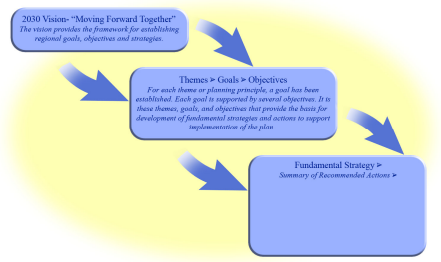
Chapter 6: Actions for 2000 through 2030

Vision➢Goals & Objectives➢Strategies➢Actions



This chapter is intended to guide programming decisions for specific improvements including recommended actions that should be taken to provide structure and detail to the framework described in Chapter Five. The fundamental strategies support the state, county, metropolitan planning organization and municipal goals and objectives as described in Chapter 2. Implementation of the recommendations depends on a number of factors, such as the pace of population growth, location of employment growth, and availability of resources. Because these factors cannot be predicted with certainty, it is impossible to identify precise dates by which any of the improvements will be in place. Estimated time frames used for financial planning and air quality analysis are described in Chapters 8 and 9.

The following includes the fundamental strategies with a summary of supporting recommended actions. Each of the five fundamental strategies is addressed.

Fundamental Strategy➢

Preserve and maintain the existing transportation system.

Summary of Recommended Actions➢

- Maintain the existing highway system.
- Maintain primary truck routes.
- Preserve existing rail facilities.
- Maintain existing transit and paratransit services.
- Maintain infrastructure to support Dover Air Force Base.
- Maintain access to major airport hubs.
- Apply access management techniques.
- Participate in the Corridor Capacity Preservation Program (CCPP)

The primary strategy of the 2030 Plan is to maintain and preserve the existing transportation system as a means of conserving capacity for the future and better managing transportation resources. To that end, the 2030 Plan recommends the following actions and strategies.

- **Maintain the Existing Highway System**

The private automobile, traveling on the existing highway system, continues to be the dominant means of transportation in the region. This system must be maintained and preserved in a state of good repair, which requires a consistent and dedicated level of funding. Deferred maintenance, which results when insufficient resources are devoted to system preservation, results in increased expenditures for repairs over the long term. Maintenance must include all modes in each highway corridor, including sidewalks, bikeways, and transit stops.

- **Maintain the Primary Truck Routes**

The highway system is also a vital link in the region's goods movement network. The use of trucks to move goods has increased due to past expansion of the highway network, federal deregulation of the trucking industry and a lack of viable alternatives.
Business and industry in the region overwhelmingly rely on trucking and the highway system. Because of advances in the speed and reliability of trucking, businesses now typically carry smaller inventories, requiring more frequent movement of both raw materials and finished products. Consequently, the importance of a trucking company's ability to make "just in time" deliveries is critical to the economic health of the region. Therefore, the region's highways, particularly those that function as truck routes, should be kept in safe operating condition at a standard that facilitates the flow of goods.

- **Preserve Existing Rail Facilities**

Rail freight transportation is important for a few local industries in the Dover/Kent County MPO region as well as for some industries further south; however, there is no regularly-scheduled passenger service. During discussions with local governments and individuals, reinstating passenger rail service to Wilmington was a frequent request, indicating a potential for increasing rail usage in Kent County. Interest in passenger rail by the legislature has led to the formation of a rail service task force to investigate the viability of reinstating service. In support of that effort and the widespread interest in passenger rail service, the present system should be kept intact to allow future expansion. Allowing the existing system to fall into disuse hampers future efforts to re-establish or expand service by making them cost prohibitive.

- **Maintain Existing Transit and Paratransit Services**

The existing transit and paratransit system serves the needs of many, especially the transit dependent. This service needs to be maintained, because it serves basic human needs; however, efforts should be made to make the transit system more cost-effective by increasing ridership while maintaining a good level of service. Transit vehicles and passenger amenities should be maintained in a clean, comfortable, reliable, and safe operating condition as a strategy to make transit an attractive travel choice. Additionally, training should ensure that all drivers can operate all equipment for the disabled.

- **Maintain the Infrastructure to Support Dover Air Force Base's Military Mission**

Dover Air Force Base should continue to play an important economic and strategic role in the county. Long-range transportation strategies should support the military mission of the Base, while enhancing opportunities for its civilian and commercial use. As the East Coast's largest airfreight terminal, it must rely on the region's existing transportation system to ship goods. The roadway network is the only transportation system available for such shipments. Capacity of designated truck routes, including bridges, should be preserved and expanded when needed.

- **Maintain Access to Major Airport Hubs in Philadelphia, Baltimore, and Washington**

Past attempts to establish air service between Dover and regional airport hubs have not proved economically feasible. The main reasons for this are insufficient consumer demand as compared to effectiveness of ground transportation to large regional airports which offer a wider variety of destinations. Also, the population is not expected to grow sufficiently during the next 25 years to support commuter air service; therefore, it will be all the more important to maintain adequate access to large airports in Philadelphia, Baltimore, and Washington. In particular, access and capacity to the west (US 301 and the Bay Bridge) will need to be preserved.

- **Apply Access Management Techniques**

Access management focuses on preserving and improving the operating condition of corridors by regulating the number, spacing and design of access points. It shapes how property is afforded access to the transportation system, strengthens the relationship between different modes of transportation, and influences the location, design and operation of driveway and street connections. Among its benefits are fewer and less severe accidents, increased roadway capacity, less congestion, reduced travel delay, support for economic development, improved fuel economy and reduced motor vehicle emissions, enhanced mobility of people and improved accessibility.

