

Chapter 4: Mobility & Transportation

4.0 Accomplishments Since 2007

New Castle County continues to partner with DeIDOT and WILMAPCO on all transportation issues. New Castle County continues to honor all Memorandums of Understanding with DeIDOT and WILMAPCO. New Castle County has worked extensively with DeIDOT in exploring better ways to measure the impact of traffic generated by new development, in developing the Complete Streets Program that requires all forms of transportation, i.e. pedestrian, bikes and transit, to be addressed in future road projects, and in utilizing stimulus money to improve existing greenways. As noted previously, the County has also been an active participant in the Southern New Castle County Study to ensure the proper mobility elements are being addressed in the growth area.

To further address the mobility component, the County has adopted redevelopment incentives that encourage mixed use, mobility-oriented growth in desired areas. Walkability and access to open spaces are important components of mixed use centers where many retail, office and recreational uses are compatible with residences.

4.1 Introduction

Growth and development directly impact transportation needs, performance, and solutions with transportation needs influenced by social, environmental and economic factors. The primary transportation goal of the 2007 New Castle County Comprehensive Plan was to: *facilitate mobility, accessibility and transportation alternatives to provide for safe, efficient, and environmentally sensitive movement of people and goods.*

Federal, State and County policies recognize the relationship between land use and transportation. It is important to understand that transportation investments must be consistent with the principles and practices of land use planning and development. Coordinating land use and transportation planning and development is commonly considered “smart growth”, sustainable development, new urbanism and other similar concepts⁷.

It is “smart growth” principles that foster a balance of accessible mixed uses including housing, educational, employment, recreational, retail and service opportunities, which recognize the spatial proximity, layout and design of those uses while preserving and conserving valued community and natural resources.

Federal and state funded transportation projects and programs must 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.

⁷Federal Highway Administration (FHWA)

4.2 Transportation Challenges

The following summarizes key facts and challenges facing New Castle County, WILMAPCO and DeIDOT with respect to transportation users.

- **Regional population is predicted to increase by 21% between 2010 and 2040.** Increasing population creates additional demand on the transportation system to keep pace with new development by providing a system that supports vehicular and non-vehicular modes of travel, meets increasing demands for regional movement of goods and minimizes impacts on the environment.
- **An increase of 109% is anticipated for persons over age 65 within the region between 2010 and 2040.** Increasing percentages of older drivers create unique demands with respect to safety, signage and other aspects of travel.
- **Vehicle Miles Traveled (VMT) is predicted to increase within the region by 37% between 2010 and 2040.** Increasing traffic on roadways creates new demands on older roads that were not designed for the volume of traffic they now experience or the traffic volume they will be required to accommodate in the future. In addition, increased VMT results in increased levels of congestion. VMT's can be reduced by reducing the number and length of trips.
- **The percentage of New Castle County population within walking distance of a bus stop has decreased since 1996 from about 56% to 52% in 2009.** There is a need to increase the number of persons walking & biking to work, school and transit stops, and for recreational purposes. Additional facilities are required to ensure safety, mobility and accessibility of pedestrians & bicyclists of all ages including disabled persons.
- **The fixed-route transit system in the region has struggled to keep pace with population movements. It is estimated that about 40% of Delaware Transit Corporation's (DTC) operational costs are associated with paratransit, though its riders account for only a small fraction of total transit ridership.** Increasing transit ridership indicates demand for expanded service due to a growing population, an increasingly older population and disabled individuals who are not able to drive, and an increasing desire for alternative modes of transportation to reduce user transportation costs.
- **National/state/regional/county levels of government are faced with funding issues during this period of recession.** Increasing State transportation costs require innovative strategies to address financial factors such as aging infrastructure requiring more maintenance, rising construction costs, and growing demand for additional capacity and services to improve safety, mobility and accessibility.

