ready development is planning for development that can easily be served by and will be ready to take advantage of the markets created by future transit service.

Strategies for transit-ready development also address how new development in greenfield or existing suburban sites can be adjusted to incorporate transit-friendly concepts. The MPO advocates that new development be designed in a way that allows for future transit accessibility by identifying proposed future corridors for fixed route transit.

The benefits of well-planned transit-ready development are that it creates compact, walkable communities, with direct access to transit. Transit-ready development also interacts with other concepts discussed in this plan such as Complete Streets and Transportation Improvement Districts.

Key elements of transit-ready communities include:

- A mix of land uses and diversity of housing types, putting services in easy reach of residents;
- Pedestrian-friendly layout with sidewalks buffered from traffic by planting strips with street trees;
- Appropriate locations and routes for transit factored into future plans;
- An "urban" street grid (providing plenty of connections rather than cul-de-sacs);
- Public facilities designed as transit destinations.

1.2 Overview of the Planning Process and Plan Update

This update to the RTP reviews the assumptions and priorities developed and adopted in 2005. The content and focus of this update is similar to the 2005 plan and previous versions, continuing to incorporate key planning principles and policies, along with associated strategies and actions to be pursued by the MPO, DelDOT, and planning partners over the life of this plan.

1.2.1 Federal Planning Factors

Both the Mobility Element of the County Comprehensive Plan and this RTP update have been developed to comply with federal and state laws, rules, and policies intended to ensure that land use and transportation planning occur in a coordinated and rational manner. The development of this document was guided by USDOT's Federal Planning Factors and the state's Livable Delaware Agenda.

The Federal Highway Administration's (FHWA's) statewide planning requirements include factors that long-range plans must address. These "Planning Factors" are contained within the metropolitan and statewide planning provisions of SAFETEA-LU. These federal Planning Factors stipulate that long-range transportation plans must:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- Increase the safety and security of the transportation system for motorized and non-motorized users;
- Increase the accessibility and mobility of people and for freight;
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns;
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- Promote efficient system management and operation; and
- Emphasize the preservation of the existing transportation system.

1.2.2 Air Quality Analysis

The Clean Air Act is the comprehensive federal law that regulates emissions from sources such as cars, trucks, buses, farm equipment, and factories. It was first adopted in 1970, in recognition of air pollution damage to trees, crops, plants, lakes, and animals, as well as to human health. The young, elderly, and those with respiratory conditions such as asthma and emphysema are especially vulnerable to the effects of air pollution. The Clean Air Act Amendments of 1990 have placed significant controls on the planning of transportation programs and facilities.

According to the U.S. Environmental Protection Agency (EPA), motor vehicles are responsible for nearly one-half of smog-forming volatile organic compounds (VOCs), more than one-half of nitrogen oxide (NOx) emissions, and about one-half of toxic air pollutant emissions in the U.S. Motor vehicles, including off-road vehicles, now account for 75 percent of carbon monoxide (CO) emissions nationwide.[1]

The entire State of Delaware is contained within the Philadelphia-Wilmington-Atlantic City non-attainment area for ozone. This requires any or all three counties (Kent, Sussex, and New Castle) to demonstrate that transportation activities are in line with air quality goals (known as "transportation conformity") when: the existing long-range plan is updated or revised; a regionally significant project is added to the existing or proposed TIP; EPA

[1] US EPA, 2007

approves a new State Implementation Plan (SIP) that creates or revises on-road mobile source emissions budgets; or four years has elapsed since the last determination.

LRTP, TIP, and State Transportation Improvement Plan (STIP) approvals are contingent on the successful demonstration of transportation conformity. Approved plans are then authorized to program federal transportation funding for projects within the TIP or STIP. Failure to successfully demonstrate transportation conformity would make the entire state liable to a conformity lapse.

Emissions testing is currently conducted in Kent and New Castle counties. The Department of Natural Resources and Environmental Control (DNREC) sets the emissions standards for vehicles and the Division of Motor Vehicles (DMV) administers the vehicle inspection program. Under the current guidelines for these two counties, if a vehicle fails an emissions test, the owner must have the emissions-related repairs performed before being retested. Satisfactory completion of the test requirements is necessary before vehicle registration renewal. Waivers are currently allowed when all of the following apply:

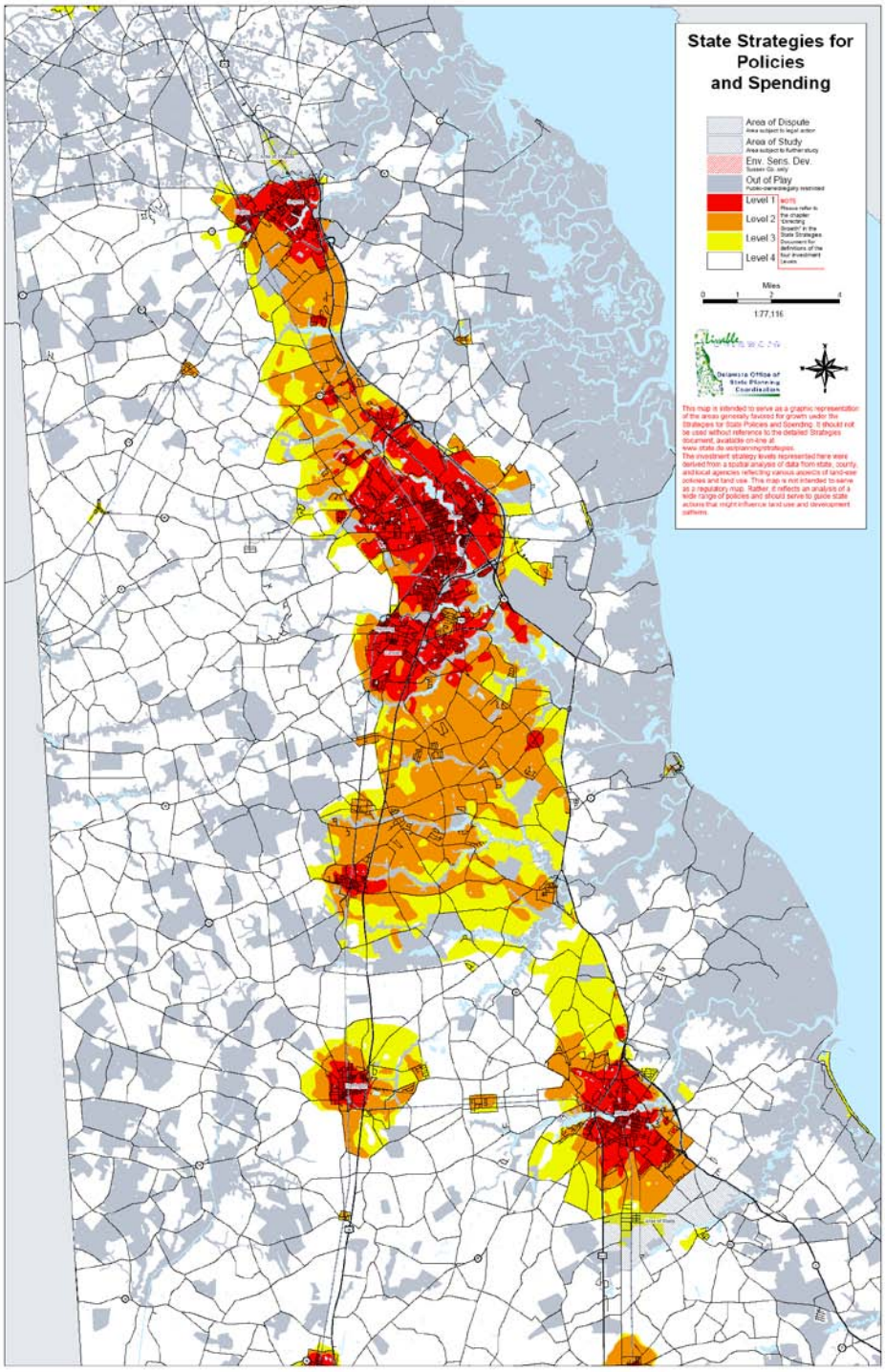
- The vehicle failed the exhaust emissions test two or more times.
- Engine parameters are set to manufacturer's specifications.
- Repair costs exceed $760.
- The vehicle did not fail for visible smoke or missing emissions control equipment.

At the present time, inspection/maintenance testing in Kent and New Castle counties includes a feature called On-Board Diagnostics (OBD). The OBD test procedure is a much more accurate and complete evaluation of the vehicle's operating parameters than traditional emissions testing and produces a much more precise measure of actual emissions. This more precise testing method generates emissions credits that may be used to allow construction of much needed congestion management and expansion projects throughout the county.

