AN ASSESSMENT OF LAND USE
AND TRANSPORTATION INTEGRATION IN DELAWARE WITH
RECOMMENDATIONS FOR THE 21ST CENTURY

by
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I wish to dedicate this thesis to Unk, who was a true inspiration to my life and a source of constant encouragement as I pursued higher education. Rest in peace Unk.
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ABSTRACT

Throughout the 21st century the state of Delaware will face challenges with regard to how to provide much needed public services and infrastructure to an ever-growing and decentralized population base. Development of Delaware land must occur in conjunction with targeted infrastructure investment in order to maximize the utility of every tax dollar. This thesis examines the need to integrate land development in Delaware with an important type of public infrastructure, the transportation system. Three important questions related to transportation and land use integration are examined: 1) What are current best practices concerning transportation and land use integration in Delaware? 2) What is the extent of transportation and land use integration in Delaware? 3) How can transportation and land use integration be enhanced in Delaware? The methodology used to answer the research questions was a conference call interview conducted with policy officials throughout Delaware. Responses to questions were recorded and recommendations moving forward were provided based on extensive literature review and research as well as from feedback ascertained through the interviews.
Chapter 1

INTRODUCTION

Throughout the 21st century the state of Delaware will face challenges with regard to how to provide much needed public services and infrastructure to an ever-growing and decentralized population base. As a result of these realities, development of Delaware land must occur in conjunction with targeted infrastructure investment in order to maximize the utility of every tax dollar. Therefore, this thesis examines the need to integrate land development in Delaware with perhaps the most important type of public infrastructure, the transportation system. This thesis will examine three important questions related to transportation and land use integration: 1) What are current best practices concerning transportation and land use integration in Delaware? 2) What is the extent of transportation and land use integration in Delaware? 3) How can transportation and land use integration be enhanced in Delaware?

The fundamental reasons for improving transportation and land use integration in Delaware are environmental conservation, fiscal responsibility, and reduction in travel costs for citizens. Regarding environmental conservation, Burchell et al. (2002) found that the benefits of reducing sprawl between 2000 and 2025 in the US
would save four million acres of land (p. 36). By decreasing travel distance and providing alternatives to auto-centric transportation systems, land use/transportation integration serves as a vital instrument for states and localities to address climate change. Regarding fiscal responsibility, Burchell et al. (2002) also found that, if sprawl was curbed between 2000 and 2025, the United States would save $109.7 billion in new roadway construction costs (p.36). Regarding the reduction in travel costs for citizens, the Burchell report also indicated that the United States would save $24.1 billion in personal daily travel costs (Burchell et al., 2002, p. 36).

From 2001 to 2007 the Delaware Office of Management and Budget (2008) found that one in four recorded residential lots were located outside of designated growth areas, as defined in the “State Strategies for Policy and Spending” (SSPS) (p. 3), thereby undermining transportation/land use integration in Delaware, since transportation investment is tied to designated growth areas. Interconnectivity and use of multiple transportation systems (biking, walking, rail, and bus) have only improved marginally. The Delaware Department of Transportation (2007) produced a Travel Monitoring System Survey spanning from 2001 to 2006 that found that 96.4 percent of Delawareans still drive or ride in a car to work (p. 11). The number of workers walking to work dropped from 3.8 percent to 2.5 percent from 1990 to 2000 (Delaware Department of Transportation, 2007, p. 19). The number of those riding a bike to work declined from 0.3 percent to 0.2 percent of the working population in the same time period (Delaware Department of Transportation, 2007, p. 19). This indicates that even though growth is
more directed, it is not correlating with the growth of an integrated and efficient transportation system. Fixed-route bus ridership only increased by 3.2 percent from 2005 to 2007 (Delaware Department of Transportation, 2007, p. 23). However, during the same time, annual rail ridership on the SEPTA R2 line increased 18.5 percent (Delaware Department of Transportation, 2007, p. 26). A key contributing factor to this increase was gas prices. The below graph shows the strong correlation between gas prices and SEPTA R2 ridership.
A trend of population growth and decentralization necessitates a proactive and aggressive approach to fostering transportation/land use integration in Delaware, especially in areas where growth is anticipated. Between the period of 2000 and 2030 Delaware’s population is expected to grow by approximately 260,000 people; many are expected to live in Kent and Sussex Counties rather than the more urban New Castle County (Delaware Department of Transportation, 2007, p. 4). Given current economic conditions and the collapse of the housing market, planners have the opportunity to get strong policies in place before the next housing boom.
This paper will present the following:

1) A matrix highlighting perceived and realized deficiencies in transportation/land use integration based on respondent interviews conducted via conference calls. The matrix categories consist of: current practices, deficiencies, suggestions for improvement, and feedback on proposed recommendations.

2) Recommendations to address integration deficiencies. Recommendations are generated from the interviewee feedback regarding proposed recommendations.

3) A review of the literature of possible policy outcomes that will improve land use/transportation integration in Delaware.

4) An examination of the current transportation/land use integration practices in Delaware. State agencies, county agencies, metropolitan planning organizations (MPOs), and the Delaware Transportation Management Association will be examined. The information presented for all organizations is based on general research and interview responses.
Chapter 2

METHODOLOGY

The matrix highlighting current practices, perceived and realized deficiencies, and suggested improvements in transportation/land use integration across Delaware was based on interviews conducted via conference calls. Conference calls were conducted in October 2008 during weekdays scheduled on dates and times convenient for the interviewees. Each interviewee was interviewed separately.

Preliminary phone calls or e-mails were sent to interviewees to ask for their cooperation in this research. After agreeing to take part in the interview, interviewees were provided questions ahead of time regarding transportation/land use integration issues in Delaware.

Interviewees were also provided with accompanying content that would be needed to answer any questions, such as the fifth question. They were asked to review the questions and supplementary materials before the interview and prepare comments or thoughts, although this was not a requirement for the interview to take place. Asking interviewees to prepare their thoughts prior to the actual interview was mentioned to encourage higher-quality responses during the actual interview. The individuals
interviewed were in every case managers, department heads, or directors for their respective entity so reminding them to prepare for the interview helped to ensure that this research did not get lost amid other important priorities. Additionally, since those interviewed were senior level officials, it was important to ensure that this would not waste their time, but instead be an efficiently conducted interview. All interviews were limited to one hour and almost every interview was finished in less than an hour.

Individuals were chosen to take part in the research because they, in some way, represented a vital role or carried out a vital responsibility as it related to transportation and land use integration in Delaware. Special attention was given to including individuals from the land use and transportation sectors, private sector representation, government actors from all levels, and regional planning entities. Additionally, those chosen to take part in the interviews were also those seen as most influential in the state of Delaware in having the power to change policy and enact laws. The officials interviewed were:

- Connie Holland, Director, Delaware Office of State Planning Coordination
- David Culver, General Manager, New Castle County Department of Land Use
- George Haggerty, Assistant General Manager, New Castle County Department of Land Use
- Lawrence Lank, Director, Sussex County Planning Department
- Sarah Keifer, Director, Kent County, Division of Planning and Zoning
At the start of the interview the research would be introduced and explained to the interviewee so that they understand the general purpose and intent of the work. This was provided to interviewees so that they could better tailor their comments to the true intent and focus of the research. During the actual interviews, questions were simply read aloud to the respondent on the other line and the respondent was given the opportunity to provide an answer in whatever amount of detail they felt best answered the question. With the exception of the second question, all questions were open ended. The second question in the interview asked public officials to give a self rating of their current efforts at transportation-land use integration in Delaware. They chose a number between 1 and 6, 1 being lowest rating and 6 being the highest rating. After selecting a success rating, respondents were asked to give an explanation of the rating (i.e. why they chose it and why they felt that rating was accurate).

As soon as the respondent started to answer the question, the interviewer would write down the response. Responses were not voice recorded at all, so all
responses were derived through paraphrasing or copying down verbatim what the respondent was saying on the phone. Since the intent of the interview was to ascertain big ideas and general feedback from respondents rather than very technical, detailed responses writing respondent answers down rather than recording them was a cost-effective and efficient form of information gathering. Respondents were told up front that the intent of the interview was to get their feedback and perspective so they understood clearly that they could open up to the interviewer. The context of the research was explained thoroughly to interviewees through introductory communications early on in the research and at the beginning of the interview so interviewees knew the purpose of the research.

Generally respondents were supportive of helping to solve the problems Delaware faces and excited to be a part of it. Responses were not cut off or limited. As previously stated the only limitation was that interviewees were guaranteed that interviews would not take more than an hour. This was done not to limit interviewee responses, but to safeguard their precious time to not be taken away by a run-on interview. Interviewees were asked the following questions during the conference call interview:

1) What current practices are used to integrate transportation with the land-use planning process in Delaware?
a. How are DelDOT, Office of State Planning Coordination, and the local MPO included in the process?

b. If any or all of the above mentioned agencies are involved in the land-use planning process, do you find that their input is generally constructive and useful? If not, how can this be improved?

2) Generally, how would you rate your county/department in relation to its ability to successfully integrate functional transportation systems with the land use process generally?

(on a scale of 1 to 5; 5 = Excellent; 4 = Good; 3 = Average; 2 = Poor; 1 = Terrible)

Explain your evaluation.

3) What are the current general deficiencies, as you see them, regarding transportation/land use integration in your county? What deficiencies exist within the planning process related to transportation and land use integration?

4) How can we improve our transportation/land use integration practices?

5) On the project proposal sheet, please comment on the possible recommendations as listed at the end of the Description of Approach and Methodology for Solving the Problem on the Project Proposal sheet.
The first question was designed to find out what the self-identified current practices were for each organization. The first question was also designed to ascertain what the current status was on the relationship between the department and other state or regional planning organizations. The second question was designed to examine what different officials and organizations thought about their own efforts. The third question was two-fold. The first part asks interviewees to highlight deficiencies that they have individually or within their department. The second part of the question asks about what deficiencies interviewees see within the entire planning process which is outside of the single control of any one entity. The fourth question asks for general suggestions and ideas on improvement. The fifth question asks interviewees to provide feedback on several potential solutions to transportation-land use integration deficiencies in Delaware that were listed in materials provided to interviewees before the interview. The potential solutions provided for comment were: 1) creating and encouraging transit-ready communities, 2) establishing transit-supportive zoning districts, 3) using Local Area Plans, 4) addressing Memorandums of Understanding (MOUs) in the planning process, and 5) Traffic Mitigation Plans (TMAs) as a regulatory tool in the zoning process.

Specific tables were created in the categories of: current practices, deficiencies, suggestions on improvement, and feedback on proposed recommendations. For each category top responses emerged. The common themes were listed at the top of each table to be highlighted as current practices, deficiencies, suggestions, or feedback that was generally agreed upon by the majority of interviewees. Responses shown in the
Tables were categorized into four major groupings: 1) DTMA, 2) MPOs, 3) state agencies, and 4) counties. Only comments from the DTMA were included in the DTMA category. MPOs included comments from WILMAPCO, the Salisbury / Wicomico County MPO, and the Dover / Kent County MPO. State Agencies included comment from DelDOT, OSPC, and DTC. Counties included comments from New Castle County, Kent County, and Sussex County.

Several months after the interviews, respondents were again invited to a workshop that occurred after literature reviews were completed and prior comments organized to review research findings and provide additional feedback or corrections with regard to what was reported. Any suggestions, changes, or modifications to comments were noted and included in this thesis either for addition to the matrix or in the recommendations section of this thesis. The workshop started with a research overview and then continued with in depth discussion on the information provided. The workshop lasted approximately two hours. All interviewees or representatives sent on behalf of interviewees were in attendance at the workshop. Comments and ideas coming from the workshop were captured through note taking, paraphrasing, and writing verbatim what individuals in attendance were saying.
Chapter 3

ROLES AND RESPONSIBILITIES OF DIFFERENT PLANNING ENTITIES

The following is an examination of policies, ordinances, comprehensive plans, regulations, and other literature to find out what Delaware officials are currently doing to better integrate transportation with land use. To better organize the immense amount of information available on transportation-land use integration policies in Delaware, the literature review is organized according by governmental agency. The following governmental entities were examined:

- Delaware Office of State Planning Coordination (OSPC)
- Delaware Department of Transportation (DelDOT)
- Delaware Transit Corporation (DTC)
- New Castle County Government
- Kent County Government
- Sussex County Government
- Wilmington Area Planning Council (WILMAPCO)
- Dover/Kent County Municipal Planning Organization (DKCMPO)
Office of State Planning Coordination (OSPC)

The Office of State Planning Coordination (OSPC) currently facilitates transportation/land use integration in Delaware through: 1) the Livable Delaware Initiative, 2) Strategies for State Policies and Spending, 3) Preliminary Land Use Service (PLUS) Process, and 4) the “Better Models for Development in Delaware” strategies.

OSPC administers the Livable Delaware initiative, the guiding principles of which are to:

- guide growth to areas that are most prepared to accept it in terms of infrastructure and thoughtful planning
- preserve farmland and open space
- promote infill and redevelopment
- facilitate attractive, affordable housing
- protect our quality of life while slowing sprawl

(Delaware Office of State Planning Coordination, 2001, para. 2)

The first principle focuses on encouraging development in and around transportation infrastructure. The third and fifth principles relate to the first in that both principles focus land use toward growth areas with infrastructure, thereby decreasing
sprawl development. The Livable Delaware initiative is implemented by the Governor’s Livable Delaware Advisory Council (LDAC) grant funding programs, and state agency Livable Delaware implementation plans. The LDAC is made up of officials from all levels of government, business associations, community-interest groups, and natural resource-conservation groups who create subcommittees to address issues such as the following:

- Community design, which developed the “Better Models for Development in Delaware” publication.
- Green infrastructure, which created the Green Infrastructure Strategy added to the Strategies for State Policies and Spending.
- Affordable housing
- Annexation
- Dispute resolution
- Infill & redevelopment
- Livability indicators
- Transfer of development rights (TDR)

(Delaware Office of State Planning Coordination, 2001, para. 4)

By fostering infill and redevelopment as well as implementing TDR ordinances, the LDAC subcommittees encourage high-density development in designated growth areas which promotes more walking and transit use. A Maryland State Highway Administration et al. (2005) analysis of 35 studies of local land use patterns found that
“in dense mixed-use environments . . . walking and transit use are more prevalent.”

Frank and Pivo (1995) found that the commercial density component of the land use mix is just as important, if not more so, than the residential density component on transportation-mode choice (p. 30). A Cervero study found that “for low density environments, it does not matter whether the land uses are mixed or not; the probability of transit use is about the same. When the density goes up, so does the probability of transit use” (Maryland State Highway Administration et al., 2005, p. 30). This highlights the real importance of the infill/redevelopment component toward integrating land use and transportation.

Aside from the subcommittee assignments, LDAC plays a role in the county and municipal comprehensive plan certification processes. After a draft comprehensive plan is reviewed through the PLUS process, local government officials and LDAC members meet to discuss any changes made as a result of the PLUS review (Livable Delaware Advisory Council, 2007, para. 2). If LDAC is satisfied with the final draft plan, the plan is sent to the Governor’s office with a recommendation for certification (Livable Delaware Advisory Council, 2007, para. 2). The LDAC review provides yet another opportunity for ensuring that land use plans match short and long-term transportation infrastructure priorities.

OSPC also implements the Livable Delaware initiative through the “Livable Delaware Grant Program.” The grant funding provides 50 percent matching funds up to $10,000 for counties and municipalities to address issues related to development,
transportation, land use regulation, and planning (Delaware Office of State Planning Coordination, 2007, para. 3). The grant application outlines the following types of aid that qualify for approval:

- Pre-planning organization such as training of planning commission and local officials
- Post planning for implementation of comprehensive plan
- Annexation plans
- Zoning, subdivision, and other land use regulations
- Community design projects
- Main Street planning
- Other projects needed to comply with the Livable Delaware laws

(Delaware Office of State Planning Coordination, 2007, p. 2)

The grants can be used with infrastructure-planning grants, thereby providing localities with more assistance, given the predicament of limited planning staff and budgetary constraints (Delaware Office of State Planning Coordination, 2007, p. 2). Funds are also available through the Limited Funding Pool of the Infrastructure Planning Account for municipal comprehensive plan updates (Delaware Office of State Planning Coordination, 2007, p. 2).