4.3 Transportation Planning

State, regional and local transportation plans serve as an outline to help the County shape future land development. WILMAPCO's Regional Transportation Plan (RTP) serves as the County's transportation plan. Additionally, the County partners with DelDOT to evaluate transportation facilities and ensure a safe, efficient and environmentally sound transportation network to move people and goods throughout the County. DelDOT prepares both a Long Range Transportation Plan (LRTP) and a six-year Capital Transportation Program (CTP) to implement the long range plan and is responsible for road construction in line with the LRTP and the CTP.

This plan envisions a statewide transportation network that reflects the ideas and strategies outlined in the adopted State Strategies for Policies and Spending. The purpose of Strategies for State Policies and Spending is to coordinate land use decision-making with the provision of infrastructure and services in a manner that makes the best use of natural and fiscal resources. It is DelDOT's intent to develop smart transportation systems, consistent with the State's smart growth strategies.

DelDOT's LRTP evaluates a number of key challenges affecting transportation decisions. These challenges are characteristic of both the State as well as New Castle County.

- Aging infrastructure
- Growing population and increasing incomes
- Growth patterns resulting in sprawl
- Increasing development
- Increasing commuting through walking and bicycling
- Aging population
- Continued dependence on petroleum-based motor fuel tax as revenue source
- Rising construction costs
- Changing economic conditions

The planning process included the comparison of planning scenarios integrated with traditional travel demand modeling to help establish a framework for transportation policy development, objectives and implementation strategies. Scenario planning considered projects outlined in Metropolitan Planning Organization (MPO) plans, providing additional highway capacity, adding transit capacity and considering land use shifts to preserve natural landscape and reduce sprawl. Study analysis and scenario planning results suggested that DelDOT will not successfully meet transportation needs to improve mobility applying any one scenario; instead, transportation needs will be best met applying a combination of highway, transit and land use shifts to yield some relief to congestion within the transportation network.

Table 4-1 lists key policy and spending strategy components that identify the various Investment Area Levels, investment strategy and implementation strategy components with respect to land use and

transportation. The ★ below denotes various transportation and land use implementation strategies consistent with investment strategies for Investment Area Levels 1 through 4.

Table 4-1 2010 Delaware Long Range Transportation Policy Plan Key Strategy Components									
Strategies for State Policies and Spending (Better Delaware Initiative)		Transportation and Land Use Implementation Strategy Components							
Investment Area Levels	Investment Strategy	Pedestrian Improvements	Bicycle Improvements*	Corridor Improvements*	Transit Solutions / Improvements*	Multi-modal Solutions	Transit Oriented Development	Sub-Area Plans*	Smart Growth Partnerships
Level 1: Urban Landscapes (Cities, Towns & Villages)	Redevelopment and Reinvestment State policies encourage redevelopment and reinvestment.	★	★	★	★	★	★	★	★
Level 2: Suburban Landscapes (Suburbs & Small Towns)	Well-Designed Developments Promote well-designed developments, including a variety of housing types, user-friendly transportation systems, recreation and other public facilities.	★	★	★	★	★	★	★	★
Level 3: Rural Landscapes (Farmland & Natural Resources)	Maintain Existing & Phased Growth Maintain existing infrastructure. Invest in phased, guided future growth only after Levels 1 and 2 are substantially built out, or when the infrastructure or facilities are logical extensions of existing systems.		★	★	★			★	★
Level 4: Natural Landscapes (Rural & Undeveloped Areas)	Discourage Additional Development Retain the natural and rural landscape through emphasis on preservation of open spaces and farmlands. Discourage additional development.		★					★	★

*source: Delaware Long Range Transportation Policy Plan, 2010.