1.2.3 State Strategies for Policies and Spending

In 1999, the Delaware Cabinet Committee on State Planning Issues approved the State Strategies for Policies and Spending (State Strategies); in 2004, the State Strategies were comprehensively updated. The State Strategies describe Delaware's approach to making the most cost-effective investments in state-funded infrastructure, programs, and services as a means of promoting efficient development and eliminating sprawl, protecting the environment, and efficiently using natural resources.

Exhibit 1.1: State Strategies for Policies and Spending for Kent County



The State Strategies map shown in **Exhibit 1.1** is a graphic representation of this approach that identifies the areas best suited for the various levels of investment. Together, the State Strategies and the State Strategies map guide state agencies as they make their investment decisions, and guide how the state will review and comment on county and municipal comprehensive plans and specific land use decisions. These documents also define how

county and municipal governments should coordinate regarding infrastructure and other development.

More detail on these strategies can be found at
http://stateplanning.delaware.gov/strategies/strategies.shtml.

1.2.4 Livable Delaware

In 2001, Governor Minner announced the Livable Delaware Agenda (the Agenda), which focused on identifying and adopting the laws, policies, and programs needed to implement the State Strategies. The Agenda is a proactive strategy that aims to curb sprawl and direct growth to areas best suited for it in terms of infrastructure investment and planning at all levels.

More information on Livable Delaware can be found at
http://stateplanning.delaware.gov/livedel/default.shtml.

The Governor's Livable Delaware Agenda was signed into law with Executive Order 14, which required state agencies to develop plans describing how their budgets, programs, and policies would be used to implement the State Strategies and conform to the principles of the Agenda.

The Agenda was further refined and strengthened by House Bill 255 and Senate Bill 65. House Bill 255, signed into law in July 2001, requires local governments to adopt comprehensive plans, stipulating that future growth areas for annexation be included in the plan and that the rezoning needed to support that plan be completed within 18 months of plan adoption.

Senate Bill 65, which was signed into law in July 2003, replaced the Land Use Planning Act (LUPA) with the Preliminary Land Use Service, or PLUS process. Under LUPA, state agencies would comment on discrete development plans, often toward the end of the development review process. This placed private developers at greater risk than necessary, needlessly slowing down the local review and approval process and not always encouraging early consideration of transportation and land use linkages. Development reviews conducted under LUPA also made it difficult to reconcile competing comments from different state agencies. The PLUS process now provides for early reviews of development proposals by all state agencies involved with development approvals. It also enables the state to speak with one voice and to provide more timely and thoughtful reviews. Moreover, it provides for the early consideration of state and local needs associated with development, including those needs related to transportation facilities and services.

The state and county continue to work to implement community development strategies that provide incentives for new growth to occur in desired areas through the Livable Delaware initiative.

1.2.5 Corridor Capacity Preservation Program

The Corridor Capacity Preservation Program (CCPP) was established in 1996 to preserve selected existing transportation facilities. CCPP policies support an explicit linkage between land use and transportation through plans working in concert toward the goal of creating a more "livable Delaware." The program seeks to extend a corridor's capacity and usefulness without expanding travel lanes. Two corridors in Kent County have been included in the program: State Route 1, south of Dover Air Force Base and U.S. 13, south of DE 10.

The program sets forth five primary goals:

- Maintain an existing road's ability to handle traffic safely and efficiently.
- Coordinate the transportation impacts of increased economic growth.

Preserve the ability to make future transportation-related improvements.

- Minimize the need to build an entirely new road on a new alignment.
- Sort local and through traffic.

By achieving these goals, the program requires that roadway corridor nominations be a part of DelDOT's Statewide Long-Range Transportation Plan, and that the public be given an opportunity to review and comment on roadway nominations. By adopting additional corridors in the program, the county can help ensure that selected roadways will meet their crucial transportation functions in the future, and keep transportation options open before they become limited by development projects.

1.2.6 Local Comprehensive Plan Updates

Three comprehensive plans have been updated or amended to accommodate planned growth since completion of the previous RTP in 2005, and are summarized below:

1.2.6.1 City of Milford Comprehensive Plan 2003 Update (amended 2006)

The City of Milford Comprehensive Plan was updated in 2003, with the most recent amendment in 2006. The plan update is based on continued and directed growth; however, it is not intended to promote accelerated growth or to coerce annexation. Amendments continue the plan's four principles of encouraging a growing and diversified economy, providing appealing and affordable housing, recognizing the Mispillion River as a valuable environmental and economic asset, and promoting the city's unique look and cultural resources.

The city has developed a Land Use Plan/Annexation Plan since annexation is an attractive option to the city. Regional transportation projects would also be referenced in annexation agreements. The Annexation Plan anticipated annexation requests for approximately 4,500 acres in the 2005 amendment. Within Kent County, approximately 1,800 of the total acres were anticipated for annexation within a five-year planning period. Four anticipated growth areas west, northwest, north, and northeast of Milford were identified.

1.2.6.2 City of Dover Comprehensive Plan Update (2003, amended 2005)

The Dover Plan: *From the People – For the People* was originally adopted as the 1996 Comprehensive Plan. The plan was updated in 2003 due to new growth pressures and development conditions in the city. The plan was also updated to comply with state regulations and allow for annexation of property.

The growth and annexation plan and map of the Comprehensive Plan were amended in May 2005. Between 1996 and 2003, approximately 59 acres were annexed to the city. Several of the parcels were located along US Route 13. The City of Dover is located within Kent County's Growth Overlay Zone as delineated in the zoning ordinance. The Annexation Plan notes lands in three categories: 1) identified for annexation, 2) desirable for annexation, and 3) to be evaluated for annexation. Additionally, the "Areas of Concern" are identified.

1.2.6.3 Town of Smyrna Comprehensive Plan (2002, updated 2005)

The 2002 update to the Comprehensive Plan for the Town of Smyrna, Delaware, was adopted in 2003 revising the original 1988 plan, as amended in 1997. The 2002 review and amendment to the town's plan provides updated information on existing land use, growth, and development issues, and on population and economic trends. It also updates the 1997 plan by adding an annexation plan element to bring the comprehensive plan into compliance with state planning statutes.

The principal goals for growth are to achieve a steady rate of planned growth while allowing for the efficient expansion of public services in the urbanized area and ensuring the maintenance of the essential character of the community. Since 2000, approximately 1,075 acres have been annexed north and south of the town within the plan's defined growth area. Further annexation is suggested for areas that are surrounded by the town. Properties adjacent to the town would be considered on a case-by-case basis.

1.2.7 Travel Demand Modeling

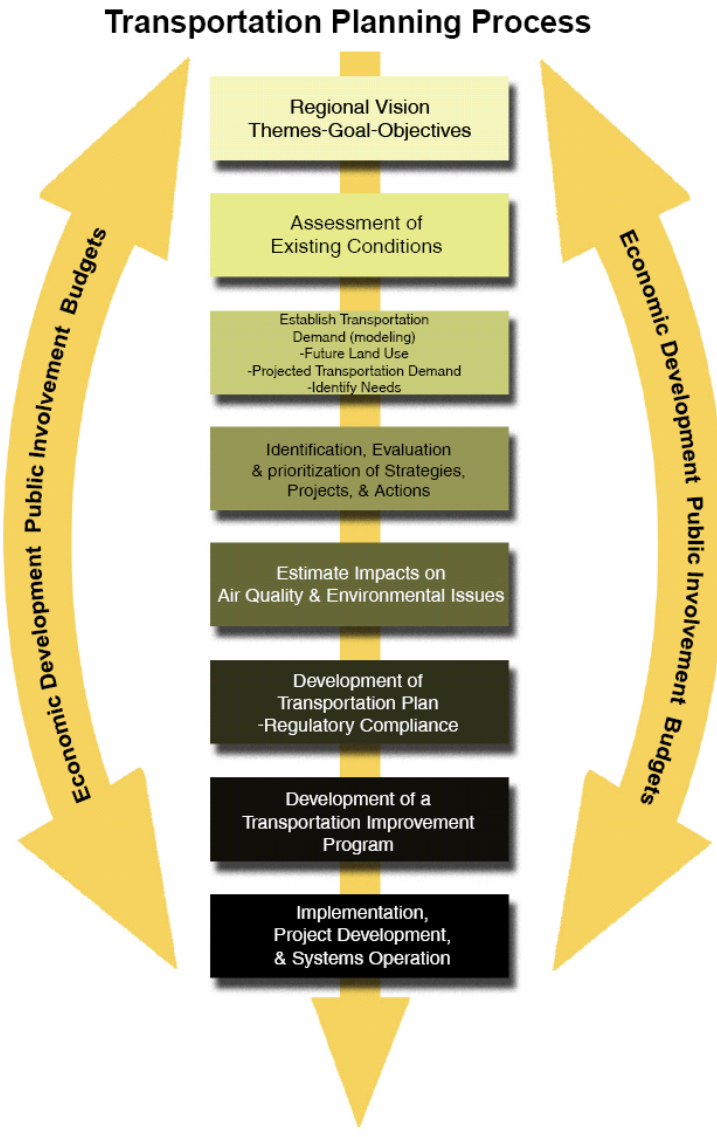
As an update to the 2005 RTP, this plan inventories changes in the transportation system between 2005 and 2007, identifies changes in future needs-based traffic forecasts and expected travel conditions projected by DelDOT's travel demand model, and presents a revised list of actions to attain the common vision that is set forth. The needs assessment is based on updated 2007 population and employment estimates from the 2000 U.S. Census, updated by the Delaware Population Consortium. It also reflects input received from various committees within the region, including input from the MPO's Technical and Public Advisory Committees (TAC andPAC), the MPO Council, and the general public.