Access management achieves these benefits by applying the following principles:

  - Limiting the number of conflict points by designing entrances that minimize the number of turning movements.

  - Separating conflict points by regulating the proximity of entrances to street intersections and establishing minimum spacing standards for interchanges, intersections, median openings, entrances and driveways.

  - Removing slower moving turning traffic from through traffic lanes by ensuring adequate entrance widths and turning radii, using acceleration and/or deceleration lanes, using turn lanes, and by designing adequate on-site circulation and parking; and

  - Maintaining a smooth flow of traffic between signals through proper signal spacing.

DelDOT is updating its Subdivision and Entrance Manual. The manual update is a collaborative effort that includes representatives of the three counties, municipalities and private developers. The update will combine the two manuals into one document.

The new manual will incorporate the aforementioned principles of access management, while providing users more clear and precise regulations. In addition, the manual will formalize policies and practices that are being utilized by the Department. It will also focus on the need for developers to provide new links in the transportation network; improving area wide mobility with each new development. Ultimately, the new manual will strengthen the coordination between land use and transportation decision making. The manual is expected to be complete in 2006.

- **Participate in the Corridor Capacity Preservation Program (CCPP)**

Historically, arterial roadways in growing areas attract commercial development which ultimately diminishes the roadway's ability to efficiently carry regional traffic. The intent of DelDOT's CCCP is to preserve the current operating conditions of arterial roadways which serve "predominately statewide or regional travel".

The CCCP can prevent the need to construct costly parallel facilities on a new alignment; thereby avoiding the social and economic impacts associated with these projects. Ultimately, the corridor preservation allows DelDOT to protect the intended function of the roadway, thus protecting existing transportation investments.

Roadways in the program include US 13 between SR 10 and the Maryland State Line and SR 1 from the Dover AFB to Nassau. The SR 1 plan, adopted in 1997, calls for a series of projects that will ultimately convert this road to a limited access highway. The US 13 plan is less defined and more flexible. Within municipal boundaries, DelDOT has developed specific plans for improvements to support future development. Outside these areas, DelDOT uses a variety of tools including purchase of development or access rights to protect the corridor from the influence of land development.

Recommended Actions➢

•Select one of the region's major east/west corridors to be included in the program; thereby ensuring long term accommodation of the region's interstate connections to Maryland or points west. Candidate corridors include: SR 8, SR 10, SR 12, SR 14 and SR 300.

Fundamental Strategy➢

Improve the management of the existing transportation system.

Summary of Recommended Actions➢

- Continue using new technologies to implement intelligent transportation systems (ITS)
- Continue corridor and intersection improvements
- Continue making upgrades to transportation facilities
- Implement commercial corridors
- Increase efficiency of existing transit services
- Increase usage of existing park and ride facilities
- Support travel demand management strategies

- **Implement Intelligent Transportation Systems**

Intelligent Transportation Systems (ITS) are designed to increase the efficiency and capacity of transportation infrastructure in order to manage congestion. Increasing vehicle miles traveled has resulted in both non-recurring and recurring congestion. Congestion is a factor that is diminishing the region's quality of life.

DelDOT assists drivers through the use of new technologies to develop intelligent transportation systems, such as electronic toll collection, smarter, more responsive traffic signals, and in-vehicle information systems. Using ITS, travelers can receive real-time information about travel and weather conditions and make alternate choices to avoid congestion. Goods shippers can save valuable delivery time.

ITS can be used by transit to improve performance and cost-efficiency. The location of a transit vehicle at each point on its route can be tracked to provide up-to-the-minute

information to patrons regarding the arrival time at each stop and allow the operator to make dispatching and service decisions more efficiently.

In 1997, DelDOT adopted the Integrated Transportation Management Strategic Plan (ITMS), and named the program to implement it DelTrac. Since adoption of this plan, the E-Z Pass electronic toll collection system has been instituted at the SR 1 Dover toll plaza; installation of a smarter signal system on US 13 and US 113 from Smyrna to Milford has been initiated; and a statewide transportation management center has been constructed in the Smyrna area. A network of thirteen (13) real-time video cameras provide instantaneous information as part of the Video Monitoring System that supplies information to the web, radio, television and other media.

Recommended Action➢

•Continue ITMS Program with emphasis to improve the transportation system in the Dover/Kent County MPO region through smarter signal systems in appropriate municipalities, real-time transit and highway information for travelers, transit and emergency vehicle priority systems, electronic variable speed limits, and better monitoring systems.

•Complete the downtown Dover signal upgrade project.

- **Corridor and Intersection Improvements**

Many traffic problems occur at key intersections or along heavily traveled corridors. Short-term problems are identified through studies, the MPO's congestion management system, and project submittals from member governments and the public.

- **Facility Upgrades**

When other management techniques fail to provide needed capacity, resulting in a poor level of service, existing roadways should be upgraded. Upgrading a facility means that existing travel lanes may be widened (typically by one or two feet), new shoulders or turning lanes may be added, or existing lanes widened, but additional travel lanes are not added. Access should be managed better in order to preserve the roadway's capacity.

Table 6.1 lists locations that have been identified as needing short-term improvements or facility upgrades. While not all of these locations have been programmed for construction, it is the MPO's goal to see these projects completed within the next 25 years.