Pursuant to Executive Order #14 (March 2001), 15 state agencies have created Livable Delaware implementation plans that outline what they will do to support the Livable Delaware initiative (Delaware Office of State Planning Coordination, 2007, para. 3). For
example, one goal of the DelDOT’s Livable Delaware implementation plan is to improve the transit-planning process. To achieve this goal, the following actions are recommended: 1) foster more cooperation among all levels of government, 2) require that local ordinances include language that addresses and facilitates transit use, 3) require that developers and public agencies incorporate transit planning into the initial phases of the development-review process, and 4) establish transit overlay zones (Delaware Office of State Planning Coordination, 2007, para. 5).

Another method used by OSPC to integrate land use and transportation is through the “Strategies for State Policies and Spending” (SSPS). SSPS is a comprehensive framework for encouraging growth in areas with infrastructure or projected for infrastructure investment. The map below shows the SSPS map. The map defines four priority levels for state spending on infrastructure. Level 1 represents the highest priority for infrastructure investment. Level 4 represents the lowest priority for infrastructure investment.
Exhibit 2: State Strategies for Policies and Spending Map
OSPC also conducts the PLUS Review process, which mandates that major land use changes throughout the state of Delaware be reviewed by the state before submission to local government planning-review processes (Delaware Office of State Planning Coordination, 2007, para. 1). Major land use proposals reviewed by OSPC include specific site- development proposals, comprehensive plan amendments, or comprehensive plan drafts. Title 29, Chapter 92. Subchapter II: Pre-application Reviews of the Delaware State Code sites specific conditions that mandate preliminary project review by OSPC:
§ 9203. Local land use planning actions subject to review process.

(a) All projects meeting any 1 of the following criteria shall undergo a pre-application meeting and review process as set forth in this chapter:

(1) Major residential subdivisions with internal road networks and more than 50 units, excluding previously recorded residential subdivisions of any size which have not been sunsetted.

(2) Any non-residential subdivision involving structures or buildings with a total floor area exceeding 50,000 square feet, excluding any previously approved and recorded non-residential subdivision regardless of floor area size, or any site plan review involving structures or buildings with a total floor area exceeding 50,000 square feet, excluding any previously approved and recorded non-residential site plan review regardless of floor area size.

(3) Rezonings, conditional uses, site plan reviews and/or subdivisions, within environmentally sensitive areas, as identified within any local jurisdiction's comprehensive plan as certified under § 9103 of this title.

(4) Annexations inconsistent with the local jurisdiction's comprehensive plan as certified under § 9103 of this title.

(5) Applications for rezoning if not in compliance with the local jurisdiction's comprehensive plan as certified under § 9103 of this title.

(6) Any other project which is required to be referred to the State for pre-application review by local jurisdiction regulations.

(7) Any local land use regulation, ordinance or requirement referred to the Office of State Planning Coordination by a local jurisdiction for the purpose of providing the jurisdiction with advisory comments. The land use regulations, ordinances or requirements that are to be referred to the Office of State Planning Coordination may be specified in a jurisdiction's Memorandum of Understanding.

(8) County and municipal comprehensive plans as required by Titles 9 and 22.

(b) Any applicant may voluntarily request to participate in the pre-application review process and shall make such requests in writing to the Office of State Planning Coordination. (74 Del. Laws, c. 186, § 1.)
The PLUS review committee includes representatives from the Department of Natural Resources and Environmental Control, DelDOT, State Housing, State Fire Marshal’s Office, Department of Agriculture, Department of Education, and Department for Historic Preservation, although any applicable state agency is provided the opportunity to submit comments on a project (Livable Delaware Advisory Council, 2007, para. 3). Of significant importance, the Delaware Transit Corporation gives comments on proposals to further connect these developments with transportation planning. For example, a 2007 development proposal called Chickberry Farms in Sussex County received comments from ten government agencies (Delaware Office of State Planning Coordination, 2007, p. 1).

Regarding specific development proposals, rezonings, and substantial commercial or industrial-use expansions, the PLUS review application consists of 45 questions (Delaware Office of State Planning Coordination, 2007, p. 1). In addition to answering questions, applicants also submit detailed site maps that give more information about the development’s location. These maps show SSPS levels in the area showing whether a proposed development occurs in a high priority state investment level or not. Additional maps outline environmental, land use, and topographical attributes of the site.

The PLUS review has eight questions specifically related to transportation issues (Delaware Office of State Planning Coordination, 2007, p. 1). The first deals with Delaware SSPS, asking the applicant in which SSPS level the development proposal is
located (Delaware Office of State Planning Coordination, 2007, p. 1). The OSPC recommendation regarding the application review will be impacted by the level designation. If the development is located in a Level 4 area, the chances for state investment in transportation infrastructure are very low to none. For example, the Vessels project located in Sussex County consisted of 213 residential units to be built on 162.95 acres of Level 4/Environmentally Sensitive land (Delaware Office of State Planning Coordination, 2008, p. 1). As a result of the designation, the OSPC stated “because of its location in a Level 4 area and the negative impacts to the environmental features on this site, the State objects to the development of this parcel and respectfully requests that this site plan be denied” (Delaware Office of State Planning Coordination, 2008, p. 2). By doing so OSPC, forces the localities to absorb the government services and infrastructure costs.

The second question asks if the developer will fund any transportation infrastructure improvements. The third question asks about the general traffic-impact of the development, how many vehicle trips will be generated, and how many truck (excluding vans/pick-up trucks) trips will be generated (Delaware Office of State Planning Coordination, 2007, p. 4). The fourth question asks whether the development will connect with public roads and, if so, how many connections will there be (Delaware Office of State Planning Coordination, 2007, p. 4). The fifth asks whether the rights-of-way will be public, private, or town (Delaware Office of State Planning Coordination, 2007, p. 4). The sixth asks whether street frontage will be applicable to the Corridor
Capacity Preservation Program (CCPP) (Delaware Office of State Planning Coordination, 2007, p. 4). If the development is applicable to this program, then specific transportation infrastructure improvements have to be addressed in order for the development to move forward. The CCPP is designed to keep certain roadway corridors free of congestion and traffic. The seventh question asks whether the developer would be willing to connect the site proposal with other developments in the area (Delaware Office of State Planning Coordination, 2007, p. 4). If developers are willing to create interconnectivity between developments, this provides for more mobility and transit integration. The last question relates to sidewalk provisions and bike/pedestrian network connections (Delaware Office of State Planning Coordination, 2007, p. 4).

Regarding comprehensive plan reviews, a normal PLUS review consists of what is called a Comprehensive Plan Checklist (Delaware Office of State Planning Coordination, 2008, p. 1). Every comprehensive plan requires the inclusion of certain elements, without which the project is incomplete. From community design to historic preservation, the required elements are thorough and many. Although transportation issues tend to be a recurring theme within many comprehensive plans, the PLUS comprehensive plan review process checks for the inclusion of a separate transportation-mobility element in every plan (Delaware Office of State Planning Coordination, 2008, p. 1). Once the PLUS comprehensive plan review is completed, the checklist and comments from state agencies are sent to the applicant (Delaware Office of State Planning Coordination, 2008, p. 1). The county or municipal applicants are required to
review the comments and checklist, make improvements to the comprehensive plan draft, and resubmit the plan with comments to the PLUS review committee (Delaware Office of State Planning Coordination, 2008, p. 1). OSPC, upon completion of the PLUS review, submits the comprehensive plan draft with a recommendation to LDAC for final review and possible certification (Office of State Planning Coordination, 2008, p. 1). As stated previously, the LDAC-recommended plan is sent to the Governor for final review and certification.

Additional PLUS review processes are in place for amendments to municipal or county comprehensive plans. This application normally consists of a thorough explanation of the amendment and the reasoning for it (Delaware Office of State Planning Coordination, 2008, p. 1). Upon review of the submitted amendment, state agencies have the ability to submit recommendations and certification comments (Delaware Office of State Planning Coordination, 2008, p. 1). Recommendations are suggestions that state agencies ask the applicants to follow. Certification comments are demands that, if not met, will result in a rejection of the application and a denial of certification approval for the amendment (Delaware Office of State Planning Coordination, 2008, p. 1).

OSPC also published a report called “Better Models for Development in Delaware” in conjunction with the Conservation Fund and the LDAC Community Design Committee. The report promotes traditional neighborhood development, which is
defined by walkability, multi-modal transportation, and integration of mixed-uses into development design (Delaware Office of State Planning Coordination & Livable Delaware Advisory Council Community Design Subcommittee, 2004, p. 1). The report emphasizes creation of “streetscapes” (Delaware Office of State Planning Coordination & Livable Delaware Advisory Council Community Design Subcommittee, 2004, p. 62), which incorporate Complete Street concepts with a strong focus on “creating place.” This includes the introduction of street-side facades, historic street lamps, and wide pedestrian sidewalks. “Creating place” means that people are attracted to a location based on its aesthetics, prevalence of things to do, and its unique character as a public attraction. One of the key problems with establishing walkability and bicycle facilities in communities is the question of whether or not they will be used. Creating streetscapes encourages more use of these forms of transportation because individuals have more incentive to enjoy a place and walk around. Below is a map of a mixed-use development pattern that embodies the goals of the report:
Exhibit 3: Land Use Schematic Map

The lower development follows a street grid pattern of dense housing and apartments, with a mall centrally located within the community and a school located adjacent to residential areas. The upper development is separated by use. The mall is detached from the housing, and the apartment complexes and the school are separated from the residential uses. This pattern of development increases the travel time for residents to take their children to school and for residents to shop at the mall. It is a less-efficient land use since it fragments what could be contiguous natural habitats or open spaces. Inclusion of graphics like this within the report provide private and public-sector actors with visual guidance for successful transportation and land use integration.
DelDOT is involved with transportation and land use integration during the earliest stages of the planning process. The following examination will cover these DelDOT land use/transportation integration policies: 1) intergovernmental cooperation, 2) the Council on Transportation, 3) “Statewide Rails-to-Trails/Rail-with-Trail System Master Plan,” 4) Corridor Capacity Preservation Program, and 5) Local Area Planning. DelDOT is included in the preliminary stages of almost every development-review process at the local, county, and state level. DelDOT is charged with developing mobility elements for county and municipal comprehensive plans (Reeb, 2008, p. 2). DelDOT is consulted on the development and review of regional transportation plans as well as various other transportation related research conducted by all three MPOs in Delaware. Mobility elements of comprehensive plans become the regional transportation plans for local MPOs and counties (Reeb, 2008, p. 2). These county-wide transportation policies are integrated into one state transportation plan that is also developed by DelDOT. At the local level, DelDOT has the responsibility of evaluating every entrance from a public road to private property in order to ensure that entrances include bicycle and pedestrian facilities where applicable, especially in areas near mass-transit (Reeb, 2008, p. 2).

At the state level through the PLUS process, DelDOT input and comment on various development proposals, comprehensive plan updates, comprehensive plan
amendments, and rezonings is given before the proposal reaches local planning-review processes. DelDOT makes recommendations in order to create transit-friendly and transit-ready communities that provide adequate transportation capacity. This includes bike connections and pedestrian connections (Reeb, 2008, pg. 2). Furthermore, DelDOT is currently working on a white paper regarding Complete Streets in order to improve Delaware’s current Complete Streets policy. DelDOT recommendations to applicants or government officials become functional requirements since DelDOT, through state law, is given power to put in place proper regulations and policies that support safe and smooth flow of transportation in Delaware (Reeb, 2008, p. 2).

DelDOT also has the responsibility to enforce compliance with the federal Americans with Disabilities Act (ADA) regulations (Reeb, 2008, p. 2).

DelDOT implements federal regulations that help incorporate regions of Delaware that are not fully served by MPOs into the transportation-planning process. The 1998 federal Transportation Equity Act for the 21st Century (TEA-21) “required the states to give “non-metropolitan” locally elected and appointed officials a stronger role in statewide long-range transportation planning and capital improvement programming” (Delaware Department of Transportation, 2006, p. 1). Since Delaware is served by two established MPOs located in New Castle and Kent Counties, with one MPO still in the development stages, Sussex County is the only county relevant to the TEA-21 regulations. As mandated by TEA-21 DelDOT created a Consultation Process for Non-
metropolitan Locally Elected and Appointed Officials in 2004 (Delaware Department of Transportation, 2006, p. 1). The consultation process includes local officials in the creation of the Capital Transportation Program (CTP) (Delaware Department of Transportation, 2006, p. 2). Involvement in the CTP planning process is crucial since the CTP defines transportation infrastructure priorities and funding schedules for the short-term and long-term future. After the 2010 census is completed, the Salisbury/Wicomico County MPO (SWCMPO) may expand further into Sussex County based on population growth. It is unclear whether all of Sussex County will be included in the current MPO. The map listed below shows the current size of the Salisbury/Wicomico County MPO. First, notice that the MPO is very small and second notice that only a very small section of the MPO is located in Delaware, namely the Delmar area.
Exhibit 4: Salisbury/Wicomico County MPO Study Area

In Delaware, the Governor has the power to appoint and specifically approve a nine-member Council on Transportation (COT), which is charged with advising officials on issues related to transportation (Delaware Department of Transportation, 2006, p. 2). Each county in Delaware is given equal representation on the council (Delaware Department of Transportation, 2006, p. 2). Special consideration is also made to include individuals from inside and outside incorporated areas of Sussex County (Delaware Department of Transportation, 2006, p. 2). Additional inclusionary measures
are taken during the process of revising and improving the CTP in order to include Sussex County citizens, government officials, and elected officials (Delaware Department of Transportation, 2006, p. 2). Taking the extra steps toward including the non-metropolitan areas of Delaware enables DelDOT and other agencies to better plan for growth and transportation infrastructure needs. DelDOT also consults heavily with Sussex County officials during the review process for the Statewide Long-Range Transportation Plan (Delaware Department of Transportation, 2006, p. 3). Minimum outreach efforts as indicated in the consultation-process document published by DelDOT include:

- Introductory letter mailed directly to locally elected and appointed officials at the county and local levels. The purpose of these mailings is to let officials know what the department is doing, to distribute draft products for review, and to let them know when and how they can provide their comments.

- Interviews with briefings for locally elected and appointed officials. This includes interviews and/or briefings with the Sussex County Administrator, the Sussex County Council, and with the managers, mayors, and councils of local governments throughout the county. The purpose of these interviews and briefings is to solicit comments on the current plan and how it should be updated to reflect new or changing needs within the county or particular municipality.
Extensive mailings to other agencies and organizations. These include social service agencies, public libraries, associations of towns (e.g., the Sussex County Association of Towns and the Association of Coastal Towns), and other agencies and organizations engaged with local government officials in the decision-making process (Delaware Department of Transportation, 2006, p. 3).

DelDOT also creates and maintains a Sussex County specific Long-Range Transportation Plan (Delaware Department of Transportation, 2006, p. 3) in order to afford Sussex County some of the same advantages that Kent and New Castle Counties receive through their respective MPOs.

DelDOT is working with government officials at all levels to improve the statewide walking and biking system through the creation of the “Statewide Rails-to-Trails/Rail-with-Trail System Master Plan.” The goal of the plan, as the title explains, is to use old railways and current functional railways as areas for public trails and multi-modal paths. The Plan focuses on multiple rail corridors within all three counties in Delaware totaling 44 miles of off-road trail facilities (Delaware Department of Transportation, 2005, p. 1). One advantage of this plan is that, aside from creating more walkable and interconnected communities, the public-sector is simultaneously preserving rail-line corridors for possible future use as actual rail lines. State Senator Harris McDowell, speaking about the Rail-to-Trail program, said:
I believe that it is important to keep in mind what the intended purpose of the Rails-to-Trails program really is. The program was originally set up as a way for states to hold onto rail lines in the event that they might be used again as a rail/mono-rail system in the future. The idea of future rail development in the state hinges on our ability to use this land, because having to re-purchase land would make future rail/mono-rail development virtually impossible (Delaware Department of Transportation, 2005, p. 9).

DelDOT implements the Corridor Capacity Preservation Program (CCPP), which has four main goals: 1) maintain a road’s ability to handle traffic efficiently and safely, 2) minimize the transportation impacts of increased economic growth, 3) preserve the ability to make future transportation-related improvements as needed, and 4) prevent the need to build an entirely new road (Delaware Department of Transportation, 2008, p. 2). The current corridor areas are shown in the map below.
Exhibit 5: Delaware Corridor Capacity Preservation Program Map
DelDOT aims to curb direct road connection between new developments and highway corridors designated in the map. DelDOT encourages alternative access for such developments in order to reduce traffic and congestion on major corridor highways (Delaware Department of Transportation, 2002, p. 2.2).