For the 2005 plan, the Dover/Kent County MPO utilized a land use model, known as CORPLAN, in conjunction with DelDOT's transportation model, TRANPLAN, to successfully integrate land use and transportation planning efforts. The community-based planning model (CORPLAN) estimated regional land development potential. TRANPLAN was used to compare the travel conditions and impacts associated with a preferred scenario for future development along with two alternative scenarios. The long-range planning study area includes all of Kent County, the southern portion of New Castle County, and the northern portion of Sussex County.

The outline of this RTP update reflects the steps taken to prepare this document as well as the basic steps of the long-range planning process. These steps were taken in the development of the 2005 RTP and are consistent with DelDOT's Statewide Long-Range Transportation Plan, last completed in 2002, with an update expected in 2008. These steps are below and in **Exhibit 1.2**.

- Develop a vision for the future based upon input from various community stakeholders.
- Monitor existing conditions.
- Forecast future population and employment growth.
- Assess projected land use in the region and identify the demand for transportation services over a 20-year planning horizon.
- Identify problems and needs associated with various transportation services and improvements.
- Develop capital and operating strategies.
- Estimate the impact of the transportation system on air quality.
- Develop a financial plan.
- Prepare an implementation plan to guide decision-makers with respect to transportation improvements.

Exhibit 1.2: Transportation Planning Process

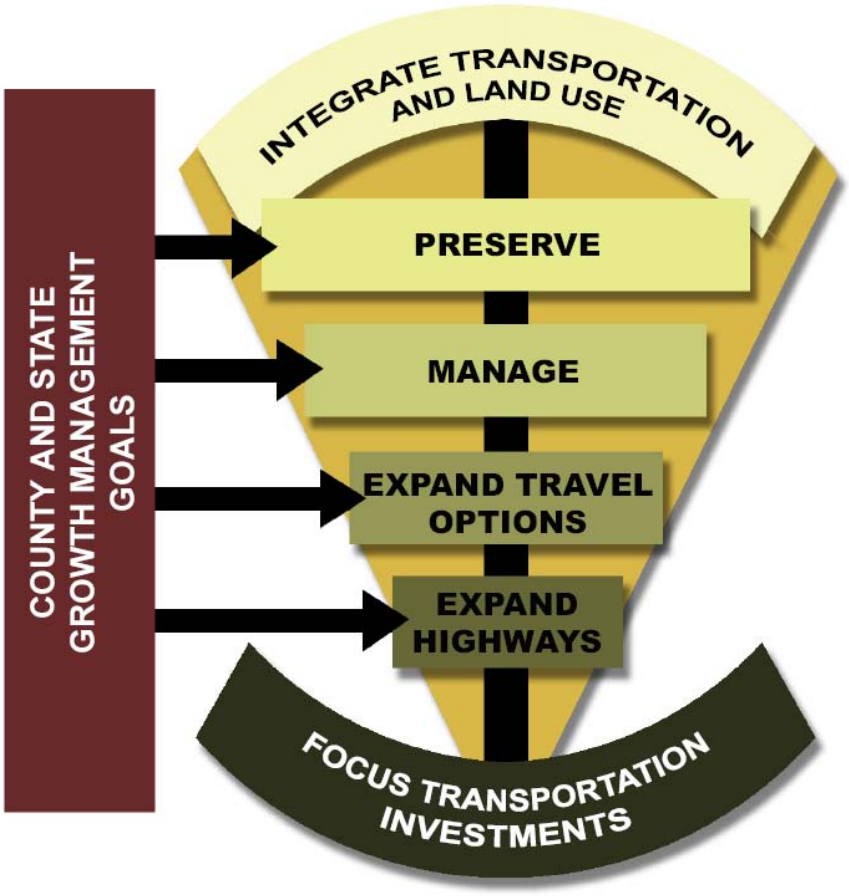


1.2.8 Relationship between Vision, Themes, Goals, Objectives, Strategies, Actions

There is no one policy, project, or action that will meet all the future needs of the planning area. Rather, the fundamental strategies outlined in this update will serve to guide decision-making for transportation investments. This approach is aligned with the State's Livable Delaware Agenda and the county's and municipalities' long-range plans. The policies articulated in all plans, including this plan, set up a hierarchy for making future transportation investments and are related to the Federal Planning Factors. The strategies are:

- Preserve the existing system.
- Manage the system efficiently.
- Expand travel options beyond the private automobile.
- Expand the highways system when needed.
- Focus transportation investments to complement county and state growth management goals (integrate transportation with land use).

Exhibit 1.3: RTP Strategies



These strategies will continue to provide the basis for project identification and evaluation and all other actions. The actions are multimodal, including transit, bicycle and pedestrian facilities, aviation and rail facilities, and highway improvements. They are intended to complement one another to provide an efficient transportation system that offers a wide range of options.

2. The Vision

2.1 2030 Vision – "Moving Forward Together"

The vision statement has remained fundamentally unchanged since the MPO's first plan was adopted in 1996. Most changes have evolved from federal requirements than shifts in community vision. The vision still revolves around safety and security, quality of life, economic development and access and mobility.

The RTP vision statement was reviewed in light of the Comprehensive Plan's vision statement, just as the areas of emphasis and policy recommendations provided in the Comprehensive Plan were considered as the RTP recommendations were updated. Both plans focus on creating and maintaining sustainable communities and preserving the natural resources that contribute to the county's unique character. When considered together, both plans serve to direct public investment in infrastructure in a manner that protects resources while allowing for economic opportunity.

2030 Vision – *"Moving Forward Together"*

The future transportation system in the Dover/Kent County metropolitan region is safe, supports economic development, allows easy access and mobility for people and goods to reach their destinations, and serves desired growth patterns. The transportation system serves the public's needs, simultaneously reinforcing the unique character and quality of life of each community while preserving the region and its natural resources.

The RTP's Vision is categorized into five major themes or principles around which the goals and objectives are based:

1. Economic Development
2. Quality of Life
3. Growth Management/Land Use Coordination
4. Access, Safety, Security, and Mobility
5. Transportation Network (Infrastructure)

2.2 Themes, Goals, Objectives

Theme 1: Economic Development

Goal: Strengthen the local economy.

Objectives:

- **Support business retention and creation of high quality employment** by investing in transportation improvements.
- **Provide businesses with adequate access to labor** by encouraging affordable, multimodal transportation options.
- **Reduce the expense and time delays of shipping and receiving freight** by enhancing access to retail and industrial areas and improving the interconnectivity of all modes of the transportation network.
- **Ensure community cohesion** by appropriately connecting developed areas with target growth areas for new development.

Theme 2: Quality of Life

Goal: Improve quality of life.

Objectives:

- **Protect, preserve, and enhance natural, historic, and cultural resources** by managing the existing transportation system and making transportation investments that protect, preserve, and enhance these valued community resources.
- **Support healthy lifestyles, choices, and opportunities** by providing facilities such as sidewalks, multi-use paths, and bikeways as part of both transportation and land development projects.
- **Promote context sensitivity** by developing transportation improvements that minimize environmental impacts and promote improved quality of the environment.
- **Provide aesthetic value** by incorporating aesthetic and non-vehicular improvements in transportation investments.
- **Reduce air, water, and noise pollution** by accommodating less-polluting travel options such as walking, bicycling, transit, and use of alternatively-fueled and low emission vehicles.

Theme 3: Growth Management/Land Use Coordination

Goal: Support desired land use and effective growth management.

Objectives:

- **Identify desired land use patterns** by developing and routinely updating comprehensive land use plans that identify regional growth boundaries.
- **Integrate land use with transportation** by improving coordination between land use and transportation planning and project development in order to establish and maintain a transportation network that supports anticipated needs within growth areas.
- **Foster growth and development** by providing a variety of safe, convenient, and affordable transportation alternatives that support preservation of agricultural lands, open space, and other valued community resources.

- **Provide transportation alternatives** by planning, designing, and implementing an integrated transportation network.