Table 6.1
Summary of Intersection And Corridor Improvements

Location	Improvements	Program Year
Corridors and Facility Upgrades		
Governors Avenue from Water Street to Webbs Lane	Upgrade Governors Avenue to include turn lanes, sidewalks and a bike lane from Water St. to Webbs Ln.	**2006**
Harrington Truck Route	Upgrade Farmington and Tower Hill Rds. to accommodate truck traffic.	**2006**
Carter Road from DE 300 to Sunnyside Road	Widen existing lanes to 11 feet; add shoulders, curbs and sidewalk	**2006**
College Road from Kenton Road to Saulsbury Road	Upgrade corridor to include sidewalks and bike lanes	**2009-2011**
Duck Creek Parkway from Bassett St to Main St.	Widen shoulders and install curb and bicycle/pedestrian facilities	**2006**
Kenton Road from DE 8 to Chestnut Grove Road	Upgrade with curbing, shoulders, turn lanes, sidewalks and transit stops	**2007**
Wyoming Mill Road, Dover	Realign roadway with entrance to Village of Westover and signalize	
DE 15 between DE 10 and DE 14	Upgrade with curbing, shoulders, turn lanes, sidewalks and transit stops	
School Lane Upgrade	Widen existing travel lanes, add curbs, sidewalks, shoulders, and storm water management	
Fulton St. Upgrade and Extension	Widen existing travel lanes, add curbs, sidewalks, shoulders, and storm water management; Extend between School Ln and Kent St.	
Duck Creek Rd from Main St. to US 13 and DE 6 to VanDyke Spring Rd	Install curb and bicycle/pedestrian facilities	
SR 36 west of US 113	Construct shoulders, turn lanes, signage, lighting and intersection improvements	
DE 14 from DE 15 to Church Street and from Washington Street to SR 1	Upgrade the corridor to include adequate shoulders, sidewalks, curbs, bike lanes, travel lanes and transit stops	
DE 42 from Kenton to US 13	Upgrade the corridor to include adequate shoulders, sidewalks, curbs, bike lanes, travel lanes and transit stops	
McKee Road, Saulsbury Road and Morton Road from Denneys Road to Lynnbury Woods Road	Upgrade the corridor to include adequate shoulders, sidewalks, curbs, bike lanes, travel lanes and transit stops	
Messina Hill Road	Upgrade the corridor to include adequate shoulders, sidewalks, curbs, bike lanes and travel lanes	
Lynnbury Woods Road	Upgrade the corridor to include adequate shoulders, sidewalks, curbs, bike lanes and travel lanes	
Sunnyside Road in Smyrna	Upgrade the corridor to include adequate shoulders, sidewalks, curbs, bike lanes, travel lanes and transit stops	
Carpenter Bridge Road from Frederic to DE 15	Upgrade the corridor to include adequate shoulders, sidewalks, curbs, bike lanes, travel lanes and transit stops	
DE 12 from SR 1 to US 13	Upgrade the corridor to include adequate shoulders, sidewalks, curbs, bike lanes, travel lanes and transit stops	
Irish Hill Road from US Alt. 113 and US 13	Upgrade the corridor to include adequate shoulders, sidewalks, curbs, bike lanes, travel lanes and transit stops	

Location	Improvements	Program Year
Joe Goldsboro Road from Duck Creek Road to US 13	Upgrade the corridor to include adequate shoulders, sidewalks, curbs, bike lanes, travel lanes and transit stops.	
Paddock Road from US 13 to SR1	Upgrade the corridor to include adequate shoulders, sidewalks, curbs, bike lanes, travel lanes and transit stops.	
DE 15 west of Smyrna and Clayton	Upgrade roadway to provide adequate travel lanes, turn lanes and shoulders to facilitate regional traffic.	
Front St. from Rehoboth Blvd. to SR 1, Milford	Upgrade the corridor to include adequate shoulders, sidewalks, curbs, bike lanes and travel lanes	
New Burton Rd from Westview Terrace to Wyoming town limit	Upgrade roadway to provide adequate travel lanes, turn lanes, shoulders, sidewalks and bike path	
West St. from New Burton Rd to North St.	Upgrade roadway to provide adequate travel lanes, turn lanes, shoulders, sidewalks and bike path	
Bassett St. from Main St. to Duck Crk Pkwy, Clayton	Upgrade roadway to provide adequate travel lanes, turn lanes, shoulders, sidewalks and bike path	
DE 300 from RR tracks to US 13	Complete roadway upgrade to provide adequate travel lanes, turn lanes, shoulders, sidewalks and bike path; reconstruct the intersection of DE 6 and DE 300 and implement access management at the Glenwood Shopping Center	
Brick Store Landing Rd. from Paddock Rd. to SR 1	Upgrade with sidewalks, curbing, shoulders and turn lanes	
Intersections		
Loockerman, Forest and West Streets	Construct a traffic circle at the intersection of Loockerman, Forest and West Sts. and complete Loockerman St. gateway improvements	**2007**
SR 1/Thompsonville Road Intersection K19	Reconstruct the intersection to grade separate the traffic	**2007**
SR 1 and Milford Neck Rd K120	Reconstruct the intersection to grade separate the traffic	**2009-2011**
SR 1 at Little Heaven	Reconstruct the intersection to grade separate the traffic	**2007**
SR 1 and DE 9	Reconstruct the intersection to grade separate the traffic	**2007**
SR 1 and DE 12	Reconstruct the intersection to grade separate the traffic	**2007**
DE 8 and Pearson's Corner Rd	Widen shoulders and create storm water management facilities	**2006**
DE 8 and Saulsbury Rd DE 15	Install mountable medians to restrict left turns near the intersection; install crosswalks and pedestrian signals	**2006**
Lynnbury Woods SR 15 and Morton Road K152	Improve the intersection to enhance truck turning movements	**2006**
US 13 and Canterbury Rd SR 15	Improve turning movements at the intersection to make it safer	
US 113A S. State St.	Improve intersections with new or modified signals and turn lane improvements between SR 10 and Little Heaven	**2006**
US 13 and Lochmeath Way	Construct at separate westbound right turn lane and lengthen the turn lane on US 13.	
Walnut Shade Rd. at Polytech HS	Construct turn lanes for traffic headed to the high school.	
Airport and Bowman Roads	Intersection improvements	
US 13 and DE 8	Improve the intersection to reduce congestion and improve safety; add ADA curb ramps and create a pedestrian refuge in the middle of US 13.	