**Improvements in Levels 3 and 4 will be made only when necessary to support regional transportation needs as identified in a Sub-Area Plan, Corridor Plan or Transit Plan with demonstrated Countywide and/or statewide benefits. Bicycle improvements in Levels 3 and 4 are primarily for recreational purposes.*

4.4 Transportation Planning – WILMAPCO

WILMAPCO's recently adopted 2040 Regional Transportation Plan (RTP) contains a wide array of demographic and transportation data to describe both current and projected conditions. The plan identifies regional challenges, goals and transportation investments to meet mobility, accessibility and safety needs. Primary Regional Challenges outlined in the 2040 RTP include:

- Demographic changes
- Creating alternatives to the automobile
- Supporting traditional communities
- Changing economic landscape
- Meeting the needs of an aging population
- Meeting increased demand for goods movement and increased inter-regional strains
- Financing the transportation system
- Addressing congestion
- Preserving aging infrastructure
- Addressing new legislation
- Improving air quality

Key Policy and Financially Reasonable Projects Affecting New Castle County

Transportation Investment Areas (TIAs) are used to track progress of the RTP and were developed by reviewing adopted state, county, and local land use plans. These areas are used to help make the decisions on where to focus transportation dollars, and which investments are appropriate for specific areas. Figure 4-1 provides graphic representation and written explanation of various TIAs. The geographic boundaries of the TIAs are subject to change based upon this 2012 plan update. The RTP is a fiscally constrained plan with Financially Reasonable Projects for New Castle County planned for 2015-2040.