Theme 4: Access, Safety, Security, and Mobility

Goal: Improve access and mobility while ensuring the safety and security of all citizens.

Objectives:

- **Improve mobility** by reducing dependence on a single mode of transportation.
- **Provide an integrated transportation system, enhancing accessibility and mobility** by including interconnected modes of travel including transit, pedestrian and bicycle facilities, car, truck, commuter rail, and freight.
- **Provide access to transportation services for people with special needs** *(disabled, elderly, etc.)* by making system enhancements and expanding services.
- **Improve accessibility, mobility, and safety** by prioritizing the maintenance and improvement of heavily-utilized corridors to enhance the free flow of goods and people.
- **Improve safety** by expanding driver training and safety awareness.
- **Enhance security** by taking actions to ensure the uninterrupted operation of vital transportation services.

Theme 5: Transportation Network (Infrastructure)

Goal: Safely and efficiently transport people and goods.

Objectives:

- **Preserve and expand the existing transportation infrastructure** by focusing on facility maintenance and expansion to maximize its performance, capacity, and life cycle.
- **Promote the use of technology to enhance the transportation system** by planning, designing, and implementing innovative transportation solutions.
- **Ensure adequate transportation facilities** by making safety improvements an essential aspect and prioritizing maintenance of the transportation network.
- **Establish aesthetically pleasing and cost-effective transportation facilities** by utilizing innovative techniques and materials that result in context-sensitive solutions that require minimal maintenance.
- **Improve efficiency and safety of the existing system** by the use of technology, maintenance, and management.
- **Direct or focus transportation investments** in a manner that promotes sustainable development within designated areas.
- **Direct or focus transportation investments** by using Transportation Improvement Districts (TIDs) to promote sustainable development within these designated areas.

These themes or principles provide the basis for a regional vision of a safe, efficient, and affordable transportation system. The vision, supported by regional goals and objectives, provides a description of a desired setting for the future of the region. This setting provides the basis for decision-making in the metropolitan area with respect to transportation and land use. **Exhibit 2.1** illustrates how the vision, themes, goals, objectives, strategies, and actions are linked to each other.

Exhibit 2.1: RTP 2030 Vision

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3. Current Transportation System Overview

This chapter includes an assessment of the existing transportation system in Kent County; the baseline conditions for identifying future transportation investment needs. The various elements of the county's transportation system are reviewed by mode and presented in this chapter. The elements of the system include existing roads and bridges, public transportation, bicycle and pedestrian facilities, railroads, aviation, and marine facilities. Where applicable, the county's system is compared to the State of Delaware's overall system. To the extent known, this chapter presents the changes that have occurred to the existing system since the previous plan.

The Highway Performance Monitoring System (HPMS) is a national database that assists metropolitan planning organizations and other government agencies in assessing highway condition, performance, air quality trends, and future investments for the functional classification of roadways. These standards were used to assess the conditions and future needs of the county's highways.

3.1 Roads and Bridges

Kent County is served by State Routes SR 1 and DE 6, 8, 9, 10, 12, 14, 15, 44, and 300, and US Routes 13 and 113. (There is no real difference in actual nomenclature between SR and the DE's. The custom has been to acknowledge SR 1 as such to differentiate its function.) These routes connect the cities of Dover, Smyrna, and Milford in Kent County, and provide access to New Castle and Sussex counties in Delaware, and the State of Maryland, as seen in **Exhibit 3.3**.

According to the State of Delaware, Kent County accounts for 23.5 percent of the total route[1] miles in the state. New Castle and Sussex counties comprise the balance of 76.5 percent of the state, as seen in **Exhibit 3.1**. The roadway system serving Kent County in 2006 had 1,459 route miles of roadway and 3,074 lane[2] miles of roadway, as seen in **Exhibit 3.2**. There was an increase of 96 route miles from 2003 to 2006, an increase of seven percent, with the majority of this increase during this period seen in freeways and expressways.

Exhibit 3.1: Roadway Route Miles and Density by County (2006)

	Route Miles	Area (Square Miles)	Roadway Density
New Castle County	2,355	426.3	5.52
Kent County	1,459	590.7	2.62
Sussex County	2,304	937.7	2.46
State of Delaware	6,118	1,955	3.18

Sources: Dover/Kent County Metropolitan Planning Organization and DelDOT, 2006

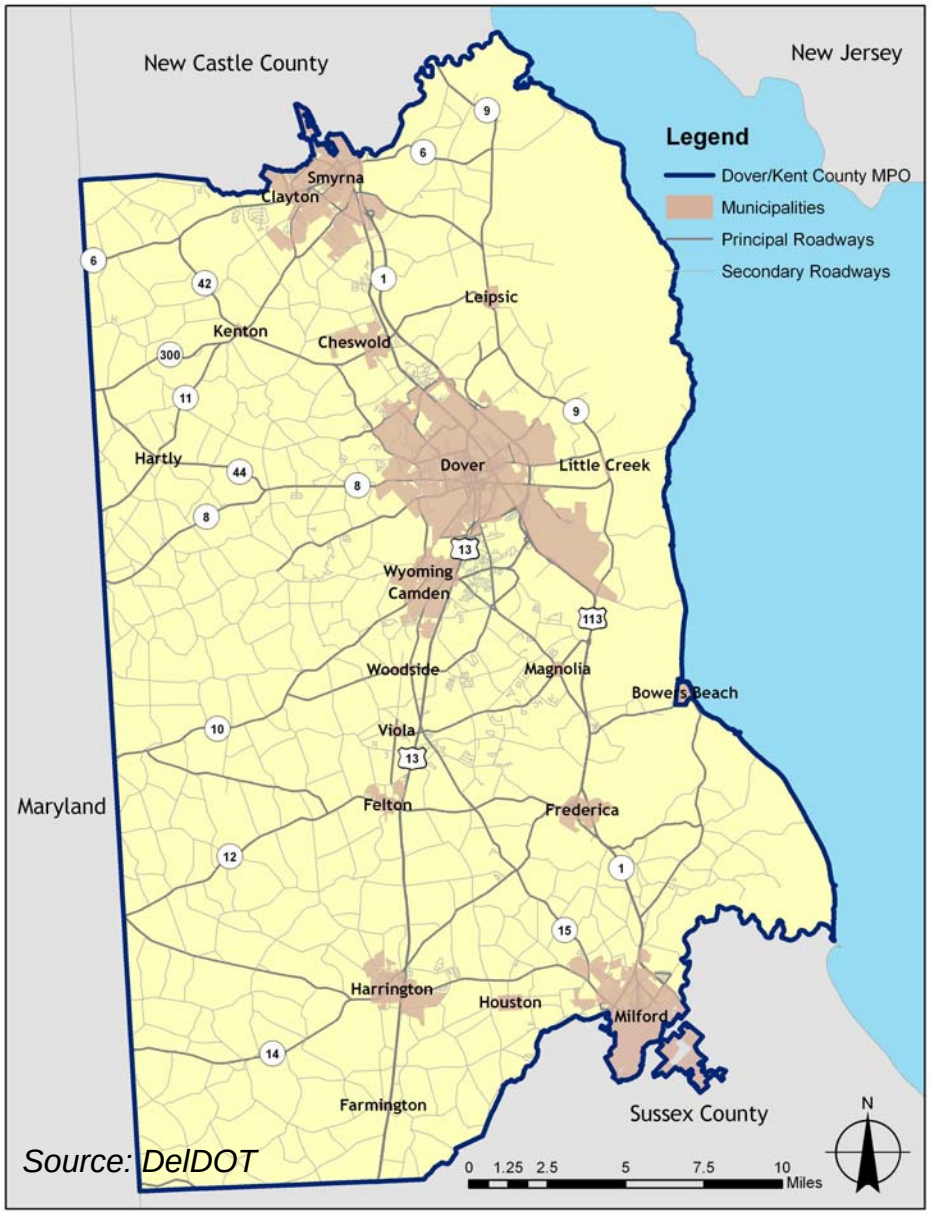
[1] Length of roadway, regardless of the direction or number of lanes.
[2] Length of roadway, where every lane counts separately in mileage calculation.

Exhibit 3.2: Kent County Roadway Mileage by Functional Classification (2006)

Functional Classification	Route Miles	Percent of Total	Lane Miles	Percent of Total
Freeway and Expressway	17.04	1.17%	72.36	2.35%
Other Principal Arterials	43.15	2.96%	171.18	5.57%
Minor Arterials	106.53	7.30%	264.11	8.59%
Collectors	274.63	18.82%	550.53	17.91%
Local	1,017.79	69.75%	2,015.97	65.58%
Total	1,459.14	-	3,074.15	-

Source: Dover/Kent County Metropolitan Planning Organization, 2006

Exhibit 3.3: Kent County Roadways



3.1.1 Functional Classification

Functional classification is a system of categorizing roadways based on their character and purpose; their function. Functional classification determines the design standards for a roadway, and provides a means of identifying where roadways need to be improved to meet design standards.