- **Commercial Corridors**

The 2020 LRTP defined commercial corridors as arterials that serve primarily retail and other commercial land uses, which are regional destinations. They enhance access and circulation to adjacent businesses for all modes of transportation, while creating a sense of place that that ties it to the community in which it is located. Commercial corridors are where businesses want to be located, thereby attracting development to the area.

Concept plans were developed for US 13 and 113 in Dover and US 13 in Smyrna in 200 and 2003 that recommend implementing many of the elements found in a commercial corridor. They are listed below:

Table 6.2
Concept Plan for US 13 and 113 in Dover Recommendations

Develop a City of Dover US 13/113 overlay zone that includes: Guidelines for front and rear access; Guidelines for pedestrian facilities; Incentives that encourage property owners to voluntarily incorporate elements of the Concept; Landscaping guidelines that enhance the aesthetic quality without creating safety hazards.
Construct service roads for local traffic, buses, and bicycles.
Assist voluntary development of rear access to businesses along the corridor through public/private agreements to address parking, landscaping, and right-of-way issues.
Construct sidewalks on both sides of US 13, where possible, but at least on one side.
Route bicycles to parallel facilities where there is not an adequate shoulder.
Place low height and low maintenance landscaping in the median.
Add bus pullovers where needed & where possible**.**
Install more attractive lights that serve pedestrians as well as motorists.
Bury utilities.
Install pedestrian buttons at signals, where warranted, and stripe crosswalks heavily.
Develop a way finding system with appropriate signage.

Table 6.3
Concept Plan for US 13 in Smyrna Recommendations

Section A – South Smyrna SR 1 interchange near Food Lion to Smyrna-Leipsic Road (K12).

- Construct 5' sidewalks and maintain 10' shoulders.
- Plant low lying shrubbery and flower beds in the median.
- Roadside landscaping should be included to enhance the existing vegetation.
- Install roadway lighting the length of the section.
- Install a decorative gateway sign in the median – north of the SR 1 intersection.

Section B – Smyrna-Leipsic Road (K12) to Duck Creek.

- Install curb and 5' sidewalks on both sides of US 13, using space in the existing shoulder/continuous right turn lane.
- Install curbs in the existing median.
- Construct crosswalks using brick pavers (or equivalent) at all signalized intersections and side street crossings.
- Construct bulb-outs at the side streets .
- Construct handicap ramps at all intersections.
- Install roadway lighting in the median area using dual luminaire light poles
- Install pedestrian lighting along the sidewalk, using decorative light poles.
- Plant flower beds; shrubs; and some flowering trees in the median in areas where the curb to curb width exceeds 6 feet. Where the median is less than 6 feet, use an aesthetic median surface.
- Plant hardwood street trees along the roadside.
- Preserve and enhance the vistas to Lake Como and Belmont Hall.
- Provide right turn lanes at high volume intersections such as Glenwood Avenue and Commerce Street.

Section C – North –Duck Creek to the north Smyrna SR 1 interchange

- Construct curb and 5' sidewalk, maintaining the 10' shoulder.
- Plant low lying shrubbery and flower beds in the median.
- Plant roadside landscaping that enhances the existing vegetation.
- Maintain and enhance the vista along Duck Creek.
- Install roadway lighting the length of the section.
- Install a decorative gateway sign in the median south of the SR 1 intersection.

Policies

Update land development regulations that control signing and landscaping.

Assess Smyrna's historic, cultural and business destinations and develop a wayfinding system for the area.

Reduce driveway widths in areas without a defined entrance with excessive paved frontage using curb, sidewalk and a landscaping.

Recommended Actions➢

•Continue to implement the recommendations of the concept plans for US 13 and 113 in Dover and US 13 in Smyrna.

•Create and implement commercial corridor concept plans for US 113 in Milford, and DE 8 west of Division Street in Dover.

- **Increase the Efficiency of Existing Transit Services**

Fixed-route and paratransit services can operate more cost-effectively by increasing ridership and promoting a shift from paratransit services to fixed-route by those passengers able to use it. Management activities that can result in increased ridership are better advertising and promotion, travel training to increase passenger confidence, providing passenger amenities like protected benches and continuous sidewalks, minimizing non-revenue mileage, using equipment that fits the type and magnitude of the service being provided, and dispatching equipment more efficiently. These could enhance the use of DART First State Paratransit as a viable transportation option for the general public.

Recommended Actions➢

•Improve Transit service efficiency by taking actions to increase ridership.
•Operate electric buses in Dover to reduce air pollution.

- **Increase Usage of Existing Park and Ride/Park and Pool Facilities**

The 13 park and ride/park and pool locations in the MPO region are under-utilized.