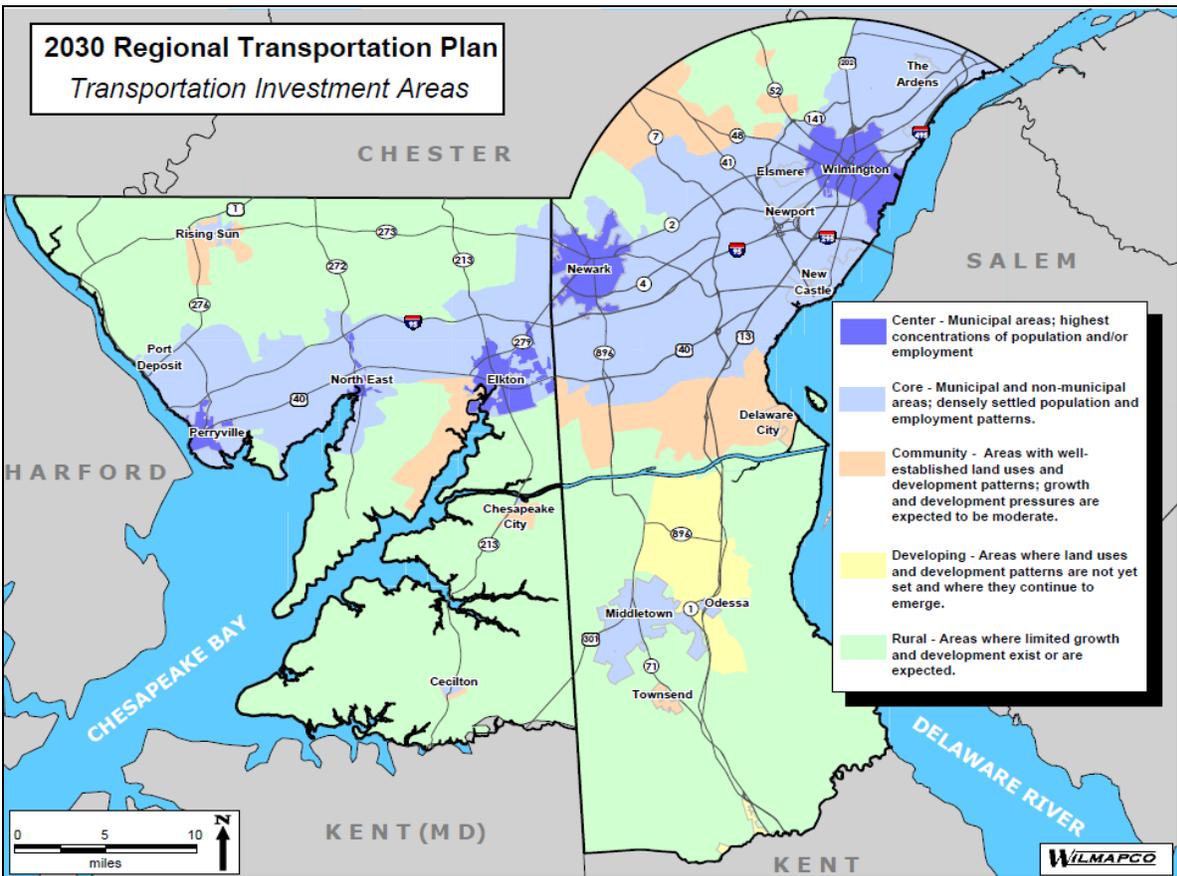


Figure 4-1: Transportation Investment Areas

4.5 Sub-Regional / Corridor Plans

Sub-regional / corridor plans outline improvements to safety, mobility, accessibility and capacity. Sub-regions are a combination of local government areas which face similar issues and challenges when planning for growth and managing change. Sub-regions are grouped according to particular transportation routes, natural features and patterns of employment and retail activity, all of which are important factors in the way people use their area. They are part of a collaborative process among stakeholders and reflect the special needs of an area along with the responsibilities of the stakeholders. The sub-regional plans within New Castle County include:

- East Middletown Master Transportation Plan
- Westtown Master Plan
- Claymont US 13 (Philadelphia Pike) Transportation Study
- Churchman’s Crossing Transportation Study

- US Route 40 20-year Transportation Plan
- Southern New Castle County Infrastructure Master Plan
- US Route 301 Project

4.6 Goals, Objectives, and Strategies

Goals:

1. **Continue to facilitate mobility, accessibility and transportation alternatives to provide for safe, efficient, and environmentally sensitive movement of people and goods.**

The WILMAPCO RTP serves as New Castle County's transportation blueprint to help the County shape land development. WILMAPCO's goal with respect to transportation encompasses the three goals in WILMAPCO's RTP:

- Improve the quality of life
- Efficiently transport people; and
- Support economic activity, growth and goods movement .

To facilitate efforts to reach these goals, New Castle County utilizes objectives that are consistent with those identified in the RTP. It is essential that the County work with WILMAPCO, DeIDOT and TMA of Delaware to improve the transportation system and enable compatible development.

2. **Work closely with WILMAPCO to support their efforts to meet the goals established within the 2040 Regional Transportation Plan.**

In order for New Castle County to grow in a planned and sustainable manner, it is essential that the goals of the 2040 RTP be met, in concert with the goals of this New Castle County Comprehensive Plan Update.

Objectives:

1. **Continue to promote the public health, safety and welfare.**

The safety of the users of the transportation system continues to be a concern for all responsible agencies. A number of factors can impact safety – weather conditions, traffic speeds, road condition and traffic volume all play a part. It is important to note that the rate of crashes involving automobiles and crashes involving bicyclists/pedestrians have been trending downward. However, it remains important that the transportation system is routinely analyzed for safety concerns so that this trend will continue.

New Castle County will continue to work with WILMAPCO and DeIDOT to recommend transportation improvements and development patterns that will contribute to the safety of the transportation network and minimize the impact to air quality.

2. Continue to support existing municipalities and communities.

New Castle County has a unique mix of densely settled municipalities and defined unincorporated communities. These areas serve as central locations in which citizens shop and gather and with which they identify. In 2010, roughly 29% of the County's population resided within incorporated areas. Generally, these areas contain more densely settled, transit friendly development patterns. In addition to the 13 incorporated areas found within New Castle County, there are also several unincorporated areas that meet these criteria. It is important that the capacity of these areas as centers for activity and clusters of greater density be maximized to allow for the greatest efficiency in the transportation system and promote sustainable growth.