The county's functional classification was updated by the Delaware Department of Transportation (DelDOT), and most recently approved by the Federal Highway Administration (FHWA) on December 28, 2005. Classifications include interstate, freeways and expressways, other principal arterials, minor arterials, major and minor collectors, and local routes. Kent County's roadways include all classifications except interstate highways;. none are located within Kent County. The descriptions of functional classifications are as follows:

- *Interstate* – Interstate routes are designated as part of the National System of Interstate and Defense Highways. These are high-speed, primary travel routes connecting metropolitan areas, cities, and industrial centers. Interstate routes do not directly provide access to adjacent land, interconnecting instead primarily with other higher classifications of routes. As stated, there are no roadways classified as interstate in Kent County.

- *Other Freeways and Expressways* – Routes designated as other freeways and expressways are only present within urbanized areas. These are high-speed, primary travel routes that serve metropolitan cities and industrial areas. Freeways and expressways interconnect primarily with other higher classifications of routes, such as interstates. Freeways and expressways in Kent County include SR 1 in the urbanized areas, and make up 1.17 percent of the county's roads.

- *Other Principal Arterials* – Principal arterial routes serve major centers of activities and urban areas. They are the highest traffic volume corridors with long trip lengths, and are links between the higher and lower classifications. Access to adjacent properties is generally allowed from principal arterials, though access may be regulated. Kent County has approximately 43.15 miles of principal arterials, representing 3 percent of the county's roads.

- *Minor Arterials* – Minor arterials are routes that interconnect principal arterials and provide access to smaller developed areas linking cities and towns. Minor arterials in Kent County include SR 8, SR 15, SR 14, SR 10A, portions of US 13 and US 13A, SR 44, and SR 300. These routes comprise 7.3 percent of roadways in Kent County.

- *Collectors* – Collector routes are divided into major and minor routes. Major collectors are present in urbanized areas, while minor collectors are only present in rural areas. Collector routes provide land access and collect traffic from lower classification roadways, channeling them to the higher

classification roadways. These routes comprise the majority of State Routes in the county, making up 18.8 percent of the county's roadways.

- *Local* – Local routes provide direct access to land and links to the higher classification routes. Local routes have the lowest volumes of traffic and short trip lengths. These routes consist of all roads not designated at higher classifications. Kent County has 1,017.79 miles of local roads. The majority of roads, 69.8 percent of those in the county, are classified as local.

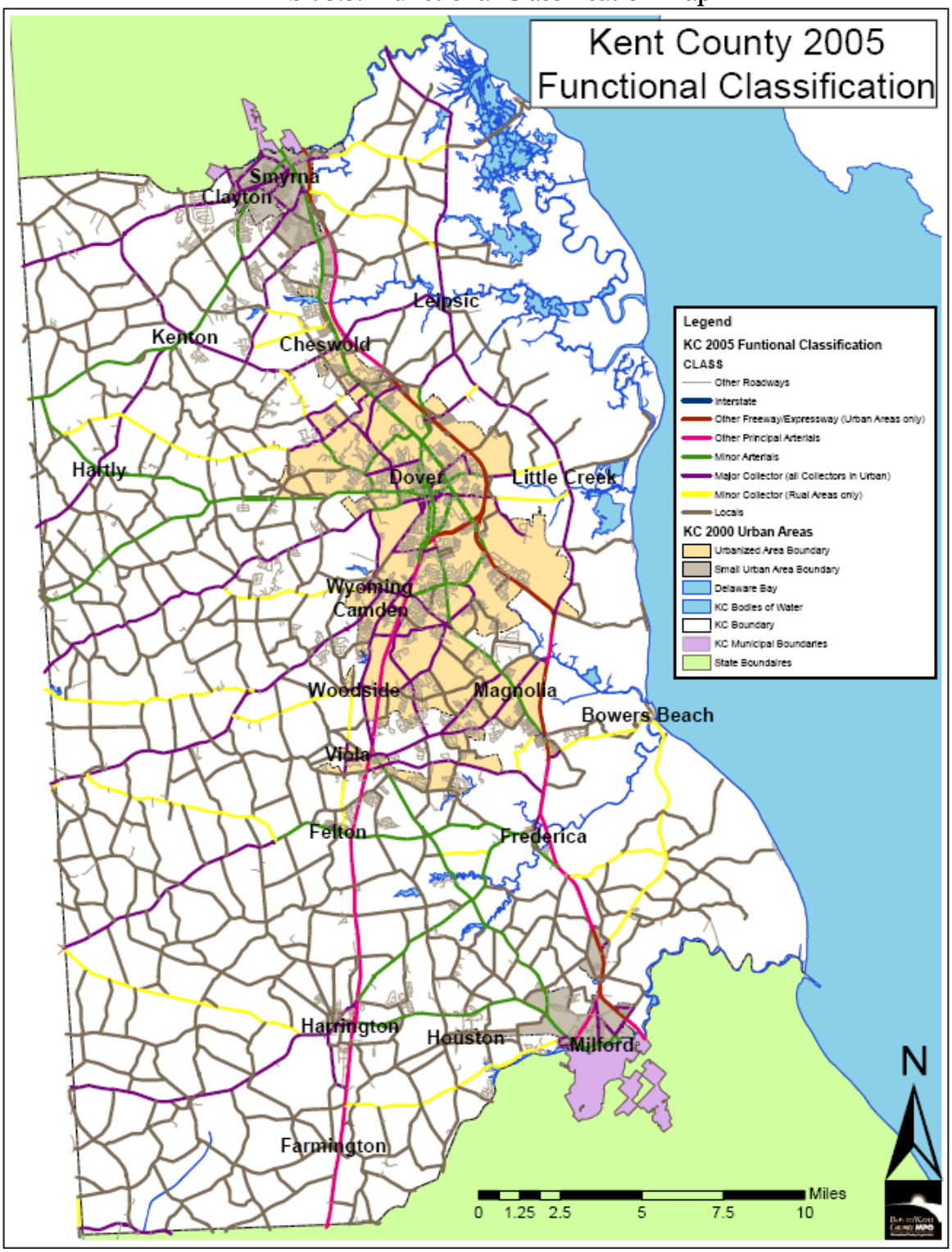
Exhibit 3.4 illustrates route miles and annual vehicle miles traveled (VMT), by functional class in Kent County as of 2006. In 2006, the largest increase in the percentage of total route miles was in minor arterials. Other routes remained similar to 2003 route mile percentages.

Exhibit 3.4: Roadway Functional Classification by Route Miles and Vehicle Miles Traveled (VMT)

Functional Classification	Route Miles				VMT (millions)	
	1999	2003	2006	% of Total (2006)	2006	% of Total
Freeway & Expressway	0	9.75	17.04	1.2%	526.39	11.4%
Other Principal Arterials	57.8	50.44	43.15	3.0%	1,257.57	27.3%
Minor Arterials	76.44	76.64	106.53	7.3%	1,271.82	27.6%
Collectors	267.17	266.23	274.63	18.8%	735.451	16.0%
Local	941.49	960.42	1,017.79	69.8%	810.16	17.6%
Total	1,342.90	1,363.48	1,459.14	-	4,601.39	-

Source: Dover/Kent County Metropolitan Planning Organization, 2006

Exhibit 3.5: Functional Classification Map



Source: Dover/Kent County MPO

3.1.2 Surface Type and Lane Width

Two important physical characteristics of roadways are surface type and lane width. Kent County's roadways have several different types of surfaces, ranging from unpaved to Portland cement concrete pavement. The pavement design is typically a function of volume,

truck percentage, and life cycle costs. The majority of the county's arterials and major collectors have a concrete pavement or a combination of concrete pavement with a hot-mix overlay. The majority of minor collectors, local roads, and suburban development streets have a flexible hot-mix or surface treatment.

The width of a travel lane is based upon the design speed and type of traffic (particularly the presence of trucks), the environment or context in which the roadway is located, and available sight distances. While width has little to do with safety at lower speeds, the travel lane width also affects the ability of pedestrians and bicycles to interact safely with motor vehicles. Wider lanes provide for more space and reduce the level of friction created by passing bicyclists in the roadway. Wider lanes also create a greater amount of recovery room for motorists who lose control of their vehicles at higher speeds. However, wider lanes can also entice motorists to travel at greater speeds than they would otherwise, on more narrow roadways. A wider lane increases the amount of time needed for a pedestrian to cross a road. Lane widths are critical to the expected type and desired speed of roadway users. **Exhibit 3.6** presents a representative sample of lane width by functional classification for 2007.