CCPP requires that “counties and local governments refer applications for rezoning, subdivision, and entrance permits to DelDOT to review for consistency with the CCPP” (Delaware Department of Transportation, 2008, p. 4). The Development Coordination Section of the DelDOT Division of Planning provides comments on all rezoning requests for properties located in corridor areas (Delaware Department of Transportation, 2002, p. 3.2). The Development Coordination Section also assesses whether adequate conditions exist in order to approve a site project in a corridor area (Delaware Department of Transportation, 2002, p. 3.2). Technical review and preliminary conferences are to take place early in the review process of a development proposal, in order to allow the participant to take adequate action regarding mitigating excessive traffic-impacts on corridor areas (Delaware Department of Transportation, 2002, p. 3.2). The CCPP also states that “development along a designated corridor that will exceed the capacity of the road will only be approved subject to mitigating improvements being made by the developer that may include roadway improvements and/or traffic management agreements” (Delaware Department of Transportation, 2002, p. 3.2). DelDOT also coordinates with local government bodies to ensure that
comprehensive plans are consistent with the goals and implementation strategies of CCPP (Delaware Department of Transportation, 2008, 4).

DelDOT works with landowners, municipal officials, and county government officials to develop local area master plans. Local area master plans bridge the gap between county-level planning and municipal planning by covering mid-level regional areas that are usually larger than towns, but smaller subsets of a county. Examples of these efforts are the West Town Plan for Middletown, the Southern New Castle County Master Plan, and the Churchman’s Crossing Master Plan (Reeb, 2008, p. 1). These plans examine all forms of transportation opportunities from walking to driving to mass-transit (Reeb, 2008, p. 1).

**Delaware Transit Corporation (DTC)**

The following examination of DTC transportation/land use integration policies will include: 1) the Wilmington-to-Newark Commuter Rail-Improvement Project, 2) Coordinated Transit/Transportation Plans (CTTP), and 3) intergovernmental cooperation. Currently, DTC is working on the Wilmington to Newark Commuter Rail Improvement Project. Since northern New Castle County growth in the Newark-to-Wilmington corridor is expected in the future, a third rail line is proposed between Newport and Wilmington to remove a choke point that exists in that area (Delaware Transit Corporation, 2008, p. 1). This will allow for greater trip frequency for the SEPTA commuter rail service. Currently, the service averages approximately 4,000 trips
per day, after the improvements are completed, the service should produce approximately 7,840 trips per day (Delaware Transit Corporation, 2008, p. 1).

The Wilmington-to-Newark Commuter Rail Improvement Project aims to enhance the Delaware transportation system in New Castle County. Below is the map that identifies where improvements will be located in the northern New Castle County region.

(Source: http://www.dartfirststate.com/information/programs/wilm_newark/crip_summary_082108.pdf, pg 4.)

Exhibit 6: Wilmington to Newark Commuter Rail Improvements
Due to the recent purchase of the old Chrysler industrial site by the University of Delaware, the new train station planned for Newark will likely still occur, but not at Route 72 as it is featured in the above map. It is likely that the Newark station will be expanded and enhanced to be a crucial transit hub amidst a brand new University of Delaware campus at the old Chrysler site.

DTC works with local governments and other state agencies to create Coordinated Transit/Transportation Plans (CTTPs) for counties in Delaware. CTTPs inventory the transportation services (both for-profit and non-profit) available to citizens in Delaware counties, evaluate gaps in services, and propose new strategies for improving transportation systems in the counties. The CTTPs provide useful graphics such as transportation directories that list transportation providers, evaluating each provider based on what type of transportation is provided and whether the entity is for-profit or non-profit. Additional maps are provided that outline current transportation fixed routes and actual-use demands on various transportation systems. Overall, the CTTPs allow for DTC and local government officials to get on the same page regarding short-term and long-term transportation infrastructure concerns in each county.

DTC works with all three counties in Delaware and is actively involved in the planning-review processes that take place for development proposals. In New Castle County specifically, DTC works with public officials to create ordinance modifications that will promote transit in the county. DTC has planning staff who specifically work on
ordinances with local governments as well as Traffic Mitigations Agreements (TMAs) with private-sector entities such as AstraZeneca, located in New Castle County. DTC also works to encourage transit friendly development throughout Delaware in order to make the transition to a diverse transportation network an easy one for areas anticipating increased growth pressure. This strategy is especially focused on the large-scale developments that occur in Delaware, since such large developments can have a significant impact on how the area’s future transportation network will develop. DTC officials also give input during the PLUS review process. This means that DTC officials have influence over the development of municipal and county comprehensive plans, amendments to such comprehensive plans, development proposals, rezoning proposals, and proposed school expansions. DTC also coordinates planning efforts with Delaware MPOs.

New Castle County Government

New Castle County government is enacting various measures to better integrate land use with transportation in the planning process. The following two topics are examined in this section: 1) New Castle County Comprehensive Plan (NCCCP) and 2) New Castle County Unified Development Code.

New Castle County Comprehensive Plan
This section will cover the following topics: 1) process policies, 2) sub-area planning, 3) inter-municipal/cross-state transportation coordination, and 4) the New Castle County Pathway Plan. The NCCCP outlines a broad-based strategy toward integrating land use and transportation in the planning process. To start, development proposals are brought before the Planning Board at the “Exploratory Plan” stage, giving opportunities for input on the proposal before details of the proposals are settled (New Castle County Government, 2008, p. 2). Planning officials link various development projects together early in the planning-review process at the exploratory or preliminary review level, thereby fostering interconnectivity among multiple land uses (Culver & Haggerty, 2008, p. 2). Currently, OSPC has a Memorandum of Understanding (MOU) with New Castle County government “requiring that significant zoning changes be submitted to the OSPC and scheduled for hearing at monthly PLUS meetings” (Culver & Haggerty, 2008, p. 2). In many cases the New Castle County Unified Development Code exceeds PLUS-process standards. In such circumstances, PLUS review is not required. The Unified Development Code already requires that “major land-development plans, code amendments, and rezonings be reviewed by a Technical Advisory Committee (TAC) prior to public hearings” (Culver & Haggerty, 2008, p. 2). The TAC covers a variety of issues including transportation and land use—integration strategies by involving various members of state, local, and regional government agencies and bodies (Culver & Haggerty, 2008, p. 2). In order to support multi-modal transportation options, New Castle County mandates inclusion of pedestrian facilities on proposed plans in the development-review process (New Castle County Government, 2007, p. Transportation-
9). New Castle County is also encouraging more mixed-use development and mobility-friendly design standards in all new development.

New Castle County government is also working with DelDOT to initiate and expand local area studies that will provide a more “thorough understanding of the potential cumulative impact on the surrounding transportation infrastructure” (New Castle County Government, 2007, p. Future Land Use and Design-2). Government officials signed an MOU to create a Southern New Castle County Master Plan (New Castle County Government, 2007, p. Future Land Use and Design-5). Various parties are involved with the creation and constant evaluation of the local area plan, including DelDOT, OSPC, WILMAPCO, and others. By creating a local area plan, local and state officials can more efficiently integrate the multiple land use and transportation infrastructure demands that impact southern New Castle County. In addition to the southern New Castle County Master Plan, eight other areas in New Castle County are identified in the following map:
Exhibit 7: Major Sub Regional Studies, New Castle County

Two such examples are the Churchman’s Crossing study and the U.S. Route 40 study. Similar to local area plans, these study areas are considered during the planning process (Culver & Haggerty, 2008, p. 2). Transportation Investment Districts (TIDs) are to be developed and implemented in conjunction with DelDOT and WILMAPCO (New Castle County Government, 2007, p. Transportation-12) as another form of local area planning.

In cooperation with the state of Delaware, WILMAPCO, and other in-state/out-of-state municipalities, New Castle County hopes to establish an inter-municipal/cross-state transportation compact (New Castle County Government, 2007, p. Transportation-6). This compact would foster increased consultation and cooperation between regional governments at all levels in multiple states regarding transportation infrastructure improvements.

New Castle County coordinates the establishment of growth areas in conjunction with the SSPS so that state transportation infrastructure priorities match the county’s designated growth areas (New Castle County Government, 2007, p. Intergovernmental Coordination-2).

Through the New Castle County Pathway Plan (New Castle County Government, 2007, p. 9) local and state government officials can better integrate
pedestrian and bicycle transportation systems into varying land uses. In conjunction with the New Castle County Pathway Plan, New Castle County aims to integrate Complete Streets into every new development design (New Castle County Government, 2007, p. 7).

**New Castle County Unified Development Code**

The Unified Development Code (UDC) of New Castle County provides provisions implemented throughout the planning process enabling integration of land use and transportation infrastructure. During the planning process, transportation capacity is outlined early. New Castle County has a phasing policy regarding highway capacity versus land use demands. The policy mandates that DelDOT provide input on highway capacity in order to possibly require phasing of a development project (New Castle County Government, 2008, Article 28, Sec. 28.01.004). The New Castle County Government (2008) Transportation Capacity requirement states:

Prior to receiving a rezoning or major record subdivision or land development final plan approval from the Department, the transportation capacity allocated to a proposed development shall be based upon the most limiting intersection(s), as determined by a traffic-impact study (Article 5, Division 40.05.100).

This requirement limits the land use development potential of a site based on the transportation infrastructure located in the area. This relates closely to New Castle County’s Article 11 Transportation Impact ordinance, which defines how transportation capacity is calculated and how the process of review works. First, the need for a Traffic-
impact Study (TIS) is assessed. New Castle County officials report that TISs are required for all major subdivisions, amounting to 25 percent of all New Castle County development (Culver & Haggerty, 2008, p. 2). The New Castle County Government (2008) TIS is based on five components; as listed in the UDC:

1. The proposal exceeds the projected average daily traffic warrants provided in Table 1, Section 15 of DelDOT's Rules and Regulations for Subdivision Streets, as may be amended from time to time.

2. The proposal is projected to generate more than 50 peak-hour trips, including trips that are diverted from existing traffic.

3. The subject property is located near roadways segments and intersections that are operating below the level of service specified in Section 40.11.210.

4. The proposed development causes the total development within the area-traffic analysis zone and the adjacent zones to exceed the totals in the WILMAPCO Metropolitan Transportation Plan.

5. The proposed development will impact roadways that are not capable of providing adequate and safe circulation, or adequate stopping sight distances,
or that contain other geometric deficiencies that would result in safety
problems if the development were built (Sec. 40.11.120).

It is important to note the crucial role that both DelDOT and WILMAPCO play in this
analysis.

If one of the above components is cited as a reason to proceed with a traffic-impact study, the New Castle County Land Use Department and DelDOT meet with the applicant in what is called a “scoping meeting” (New Castle County Government, 2008, Sec. 40.11.122). The meeting is held to outline the parameters and general requirements for the completion of a traffic-impact study. The traffic-impact study is then conducted in order to inventory current transportation infrastructure located at or near the development site, assess current or future transportation infrastructure projects slated for construction in the area, and assess what future traffic loads will result from the construction of the actual development. After completion of the TIS, DelDOT is given time to review the findings and submit a report pursuant to Article 11, Section 40.11.140 of the New Castle County Government (2008) County Code that includes the following:

1. A statement indicating whether a traffic-impact study was previously submitted and evaluated for the same or a substantially similar rezoning, subdivision, or land development application, and if so, the results of that evaluation including any recommended mitigation measures. The statement
may also contain an evaluation and findings of any other concurrent TIS for applications in the immediate area.

2. A statement assessing the ability of the existing and planned transportation system to support the proposed rezoning, subdivision, or land development.

3. A statement describing the extent to which the proposed rezoning, subdivision, or land development is consistent with the adopted WILMAPCO Metropolitan Transportation Plan.

4. A statement describing the extent to which the proposed rezoning, subdivision, or land development complies with applicable DelDOT standards or regulations for access and subdivision design, and with the standards in Section 40.11.210.

5. A statement certifying the adequacy of the recommended traffic-mitigation measures to bring the network back to the desired level of service in Section 40.11.210 (Sec. 40.11.140).

Inclusion of WILMAPCO in the third requirement is significant because it gives the WILMAPCO Transportation Plan more relevance in the planning process. Although it is not reflected in the ordinance, New Castle County officials serve on the
WILMAPCO TAC and Executive Board regarding capital improvement plan (CIP) and transportation improvement program (TIP) creation and updates. County officials also consult with WILMAPCO on long and short-term transportation planning (Culver & Haggerty, 2008, p. 2). This collaborative effort on various issues improves the ability of both government bodies to impact the TIS process. After the submission of the TIS, the New Castle County Department of Land Use conducts a final assessment based on the actual TIS, recommendations and review from DelDOT, and the general transportation infrastructure goals for the area. Perhaps the most important aspect to this process is the fact that all of this occurs before the applicant gets to the first step of the development-approval process.

To start, various land use designations highlighted in Article 2 of the UDC, such as Office Regional, Suburban Transition, Traditional Neighborhood, and Commercial Regional, have requirements attached that mandate transportation improvements and mass-transit emphasis (New Castle County Government, 2008, Article 2, Sec. 40.02.221). For example, the Suburban Transition District requirement mandates that any new development be within a two-mile radius of an existing transit park or riding facility and that the development be no more than ¼-mile walking distance from the nearest bus stop (New Castle County Government, 2008, Article 2, Sec. 40.02.221). Additionally, New Castle County officials look 1,000 ft. around a parcel in order to study interconnectivity concerns (Culver & Haggerty, 2008, p. 2). Bicycle and pedestrian facilities are considered during the county planning-review process (Culver & Haggerty,
In Section 40.03.527 of the UDC is a bicycle parking requirement that mandates that for every ten automobile parking spaces constructed one bicycle-parking space be provided (New Castle County Government, 2008, Article 3, Sec. 40.03.527). New Castle County officials also work to encourage as much mixed-use development as possible (Culver & Haggerty, 2008, p. 2). Furthermore, New Castle County government received grant funding to study ways to better foster mixed-use development in the county (Culver & Haggerty, 2008, p. 2).

In areas where there is no development, new development projects are required to create local circulation plans, which, in conjunction with DelDOT and the New Castle County Department of Land Use, provide for future development by planning out the roadway infrastructure in the locality (New Castle County Government, 2008, Sec. 40.21.111). This plan must be completed before the proposal is given approval (New Castle County Government, 2008, Sec. 40.21.111). The department also has authority to require sidewalk construction when conditions require them (New Castle County Government, 2008, Sec. 40.21.162).

Kent County Government

Kent County government is enacting various measures to better integrate land use with transportation in the planning process. The following two topics are
examined in this section: 1) the Kent County Comprehensive Plan, and 2) the Kent County Code.

**Kent County Comprehensive Plan**

The Kent County Comprehensive Plan (KCCP) covers the following topics: 1) design of road improvements for vehicular traffic, 2) the county bicycle and pedestrian facilities plan, 3) transportation-improvement districts (TIDs), and 4) specific ordinance changes. When Kent County transportation data were collected in 1990 and 2000, the continued primary form of transportation in the county was drive-alone single occupant (77.7% in 1990 and 79.7% in 2000) (Kent County Government, 2008, p. 59). The KCCP calls for use of multi-modal paths. Multi-modal paths encourage more citizens to use alternative sources of transportation, like riding bicycles or walking by providing safe pathways for travel.

(Source: KCCP, 5-2)
Exhibit 8: Multi-Modal Pathway

The KCCP states: “Walking is the most basic form of transportation, and when road improvements for vehicular traffic are contemplated, multi-modal paths for bike and pedestrian traffic should be included in the design” (Kent County Government, 2008, p. 58).