Recommended Actions➢

•Improve signs and advertising to increase public awareness and usage of park and ride lots.
•Continue to build partnerships with businesses to provide incentives that encourage and promote use of ridesharing.
•Construct a park and ride lot at Carter Rd. and US 13 in Smyrna

- **Support Travel Demand Management Strategies**

Techniques that require very little or no public investment in the transportation system exist which can help reduce travel demand. In addition to transit, these include ridesharing, flexible work hours, telecommuting, and parking management. For example, subdivision and zoning ordinances could be revised to reduce parking requirements in exchange for on-site transit amenities. Adopting the recommendations of the MPO's *Suburban and Community Street Design Study* would support transit-friendly development as well as walking and bicycling. Establishing telecommuting centers in proximity to major transportation centers could reduce long-distance commuting. Being an active member of the Transportation Management Association of Delaware would help their efforts to get more local employers to offer employer-based commuting options.

Recommended Actions➢

•MPO member governments should support travel demand management strategies by making them easier to implement.

Fundamental Strategy➢

Develop and expand other modes of transportation.

Summary of Recommended Actions➢

- Expand DART First State Transit service and routes
- Support opportunities for expanded rail freight service
- Facilitate access to the rail system
- Support opportunities to expand aviation facilities
- Facilitate access to private/public airports
- Improve provisions for non-motorized travel such as bicycle and, pedestrian facilities, and provisions for horse-drawn vehicles.

- **Expand DART First State Transit Service and Routes**

Expand DART First State Transit Service and routes to include areas not currently served but which have the appropriate populations to warrant service.

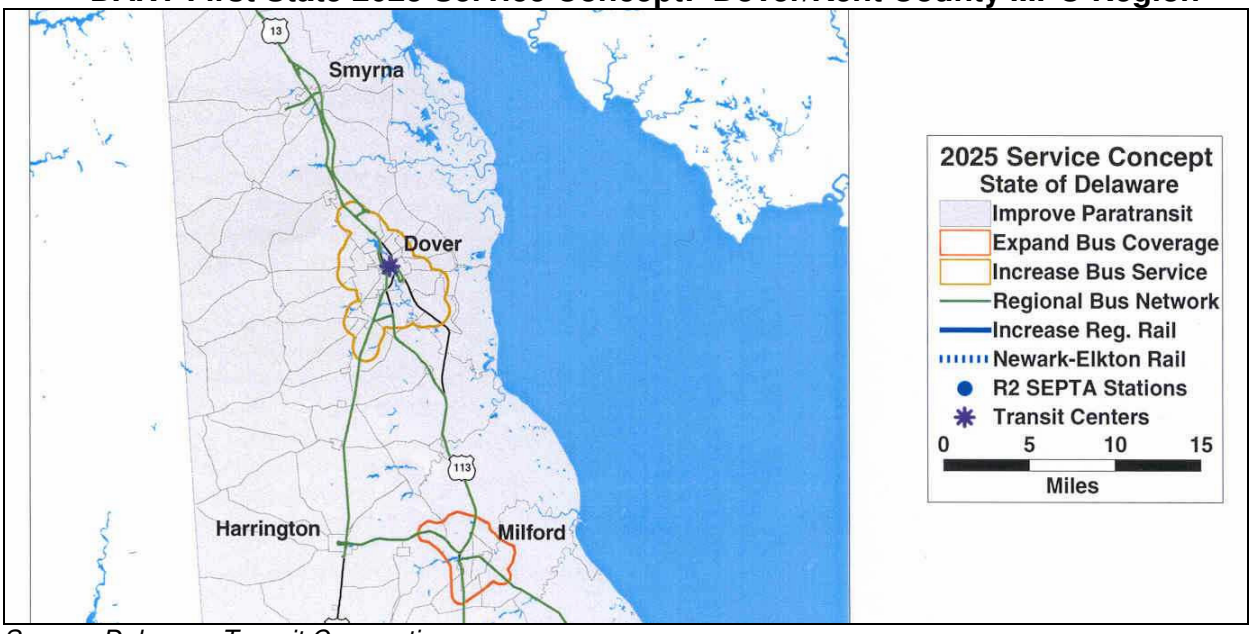
Recommended Actions➢

Based on needs expressed by the public and the Plan's strategy of providing multiple travel choices, transit service in the MPO planning area should be expanded to provide:

- Community transit services in the region's municipalities with better links to trunk services;
- Increased reverse commute transit service between Dover and Wilmington;
- Expanded transit service in the greater Dover area to south of Camden and Wyoming;
- More frequent inter-county bus service; and
- Weekend service in the Dover area through Go Link and and Flex Service;
- Expanded GoLink service to areas outside of the greater Dover area; and
- Transit hubs that serve private intercity operators and future passenger rail as well as DART First State services.

Figure 6.1, from DART First State's long range plan, illustrates the likely fixed-route transit expansion area for the MPO region by 2025, the horizon of the most recent long range plan.

Figure 6.1
DART First State 2025 Service Concept: Dover/Kent County MPO Region



Source: Delaware Transit Corporation

The Delaware Passenger Rail Operations Study examined various alignments and costs for implementing service between Wilmington and Dover. The study concluded that service should be extended to Dover as development occurs along SR 1. An adequate level of development to support the extension should be in place by 2030.

Recommended Action➢

•Reestablish passenger rail service between Dover and Wilmington.