Exhibit 3.6: Kent County Lane Width by Functional Classification (2007)

Functional Class	Percent of Lane Miles					
	< 9' Wide	9' Wide	10' Wide	11' Wide	12' Wide	> 12' Wide
Interstate/Freeway	0	0	0	0	30	70
Other Principal Arterials	0	0	0	1	45	54
Minor Arterials	0	0	14	7	60	19
Major Collectors	0	3	30	35	19	13
Minor Collectors	2	9	42	36	10	1
Local	5	24	55	12	2	2
Subdivision Development	2	2	12	58	6	20

Source: Dover/Kent County MPO, 2006

3.1.3 Pavement Conditions

DelDOT's Pavement Management Section collects data on the condition of state- and federally-funded highways to establish priorities for rehabilitation. Prioritization is based on overall pavement condition; road functional class; annual average daily traffic; coordination with other construction projects; and the presence of schools, hospitals, transit routes, and other crucial public services.

DelDOT uses well-established, widely-used measures and rating techniques to monitor the physical condition of its roadways. The two key attributes of roadway condition are rideability and surface distress. Rideability relates to the comfort or smoothness experienced by a vehicle's ride. Surface distress relates to observed problems in the roadway such as cracking.

The key indicator of pavement condition adopted by DelDOT is the Overall Pavement Condition (OPC), based 25 percent on rideability and 75 percent on surface distress. **Exhibit 3.7** shows thresholds used by DelDOT for determining roadway condition. Good overall roadway conditions are indicated by an OPC greater than 60 while poor roadways are

those with an OPC less than 50. Furthermore, the state uses special "trigger values" when a segment of roadway requires special attention. Local roads have a lower trigger value of 50 while expressways have a higher OPC trigger value of 70. This is demonstrated in more detail in **Exhibit 3.8**.

Exhibit 3.7: Pavement Conditions Thresholds

Good	OPC > 60
Fair	OPC > 50 and OPC ≤ 60
Poor	OPC ≤ 50

Source: DelDOT

Exhibit 3.8: Pavement Conditions Trigger Values

Freeways and Expressways	70
Arterials and Collectors	60
Local Roads	50

Source: DelDOT

Exhibit 3.9: Pavement Conditions in Kent County, 2006[3]

Functional Class	Total Lane Miles	Good		Fair		Poor		Meets Trigger Value	
		Lane Miles	%	Lane Miles	%	Lane Miles	%	Lane Miles	%
Freeway/ Expressway	45.4	45.4	100%	0	0.00%	0	0.00%	0	0.00%
Major Arterial	81.42	74.96	92.07%	6.2	7.61%	0.26	0.32%	6.46	7.93%
Minor Arterial	124.5	119.1	95.66%	5.4	4.34%	0	0.00%	5.4	4.34%
Collector	277.5	241.14	86.90%	33.18	11.96%	3.18	1.15%	36.36	13.10%
Local	650.08	499.28	76.80%	117.61	18.09%	35.19	5.41%	35.19	5.41%
Suburban	144.17	124.89	86.63%	13	9.02%	6.27	4.35%	N/A	N/A
Total	**1,323.07**	**1,104.77**	**83.50%**	**175.39**	**13.26%**	**44.9**	**3.39%**	**83.41**	**3.64%**

Source: DelDOT

3.1.4 Bridges and Bridge Conditions

In 2006, there were a total of 307 bridges within Kent County. The number of bridges in the county has increased by 7 percent since 2003. Of the 307 bridges, 193 are 20 feet or longer, and are included on the National Bridge Inventory. Ten bridges are considered eligible for inclusion on the National Register of Historic Places (NRHP); however, none are NRHP-listed.

3.1.4.1 Structural Deficiency and Functionality

A structurally deficient bridge is required to be closed, immediately rehabilitated, or restricted to light vehicles only. A functionally obsolete bridge refers to deck geometry, load

[3] According to the previous RTP plan, total lane miles in 2002 were shown as 2,582.7. The reason for this drop is a change in DelDOT districts. The Kent County office used to maintain mileage that is now part of DelDOT's Canal district.

carrying capacity, clearance, or roadway approach alignment that no longer meets current design criteria. In 2007, eight bridges were identified as structurally deficient in Kent County.

Exhibit 3.10 shows bridge conditions in Kent County from 1999 to 2007. The number of structurally deficient bridges continues to decrease as the rehabilitation of structurally deficient bridges has reduced the number of functionally obsolete bridges over the past four years, demonstrating DelDOT's commitment to improving county bridges. The number of functionally obsolete bridges has remained approximately 4 percent. Comparing to the state overall, Kent County has a similar percentage of structurally deficient bridges, yet the state has nearly three-times the percent of functionally obsolete bridges, as can be seen in **Exhibit 3.11**.

Exhibit 3.10: Kent County Bridge Inventory (1999 – 2007)

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007
Total Bridges	**275**	**287**	**288**	**287**	**288**	**288**	**286**	**307**	**334**
Structurally Deficient	16	12	11	14	17	13	10	9	8
% of Total	*5.80%*	*4.20%*	*3.80%*	*4.90%*	*5.90%*	*4.51%*	*3.50%*	*2.93%*	*2.40%*
Functionally Obsolete	14	14	14	13	13	11	13	15	15
% of Total	*5.09%*	*4.88%*	*4.86%*	*4.53%*	*4.51%*	*3.82%*	*4.55%*	*4.89%*	*4.49%*

Source: DelDOT, 2007

Exhibit 3.11: Delaware Bridge Inventory (2000 – 2006)

Year	2000	2001	2002	2003	2004	2005	2006
Total Bridges	**1347**	**1357**	**1359**	**1373**	**1379**	**1382**	**1429**
Structurally Deficient	71	72	65	65	68	58	33
% of Total	*5.27%*	*5.31%*	*4.78%*	*4.73%*	*4.93%*	*4.20%*	*2.31%*
Functionally Obsolete	152	152	151	145	140	145	175
% of Total	*11.28%*	*4.86%*	*11.11%*	*10.56%*	*10.15%*	*10.49%*	*12.25%*

Source: DelDOT

3.1.5 Evacuation Routes

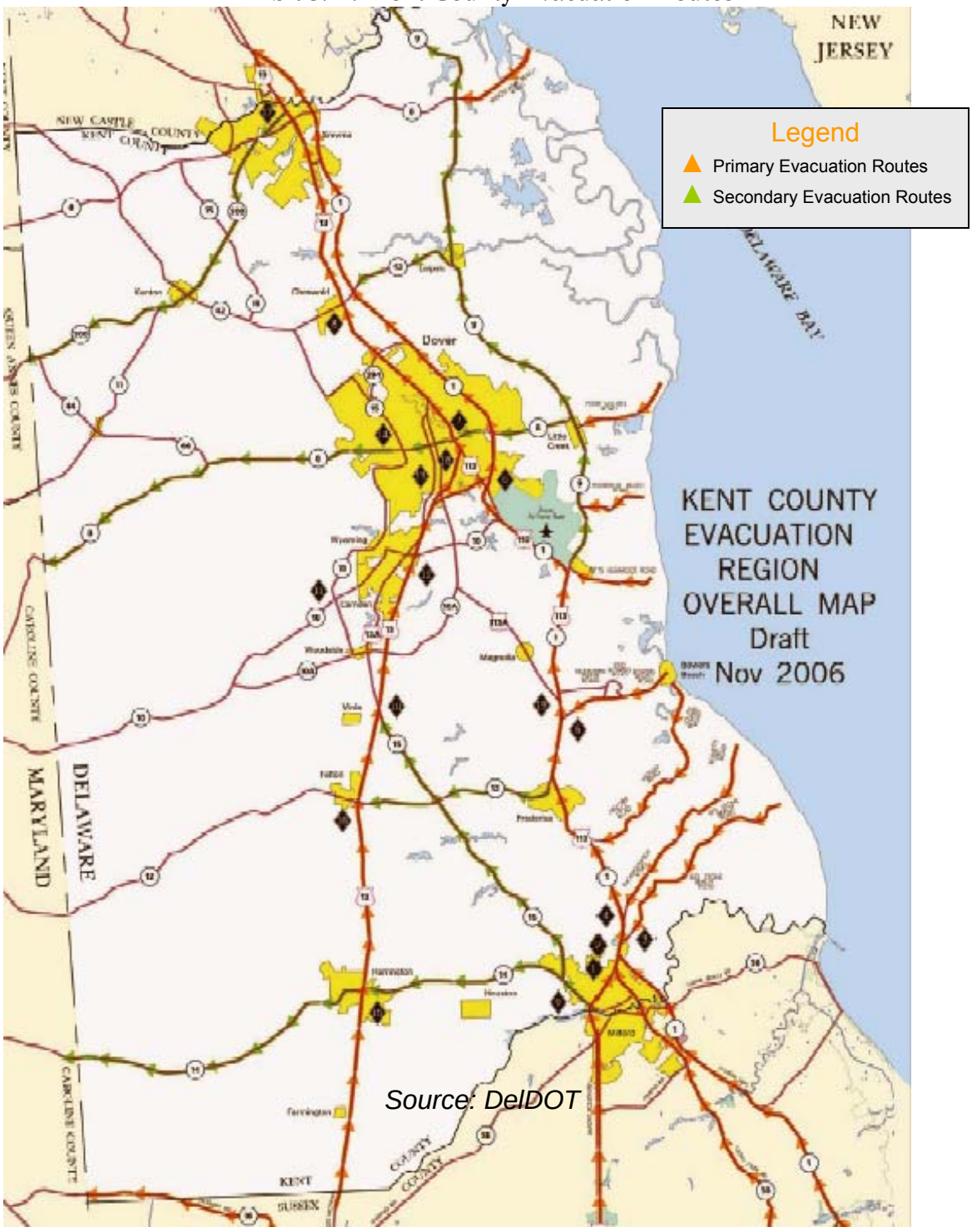
Kent County is vulnerable to a number of hazards including floods, hurricanes, hazardous materials incidents, terrorism, and nuclear facility incidents.