Governmental coordination at all levels is key to developing a seamless and efficient transportation plan. As discussed in the Intergovernmental Coordination Chapter, New Castle County works with the incorporated areas and a number of agencies to understand and attempt to coordinate the transportation needs of citizens in the region. In addition to ongoing discussions with towns and cities, WILMAPCO has also worked to assist several in their comprehensive planning process to provide meaningful transportation objectives.

3. Continue to support the preservation of natural, cultural, recreational and historical resources through the State Scenic and Historic Highway Program.

Delaware is rich in scenic, historic, natural and cultural resources. To recognize Delaware's special road corridors, in 2002 the General Assembly created a Scenic and Historic Highway Program, also known as Scenic Byways, administered by the Delaware Department of Transportation. These diverse resources and their stories are accessible to travelers and residents along road corridors that deserve special consideration, treatment and recognition because of their unique features.

A Scenic and Historic Highway is a transportation route adjacent to or traveling through an area that has particular intrinsic qualities that are either scenic, historic, natural, cultural, recreational or archaeological. It is a road corridor that offers an alternative travel route to major highways while illustrating the State and County's heritage and beauty. The route, after designation, is managed by a local entity charged with protecting its intrinsic qualities and enhancing tourism opportunities where appropriate.

Currently four Scenic Byways have been designated in New Castle County:

1. Brandywine Valley Scenic Byway
2. Red Clay Valley Scenic Byway
3. Route 9 Coastal Heritage Scenic Byway
4. Harriet Tubman Underground Railroad Byway

The Brandywine Valley Scenic Byway has received both state and national designation whereas the

other three Byways have only received state designation. Other initiatives currently in the planning stages include the Philadelphia Pike, the Washington Rochambeau Revolutionary Route, and various Northern Delaware Heritage Coalition projects.

4. Continue working to improve transportation system performance.

While the maintenance of the transportation network is not undertaken by the County, growth policies can support and complement the transportation policies of DeIDOT. The bulk of development and growth takes place in the core investment areas identified by WILMAPCO. These areas are also the more mature portions of the region with well-established infrastructure and traditionally receive the largest share of transportation funding. Considerable funding must be reserved for the preservation of the existing transportation infrastructure. The County will continue to work with DeIDOT, WILMAPCO, and TMA of Delaware to help ensure the investments in New Castle County serve existing and proposed development.

Since it is not economically feasible to build additional capacity everywhere it is needed, it is imperative that the County utilize tools to maximize the efficiency and capacity of the current system. The goal is to keep the current system in good working order and to incorporate new technologies such as Intelligent Transportation Systems (ITS) to meet the transportation needs of the growing population and businesses while being fiscally responsible. Many of the ITS strategies deal with the management of traffic capacity, not ways to increase it. ITS can also help provide faster response times by emergency personnel, saving lives that would have been lost due to traffic delays. DeIDOT has already invested considerably in ITS technology in New Castle County, including coordinated signals, live traffic cameras, variable message signs, and fiber optic cables.

5. Continue to promote and support efforts to increase transportation opportunity and choice.

While every effort must be made to maximize the current system performance, it is inevitable that capacity increases are part of the solution. Plans already in place include road improvements in Southern New Castle County to serve the developing growth area, the extension of U.S. Route 301, and intersection improvements throughout the County to maximize the potential of the existing transportation system.

With the rapid increase in vehicle miles of travel, an expanding population and new employment opportunities, the transportation system is constantly under pressure to move more people and goods with speed and efficiency. This has strained the capacity of the transportation system in the County. A key element to any plan should be to use all methods necessary to manage demand on the system and to meet level of service and concurrency requirements in the growth area. New developments should have “complete streets” that accommodate not only motor vehicles but also pedestrians, bicyclists, and transit buses.

6. Continue to promote accessibility, mobility and transportation alternatives.

Steps must be taken to add choices in how people and goods move about to create a more flexible, less motor vehicle reliant transportation network. A strong cooperative effort between transportation and land use planning can enable a multi-modal system that impacts overall transportation congestion and capacity. All development activity should include provisions for an integrated multimodal transportation system, including roadways, rail and bus services, bicycle and pedestrian facilities, and air and water transportation.