A key recommendation of the KCCP is to “develop a county-wide plan for bicycle and pedestrian facilities including multi-use paths in concert with DelDOT’s bicycle/pedestrian planning efforts” (Kent County Government, 2008, p. 74). The use of multi-modal paths depends on proximity to multiple land uses. Mixed-use developments provide incentives for bikers and pedestrians to access nearby convenience stores, businesses, or recreation/entertainment centers. One of the recommendations of the KCCP is to “permit a mix of residential and nonresidential development at densities high enough to support transit in the Growth Zone Overlay, particularly in areas near municipalities” (Kent County Government, 2008, p. 74). DelDOT Pedestrian Facility data (2004) indicate that Kent County is making progress toward developing alternative transportation opportunities. DelDOT reports that Kent County has “25.3 miles of footpaths, over 400 miles of sidewalk, and nearly seven miles of crosswalks” (Kent County Government, 2008, p. 62).
The KCCP also calls for use of TIDs to better integrate land use and transportation. TID master plans replace traffic-impact studies during the subdivision and land development—approval process (Kent County Government, 2008, p. 72). TID master plans are created by “Kent County, DelDOT, the local MPO, and the community in order to develop a more complete plan addressing a larger area for transportation improvements including road upgrades, interconnection of local roads, and bicycle and pedestrian facilities” (Kent County Government, 2008, p. 72). Under the use of TIDs, “roadway infrastructure is identified ahead of the land use application” (Kent County Government, 2008, p. 72), which means that decision-makers at every level will have more time to better integrate transportation needs with potential needs. The TID approach links issuance of the building permit to the completion of developer road improvements (Kent County Government, 2008, p. 72), ensuring that fully functional transportation infrastructure is in place before land use development occurs. TISs are conducted for specific developments to assess their impact on adjacent roadways and transportation systems, whereas TID master plans encompass the greater area surrounding and adjoining a development. By use of this wider lens, public officials are better able to integrate various land uses with a master plan.

The KCCP recommends ordinance changes to further integrate land use with transportation infrastructure. One recommendation is to “condition approval of preliminary and/or final subdivision and land development plans onto phasing schedules based upon completion of required transportation improvements” (Kent County
Another recommendation calls for review of Kent County’s Adequate Public Facilities Ordinance (APFO) – Roads Component. The KCCP recommends to “determine the costs and benefits of establishing a standard within the APFO – Roads Element permitting the Levy Court to limit the number of building permits for new residential units for approved but not-yet-built lots identical to the provision in APFO-Schools” (Kent County Government, 2008, p. 73). The intent of this change in the APFO is to ensure “that delays at intersections functioning below the established Level of Service in these areas be maintained at their pre-development values” (Kent County Government, 2008, p. 73).

**Kent County Code**

The Kent County Code currently includes many provisions that integrate land use with transportation. This section will examine the following two aspects of the Kent County Code: 1) the planning-review process and 2) DelDOT coordination. The Kent County Planning Department mails project proposals to various government bodies to solicit feedback on proposals (Kent County Government, 2008, p. 73). OSPC comments on development proposals that are submitted to Kent County Planning Commissioners for review, and these comments often become conditions for approval (Kent County Government, 2008, p. 73). Kent County planners consider, when reviewing the sketch plan, “the potential further development of adjoining lands which may not yet be subdivided” (Kent County Government, 2008, Article IV, 187-18,C,9). During the
Preliminary Plan stage, OSPC and the Kent County Planning Commission’s Development Advisory Committee are consulted for comments and recommendations (Kent County Government, 2008, p. 14). This provides another opportunity within the planning process to look at the “big picture” as it relates to matching transportation priorities for the state with local land use goals.

Regardless of whether the proposal is a major or minor subdivision, in every situation the Kent County Planning Commission is specifically called upon to uphold the KCCP when making decisions (Kent County Government, 2008, p. 13). This specific mention of the KCCP as part of the general review framework for a proposal is important because many important land use/transportation integration strategies are contained in the KCCP. Kent County officials are also working to create multi-modal paths by encouraging implementation of such paths early in the planning process. Sidewalks are required on all collectors and arterials in most developments (Keifer, 2008, p. 2). Although developers in the county frequently request waivers pertaining to sidewalk creation, county officials report that waivers are normally denied. Kent County also encourages densely developed mixed-uses through planning unit development (PUD) policies and a transfer of development rights (TDR) ordinance (Keifer, 2008, p. 2). The ordinance densities permitted are three units per acre for PUD and five to seven units per acre for TDR. Kent County also has a circulation-ratio requirement within the TDR ordinance that discourages the use of cul-de-sacs. Kent County development projects are given phased approval based on completion of transportation infrastructure
improvements (Keifer, 2008, p. 2). In 2003, the Kent County Levy Court revised the Kent County Code Land Development and Subdivision Ordinance to “recognize the importance and popularity of pedestrian and bicycle facilities both for transportation and recreation and set forth requirements for the installation of sidewalks along all major collectors and many local streets as part of subdivision and land-development approval” (Keifer, 2008, p. 2).

DelDOT cooperation is a significant aspect to the Kent County Code subdivisions-review process. During preliminary conference of the planning-review process applicants for major subdivisions and minor subdivisions are encouraged to consult with DelDOT to start the process of planning for transportation infrastructure (Kent County Government, 2008, Article IV, 187-17,B). Developers usually meet with DelDOT officials before entering the county planning-review process (Keifer, 2008, p. 2). For final plan preparation applicants must have a “letter of no objection” from DelDOT submitted with the application (Kent County Government, 2008, Article VI, 187-24(D)(2). Kent County government has a Memorandum of Understanding (MOU) with DelDOT on review of rezoning requests to foster more coordination between the government bodies. The Kent County APFO necessitates early involvement of DelDOT in the county planning-review process (Keifer, 2008, p. 2). DelDOT governs the transportation capacity –calculation process for a proposed development (Kent County Government, 2008, Article XVII, 187-90.2(F)(3)(B)). Specific methodology used to determine traffic-impact is outlined by DelDOT in the Kent County Code (Kent County
Both DelDOT and the Kent County Planning Department have the power to mandate the completion of a TIS for any development, and, in the event that one is conducted, both departments are given the results for review (Kent County Government, 2008, Article XVII, 187-90.2 (F)(3)(C)). In fact, DelDOT is required to submit comments and recommendations on the submitted TIS (Kent County Government, 2008, Article XVII, 187-90.2 (F)(3)(H)). The Kent County Code mandates a scoping meeting be held between planning officials and the applicant to discuss how the traffic-impact study will be conducted (areas of influence, general parameters), etc. (Kent County Government, 2008, Article XVII, 187-90.2,F,3,E).

**Sussex County Government**

Sussex County government is enacting various measures to better integrate land use with transportation in the planning process. The following two topics are examined in this section: 1) the Sussex County Comprehensive Plan (SCCP) and 2) the Sussex County Zoning Ordinance.

**Sussex County Comprehensive Plan**

The following policies regarding land use/transportation integration will be examined: 1) land use—map correlation with SSPS, 2) increased consultation and coordination among agencies, 3) promotion of traditional neighborhood design, and 4) a
focus on mobility. First, the future land use map for county growth closely matches the SSPS map that outlines where the state will and will not invest money in transportation improvements. Sussex County government is working to increase communication and consultation between agencies through the PLUS process. Sussex County co-signed an MOU with OSPC that required the following land use issues to be reviewed in the PLUS process at the state level:

- Any Residential Planned Community.

- Major residential subdivisions containing more than 50 dwelling units.

- Any non-residential subdivision or site plan involving the expansion of an existing structure by 25 percent with a total floor area exceeding 75,000 square feet or new construction involving structures or buildings with a total floor area exceeding 75,000 square feet.

- Any rezoning within the Environmentally Sensitive Development District that would increase intensity or residential density.

- Applications for rezoning that are inconsistent with the Sussex County’s Comprehensive Plan.
Any local land use regulation, ordinance or requirement referred to the Office of State Planning Coordination by Sussex County for the purpose of providing the County with advisory comments. These include the modifications to the County’s zoning and subdivision ordinances.

Any amendment, modification or update to the Sussex County Comprehensive Plan (Sussex County Government, 2008, p. 10-2).

This allows for further intergovernmental coordination on land use and transportation integration issues because DelDOT is one of the key departments consulted during the PLUS process. DelDOT serves on the Sussex County Technical Advisory Committee review process for development-site proposals (Lank, 2008, p. 2). Sussex County government also sends all conditional-use applications and rezoning applications to DelDOT for preliminary review before the county even reviews the proposal (Lank, 2008, p. 2). DelDOT provides the county with LOS calculations, traffic counts, and occasionally TISs (Lank, 2008, p. 2). Sussex County aims to work closely with DelDOT, especially to establish better long-term plans for transportation investment (Sussex County Government, 2008, p. 10-4). Regarding long-term transportation planning with DelDOT the SCCP states the following:

The establishment of long-term plans for transportation will enable DelDOT to purchase land and easements for future road improvements now while these acquisitions are still available. Long-term plans will also enable DelDOT to work more effectively with new developers to provide funds for planned improvements.
The County would like to see property purchases for new roads made in a timely fashion after the location is determined (Sussex County Government, 2008, p. 10-4).

Sussex County government also works with the Salisbury/Wicomico County Metropolitan Planning Organization (SWCMPO) in order to address regional transportation issues in southern Maryland and southern Delaware areas. Sussex County officials send ordinance proposals to ask for input from the SWCMPO (Lank, 2008, p. 2). Sussex County officials also attend all SWCMPO meetings (Lank, 2008, p. 2).

The SCCP Community Design Element promotes traditional neighborhood design which is linked favorably to transportation/land use integration. The Community Design Element emphasizes the need for interconnectivity among differing land uses. See the below graphic from the SCCP:
Exhibit 9: Interconnectivity and Land Use

The SCCP states that neo-traditional neighborhood design is a design that creates more mobility-friendly development. A graphic showing some differences between suburban and neo-traditional design is shown below:

*Pedestrian and bicycle connections should be provided between various developments. Where a road does not provide a connection, a hard-surfaced pedestrian easement should be provided. In larger commercial developments, most vehicle traffic should be directed to routes that do not conflict with the main pedestrian entrances from parking lots.*

(Source: SCCP, pg. 160)
Exhibit 10: Suburban vs. Neotraditional Design

(Source: SCCP, 158)
Sidewalks are integrated into the design, and parking garages are located at the rear of buildings off of alleys so that cars do not cross pedestrian sidewalks to access driveways. The SCCP recommends that Residential Planned Community (RPC) provisions within the Sussex County Zoning Ordinance (Chapter 115: Zoning, Article XVI) stay in place to foster more neo-traditional developments (Sussex County Government, 2008, p. 11-7). RPC provisions promote mixed-uses, higher densities, use of alleys, use of rear driveway entrances, and greater interconnectivity (Sussex County Government, 2008, p. 11-8).

The SCCP mobility element calls for more coordination between transportation officials and Sussex County government. One recommendation highlighted in the SCCP is to create local area plans (Sussex County Government, 2008, p. 12-32). These local area plans would allow public officials to better understand local traffic patterns and plan for transportation infrastructure (Sussex County Government, 2008, p. 11-32). Sussex County plans to create local area plans for the U.S. Rt. 13 Corridor, the Delmar area, the Milton area, the Seaford/Blades/Laurel area, the Millville-Ocean View area, and the Greenwood Bridgeville area (Lank, 2008, p. 2). Another recommendation is to create an MPO-like organization in Sussex County supported by DelDOT’s Secretary of Transportation, the Sussex County Council, municipalities, and other state officials (Sussex County Government, 2008, p. 12-32). An MPO exists but functions primarily in Maryland. This is expected to change after completion of the 2010 census. Only the town of Delmar, Del. is included in the MPO. Regarding east-west
traffic movement through Sussex County, the SCCP proposes that county government and DelDOT “review current and future growth areas to determine adequate roadway capacity” (Sussex County Government, 2008, p. 12-27).

Well-planned east-west traffic flows allow for easy evacuation routes in the event of severe weather occurring along the Delaware/Maryland coast. The SCCP mobility element recommends that county officials take into account adjacent land uses when reviewing new development proposals. Integration of multi-modal paths is often required by DelDOT during the Sussex County site-plan-review process. The SCCP mobility element also requires that every subdivision with 20 lots or more must have a bus stop for school or a parking lot. In the SCCP Vision Statement, Part 4, emphasis is placed on matching commercial / industrial land uses with transportation infrastructure (Lank, 2008, p. 2). Seasonal bus service is also provided in high-density beach areas in Sussex County (Lank, 2008, p. 2). DTC and DelDOT have a service coordination—planning process in Sussex County helping with transportation statistics that empower Sussex County planners to better prepare for the future (Lank, 2008, p. 2).

**Sussex County Zoning Ordinance**

The Sussex County Zoning Ordinance implements various transportation—and land use—integration practices into the county planning process. Before the submission of a subdivision plat, applicants must consult in a preliminary conference
with local government officials and other public agencies regarding transportation planning (Sussex County Government, 2007, Article II, 99-7, A). Approval of a subdivision must include consideration of transportation elements such as: 1) “the effect on area roadways and public transportation,” 2) “provision for safe vehicular and pedestrian movement within the site and to adjacent ways,” and 3) “compatibility with other area land uses” (Sussex County Government, 2007, Article II, 99-9, C,11,15,16). Preliminary plan submittal requirements mandate that the applicants submit any “special studies or investigations” to “said public agencies for technical review and approval” (Sussex County Government, 2007, Article IV, 99-24, E). The applicant is then required to submit written comments from the said agency to the Commission (Sussex County Government, 2007, Article IV, 99-24, E). These requirements ensure that proper consideration is given to possible DelDOT studies or input necessitated by the size and scope of a development proposal. Every subdivision with 20 lots or more is required to provide a school bus stop and possible parking lot—this is a condition of approval.

Article III: Design Requirements and Standards of the Kent County Code provides strategies to integrate transportation and land use. Concerning strip development, the ordinance reads, “Strip development of all types should be limited and avoided as leading to undesirable consequences relative to future development of interior parcels and compromise of the traffic integrity of the roads involved” (Sussex County Government, 2007, Article III, 99-15, E). Often strip development is auto-centric in nature and lacks of interconnectivity to other land uses and transportation diversity.
Exhibit 11: Strip Development Lacking Interconnectivity

A requirement is included that prohibits major commercial, industrial, and subdivision development along major arterial roadways unless the development provides service roads adjacent to all major arterial roadways (Sussex County Government, 2007, Article III, 99-15, F). The Sussex County Code also requires that all improvements to a development site be completed and fully constructed before issuance of a building permit (Sussex County Government, 2007, Article VIII, 99-36). For General Commercial and Residential Commercial districts with large-scale uses, transit accommodations are to be provided at the discretion of county government and DelDOT (Sussex County Government, 2007, Article XI C-1, 115-77.1, D, 1,a). The code also states that General Commercial and Residential Commercial districts with large-scale uses must implement the following with regard to access standards from roadways:

Access from roadways shall be kept to a minimum and shall encourage the use of shared driveways where feasible and shall be subject to the approval of the
Wilmington Area Planning Council (WILMAPCO)

WILMAPCO implements various strategies to foster transportation/land use integration in northern Delaware. The following examination of WILMAPCO policies includes the following: 1) the Congestion Management System Summary (CMS) report, 2) the 2030 Regional Transportation Plan, 3) local area planning, 4) LOS calculation, 5) freight movement, 6) transportation/environmental justice areas, 7) the Delaware Bicycle Plan/New Castle County Greenway Plan, and 8) intergovernmental cooperation. The 2008 CMS assesses traffic congestion in New Castle County and recommends ways in which to improve the system. Instead of focusing the report on widening roads and constructing new roads to handle highly congested areas, the report is written from the perspective that “it is often difficult (or too expensive) to build our way out of congestion” (WILMAPCO, 2008, p. 5). Adding lanes or building more roads is recommended as a last resort for solving transportation problems. The report states:

It has been witnessed and discussed locally and referenced in national studies that the “build more lanes” approach to solving congestion often has the undesired effect of actually creating more traffic. This report acknowledges that, in some areas, roadway-capacity addition may be the only solution for a severe congestion problem. However, that option will only be examined as a last resort after all other strategies have been exhausted or determined to be unfeasible based on the characteristics of the corridor (WILMAPCO, 2008, p. 5).
The emphasis on a variety of transportation systems, rather than on auto-centric systems, for public use increases system efficiency. Not only do the strategies included in the report focus on transportation system diversity, several strategies outlined in the CMS report specifically depend on integration with adjacent land uses. One objective is for consumers to switch their transportation-mode, which necessitates that multiple transportation systems exist in the first place. Investment in additional rail services in the Newark, I-95, and Wilmington corridors is needed (WILMAPCO, 2008, p. 15). The rail services expansion hinges on nearness to major employment centers in high-density areas (WILMAPCO, 2008, p. 15). The report also calls for mode interconnectivity among bus stations, bike paths, sidewalks, and train stations, creating a seamless transit network for consumers (WILMAPCO, 2008, p. 15). This not only gives consumers choices, but it allows for a more usable system.