The Delaware State Transportation Management Teams (TMTs), in coordination with the Department of Homeland Security, work together to make joint decisions on how an incident or event that impacts the transportation system will be handled. There are six TMTs in Delaware, with one located in Kent County. TMTs are part of DelDOT's transportation management program known as DelTrac. TMTs bring together personnel and resources from police, fire, rescue, emergency management, transportation, communications, environmental protection, public works, and other agencies to improve

safety and reduce delays during incidents, events, and emergencies that impact Delaware's transportation system.

The All Hazards Evacuation Annex of the Transportation Incident and Event Management Plan for Kent County (April 2007) provides specific county-related details to accompany the Delaware Transportation Incident and Event Management Plan, prepared in August 2004. This Annex primarily focuses on managing the transportation system during large planned or unplanned incidents or events that may affect the health and safety of people living within Kent County. The Kent County Evacuation Region Overall Map (November 2006) is included in the Annex Plan and is available on the DelDOT website. The map shows primary and secondary evacuation routes in addition to local evacuation routes.

Exhibit 3.12: Kent County Evacuation Routes



Primary evacuation routes include Routes 1, 13, and 113 for north/south movement; Woodland Beach Road, Port Mahon Road, Pickering Beach Road, Kitts Hummock Road, Bowers Beach Road, Milford Neck Road, Thompsonville Road, and Big Stone Beach Road from Bay side. These routes are limited and unlimited access highways and local roads with numerous entrances and exits. A network of secondary evacuation routes direct local

residents to the primary evacuation routes, and also can be utilized to reroute traffic during an evacuation in the event that the primary evacuation routes become impassible (see **Exhibit 3.12**). Routes DE 8, 9, 12, 14, 15 and 300 are secondary evacuation routes. Local evacuation routes are any other routes in the county that feed into primary or secondary routes.

3.1.6 Operations

Most traffic control design and operation issues are managed through DelDOT's Division of Transportation Solutions (Traffic Section). This Division is responsible for traffic-related analysis and design. The installation and maintenance of signing and pavement marking is assigned to DelDOT's Central District office.

All roadway signs in the county were replaced by 2000, and this re-signing effort will be repeated starting in 2008. Priority for roadway signage replacement was given to new signs or sign changes such as revised speed limits.

Kent County has several major corridors with coordinated signal systems that are operated from DelDOT's Transportation Management Center in Smyrna. These corridors include:

- US 13 (through Smyrna)
- US 13 (Camden to north Dover)
- US 113 (SR 36 to north Milford)
- SR 8 (west Dover)
- SR 10 (US 13 to Dover Air Force Base)

In addition, most of the signals in Kent County are equipped with a preemptive system to allow ambulance and fire trucks to trigger a green light at intersections, so they can decrease their response time to emergencies.

Of particular recent interest is the City of Dover Signalization Improvements Program. Following a period of survey and design, construction of the first signal improvements under this program began in November 2006, at the intersection of Division and Ridgley streets. The project involves a total of 18 signalized intersections located in downtown Dover, initially owned and maintained by the city of Dover. As of January 2007, DelDOT assumed ownership and maintenance responsibilities for all 18 intersections.

Under this project, existing traffic signals are replaced with ornamental mast arms and signal and pedestrian poles. Signal controller and detection equipment is also upgraded as necessary to improve traffic flow. A crucial step in the process involves linking each City of Dover traffic signal to the DelDOT Transportation Management Center (TMC), via various communication technologies. This allows DelDOT to modify traffic signal timings as necessary to provide for efficient traffic flow, both during and after construction. Construction was completed in May 2008.

The project is being constructed one intersection at a time. Several intersections were included in this project, involving several local streets (see **Exhibit 3.13**).

Exhibit 3.13: City of Dover Signalization Improvements

Route	Intersection
Division Street	Ridgley Street Queen Street New Street Governors Avenue State Street
State Street	Reed Street
West Loockerman Street	Queen Street New Street Governors Avenue State Street Legislative Avenue
North Street	Queen Street New Street Governors Avenue State Street
Water Street	Queen Street Governors Avenue State Street

Source: Delaware Department of Transportation, 2007

3.1.7 Safety

An indicator of roadway safety is the number and type of motor vehicle crashes. In 2006, there were a total of 19,351 vehicle crashes in the State of Delaware. In that year, Kent County accounted for 2,755 of these accidents, 13.9 percent of the state total, which was fewer crashes than experienced in Delaware's other two counties. Between 2003 and 2006, there was a 13 percent decrease in the rate of vehicle crashes per million VMT in the county, as seen in **Exhibit 3.14**. In 2006, 32 fatal crashes occurred in Kent County. While the number of crashes increased slightly and the crash rate decreased between 2003 and 2006, the number of fatal crashes has increased significantly in Kent County since 2003.

Exhibit 3.14: Kent County Motor Vehicle Crashes by Injury Severity (1990-2006)

Year	1990	2000	2001	2002	2003	2004	2005	2006
VMT (millions)	1,157	1,349	1,353	1,358	1,466	1,622	1,659	1,680
Total Crashes	2,853	1,837	2,357	2,610	2,747	2,697	2,765	2,755
Rate (per million VMT)	2.47	1.36	1.74	1.92	1.87	1.66	1.67	1.64
Injury Crashes	949	517	930	1,020	959	974	976	906
Rate (per million VMT)	0.82	0.38	0.69	0.75	0.65	0.60	0.59	0.54
Fatal Crashes	29	7	22	19	15	26	29	32
Rate (per million VMT)	0.025	0.005	0.016	0.014	0.010	0.016	0.017	0.019

Sources: Delaware Department of Transportation, Delaware State Police

Persons involved in fatalities are also an important indicator of safety. Of the fatalities that occurred in 2006, 91.8 percent involved the driver or passenger of a vehicle, 6.8 percent involved pedestrians, and 1.4 percent involved bicyclists, as seen in **Exhibit 3.15**. These percentages compare closely with that of the state overall.

Exhibit 3.15: Percent of Total Fatalities by Person Involved (2006)

	Driver or Passenger of a Motor Vehicle In Transport	Pedestrian	Bicyclist
Kent County	91.8%	6.8%	1.4%
Statewide	89.8%	8.9%	1.2%

Source: Fatality Analysis Reporting System (FARS)

In 1998, after noticing that efforts in reducing fatalities were stalling, the American Association of State Highway and Transportation Officials (AASHTO) initiated the Strategic Highway Safety Plan (SHSP) and encouraged various state agencies in the nation involved in highway safety to coordinate to develop innovative strategies to reduce fatalities on America's highways. In September 2003, USDOT Secretary Mineta set a goal to reduce the nationwide fatality rate to 1.0 per 100 million vehicle miles traveled by 2008. As a result, in September 2006, the State of Delaware released its own SHSP. The vision statement of Delaware's Strategic Highway Safety Program is to reduce the number of traffic fatalities to 100 or fewer per year, or to achieve a fatality rate of 1.0 per 100 million vehicle miles traveled[4]. This goal applied to Kent County would mean reducing the number of traffic fatalities by half.