Between 2010 and 2040 the number of County residents over the age of 65 will grow from 68,485 to nearly 138,836 to represent 23% of the total population. This demographic reflects not only changing housing needs, but mobility ones as well, as seniors are more likely to require transit to reach destinations and are more likely to prefer not to drive. The increase in the number of older citizens will increase the need for transit options.

7. Continue working with the State to ensure a predictable public investment program.

While the amount of financial investment into the transportation system is important, where the investment is taking place is equally vital. True integration of land use and transportation planning can only occur if there is agreement where the County should invest infrastructure to support existing and future development.

Basing funding decisions on established and planned service level delivery standards is important in ensuring coordinated infrastructure. Equally important is direct County input regarding project priorities in the Transportation Improvement Program.

Through the joint efforts of the County, the State of Delaware and WILMAPCO, Transportation Investment Areas (TIAs) have been created to direct anticipated transportation projects to developed areas. This is an effort to encourage the improvement of existing services and limit the ability to continue a pattern of suburban sprawl. The plan endorses a policy of providing these developed areas with the greatest concentration of transportation options, including transit, walking and bicycling.

8. Continue identifying the investment needs required to ensure the economic attractiveness and competitiveness of the region, and work with citizens, elected leaders, and the private sector to further these efforts.

New Castle County's economy consists of a variety of employment types. As New Castle County attempts to recover from the recent national recession by rebuilding its employment base, transportation investments will be needed to remain competitive in attracting companies to the County. Many businesses require a healthy transportation system to deliver products and services in a timely fashion.

9. Encourage increased rail and public transportation usage by planning for new routes and stations.

At the northern end of the County there is a significant network of rail and public transportation available to the County’s residents. With the changing economy and a growing desire for environmentally sustainable options, the demand for rail and public transportation in other areas of the County has increased. The County will work closely with WILMAPCO, rail and public transportation providers to plan for future growth of rail and bus routes and stations.

10. Promote walking and bicycling as forms of transportation by enhancing pedestrian and bicycle connections throughout the County.

In 2005, DeIDOT published the Delaware Bicycle Facilities Master Plan Report. Table 4-2 shows the Designated Statewide and Regional Bicycle Routes in New Castle County. It is the goal of DeIDOT’s and the County to designate and maintain these routes for riders seeking both long touring and utilitarian trips.

Table 4-2: Designated Bicycle Routes in New Castle County

Source: Delaware Bicycle Facilities Master Plan Report, October 2005

Bicycle Routes		Roadways followed	Length (mi.)	Municipalities and Activity Centers Served
Statewide Bicycle Routes	1	Bicycle Route 1	70	Newark, Middletown
	2	Wilmington-Selbyville	Kennett Pike Greenway, US 13, SR 9	56 Wilmington, New Castle, Delaware City, Odessa
Regional Bicycle Routes	NC-1	Brandywine to Naamans Corner	US202 /SR 92 to SR 92/US 13	6 Brandywine, Naamans Corner, Delaware River
	NC-2	Delaware City to White Clay Creek State Park	SR 9/ SR 896 To SR 72/SR 7	23 Newark, White Clay Creek State Park, Delaware City, Ft. DuPont State Park
	NC-3	Newark to Wilmington via White Clay Creek State Park	SR 2 , SR 34, SR 48 to US 13	15 Newark, Stanton, Marshalltown, White Clay Creek State Park, Wilmington
	NC-4	MD Border to Bike Route 1	SR 273 at MD Border to SR 273/SR 141	13 Newark, Ogletown, Christiana, Pleasantville, New Castle
	NC-5	Newark Circulator	Newark SR 4 from SR 896 to SR 273	5 Newark
	NC-6	MD Border To Newark	SR 896 to SR 2/SR 72	4 Newark, University of Delaware
	NC-7	Middletown to Odessa	SR 71/SR 299 to SR 299/SR 9	5.0 Odessa, Middletown

DelDOT began the process of developing its statewide pedestrian action plan in 2007. The plan is part of an ongoing process with an emphasis on achieving the vision of making walking central to personal mobility and fitness.