- **Support Opportunities for Expanded Rail Freight Service**

Rail service is used only for inbound bulk shipments to agricultural, chemical, construction, and utility companies in Kent and Sussex counties. As a policy, opportunities for increased utilization of rail service should be developed and accommodated. Dover is the home location of several major manufacturing industries that, under the right economic conditions, could use rail service to ship finished products. Expanding rail freight transportation opportunities supports the Vision. It also helps achieve transportation goals, because it allows more efficient use of the roadway network and makes better use of an existing transportation resource.

- **Facilitate Access to the Rail System**

Complementary to expanding use of the rail system, particularly by industries not adjacent to the tracks, is the need for good intermodal connections between rail and highway facilities. As of publication, no adequate transfer facilities are operating in the region. Detailed siting studies should be conducted to determine an optimum location and design for such transfer facilities. Candidate sites should be considered south of Dover and in the Smyrna and Harrington areas, adjacent to the mainline track. These studies should also examine relocating switching operations taking place along New Burton Road in Dover and in downtown Harrington.

Recommended Actions➢

•Conduct detailed location studies to determine the optimum site and design for inter-modal transfer facilities between rail service and the rest of the transportation system.

- **Support Opportunities to Expand Aviation Facilities**

Based on the recently completed Air Cargo Study, the Civil Air Terminal has the potential to be expanded to accommodate commercial air cargo that serves the DAFB. This opportunity could result non-military commercial air freight in the future. In addition, the study examined expanding the facility for use during NASCAR races. Both of these options warrant further investigation.

Improvements identified for the Delaware Air Park need to be completed to ensure its establishment as the Kent County's general aviation airport. These improvements need to be accomplished while taking into consideration the residents and burgeoning development in and around Cheswold.

Recommended Actions➢

•Investigate opportunities for establishing dependable commercial air cargo service at the Civil Air Terminal.

•Study the potential for enlarging the Civil Air Terminal facilities to accommodate NASCAR race traffic.

- **Facilitate Access to Public/Private Airports in the Region's Transportation System**

Kent County has several privately owned airports that are frequently used by an active general aviation community. Concern has been expressed, however, that the continued existence of general aviation airports is entirely dependent upon the business decisions of their owners. In response to these concerns, the state has acquired Delaware Airpark, located seven miles north of Dover off Rte 42. The Delaware River and Bay Authority

(DRBA) has leased and operates the airport for the state. This is a giant step for aviation in Kent County since there was no publicly owned airport in the county prior to this venture. Over the next five years, the DRBA and the state will make improvements to the runway and taxiway and install a new terminal and hangars.

- **Improve Provisions for Non-motorized Travel**

An important element of the Long-Range Transportation Plan is the provision of non-motorized facilities to accommodate bicycles, pedestrians and horse drawn vehicles. As non-polluting transportation resources, they contribute to reducing the demand for new roadways and to meeting the region's air quality and energy conservation goals. Clearly consistent with the Vision, expanded facilities for non-motorized modes provide additional transportation options for the population in general, provide basic mobility to those who do use automobiles, and provide healthy mobility options.

The lack of physical activity due to an increase in an auto-centered lifestyle has caused concern with public health officials. Their promotion of physical activity has expanded beyond traditional sports and exercise to the support and promotion of the development of healthy communities. Centers for Disease Control Programs, such as the Americans in Motion, program promotes 30 minutes of moderate exercise per day, an amount easily achievable with a walk to the bus or a short bicycle ride to work. The close proximity of many Kent County residents to their workplaces indicates a high potential for alternate commute modes.

Recommended Actions➢

•Initiate educational programs that can help residents make the transition through minor changes to their travel schedule.

•Provide opportunities to educate the public about the health maintenance benefits and safety concepts for bicycling and walking.

•Also, refer to the recommended actions for bicycle and pedestrian strategies.

- **Bicycle Facilities**

Bicyclists use the region's transportation system for both transportation and recreation. Bicyclists are more sensitive than motorists to pavement condition and quality, i.e., the presence of glass and debris on the roadway and the operating speed and volumes of motor vehicle traffic. The continuity of existing paved shoulders maintained at the widest possible distance provides the best conditions for bicyclists. Paved shoulders should be provided and maintained at the widest possible width, with a desirable width of five (5) feet. Support facilities such as parking devices, transport racks on buses, signal detectors for bicycles, bicycle friendly drainage grates, signage, over and under crossings and pavement striping play an important role in the transportation system of the future. Rumble strips create a hazard for bicyclists. If rumble strips are used, create a clear path of four feet where bicycle can safely operate. In-lane rumble strips should be appropriately marked as a hazard to bicyclists.

DelDOT is conducting an update to the Delaware Bicycle Facility Master Plan with the purpose of defining a statewide system of designated, primarily on-road, bicycle routes. This designated system of routes will take advantage of the existing system of roadways to provide bicycle travel options for trips of many types for different levels of riders. This network once identified, link communities and employment centers, provide access between tourism destinations and provide travel options for shorter trips to various destinations. Newly designated routes will be determined based on the riding experience they offer as well as how they serve the riding needs of both the recreational and commuting bicyclist.

Recommended Actions➢

•Pursue strategies to preserve and improve roadway space to accommodate bicycling through designated bike lanes and paved shoulders.

•Identify feasible opportunities to provide off-road pathways and plan for those facilities in conjunction with Kent County's growing population.

•Implement improvement such as bicycle racks on buses and at bus stops to enhance multi-modal connections.