This plan created nine areas of focus for the state:

- Emphasis Area #1: Curbing Aggressive Driving
- Emphasis Area #2: Reducing Impaired Driving
- Emphasis Area #3: Increasing Seatbelt Usage
- Emphasis Area #4: Improving Pedestrian Safety
- Emphasis Area #5: Making Truck Traffic Safer
- Emphasis Area #6: Keeping Vehicles on the Roadway
- Emphasis Area #7: Minimizing the Consequences of Run-off-Road Crashes
- Emphasis Area #8: Designing Safer Work Zones
- Emphasis Area #9: Improving Information and Decision Support Services

The Federal Highway Safety Improvement Program (HSIP) aims to reduce crashes by improving roadway design. Each year, DelDOT identifies sites in the Dover/Kent MPO region that meet the HSIP criteria for inclusion in the program. The sites are reviewed to determine the principal type of accidents, conditions, and severity. From this information, an assessment is made as to whether the location can be made safer with a focus on low-cost high-benefit improvements such as roadway pavement marking or signing, or if a more detailed engineering study is needed. All locations identified in the HSIP are evaluated under these criteria.

Between 2002 and 2005, the HSIP identified 27 sites in the MPO region. The number of HSIP sites added per year is shown in **Exhibit 3.16**. Of the 27 total sites in the county, seven are located on US 13 and three are located on US 113.

[4] http://www.deldot.gov/information/pubs_forms/manuals/shsp/2006_delaware_shsp.pdf

Exhibit 3.16: Number of HSIP Sites by Year (2002-2005)

Year	Number of HSIP Sites
2002	5
2003	8
2004	2
2005	12

Source: DelDOT

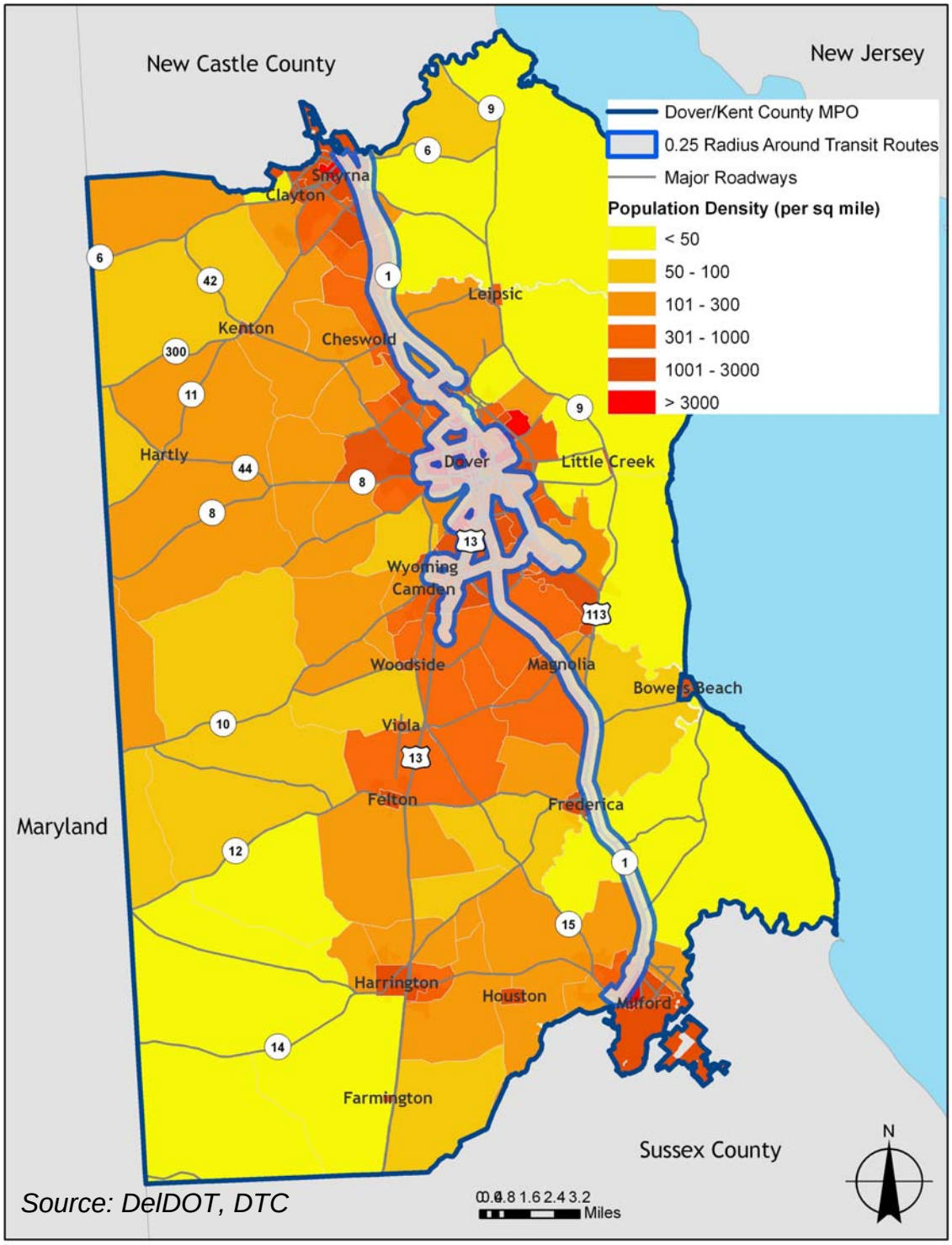
As the region continues to develop in an auto-dependent pattern and VMT subsequently increases, the number of crashes may also increase. DelDOT maintains a crash database to analyze the high-crash locations and identify the possible need for roadway improvements. Continued similar site-specific analysis and remedy will be necessary as increasing travel demand creates growing congestion conditions, which contribute to driver failure and increased accidents.

3.2 Public Transportation

Public transportation includes a broad range of services in Kent County, including local bus, express bus, intercounty bus, paratransit, and subsidized taxi. Public transit service is provided in Kent County by Delaware Transit Corporation (DTC), operating as DART First State. The success of public transportation is dependent upon adequate density to support it and must be considered with future development patterns.

Approximately 46,000 residents in Kent County are within one-quarter mile of transit services, the typical distance considered reasonable for someone to access fixed-route services. **Exhibit 3.17** highlights these areas within one-quarter mile of transit.

Exhibit 3.17: Areas within One-Quarter Mile of Existing Transit Service



3.2.1 DART First State South District

DART First State's South District provides service in Kent County focused around a radial/loop pattern from the Water Street Transfer Center in downtown Dover. The system provides basic mobility for the city's transit-dependent households; accessibility to the state capital, Dover Air Force Base, Dover's downtown area and nearby colleges; and circulation

throughout the Dover community. These bus routes provide enough spatial coverage to bring almost all parts of the city within walking distance of a transit stop.

Twelve fixed routes serve the Dover area, operating between 6:00 a.m. and 6:00 p.m. on weekdays. In addition, a successful pilot began in June 2008, providing transit service on Saturdays, with five routes operating between 9:00 a.m. and 6:00 p.m. The Dover routes meet the Intercounty Route 301 service that operates between Dover and Wilmington, and the Route 303 service that operates between Dover and Georgetown via Milford. The Harrington/Dover Shuttle connects with Bus Route 104 at Mifflin Meadows, and serves communities between there and the City of Harrington. All of the Dover-area bus routes operate on regular and evenly-spaced time intervals in a timed-transfer system, pulsing from the Water Street Transfer Center. All but four of DTC's routes in Kent County operate at headways, intervals between laps, of 60 minutes. The remaining routes operate at 30-minute headways.

Transit service in Kent County is less intensive than that in New Castle County, reflecting the comparatively smaller and less dense population in the county. To attempt to better serve transit-dependent persons at night, DTC launched GoLink Night Service in 2003 to more effectively utilize the county-wide paratransit bus equipment to transport all transit customers. This service operates between 6:00 p.m. and 9:00 p.m. with advance reservations. Passenger trips increased from 603 in fiscal year (FY) 2004 to 1,341 trips as of the end of June, 2008..

Flex Service is also provided within the Dover area, where low-performing fixed routes can deviate from a fixed route to pick up customers nearby with advance reservations. This service provides more accessible service to communities and customers who do not have direct access to fixed-route service. Flex service essentially expands transit service into low-density areas, using existing resources.

DART Route 305, the Beach Connection, links New Castle and Kent counties with the Rehoboth park-and-ride and Resort Transit.

A fleet of medium-sized buses is housed and maintained at the DelDOT complex in Dover. In 2008, this transit fleet logged 461,124 vehicle miles and 35,558 vehicle hours representing an increase of 13 percent from 2002 in miles and 15 percent in hours. **Exhibit 3.18** provides operating statistics for DART First State South Fixed Route Transit in Kent County. Ridership increased from 308,716 passenger trips in 2002 to 409,942 trips in 2008, approximately 33 percent. In Kent County, nearly half the riders of transit continue to be high school or university students, while the remaining riders are largely transit-dependent with little discretionary trip-making occurring. Primary trip destinations continue to include school, work, medical services, and shopping, with the most utilized bus stops located at attractors such as Dover Downs, shopping centers, and social service agencies.