WILMAPCO also published a 2030 Regional Transportation Plan (RTP) that is designed to provide a long-range vision for New Castle County transportation-systems development. The first recommendation of the 2030 report is to “adequately . . . invest in our designated Transportation Investment Areas (TIAs)” (WILMAPCO, 2007, p. 17). TIAs must match New Castle County long-term land use priorities. The center and community TIAs are located in dense areas where the most transportation infrastructure investment is needed.
Another recommendation is to implement local area plans in New Castle and Cecil Counties (WILMAPCO, 2007, p. 21). The map below shows the current local area map of New Castle and Cecil Counties.
WILMAPCO is also working with various regional stakeholders to establish commuter rail service between Wilmington and Dover, Del. (WILMAPCO, 2007, p. 29). An important aspect of this project’s success is the implementation of transit-oriented development (TOD). In order for the rail service linkage to function efficiently, Delaware officials must integrate the commuter rail system into a high-density, mixed-use, mobility-friendly development system where individuals live in close proximity to...
the rail line and have incentive to use it. Train stations need to be located near or at malls, business centers, or dense residential areas to ensure transit demand. The graphic below highlights the strong correlation between high-density and increased transit demand.

(Source: WILMAPCO 2030 Regional Transportation Plan, pg. 29)

Exhibit 14: Transit and Land Use Density Mix Chart

The WILMAPCO RTP also calls for implementation of a Complete Streets policy (WILMAPCO, 2007, p. 40), which increases the mobility and accessibility of land
uses. Complete Streets are best used in close proximity to other transit systems such as bus or rail.

Another WILMAPCO recommendation relates to level of service (LOS) calculation for traffic-impact studies (TISs) in the early stages of the planning process. Currently, LOS is calculated for vehicles only (WILMAPCO, 2007, p. 42). The recommendation is for LOS to be calculated for vehicles, pedestrian facilities, bicycle facilities, and mass-transit—characterized as a *multimodal LOS* (WILMAPCO, 2007, p. 42). This calculation would decrease emphasis on constantly widening roads, moving discussion to investment and improvement of mass-transit, walkability, and bicycle facilities (WILMAPCO, 2007, p. 42).

WILMAPCO also focuses on industrial land uses and corresponding transportation systems. The *WILMAPCO Regional Freight and Goods Movement Analysis* inventories freight movement in the area, assesses industrial land uses, and projects future demands on the freight transportation system (Cambridge Systematics Inc., 2007, p. 1).

One piece to the land use/transportation puzzle that is often forgotten is the connection between land use and socio-economic status. How does this connection relate to transportation planning? WILMAPCO defines so called “Transportation Justice” and “Environmental Justice” areas. Transportation Justice Areas are defined as areas having
“populations including the elderly, the disabled, and households without an automobile” (WILMAPCO, 2007, p. 43).

(Source: WILMAPCO Regional Transportation Plan, pg. 43)

**Exhibit 15: Transportation Justice Areas, New Castle County**

These areas will be priority areas for “improved fixed-route public transit” (WILMAPCO, 2007, p. 43) and improved pedestrian walkability (WILMAPCO, 2007, p. 43).
“Environmental Justice” areas include low-income minority populations in need of better transportation opportunity (WILMAPCO, 2007, p. 56).

WILMAPCO is also a strong advocate for implementation of the “Delaware Bicycle Plan” and the “New Castle County Greenway Plan” (WILMAPCO, 2007, p. 45).

The idea is to create a network of multimodal paths that interconnect communities,
business areas, and recreation areas in order to foster greater transit network efficiency. WILMAPCO also encourages use of mobility-friendly design standards (WILMAPCO, 2007, p. 55). Mobility-friendly design standards manuals are used during the planning process to ensure that a totality of mobility options are addressed in the development proposal (WILMAPCO, 2007, p. 55).

WILMAPCO coordinates land use/transportation integration with counties, municipalities, and transportation agencies in northern Delaware. WILMAPCO provides assistance to counties and municipalities during the comprehensive plan—update and—implementation process. WILMAPCO assists municipalities such as Delaware City and New Castle with local transportation planning. Specific assistance is also provided to the City of Wilmington regarding the study of downtown neighborhoods. The WILMAPCO 2030 RTP serves as the New Castle County Transportation Plan and as the mobility element of the New Castle County Comprehensive Plan. WILMAPCO also assists with the development and continuous modification of the Southern New Castle County Master Plan as well as other local area studies in the county.

**Dover/Kent County Metropolitan Planning Organization (DKCMPO)**

The Dover/Kent County Metropolitan Planning Organization (DKCMPO) implements various strategies to better integrate land use and transportation in central Delaware. DKCMPO land use/transportation integration policies include 1)
intergovernmental coordination, 2) creation and continuous modification of a Long Range Transportation Plan (RTP), 3) creation and implementation of the “Suburban and Community Street Design Standards Project,” and 4) creation and continuous modification of a transportation improvement program. DKCMPO implements many strategies to boost intergovernmental coordination. Although the DKCMPO does not serve on the PLUS review committee, all members of the PLUS review committee serve on different DKCMPO advisory committees and councils (Wieczreck, 2008, p. 2). Representatives from the DKCMPO serve on and assist comprehensive plan update committees, the DelDOT Highway Safety Committee, Dover City government, the Town of Smyrna, and the Town of Milford. The DKCMPO completes transportation studies to assist localities with transportation planning. The DKCMPO participates in DelDOT’s Corridor Capacity Preservation Program, which is described below in the DelDOT current practices section. DelDOT officials assist the DKCMPO in the planning process by informing developers about DKCMPO goals and objectives (Wieczreck, 2008, p. 2). This assistance from DelDOT creates a connection between the DKCMPO and the private-sector that encourages greater land use and transportation integration throughout the planning process.

Another policy aimed at increasing land use and transportation integration is the DKCMPO RTP. The DKCMPO frequently modifies the RTP in order to account for rapidly changing circumstances related to regional planning issues. The RTP is focused on a series of connected goals.
In order to support the above goals, the DKCMPO is currently adding appropriate language to the RTP to foster transit-ready communities (Wieczreck, 2008, p. 2). The RTP is also written to complement Delaware SSPS objectives (Dover/Kent County Metropolitan Planning Organization, 2005, p. Chapter 5-4). The RTP supports the Delaware SSPS by guiding growth toward high-priority land use and transportation investment areas. One manifestation of this support is the RTP proposal to create and implement commercial corridors in Kent County (Dover/Kent County Metropolitan Planning Organization, 2005, p. Chapter 6-9). The commercial corridor integrates commercial land uses with development of advanced transportation systems. Bus transit,
road improvements, sidewalks, bike lanes, and parking capacity are all included in a commercial corridor—improvement plan in order to boost mobility and interconnectivity between adjoining commercial land uses, thereby boosting corridor efficiency (Dover/Kent County Metropolitan Planning Organization, 2005, p. Chapter 6-9).

The RTP also proposes establishing commuter rail service from Wilmington, Del., to Dover, Del. (Dover/Kent County Metropolitan Planning Organization, 2005, p. 13). If implemented, this would provide a great opportunity to integrate a rail transportation system with high-density transit-oriented development between Wilmington and Dover. The DKCMPO proactively defined transit-oriented development corridors in Kent County:
Exhibit 18: Population Density within Major Transportation Corridors in Kent County
The above map compares transit-line location with population density.

The RTP proposes establishment of multi-modal pathways that interconnect land uses in central Delaware (Dover/Kent County Metropolitan Planning Organization, 2005, p. 16). This proposal is being coordinated with DelDOT (Dover/Kent County Metropolitan Planning Organization, 2005, p. 16). The RTP recommends that multi-modal pathways be considered during the early stages of the planning-review process (Dover/Kent County Metropolitan Planning Organization, 2005, p. 16). The DKCMPO also inventories on-road bicycle facilities to account for a diversity of transportation options associated with dense land uses in Kent County. The following RTP map indicates the prevalence of sidewalks, crosswalks, and footpaths as they relate to land uses in Kent County. The vast majority of pedestrian facilities correlate with Smyrna, Dover, and Milford. This is expected since the three jurisdictions are the largest in the county. The small towns of Felton and Harrington to a lesser degree have a concentration of pedestrian facilities at the town-center. This visual representation allows policy makers to evaluate pedestrian facilities in the county in order to plan for the future facility construction.
Exhibit 19: Sidewalk Inventory, Kent County
The DKCMPO map below is a constructive framework for transportation planning within land use corridors in Kent County. These TIDs provide a form of local area planning that allows planners to break apart large land use areas into smaller regions that are more easily examined.
Exhibit 20: Transportation Improvement Districts, Kent County
The DKCMPO completed the “Suburban and Community Street Design Standards Project,” which offers some ordinance-revision recommendations related to land use and transportation integration. A total of 16 recommendations were included in the study (Dover/Kent County Metropolitan Planning Organization, 2000, p. 3). Of the 16 recommendations, nine have direct connections with land use/transportation integration.

- Recommendations #1: Hierarchy of Street Types and #2: Street Type Classifications tie street-type classification to existent land use along the roadway (Dover/Kent County Metropolitan Planning Organization, 2000, p. 3).

- Recommendation #4: Linkage Streets would create a diversity of transportation systems that easily and efficiently interconnect adjacent residential land uses within a given area (Dover/Kent County Metropolitan Planning Organization, 2000, p. 17).

- Recommendation #9: Street Lighting requires certain levels of street lighting be created for various land uses (Dover/Kent County Metropolitan Planning Organization, 2000, p. 33).

- Recommendation #10: Private Streets includes a residential-density requirement that no private street can exist in a residential subdivision with a density greater than one dwelling unit per acre (Dover/Kent County Metropolitan Planning Organization, 2000, p. 36).

- Recommendation #11: Limited Access/Cross Access “establishes parameters under which cross-access and shared use of site entrances and internal driveways shall be considered and implemented” (Dover/Kent County Metropolitan Planning Organization, 2000, p. 40). Distinctions based on access are made between residential subdivisions and non-residential subdivisions/business parks (Dover/Kent County Metropolitan Planning Organization, 2000, p. 40).

- Recommendation #13: Marked Crosswalks specifically focuses on providing sidewalks adjacent to and connected with commercial shopping areas, schools,
open spaces, and residential neighborhoods (Dover/Kent County Metropolitan Planning Organization, 2000, p. 46).

- Recommendation #14: School and Transit Bus Stops requires that residential subdivisions of a defined size receive certain levels of baseline transit and school bus facilities (Dover/Kent County Metropolitan Planning Organization, 2000, p. 49).

- Recommendation #16: Bicycle Parking ties bicycle parking to motor-vehicle parking, which is tied to land use type and size (Dover/Kent County Metropolitan Planning Organization, 2000, p. 56).

The actual ordinance proposals for the 14th and 16th recommendations are cited below.

Recommendation #14: School and Transit Bus Stops, included in the Transit Provisions category, proposed that:

All subdivision and residential site development proposals involving more than 50 dwelling units shall be required to designate and reserve locations for transit and school bus stop accommodations within and/or adjacent to the proposed development (Dover/Kent County Metropolitan Planning Organization, 2000, p. 49).

Recommendation #16: Bicycle Parking, included in the Bicycle Provisions category, proposed that:

Site development plan proposals involving parking lots with 20 or more motor-vehicle parking spaces shall provide at least one (1) bicycle parking space for every ten car spaces provided. Bicycle parking spaces shall be in the form of bicycle racks and/or bicycle lockers. Bicycle rack structures shall be limited to a maximum capacity of ten bicycles per rack. In no case shall more than 20 bicycle parking spaces be required at any given site (Dover/Kent County Metropolitan Planning Organization, 2000, p. 56).
DKCMPO also created the Transportation Improvement Program (TIP), which prioritizes transportation improvement projects based on a weighted-scoring system. DKCMPO constantly updates and modifies this document in order to account for a rapidly changing environment. The points system integrates land use and transportation directly by considering transit, pedestrian/bicycle facilities, and support for the RTP and comprehensive plan as project-prioritization parameters. Together these weighted factors account for 50 percent of the TIP project scoring. Twenty percent of the score is based on support for the Comprehensive Plan which defines the short-term and long-term transportation/land use issues. Another 20% relates to the RTP, which follows SSPS for integrating land use and transportation as mentioned above. Another five percent is allocated for incorporation of pedestrian and bicycle-facility integration into development site proposals. The same is allocated for transit. The points-system matrix is shown below.
Salisbury/Wicomico County Metropolitan Planning Organization (SWCMPO)

The SWCMPO implements many strategies to integrate transportation and land use. Although the SWCMPO area of concern is in Maryland; a small portion of the SWCMPO area is in Delaware, including the town of Delmar, Del. and a portion of Sussex County surrounding the town (Pusey, 2008, p. 2). SWCMPO has existed for approximately five years and is fairly small both in population covered and staff size.
SWCMPO currently has one land use planner working part-time as the staff person (Pusey, 2008, p. 2). The main activity that the SWCMPO is involved with is the identification of road corridors that need extensive, detailed study. Four of these have been identified, one of which is the “Delmar- Bi-State Boulevard Corridor,” which includes U.S. Route 13 North, Bi-State Boulevard, and the surrounding area. This is the third corridor prioritized and is in the preliminary stages of the planning process (Pusey, 2008, p. 2).

SWCMPO officials follow a general process when studying road corridors in need of improvement. After future traffic is projected by roadway, an analysis is completed to determine what the level of service (LOS) would be and recommendations are made as to what type of road improvements are needed (Pusey, 2008, p. 2). This information is used by the local Public Works Departments during the review of local development proposals submitted. This could result in road improvements being required by the developer.

Affected jurisdictions from Maryland and Delaware are included as members of the SWCMPO Technical Advisory Committee. Currently, various localities in the SWCMPO area are considering Adequate Public Facility Ordinances (APFOs) and Impact Fees in order to better link land use and transportation as co-dependent entities (Pusey, 2008, p. 2).
The DTMA impacts the land use and transportation integration process through efforts to better connect the private-sector with public-sector transportation-planning efforts. The DTMA defines itself as a “non-profit organization of private corporations and public agencies dedicated to achieving reductions in traffic congestion, improving mobility and air quality, and educating employers and their employees about transportation alternatives” (Delaware Transportation Management Association, 2008, p. 1). The DTMA is also involved with the following committees:

- WILMAPCO Technical Advisory Committee
- DKCMPO Technical Advisory Committee
- WILMAPCO and DKCMPO Subcommittees (air quality, non-motorized transportation, and congestion management)
- New Castle County Smart Growth Committee
- Newark Transit Subcommittee
- Wilmington Renaissance Transportation Committee
- Wilmington Circulation Study Committee
- 2010 Campaign for Active Transportation Committee
- Delaware Chamber of Commerce Transportation Committee
- Central Delaware Chamber of Commerce Transportation Committee
- Delaware Economic Council
- Air Quality Partnership through Delaware Natural Resources and Environmental Control
- Delaware Valley Regional Planning Council (Osborne, 2008, p. 2)

Additionally, members of the DTMA are associated with the Newark and Wilmington Chambers of Commerce, providing a connection with the greater business community in these areas. DTMA input is important to policy makers and is taken into consideration (Osborne, 2008, p. 2).

The DTMA is cooperating with Cecil County officials to create a Cecil County TMA. Even though Cecil County is in Maryland, greater transportation/land use coordination between Cecil and New Castle Counties is needed to improve the transportation system in the region.