•Develop and implement educational programs that promote responsible bicycle operation and greater awareness of motorists about bicycle safety.

•Explore appropriate accommodations for bicycles as part of the project development and scoping process for all DelDOT plans and/or projects.

•Explore appropriate accommodations for bicycles as part of private land development proposals.

•Seek to provide contiguous bicycle routes that link bicycle generators to bicycle destinations.

- **Pedestrian Facilities**

A pedestrian is a person traveling in the public right of way by means of a wheelchair, electric scooter, legs, crutches or other walking device or mobility aids. Pedestrian travel is the most basic and affordable form of travel. And walking provides an opportunity for physical activity which can help improve individual health.

Sidewalks, signalized pedestrian crossings, curb ramps, street lighting and multi-use pathways play an important role in the transportation system of the future. Although trip lengths are generally short, they provide safe and convenient access to bus service, and connections between residential, employment sites, commercial establishments, educational institutions, and recreational destinations.

Although pedestrian facilities are especially important in existing communities, they should be constructed throughout the region where appropriate without gaps that would force residents to walk in travel lanes or on shoulders. The Dover *Bicycle and Pedestrian Transportation Plan* provides an inventory of that city's existing facilities. Similar inventories in the region's communities assist in identifying deficiencies, priorities and establish a continuous network of facilities. The following map indicates the location of pedestrian facilities throughout the county. DelDOT is in the process of developing recommendations for the Delaware Pedestrian Master Plan.

There is a need to improve coordination between private, state, and local transportation improvements to integrate accessibility features according to guidelines established under the Americans with Disabilities Act. Coordination among government entities would insure that accessibility improvements provide continuous facilities for improving mobility of disabled persons to travel to bus stops, transit centers and between neighborhoods. Retrofitting existing infrastructure to increase accessibility should be given high priority.

Recommended Actions➢

•Assist municipalities with developing guidelines for integrating pedestrian facilities into site plans and maintaining and enhancing pedestrian safety throughout the region and the state.

Table 6.4
Bicycle and Pedestrian Improvement Recommendations

Recommended Improvements	Bicycle	Pedestrian
Webb's Lane from New Burton Rd. to S. State St.	✓	✓
Access between General's Green and the Gateway South Shopping Center		✓
Schutte Park to Brecknock Park connection of the Capital Bike Belt.	✓	✓
US 13 between Court St. and Denneys Rd.	✓	
Washington St. bridge in Milford		✓
N. Main St. in Smyrna		✓
US 13 in Smyrna		✓
US 113 between Court St. and Lafferty Ln		✓
Hazlettville Rd. in Dover	✓	✓
Bike routes parallel to US 13 where shoulders are not available	✓	
A community bicycle program in Dover, Milford and/or Smyrna.	✓	
Airport Rd. in Milford (RD 407) from DE 15 to the WalMart entrance	✓	✓
DE 8 within the City of Dover.	✓	✓
DE 15 in the growth area	✓	✓
DE 10 between Bay Rd. and the Wyoming town limit	✓	✓
College Rd. in Dover	✓	✓

Recommended Improvements	Bicycle	Pedestrian
Bassett Street in Clayton	✓	✓
Duck Creek Parkway in Smyrna	✓	✓
Kenton Road in Dover	✓	✓
New Burton Rd. between Wyoming and Dover	✓	✓
Messina Hill Rd.	✓	✓
Lynnbury Woods Rd	✓	✓
Sunnyside Rd. in Smyrna	✓	✓
Carpenter Br. Rd. (Rd 35) from Frederica to DE 15	✓	✓
Upgrade DE 12 from SR 1 to US 13	✓	✓
Irish Hill Rd. from US Alt. 113 and US 13	✓	✓
Joe Goldsboro Rd. from Duck Creek Rd. to US 13	✓	✓
Paddock Rd. from US 13 to SR	✓	✓
Brick Store Landing Rd. from Paddock Rd. to SR 1	✓	✓

- **Provisions for Horse-Drawn Vehicles**

A special requirement in Kent County is the need to accommodate horse-drawn vehicles, particularly along the DE 8 and DE 44 corridors west of Dover. Improvements such as widened shoulders are needed to ensure safe travel for these vehicles, while preserving capacity for other modes of travel.

Fundamental Strategy➢

Provide additional roadway system capacity.

Summary of Recommended Actions➢

- Continue new roadway construction
- Complete committed projects

Although the emphasis of the LRTP is not on the construction of new roadway capacity, the roadway system will continue to be the central component of the region's transportation system. The Plan attempts to limit the need for building new roadway capacity by focusing on maintaining and better-managing the existing transportation system; however, additional roadway capacity will be needed in the future and will always be among the strategies considered when congestion requires mitigation.

- **New Roadway Construction**

While future construction of new roadways should be limited as a result of better management, instances may occur where a new road segment, interchange or road widening may be needed as a way of providing a better overall highway system. Table 6.3 lists recommended new construction or widening locations.

Table 6.5
Recommended Roadway Construction Projects

SR 1 and Garrison Tract	Construct a connector road to provide access to SR 1 from the Garrison Tract
Crawford Carroll Avenue south to University and US 13	Extend Crawford Carroll Ave to DSU and the north entrance to the Dover Mall
Clarence Street from North Street to Loockerman Street	Extend Clarence St. from North St. to Loockerman St.
Carter Road Extension to SR 1	Construct a connection between Carter Rd Extension to SR 1.
US 13 from Scarborough Rd. to South Smyrna SR 1 Interchange	Widen to three lanes in each direction; install traffic signals at key intersections; add sidewalks, bikeways and pedestrian crossings where appropriate
DE 15	Upgrade DE 15 west of Smyrna and Clayton as a western bypass

Studies are recommended to develop solutions to the circulation and access problems that have been identified by residents and local officials during the development of this plan.