In Phase I, a policy analysis document was produced in July 2007. This document includes an analysis of the benefits of walking, concerns and issues related to pedestrian mobility, and an overview of the policies, regulations, and practices at the federal, state, county, and municipal levels. The policy analysis also includes recommendations such as a vision statement to achieve walkability with specific plan goals and objectives.

Phase II of the plan development process includes an establishment of baseline conditions for characteristic areas across the state through observation of pedestrian activity, as well as identification of safety and land use development issues.

The final phase, Phase III, will include systematic implementation consisting of a facilities inventory and a phased Transition Plan. Collaboration with New Castle County, the public at large and other planning and implementation partners will be occurring during this final phase.

Strategies:

1. Continue coordination with DelDOT, WILMAPCO and the incorporated areas to implement existing sub-regional plans adopted by WILMAPCO and identify areas for additional sub-regional plans to coordinate land use and infrastructure decisions.
2. Continue coordination with DelDOT and WILMAPCO to develop and implement Transportation Investment Districts through area studies.
3. Continue to evaluate and/or develop Traffic Impact Studies (TIS) and Level of Service (LOS) standards for economic development, transfer of development rights, mixed-use development, affordable housing initiatives and multi-modal analysis.
4. Continue to coordinate the UDC with the DelDOT Standards and Regulations for Subdivision Streets and State Highway Access.
5. Continue working with WILMAPCO and DelDOT to update and implement the Regional Transportation Plan (RTP).
6. Continue efforts to revise the UDC to improve walkability and interconnectivity and support mobility friendly development and design:
 - Reevaluate block length regulations to encourage walkability.
 - Require bicycle and pedestrian connections where street connections are not possible.
 - Identify and coordinate off-site improvements to ensure a complete system of bike and pedestrian amenities as part of the plan review process.

- Ensure that site design of commercial and employment buildings includes pedestrian oriented public spaces.
 - Reduce the maximum cul-de-sac length.
 - Require new development to maximize intermodal connections with the surrounding circulation system.
 - Reduce surface parking in transit served areas, provide incentives for shared and structured parking, adopt a maximum parking requirement and place more parking behind buildings.
 - Require the identification and creation of cross-access easements between non-residential parcels to be completed as part of the plan review process.
 - Encourage Transit Oriented Development (TOD) along transit corridors and near existing and planned commuter rail stations that support the efficient provision.
 - Encourage innovative strategies such as on-site day care, shuttle services and bus passes for residents and/or employees.
7. Continue support of State legislation regarding street interconnections that would require public process guided by transportation data, a needs assessment to determine whether they should be closed, and a clear identification of the reasons why that closure should occur.
 8. Continue support of the State's "Scenic and Historic Highway Program" by considering appropriate protection strategies to implement management plans along identified scenic corridors.
 9. Continue working with individuals, organizations, government agencies, elected officials and communities seeking scenic byway designation.
 10. Continue working with those involved in scenic byways to identify potential code issues that impede their preservation.
 11. Continue participation in and assist in implementing WILMAPCO's New Castle County Greenway (Pathway) Plan, DeIDOT's Bicycle Plan and DeIDOT's Pedestrian Policy (Plan) through the development review process.
 12. Continue to encourage the use of transit by coordinating with DeIDOT/DART to identify locations for bus stops and park and ride facilities in the development review process.
 13. Continue to actively participate in articulating transportation investment priorities that ensure concurrent and efficient delivery of infrastructure by the State and County, according to established and planned service level delivery standards.
 14. Continue to support and encourage expansion of the commuter rail system by encouraging transit supportive density in appropriate areas in coordination with DeIDOT, DART and WILMAPCO.
 15. Enter into partnerships to study and preserve scenic byways.