The DTMA offers tax-incentive packages to employers who advance transportation fringe benefits to employees. The T21 Compensation Plus Program gives employees up to $110 per month to use to commute to work via transit or up to $215 per month for parking; in return the employer receives deductions on payroll taxes (Delaware Transportation Management Association, 2008, p. 1). The T21 Set-Aside Plus Program and the T21 Combination Plus Program provide similar incentives for employees and employers (Delaware Transportation Management Association, 2008, p. 2). The DTMA Travelink Program allows employers with transportation plans approved by DelDOT to
receive tax credits against certain corporate taxes (Delaware Transportation Management
Association, 2008, p. 1). The objective of the Travelink Program is:

to reduce commute trip traffic congestion during peak travel periods and also non-
peak travel periods for welfare-to-work programs by supporting the use of
alternative modes of employees commuting from their homes or within the
proximity of their homes to their places of employment (Delaware Transportation

The DTMA also encourages “teleworking” as a way for businesses to reduce
congestion, traffic, and commuting in general. Teleworkers work at home or at a satellite
office, thereby, reducing or eliminating the commute to work (Delaware Transportation
Management Association, 2008, p. 1). Vanpool programs are another option for
employers interested in reducing parking needs (Delaware Transportation Management
Association, 2008, p. 1). DTMA encourages placement of “Commuter Corners” in
business offices. “Commuter Corners” provide information to employees and employers
regarding transit opportunities in the area (Delaware Transportation Management
Association, 2008, p. 1). The “Commuter Corners” provide literature educating
individuals on how to use transit systems that may be located nearby, so that they will
know how to use them.

DTMA also encourages employers to participate in preferential parking
programs, which help to foster carpooling and vanpooling (Delaware Transportation
Management Association, 2008, p. 1). DTMA administers “Commute Surveys” so that
employers interested in addressing transportation-related issues can first get an
assessment of what the commuter situation is for their employees (Delaware Transportation Management Association, 2008, p. 1). “Employee Cluster” maps can also be created for employers (Delaware Transportation Management Association, 2008, p. 1). These maps show employers where their employees come from each day in order to show where clusters of workers may exist, thus, highlighting where opportunities for ridesharing exist. Comparing “Employee Cluster” maps with “Transit System” maps allows employers to more clearly see the opportunities for their employees to use alternative transit systems to get into work.
Chapter 4

ASSESSMENT FROM RESPONDENTS

Public officials from across Delaware see transportation and land use planning integration policy implementation as a work in process. Responses obtained from participants in interviews show that great strides have been made, but more vital work must be done. Interview participants provided a wide range of feedback on current practices, deficiencies, and improvements needed. Not only did participants provide in-depth responses, every person that was sent an invitation agreed to participate in the interview process. Every organization was represented during the interview process.

Table 1 shows current land use/transportation integration practices that were defined by those interviewed. The “Top Current Practices” listed first in the table were practices that were mentioned frequently enough in the table that it was preferable to place them at the top of the table listed as current practices. The other practices listed were respondent specific current practices based on the categories of DTMA, MPO, state agencies, and counties. This listing is used in all tables.
Current Self-Identified Integration Practices

The first question in the survey asks respondents to identify what they are doing to better integrate transportation with land use planning in Delaware. The interesting dynamic with regard to these responses was that what entities are currently doing now tends to be what they also identify as a need moving forward. For example, many respondents stated that intergovernmental coordination was one of the top ways that they improved integration in Delaware, yet later in the questionnaire they also identified greater intergovernmental coordination as a suggestion moving forward on how to better integrate Delaware. This same occurrence happened with PLUS process comments and local area planning. This indicates that Delaware officials are finding effective policies to enact, but are having more difficulty bringing the policy to implementation. The below table provides the listing of current practices as identified by respondents. Top current practices are delineated at the top of the table and additional commentary is listed below and categorized as denoted in the methodology section of this research.

Table 1: Current Practices

<table>
<thead>
<tr>
<th>Interviewees</th>
<th>Current Practices for Land Use Transportation Planning/Inclusion in Planning Process</th>
</tr>
</thead>
</table>
| **Top Four Current Practices** | ▪ Intergovernmental coordination  
▪ PLUS process involvement/consultation  
▪ Involvement in comprehensive-planning process  
▪ Local area planning |
| DTMA          | ▪ Working to establish a Cecil County Transportation Management Association in conjunction with WILMAPCO |
| MPOs          | ▪ Conduct transportation studies for localities.  
▪ Use corridor designations to prioritize transportation infrastructure |
<table>
<thead>
<tr>
<th>State Agencies</th>
<th>Counties</th>
</tr>
</thead>
</table>
| - Improvements.  
  - Adding transit-ready community elements to local RTP currently.  
  - Assist municipalities in transportation planning.  
  - Give specific help to Wilmington studying downtown neighborhoods.  
  - Conduct research/analysis to determine LOS and recommend road improvements.  
  - Conducting feasibility study for potential Cecil County Transportation Management Association.  
| - Ensure that large-scale developments are more transit-friendly.  
  - Review site plans for all counties (mostly large developments).  
  - Create and implement MOUs with employers regarding Traffic Mitigation Agreements (TMAs).  
  - Develop transportation plans at local and state level.  
  - Study implementation of various types of transportation systems.  
  - Involvement with planning-review processes at local level.  
  - Create transit-friendly or transit-ready communities.  
  - Approve every entrance from public road to private property.  
  - Enforce compliance to ADA standards.  
  - Require developers to make off-site improvements where applicable.  
  - Writing a white paper on improving Delaware’s complete streets policy  
  - Delaware Advisory Service (DAS).  
  - State Strategies for Policy and Spending.  | - Receive DelDOT LOS classifications, traffic counts, and occasionally Traffic-impact Studies (TISs).  
  - Consider adjacent land uses to development proposals to better connect land uses.  
  - Integrate multi-modal paths into site designs.  
  - Require every subdivision with 20 lots or more have a bus stop for school or a parking lot.  
  - Technical Advisory Committee (TAC) Review (DelDOT sits on TAC)  
  - MOU with OSPC on PLUS process review  
  - Integrate adjacent land uses with one another.  
  - Foster mixed-use development.  
  - Consider bike and pedestrian amenities during planning-review process.  
  - Require all major subdivisions complete TISs.  
  - MOU with DelDOT on review of rezoning requests  
  - APFO necessitates early involvement from DelDOT in planning-review process.  
  - TISs  
  - Multi-modals paths are considered in the planning process; sidewalks required.  
  - Encourage high-density/mixed-uses through planned unit development (PUD) policies and transfer of development rights (TDR) ordinances.  
  - Give projects phased approval tied to completion of infrastructure |
improvements.
- Planning Commission makes OSPC and DAC recommendations conditions of site-plan approval during the planning process.
- Changed 1988 MOU with DelDOT in 2006 to address issues with Rte. 1 and Western Parkway.
- Seasonal bus service provided to high-density areas in and around southern Delaware beach areas.
- Work with DelDOT to establish sufficient pedestrian network in growth areas.

The combined rating given from respondents was 3.3 for question two of the interview. Respondents generally assessed Delaware’s current status as slightly above average on a scale of 1 to 6, 1 being the lowest rating and 6 being the highest rating.
**Deficiencies**

The third question asked respondents to outline and identify deficiencies that they saw from their perspective as impediments to better transportation-land use integration policy in Delaware. Atop the list was the obvious complaint that public officials lack resources, money, and staff. The second deficiency most mentioned by respondents was public and political opposition stemming from citizens being concerned over traffic to private sector interests being opposed to transit in their development proposal. The first deficiency is a constant and complex problem that has to do with state budget priorities that change over time. The second is of far greater concern because public opposition to projects can stop them right in their tracks. If the public is not in agreement with greater transportation-land use integration the government must evaluate the sources of opposition and formulate solutions that incorporate citizen input into the final product.

Another emerging deficiency relates to the PLUS process facilitated by the state of Delaware’s Office of State Planning Coordination. Officials at all levels have concerns and complaints about the PLUS process whether the problems stem from not being included in the discussion to not receiving adequate PLUS comments to wanting structural re-organization to the PLUS decision-making process. The PLUS process when enacted served as an ambitious move by the state to assist and direct local authorities on planning. If not improved however, public officials may lose confidence in the PLUS process in favor of a new state effort or policy to replace the existing protocol.
<table>
<thead>
<tr>
<th>Interviewees</th>
<th>Deficiencies regarding Land Use /Transportation Integration</th>
</tr>
</thead>
</table>
| Top 2 Deficiencies   | • Lack of funding, staff, resources  
                        • Public/Political Opposition: hinders planning process, CCPP opposition over property rights outside growth boundary, DelDOT receives pressure not to be stringent, not to allow “those” people through the neighborhood (“Complete Streets”), no long-term perspective, opposition to density/mixed-use/perceived traffic increases/losing front yards |
| DTMA                 | • The DTMA is not part of the PLUS process.  
                        • Disconnect exists between counties, local governments, and state on land use.  
                        • TMAs sometimes kick in too late, later developers get TMA, not initial developers. |
| MPOs                 | • Do not serve on the PLUS review  
                        • Coordination is reactive.  
                        • Transportation planners are planning over the next 30 years, while land use planners are planning for the next 5-10 years; the plans do not match and often conflict in implementation.  
                        • Roads need shoulders, multi-modal paths.  
                        • Do not conduct area-wide studies anymore.  
                        • Public officials are deterred from taking strong stands due to litigation challenges from special interests.  
                        • Everyone is operating on their own way of doing business.  
                        • Scoring systems for project prioritization have no enforceability from the state.  
                        • Serious lack of commitment at government level to tackle sprawl  
                        • No mechanism to deny a project based on transportation impacts  
                        • Delaware Economic-development Office does not always attend MPO TAC meetings. |
| State Agencies       | • Some developers are resistant to input based on perceived/realized profit impact.  
                        • Developers resist interconnectivity, saying that their customers are not “bus people.”  
                        • Perception that DelDOT is overreaching, requiring too much of an applicant  
                        • DelDOT is criticized for piling on requirements.  
                        • Need faster implementation of transportation improvements  
                        • Maintenance of complete streets is often the state’s burden by default.  
                        • Some believe that the state is trying to take over people’s jurisdiction.  
                        • We have all low density.  
                        • Need better TDR/PDR ordinance implementation  
                        • TISs are taking too long. |
| Counties             | • DelDOT cannot keep up with needed road improvements. |
- Poorly written zoning ordinances of the past lacked long-term vision, resulting in sprawl development that we cannot change now.
- Developers resist interconnectivity based on property rights/traffic.
- Transit systems are limited within Sussex County.
- DelDOT TIS letters need to have more specific improvements listed, better timing in planning process.
- DelDOT may not be doing adequate future planning for other transportation systems.
- Need greater integration of stakeholders early in the planning process
- DelDOT should give more consideration to DART.
- PLUS Process could be cut down to sub-groups who meet initially and then go to a larger PLUS conference with more stakeholders.
- We are still planning for single-family, automobile-centered development.
- TMAs have been used as a defense mechanism by a developer in order to get the proposal passed.
- Ten percent of the time the road system is in failure.
- School traffic causes lots of problems to TMAs and peak-hour traffic.
- Regional interconnectivity is limited by toll located between Harford and Cecil Counties in Maryland, by lack of rail transit connection in Cecil County to SEPTA Newark.
- MARC is not interested in rail connection in Cecil County with SEPTA for 8-10 years.
- Not many mixed-use developments are going through the planning process.
- Maintenance of bike/pedestrian facilities
- DelDOT caves to public opposition on interconnectivity.
- Developers resist interconnectivity if it slows down the project.
- Density is a problem regarding TOD, because areas are either not dense enough or do not have capacity to be dense enough.
- Counties have the land use control, whereas the state of Delaware has transportation control, which causes conflict
- Coordination problems with DelDOT in planning-review process
- There is a disconnect between DelDOT and DART on capturing the idea of a workable county-wide transit system.
- We do not have clear employment hubs to connect transportation.
- Issue of road width and emergency-response vehicles (Fire Marshall)
- Problems of mixing young school children with older adults on buses based on the idea of using DART to move students rather than yellow buses
- Developer mentalit—build standard block housing and say “This is what the people want”
- We just don’t have the density to support TOD/mass-transit, etc.
- Quality of comments we get from PLUS process are not good, very vague, not in depth, no concrete input from DelDOT and other agencies
- DelDOT has a tendency to be noncommittal until the last minute. We approve a land use, and then DelDOT has additional requirements added at
the last minute. One project has been held up six months waiting on an alternative-transportation strategy.

- PLUS process is not taken seriously by developers.
- Need to create local area plans for the U.S. Rt. 13 Corridor, the Delmar area, the Milton area, the Seaford/Blades/Laurel area, the Millville-Ocean View area, and the Greenwood-Bridgeville area
- Planning commissioners at the local level have a high turnover rate, which decreases their ability to get educated on land use/transportation integration policies in enough time to implement effective integration policies.

### Suggestions on Improvement

Across the board public officials in Delaware highlighted a variety of improvements that could be made to enhance transportation and land use integration. Suggestions came in very detailed terms and in “big picture” terms, but one thing was clear by the responses: Delaware officials must do a lot more to get to where they need to be. Comments and ideas were so abundant from each entity that the comments were categorized among several groupings.

Among the many suggestions, a few emerged as generally agreed upon top priorities. Those were the need for more intergovernmental cooperation, the need to create/continue development of more local area plans and corridor plans, and a need for a new state policy initiative moving forward on these issues. Although substantial cooperation occurs already in Delaware, more could be done to enhance performance and efficiency. Currently, local area planning efforts and corridor planning efforts are only occurring in northern Delaware. The Southern New Castle County Master Plan is the most substantial state effort at local area planning undertaken to date. Local area plans must be completed for portions of Sussex and Kent counties in the near future as both
areas expect substantial growth to occur in the coming years. Governor Minner’s efforts in establishing the Livable Delaware program provided a good start for Delaware in addressing issues, but public officials highlight the need to go further, to get more active, and to get more leadership from the state on such issues.

With regard to state level initiative and action, suggestions were made from the Delaware Transportation Management Association to facilitate a statewide summit on the topic of transportation-land use integration. This would pave the way for a possible second action being another recommendation from DTMA that the current Governor would draft and enact executive orders related to transportation and land use issues in the state.

**Table 3: Improvement Suggestions**

<table>
<thead>
<tr>
<th>Interviewees</th>
<th>Suggestions on Improving of Land Use/Transportation Integration</th>
</tr>
</thead>
</table>
| **Top Three Suggestions** | • More intergovernmental cooperation  
• Create/continue local area plans/corridor planning.  
• Need for new state policy/initiative on transportation/land use integration |
| **DTMA** | • Foster greater involvement from major employers in Cecil County.  
• Draft executive orders for next governor regarding transportation/land use integration  
• Convene a summit in Dover with key legislators, counties, administrators, etc. to focus on transportation/land use integration and present solutions.  
• Evaluate effectiveness of TMAs statewide and strengthen/improve them accordingly.  
• Provide technical support to the localities on land use.  
• Involve emergency responders with this issue/smart-growth advocacy.  
• Take more holistic approach/proactive approach to TMAs.  
• Foster greater interconnectivity between existing and future communities.  
• DTMA must demonstrate value, grow membership, impact the political process, and increase recognition—generally it must expand statewide in conjunction with regional agreements with neighboring states/counties.  
• Incorporate more DEDO involvement with transportation/land use integration issues, since the department can provide transportation money to certain |
### Economic Projects
- Work with state Fire Commission to review road and access standards.
- Possibly give DTC voting power or veto power on TMAs.

### MPOs
- MPOs should serve on PLUS review.
- Take into account the cumulative impact of development.
- DelDOT should make informal agreements with developers to decide who pays for transportation infrastructure.
- Need the ability to assess fees for bigger transportation improvements based on current, proposed, future, development.
- Transit facilities must be included in development-review process.
- Need to put in more transit stops with developments.
- Small MPO arrangements work better when they are a part of a larger planning office (e.g., in Virginia, regional planning district commissions exist, and MPOs are incorporated into the commissions with other land use planning officials).
- Need more enforcement and implementation of transportation/land use integration.
- We need to have a policy for transportation project prioritization tied to investment areas.
- Need to follow MOUs better.
- Need APFO and impact fees.
- Require developers of a certain size to prepare a traffic-impact analysis prior to plan approval.