Table 6.6
Recommended Planning Studies

Complete the West Dover Connector Study.
Expand the corridor preservation program to include an east-west route
Conduct siting studies to determine the best locations for intermodal freight transfer facilities.
Develop commercial corridor concepts for DE 8 in Dover, US 113 in Milford, and DE 10 south of Dover.
Study access to employment and commercial areas of Milford
Study creating a truck route to keep trucks out of the Milford historic district.
Complete the feasibility study of implementing passenger rail service between Dover and Wilmington
Study US 13 Alt. south of Rodney Village to determine how to improve safety and traffic flow.
Study how DE 15 west of Smyrna and Clayton can be upgraded to constitute a westerly bypass of those towns.
Study the transportation system south of Smyrna to determine required future transportation improvements.
Study DE 8 as a major access route and how to improve operational efficiency.
Develop a Main Street concept plan for DE 42 in Cheswold.
Develop a commercial corridor/modified corridor preservation concept for US 13 in Camden.
Conduct walkable community workshops in the region's municipalities as a means to creating local bicycle and pedestrian plans.
Develop concept plans for important corridors in the growth area, such as DE 15, DE 12, DE 10, Carpenter Br. Rd., DE 14, and Irish Hill Rd.
Monitor conditions on DE 8 between Forest St. and US 13 to determine the need for additional corridor and intersection improvements.

Recommended Planning Studies

Study the need to bring Denneys Rd in Dover to urban standards.
Ugrade DE 6 between the Maryland state line and DE 300.
Study the need to upgrade DE 15 west of Wyoming in future annexation areas.
Study the need for a west Dover by-pass west of the city limits.
Study the need to upgrade Church Hill Rd. north of Milford between DE 14 and RD 119.
Study the need to upgrade Long Point Rd. in Dover.
Study the extension of passenger rail service south of Dover.
Study the need to widen SR 1 north of Dover.
Study the need to upgrade Tub Mill Pond Rd. from Fork Landing Rd. to SR 1 near Tub Mill Pond
Study the need to upgrade Long Point Rd. in Dover
Study the need to upgrade DE 14 west of DE 15

- **Committed Projects**
  The following list of improvements are programmed for funding and are included in the current Transportation Improvement Program (TIP). They are all high priority projects and should be completed as soon as possible.

Table 6.7

Projects in the FY 2006-2008 Transportation Improvement Program
Alternate US113, Little Heaven to SR 10
Governor's Avenue, Webb's Lane to Water Street
SR 1, Frederica Interchange
SR 1, Little Heaven Interchange
SR 1/SR 9 Interchange, Dover Air Force Base.
SR 1, Thompsonville Interchange
SR 1, Bay Rd./K 120 Milford Neck Rd. S. Federica Intersection Improvements
SR 8 and Pearson's Corner Road, Dover
Milford Curbing, Gutter and Landscaping
US 13, Dover Curbing, Gutter, and Landscaping
K 104, Kenton Rd., Chestnut Grove Rd. to SR 8, Pedestrian Improvements
K 99, College Rd, SR 15 to K 104
Carter Road, Sunnyside Road to Wheatley's Pond Road
Duck Creek Parkway, Sidewalk and Shoulder Improvements, Smyrna
West Dover Connector
SR 15 Moorton Rd. and K 152 Lynnbury Woods Rd. Intersection and Rail Crossing Improvements
Harrington Truck Route
Loockerman Street and Forest Street Transportation Enhancements, Dover
Clarence St. Extension, Dover
US 13 and Roosevelt Ave, Pedestrian Crossing
US 13 - from Del State Univ. to Smith St.
US 13 from North of Smith St. to Denny's Rd
Webbs Lane, New Burton Rd to 13A
US 13 from Townsend Blvd. to DSU
Dover Signal Improvements
Transit Vehicle Replacement and Refurbishment,

Fundamental Strategy➢
Focus transportation investments.

Summary of Recommended Actions➢

♦Make investments and decisions according to current and planned intensity of land use and presence of infrastructure
♦Coordinate land use and transportation projects for sustainability to promote established long range land use and transportation goals
♦Implement the proposed future projects as outlined in Chapter 9.

- **Make investments and decisions according to current and planned intensity of land use and presence of infrastructure**

As described in the preceding Chapter 5, the framework for the strategies and actions that are proposed for the Long-Range Transportation Plan is an investment strategy that focuses and shapes transportation investments according to the intensity of land use anticipated in a given area and the presence of existing infrastructure. The conceptual depiction of the investment areas was shown in that chapter. The locations of recommended pedestrian, bicycle, and roadway improvements are located predominantly in existing communities or developing areas, which is consistent with state and county policies.

- **Coordinate land use and transportation projects for sustainability to promote established long range land use and transportation goals**

Coordinate land use and transportation projects that support the principles, goals, and actions of the Statewide Long Range Transportation Plan including coordination of land use and transportation in a manner that promotes long-term transportation efficiency, promotes sustainability (development) within designated areas, directs programs, services, and facilities to support the Livable Delaware Plan, and addresses the six core principles of the plan which include development, travel opportunities and choices, cost effectiveness, quality of life, economic development and growth, and planning and coordination.