### State Agencies
- Sussex and Kent Counties need Unified Development Codes like New Castle County.
- DART needs to be part of local government.
- Need fast track approval processes, credits, incentives.
- Need to be stronger in walking away from what we don't like and helping what we do like.
- Need to be more opportunist instead of determinist.
- Require developers to put in pedestrian/bike facilities as applicable into every plan.
- Hold meetings at various locations around the state each month to talk about all current and future transportation projects - the meeting would use a workshop format where two-way communication can exist between audience and transportation officials.
- Explore what the proper role is for private-sector residential, commercial, mixed-use, etc. in providing transit service.
- Need more education and communication in order to foster more transparency.
- Offer more options in living styles.
- Get away from car-oriented design.
<table>
<thead>
<tr>
<th>Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Improve PDRs and TDRs at county level with banking provisions/other improvements.</td>
</tr>
<tr>
<td>• The PLUS Process must have “teeth.”</td>
</tr>
<tr>
<td>• Strengthen DelDOT Road Design Manual bicycle and pedestrian facilities element to require bicycle and pedestrian facilities with all new developments, unless physically or fiscally impossible as determined by the Secretary of Transportation.</td>
</tr>
<tr>
<td>• Need a new MOU as required by comprehensive plan approval</td>
</tr>
<tr>
<td>• Explore implementation of design standards.</td>
</tr>
<tr>
<td>• Need more fiscal responsibility to outline exactly where we want our resources to be spent and where we won't spend</td>
</tr>
<tr>
<td>• Need to be planning 50 years from now and not just three years from now</td>
</tr>
<tr>
<td>• Need good smart-growth-type development in southern area of New Castle County</td>
</tr>
<tr>
<td>• Need to continue efforts through WILMAPCO, MPA, DelDOT, SEPTA, and MARC on Cecil County bus system connectivity, interjurisdictional issues, BRAC, and commuter rail-line-connection</td>
</tr>
<tr>
<td>• Work with MARC on express bus service to People's Plaza.</td>
</tr>
<tr>
<td>• Need better incentives for mixed-use developments</td>
</tr>
<tr>
<td>• Improve “complete streets” policy.</td>
</tr>
<tr>
<td>• Need better timing regarding DelDOT recommendations in planning-review process</td>
</tr>
<tr>
<td>• DelDOT must make better commitments.</td>
</tr>
<tr>
<td>• Need increased funds to implement Dover/Kent County MPO TIP</td>
</tr>
<tr>
<td>• Strengthen connectivity percentages and create more lot brackets as enumerated in Article XI, 187-58-F.</td>
</tr>
<tr>
<td>• Need a circulation plan to be created and implemented</td>
</tr>
<tr>
<td>• Need to receive Letter of No Objection from DelDOT, prior to recordation of plan.</td>
</tr>
<tr>
<td>• When we receive a TIS letter back from DelDOT we need specific improvements listed.</td>
</tr>
<tr>
<td>• DelDOT should look at road standards: are they doing adequate future planning for other transportation systems?</td>
</tr>
<tr>
<td>• Rights-of-way/land adjacent to road systems could be used for dual purposes; we have been able to make environmental improvements in private road areas, where we would not have been able to do anything on public roads.</td>
</tr>
<tr>
<td>• Create greenway plan to integrate pathways/greenways into development projects.</td>
</tr>
<tr>
<td>• DelDOT should give more consideration to DART.</td>
</tr>
</tbody>
</table>
Chapter 5

CONCLUSIONS

Delaware officials at all levels of government, the non-profit sector, and the private sector are enacting innovative policies to better integrate transportation with land use, but more must be done. Various public policy initiatives, Comprehensive Plan elements, and ordinances have been highlighted throughout this thesis to show Delaware’s commitment to creating a sustainable transportation system. DelDOT’s new Complete Streets policy “will pave the way” for better road network planning to occur in Delaware while WILMAPCO’s work in fostering the establishment of regional transportation management associations will strengthen northern Delaware and surrounding areas as a vital transportation connection along the northeast corridor in the decades to come. The Unified Development Code of New Castle County continues to lead the state with its recognition and focus on transit-oriented development, transfer of development rights programs, and integrated transit planning during the site review process. Intergovernmental cooperation is also occurring through the Comprehensive Plan review and update process, the state of Delaware’s PLUS process, and DelDOT engagement in transportation planning efforts facilitated at the local and regional level.
However, through feedback from respondents and general research, several problems are still evident. To this day the state of Delaware is responsible for roughly 90% of transportation system construction and maintenance as well as running the mass transit systems, while the overwhelming power of land use planning authority continues to reside with the municipalities and towns. Therefore, whenever the localities disagree with the state with regard to where growth and development should occur or, for instance, how a specific development proposal should be integrated into the greater transportation grid—there is a problem. This dichotomy will cause Delaware officials headaches for years to come if not addressed. Currently the state of Delaware does retain substantial power over the counties and municipalities with regard to Comprehensive Plan approval or disapproval, but the counties and municipalities still retain authority over their ordinances. Although the Comprehensive Plan for each town and county in the state is a crucial legally binding document, the zoning ordinance and land use regulations bring the ideas and policies outlined by the Comprehensive Plan to life. Greater intergovernmental coordination among state and local actors will help facilitate better results. The bulk of the coordination must occur with revamping local ordinances to reflect 21st century realities. In many cases the counties and towns have “zoned themselves out” through use and adoption of overly restrictive ordinances that give the private sector no incentive to build transit-ready or transit-oriented development.
Structural and institutional barriers exist as well. These barriers largely relate to the financial side of TOD and other transportation-land use integration projects. Trying to facilitate a TOD financial process between public and private investors is like journeying into the unknown. Although examples and success stories exist, financing mechanisms are very new ideas in need of further development. Developers wanting to build a mixed-use, high-density community with Complete Streets, pedestrian facilities, bike lanes, or mass transit connections often face hesitance from banking and financial entities for loan approval. There is no institutional memory of the success of mixed-use, high-density projects; lenders often focus on what they have seen work in the past—greenfields housing developments. Only time and the hard work of ambitious developers with their own capital will solve this deficiency. With a weak economy, public financing of projects is also not likely given the struggle most transportation departments face already in trying to maintain the certain level of service throughout the transportation system.

Public opposition to transportation and land use integration serves as an additional hurdle. Questions about increased density and mixed-use development stem from public concern over traffic, increases in crime, or bringing different people into an otherwise homogeneous racial or cultural area. Public servants should improve community education and engagement to answer questions stemming from inaccurate public perceptions. Public engagement must not simply be a government public relations campaign to quash opposition to government action, but a sincere attempt to make
decisions with the public, not for the public. Public servants who make decisions with the public will find that with good explanation and back-and-forth discussion most of the time the policies they favor will be supported by citizens in the end. Front end engagement is crucial to garnering public trust and buy-in. Often TOD projects or major ordinance changes, if proposed at the last minute by government officials, are opposed based on citizens’ fears of being “left in the dark.” Scenarios like these can be avoided by making public engagement a vital part of any project development process.

In the following section recommendations from respondents and from a literature review are presented based on the themes highlighted thus far. These recommendations serve as the ultimate conclusion to this report as they outline a path forward, a step of next steps, for further integrating land use and transportation in Delaware. These recommendations serve as a rough implementation plan for public officials to follow. Various recommendations are provided, more so than could be realistically attained in the immediate future. The intent of providing so many recommendations is to provide public policy makers with choices as they prioritize what strategies, programs, or changes they will make in the short-term to address transportation and land use integration. Some recommendations are very specific such as specific ordinance changes to be implemented. Some are broad, like suggesting that language be placed in Comprehensive Plans for TOD. Still other recommendations require significant public funding while others, if adopted, would save local officials
money. Again, the intent of providing such a diversity of options is to give policy makers the flexibility to pick and choose where they would like to start.
Chapter 6

RECOMMENDATIONS

Recommendations are grouped into three categories: 1) general respondent recommendations, 2) specific respondent recommendations, 3) feedback on proposed recommendations, and 4) supplemental research recommendations. The respondent recommendations, both general and specific, originate largely from matrix responses located in Tables 3 and 4. The general recommendations are those mentioned by multiple respondents that seem to have respondent support across the board. The supplemental research recommendations originated from a literature review of transportation and land use-integration practices.

General Respondent Recommendations

- Foster more intergovernmental cooperation throughout Delaware.

- Support development of local area plans.
o Continue development and implementation of the Southern New Castle County Local Area Plan.

o New Castle County currently has multiple local area studies that will later develop into unique Local Area Plans. These processes should be continued and come to fruition.

o Develop local area plans that correspond to corridor areas, and major transit areas should occur not only in New Castle County, but statewide. With projected population increases expected to occur mostly in Kent and Sussex Counties, as highlighted at the beginning of this report, local area planning can serve a positive tool for these counties to use while absorbing growth.

▪ Initiate an improved state policy on transportation/land use integration.

▪ Create transit-ready communities.

▪ Re-evaluate and enhance traffic-mitigation agreements (TMAs) throughout Delaware to better connect with mass-transit and other transportation systems.

o Integrate mixed-use developments into the TMAs.
o Give DTC separate voting/veto power on TMAs.

o Make TMAs a requirement for certain employers either through ordinance changes, internal policy directives, or state codes.

o Provide more incentives to employers for agreeing to and implementing TMAs.

o Expand public outreach and education.

o TMAs should be proactively used. The concern is that initial business development in an area may cause transportation-system strains, but normally the businesses locating in the area later on enter into TMAs.

o Improve consultation with MPOs on TMAs.

- Develop a transportation-impact fee. Refer to Jaye Pershing Johnson and James B. McDaniel’s (December 2008) “TCRP Project J-5: Legal Aspects of Transit and Intermodal Transportation Programs, Legal Research Digest 28 - Uses of Fees or Alternatives to Fund Transit.”¹ A tiered impact fee could be applied that incentivizes development in growth areas rather than agricultural and environmental resource areas.

¹Johnson, Jaye Pershing and James B. McDaniel. TCRP Project J-5 “Legal Aspects of Transit and Intermodal Transportation Programs: Legal Research Digest 28, Uses of Fees or Alternatives to Fund Transit.” Transit Cooperative Research Program, Federal Transit Administration, December 2008.
Addressing memoranda of understanding (MOUs) in the planning process: standardization of MOUs and development of additional MOUs regarding implementation and maintenance. MOUs: we need to re-evaluate MOUs every time comprehensive plans go through update process.

Formulate clear protocol that assigns responsibility for maintenance of Complete Streets between the state, counties, and municipalities. One strategy to remedy this problem is to integrate this issue into municipal training courses administered through the University of Delaware (special attention should be given to attracting Planning Commissioners from around the state to attend and Georgetown and other southern training locations should be used to make attendance by down state planners more convenient).

Municipal training courses facilitated by the University of Delaware should specifically incorporate land use-law elements that assist Planning Commissioners and other public officials in addressing the legal issues relates to land use policies.

Municipal training courses facilitated by the University of Delaware should be conducted in the evenings adding convenience for Planning Commissioners who hold full-time jobs during the day. Furthermore, specific training exercises should be
designed for county and municipal officials in order to more fully address the unique conditions that both entities face.

- Economic-development officials from state and local levels must be crucial stakeholders in the transportation/land use-integration discussion, especially given the economic downturn we face.

Specific Respondent Recommendations

**DTMA**

- Foster greater involvement from major employers in Cecil County, Md., with regard to the northern Delaware regional planning process.

- Draft executive orders for next governor regarding transportation/land use integration.

- Provide technical support to municipalities on land use.

- Involve emergency responders in the overall policy discussion.

- Foster greater interconnectivity among communities.
• Encourage buy-in from municipalities regarding land use/transportation recommendations.

• Convene a “Transportation/Land Use Integration Summit” in Dover with the new governor, state legislators, the University of Delaware, the League of Women Voters, state agencies, county officials, MPOs, the DTMA, and other relevant stakeholders to talk about this issue and address policy proposals for implementation at the state level. The summit could serve as a springboard for exploration of executive orders as remedies to the land use/transportation issue.

• The Department of Natural Resources and Environmental Control (DNREC) should be included into the land use/transportation-integration equation. How are DNREC data incorporated into the overall planning process.

• DNREC should be involved in TMA decision-making and in complete streets initiatives.

• TMAs must be predictable and transparent, with all stakeholders coming to consensus in advance of the final agreement.

MPOs
• Create ordinance changes and internal policy changes that further include and strengthen the involvement of local MPOs in the development-review process.

  o MPO representatives should be included on the front end of local planning processes

  o An MPO representative should serve on local Planning Commissions TACs. Such representatives would not have voting powers but should serve the Planning Commissions through consultation. MPO representatives should give recommendations on development proposals and issue support or disapproval statements regarding development proposals. MPOs should serve on PLUS review.

• Take into account the cumulative impact of development.

• DelDOT should make informal agreements with developers to decide who pays for transportation infrastructure.

  o Needed is the ability to assess fees for bigger transportation improvements based on current, proposed, and future development.

• Transit facilities must be included in development-review process.

• Need to put in more transit stops with developments
• Small MPO arrangements work better when they are a part of a larger planning office (e.g., in Virginia, regional planning district commissions exist, and MPOs are incorporated into the commissions with other land-use planning officials).

• Need more enforcement and implementation of transportation/land use integration

• Need to have a policy for transportation project prioritization tied to investment areas

• Need an Adequate Public Facilities Ordinance (APFO) and impact fees

• Require developers of a certain size to prepare a traffic-impact analysis prior to plan approval.

• Consider a multi-modal LOS.

• Use Florida Complete Streets policies as model for Delaware policy.

• Need to incorporate the judicial branch into this conversation to create a mechanism for working with judges on land use law. We need to reassess enabling legislation with assistance from practicing lawyers with expertise in land use law.
• Staying with the OSPC “Better Models for Development” report, a “Better Models for Transit-Supportive Development and Design” should be created in order to provide specific components and examples for planners and developers alike to use to build better communities in Delaware.

**State Agencies**

• Sussex and Kent Counties need Unified Development Codes like New Castle County

• DART needs to be part of local government.

• Need fast-track approval processes, credits, incentives

• Need to be stronger in walking away from what we don't like

• Need to be more opportunist instead of determinist

• Require developers to put in pedestrian/bike facilities as applicable into every plan.

• Hold meetings at various locations around the state each month to talk about all current and future transportation projects - the meetings would use a workshop format where two-way communication can exist between audience and transportation officials.
• Examine what the proper role is for private-sector residential, commercial, and mixed-use developers in providing transit service.

• Offer more options in residential living styles.

• Get away from car-oriented design.

• Improve PDRs and TDRs at county level with banking provisions/other improvements.

• Need to establish common definitions on recommendation terms.

• Educate people about transit-friendly development to realize density is not a bad word.

• Create new TOD site at Newark Station.

• Need to foster a behavioral change throughout this process.

• Improve state Complete Streets policy to make it sustainable and solvent - we need to bring stakeholders to the table on this to define it.

• Get developers on board with report recommendations.
• Meet every year with the state agencies to see what we can do to improve things.

• Need TOD regulations in place to implement idea

• Need to assure the public that we have good transit systems

• Create pattern books.

• The areas in and around our airports and shipping ports must have land use policies in place that encourage commercial and industrial growth. The connections between the private-sector and key shipping areas are crucial for the future growth of Delaware. Preservation of rights of way in such priority areas should be pursued. Prioritized sites must be selected to receive zoning and infrastructure improvements. Local economic-development officials then have the ability to market a “shovel ready” site to commercial and industrial interests, thereby, keeping such important shipping areas sustainable. These pre-qualified sites should also have transportation-infrastructure issues addressed on site. For example, traffic-impact studies (TISs) should already be completed for the area to alleviate obstacles to redevelopment.

Counties
• Explore implementation of design standards.

• Need more fiscal responsibility to outline exactly where we want our resources to be spent and where we won't spend

• Rights-of-way and land adjacent to road systems could be used for dual purposes; we have been able to make environmental improvements in private road areas where we would not have been able to on public roads.

• Need to be planning 50 years from now and not just three years from now

• Need good smart-growth-type development in southern area of New Castle County

• Need to continue efforts through WILMAPCO, MPA, DelDOT, SEPTA, and MARC on Cecil County bus system connectivity, interjurisdictional issues, BRAC, and commuter-rail-line connection

• Work with MARC on express bus service to People's Plaza.

• Need better incentives for mixed-use developments

• Improve Complete Streets policy.
- Need better timing regarding DelDOT recommendations in planning-review process

- DelDOT must make better commitments.

- Need increased funds to implement Dover/Kent County MPO TIP

- Need a circulation plan to be created and implemented

- Need to receive Letter of No Objection from DelDOT prior to recordation of plan

- When we receive a TIS letter back from DelDOT, we need specific improvements listed.

- Continue to study Rural Community Districts with mixed-uses.

- Focus on traffic flow and counts in urban environments.

- Create TIDs and pedestrian plans.

- Continue creation and implementation of APFOs.
- Regarding Kent County, Article IV, 187-58(F)(2) could be strengthened by increasing the interior access percentages for varying development sizes (measured by number of lots).

The fifth question included in the interview conducted with Delaware policy officials asked interviewees to provide feedback and comment on a list of potential solutions to Delaware transportation-land use planning integration. Those comments were categorized by department and listed below in the following table. Upon review readers will see that generally the interviewees were supportive of the key solutions suggested. Interviewees provided additional comments and ideas on potential solutions shown in the below table that were integrated into the supplemental research recommendations listed later in this paper. This feedback to the fifth interview question shows a common desire among public policy officials to effectively improve and cooperate on transportation-land use integration issues in Delaware.

Table 4: Feedback on Proposed Recommendations

<table>
<thead>
<tr>
<th>Interviewees</th>
<th>Feedback on Proposed Recommendations</th>
</tr>
</thead>
</table>
| Top Three Comments on Proposed Recommendations | ▪ Create transit-ready communities.  
▪ Complete local area plans.  
▪ TMA Improvement: DTC voting/veto power on TMA, include mixed-use communities, make it a requirement for certain employers, more incentives, public education, Kent County lack of employers, proactive use, WILMAPCO coordination |
| DTMA | ▪ Cooperation needed from municipalities for recommendations to work  
▪ Need MOUs with “teeth” |
<table>
<thead>
<tr>
<th>MPOs</th>
<th>State Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ All recommendations are appropriate and acceptable.</td>
<td>▪ Need to establish common definitions on recommendation terms</td>
</tr>
<tr>
<td>▪ Consider a multi-modal LOS.</td>
<td>▪ Educate people about transit-friendly development to realize density is not a</td>
</tr>
<tr>
<td>▪ Use Florida Complete Streets policies as model for Delaware.</td>
<td>bad word.</td>
</tr>
<tr>
<td>▪ Comprehensively look at all transportation options.</td>
<td>▪ Create new TOD site at Newark Station.</td>
</tr>
<tr>
<td></td>
<td>▪ Need to foster a behavioral change throughout this process</td>
</tr>
<tr>
<td></td>
<td>▪ Improve state Complete Streets policy to make it sustainable and solvent -</td>
</tr>
<tr>
<td></td>
<td>we need to bring stakeholders to the table on this to define it.</td>
</tr>
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Supplemental Research Recommendations

Recommendation #1: Foster transit-oriented development (TOD)

Transit-oriented development (TOD) in Delaware would allow for better transportation and land use integration. To start, one must remember the three D’s of transit-oriented development: density, design, and diversity. The following TOD implementation strategies focus on these principles. TOD is fully defined as follows: a mix of residential, retail and office uses and a supporting network of roads, bicycle and pedestrian ways focused on a major transit stop designed to support a high level of transit use. The key features of TOD include (a) a mixed-use center at the transit stop, oriented principally to transit riders and pedestrian and bicycle travel from the surrounding area; (b) high-density of residential development proximate to the transit stop sufficient to support transit operations and neighborhood commercial uses within the TOD; and (c) a network of roads, and bicycle and pedestrian paths to support high levels of pedestrian access within the TOD and high levels of transit use (Transit Cooperative Research Program & Federal Transit Administration, 2002, p. 6).

Schneider (2004) states that TOD is “absolutely essential” to the long-term viability of transit investments (p. 300). If Delaware land development occurs away from transportation infrastructure, large amounts of state investment will be wasted. Not only does the state get a return on investments from implementing TOD, studies show that private-sector benefits occur at TOD sites too.
Weinstein and Clover (1999) found that every study conducted in Toronto, Canada, reported a positive impact of a metro system on the transit corridor’s land values (Schneider, 2004, p. 300). In Dallas, Tex., Weinstein and Clover (1999) found that, immediately after the opening of a transit system, land values around transit stations increased by an average comparative rate of 10 percent (Schneider, 2004, p. 301). In 1981 another study was conducted by the U.S. House of Representatives “determining that homes within 1,000 feet of a transit station had a property value premium of $12,300” (Schneider, 2004, p. 300). Fejarang (1994) reported that properties near rail lines were worth 30.35 percent more per square foot than non-rail properties (Schneider, 2004, p. 301). A Federal Transit Administration (FTA) study (1996) examining cities such as San Francisco, Calif., and Portland, Ore., found that property value is worth an additional $15.78 for every foot closer a property is to a station (Schneider, 2004, p. 301). Based on this projection, if a house were moved 1000 feet closer to a transit station the value could potentially go up $15,000 (Schneider, 2004, p. 301). Proximity to major highways did not show the same correlation. The (1996) FTA study found that “homes further from a highway interchange are worth $7.94 more on average for every foot further from the freeway interchange [than from their original location]” (Transit Cooperative Research Program & Federal Transit Administration, 2002, p. 6). Schneider also favors rail over bus, concluding that “urban rail-transit generally can influence urban development (much more than bus service)” (Schneider, 2004, 301).
If we move beyond the land-value question to the benefit to commercial office value, we find the same result for TOD sites. Office space value in CityCenter Englewood, Colo., a 55-acre TOD mixed-use town-center site, averaged $21 to $25 per square foot with a 100 percent occupancy rate vs. $17 per square foot value with a 90 percent occupancy rate for elsewhere in the market area (Urban Land Institute, 2006, p. 65). Retail rents at the same site averaged $18 to $20 per square foot with a 90 percent occupancy rate, while others in the market area only averaged $8 to $14 per square foot with only an 80 percent occupancy rate (Urban Land Institute, 2006, p. 65). Apartment rents at CityCenter averaged $1,005 to $1,735, while other market rents only averaged $550 to $750 (Urban Land Institute, 2006, p. 65).

The following implementation strategies provide general input on how to better encourage TODs in Delaware. TOD should be integrated with school-oriented development (SOD). The strategic placement of schools throughout Delaware is key to establishing walkable, bikable, downtown community hubs primed for integrated transportation systems. Schools often generate large amounts of traffic at key times throughout the day; if smart locations are chosen for schools, traffic congestion could decrease as a result of use of multiple transportation systems. SOD is difficult to implement since local school systems have budgetary constraints that often force the purchase of cheaper land located in isolated areas away from large student populations. School officials should choose school sites that support SOD objectives wherever possible. If schools are located in densely populated residential areas, transportation
investment can be better coordinated to serve the needs of the area. SOD could be enhanced by appointing a representative from the school system to serve on municipal or county planning commissions.

Create local improvement districts (LIDs) to support TOD development. LIDs have been created “to finance the local share of public amenities that support transit use and transit-oriented development” (Schneider, 2004, p. 341). Property owners located in an LID can vote to tax themselves in order to fund infrastructure to make LIDs transit friendly (Schneider, 2004, p. 341). LIDs would be best located in station areas or at major transit hubs. LIDs might also be used in densely developed mixed-use hubs that are prime locations for transportation investment in the future. Schneider (2004) reports that LIDs have not been used to fund transit service specifically.

Consider streamlining and incentivizing planning-review processes at all levels of government for TOD projects. Fast-track approval processes can be a great first step. The City of Boulder, Colo., promotes TOD fast-track approval processes by minimizing discretionary review of projects “conforming to design and development standards” (Dittmar & Ohland, 2004, p. 65) within mixed-use districts. Dittmar and Ohland (2004) reports that approval processes in Boulder were cut down from 3-4 years to 4-6 months (p. 65).
In Denver, Colo., a 15-day approval process was implemented for projects that met standards through planning staff review (Dittmar & Ohland, 2004, p. 66). The city also had a second process taking no more than 45 days that allowed for a negotiation process to occur between the developer and the planning staff regarding any aspects of a project that did not conform to city code. Instead of going through an exhaustive process of various hearings and planning meetings to bring the project in compliance with the code, the two sides get together, hash out an agreement, and move the project forward (Dittmar & Ohland, 2004, p. 66). This method cuts red tape for developers and allows the planning staff to get concessions from the developer quickly on non-compliance issues. Another method of fast-tracking a TOD project could be to allow developers to forego traffic-impact studies (TISs).

Reduce or eliminate fees and taxes where applicable to promote TOD. “Tax incentives may include simple tax abatement (forgiving the property tax altogether for a certain period of time), freezing the tax for a certain period of time at a low rate, or tying the tax rate to the project’s income stream rather than its assessed value” (Schwanke, 2003, p. 158). Additionally, tax abatements could be granted in conjunction with the developer agreeing to invest in certain improvements and repairs to the property (Schneider, 2004, p. 314) that would benefit the public good. Tax exemptions were passed in Oregon in 1995 for TOD districts (Schneider, 2004, p. 344). Schneider (2004) states that “through tax exemption thousands of housing projects with affordable prices have been attracted to transit-oriented locations” (p. 344). “The city of Portland, Ore.,
offers property tax exemptions for multi-unit residential developments located within designated TOD areas. Developments with ten or more units are eligible for the ten-year property tax exemption, provided they meet the following affordability requirements set by the Portland city code:

- Twenty percent of rental units should be affordable to households earning no more than 60 percent of the area median income (AMI) or 10 percent should be affordable to households earning no more than 30 percent of the AMI.
- The rental units are to remain affordable for the duration of tax exemption plus an additional five years thereafter.
- For-sale units should be sold to households earning no more than 100 percent of the AMI for a family of four” (Regulatory Barriers Clearinghouse, 2009, p. 1).

Reduce minimum parking requirements. “The city of Minneapolis, Minn., zoning code allows reduced parking (up to 10 percent) for multifamily dwellings located within 300 feet of a transit stop” (Regulatory Clearinghouse, 2009, p. 1). Los Angeles County, Calif., allows a “40 percent reduction in parking requirements for new residential developments in certain TOD districts” (Regulatory Barriers Clearinghouse, 2009, p. 1).

Provide density bonuses for TOD projects. Robert Cervero, a transportation expert at University of California, finds that density is the most crucial aspect to TODs
because “it brings the number of riders that is necessary to ensure the viability of public transit” (Urban Land Institute, 2006, pp. 27-28). One calculation guideline proposed by the Urban Land Institute (2006) is that at least 200,000 square feet of retail/commercial space and at least 2,000 dwelling units should be located within a ten-minute walk of each other (Urban Land Institute, 2006, p. 31). A ten-minute walk is defined as a distance of six blocks (Urban Land Institute, 2006, p. 31). Storefronts must also occur on both sides of a six-block stretch (ten minute walk) in order to ensure success; the author states that no one-sided retail streets have ever succeeded (Urban Land Institute, 2006, p. 31). “The city of Woodinville, Wash., allows a ten percent increase above the zoning district's base density for developments located within one-quarter mile of transit routes with frequent service” (Regulatory Barriers Clearinghouse, 2009, p. 1).

Regarding transfer of development rights (TDR) and purchase of development rights (PDR) ordinances, high-density receiving areas located in and around transit areas (train stations, bus terminals, etc.) make land and transportation integration far more efficient.

Station-area plans should be completed for potential or existent TOD sites so as to lay the groundwork for future enhancement and development of the TOD area. Station-area plans “function as scripts for guiding public and private investments in and around transit stops” (Transit Cooperative Research Program & Federal Transit

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Key components of TOD-friendly station-area plans, as defined in a literature review conducted by Gwen Chisholm, include the following:

- **Results of a market feasibility study.** According to the Puget Sound Regional Council (1999), local governments are usually best positioned to perform station-area market analysis, though transit agencies sometimes are able to conduct such assessments just as well.

- **A physical plan for streets, pathways, utilities, mitigations and community enhancement.** Some observers recommend establishing a capital-improvements program that clearly denotes public commitments and responsibilities for physically supporting TODs.

- **A land use plan.** In addition to being prescriptive, the plan should identify specific steps that need to be taken to create the densities and land use mixes necessary to support and sustain future transit services.

- **A staging plan.** Land use planning tends to be spatial in nature; however, attention must also be given to the phasing of major improvements over time, specifying who will do what and when.

- **Regulatory and fiscal incentives.** Good station-area plans not only lay down the rules but also offer incentives, such as tax abatement or density bonuses that reward developers for actions that support TOD (Transit Cooperative Research Program & Federal Transit Administration, 2002, p. 16).
Locate station areas ¼ to ½ mile around a station. Griffin (2004) finds that people will walk 5-15 minutes to or from a transit station, which equates to between a ¼ to ½ mile walk (Griffin, 2004, p. 55). If other types of transit systems are available in the area such as local buses, shuttles, park-n-rides, and bike-n-rides, the “catchment area” could be extended to 4 ½ miles (Griffin, 2004, p. 55).

Griffin outlines three station-area zones—the core area, the neighborhood ring, and the support area (Griffin, 2004, p. 55). The core area is within a five-minute walk of the station, the neighborhood ring area is within a 10-15-minute walk, and the support area is approximately a 20-minute walk or greater (Griffin, 2004, p. 55). The table below shows the residential and commercial density needs for various types of transportation as defined by New Jersey Transit. It also shows that residential densities are approximately twice in core areas what they are in neighborhood areas.
Table 5: Intensity of Land Use and Transportation Relationship

<table>
<thead>
<tr>
<th>Residential Use</th>
<th>Commercial Use</th>
<th>Transportation Compatibility</th>
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<tr>
<td>15+ units/acre</td>
<td>50+ employees/acre</td>
<td>Supports rail or other high-capacity service</td>
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<tr>
<td>7-14 units/acre</td>
<td>40+ employees/acre</td>
<td>Supports local bus service</td>
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<tr>
<td>1-6 units/acre</td>
<td>2+ employees/acre</td>
<td>Supports cars, carpools, and vanpools</td>
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(Source: New Jersey Transit, Griffin, 2004, 57)

Table 6: Residential Minimum Housing Densities - Core vs. Neighborhood Area

((units/acre)

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<thead>
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<th>Core</th>
<th>Neighborhood</th>
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<tr>
<td>10</td>
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<tr>
<td>15</td>
<td>7</td>
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<tr>
<td>22</td>
<td>10</td>
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(Source: Triangle Transit Authority, Griffin, 2004, 57)

TOD goals and policies should be incorporated into county and municipal comprehensive plans as well as regional transportation plans. Strong TOD policies
should also be integrated into the WILMAPCO, DKCMPO, and SWCMPO Regional Transportation Plans. DeCoursey and Athey in *Transit-Oriented Design: Illustration of TOD Characteristics* (2007) highlight key concepts that comprehensive plans should reflect:

- Express a commitment to a regional vision of high-capacity transit connections between regional centers or in development corridors (Greater Cleveland Regional Transit Authority).

- Direct development along transit corridors to create stronger TODs (Smart Growth Network, 2003).

- Increase transit-oriented development by adding infill stations on existing transit lines and retrofitting existing stations (Smart Growth Network, 2003).

- Encourage appropriate new office development to locate in transit-supportive areas through the amendment of land use classifications and the provision of infrastructure, etc. (City of Calgary).

- Promote land use efficiency and convenience by encouraging new housing close to transit facilities and within mixed-use centers (City of Calgary).
• Support high-quality transit services that attract riders (Greater Cleveland Regional Transit Authority).

• Preserve and reinvest in established residential neighborhoods adjacent to the transit corridor (Leach).

• Use TOD to help achieve regional growth goals. TOD can be used to help address the regional jobs/housing balance and to encourage economic and community development. It can function as a key component of regional transportation and traffic-management programs and can be a basic element of a regional mobility program by helping to move people to jobs, schools, and recreation (Urban Land Institute).

• Incorporate by-right smart-growth redevelopment into existing communities’ master plans (Smart Growth Network, 2002) (Institute for Public Administration, 2007, p. 51).

Jurisdictions must modify ordinances and code to promote mixed-use zoning in TOD areas. Frequent regulatory audits conducted at the state, county, and municipal levels on how best to encourage TOD should be facilitated as well. The city of Beaverton, Ore., has a transit-oriented, mixed-use zoning system that is worth review; Beaverton has 13 Multiple Use Districts defined in the Zoning Map for the city
Seven districts are designated transit-oriented or station-oriented (Beaverton Government, 2008). Many of the defined districts are station areas or station communities zoned around train stations, others are town-centers defined to varying densities (Beaverton Government, 2008). The Development Code can be viewed at the Beaverton website: www.beavertonoregon.gov/departments/cdd/). This code outlines the various land uses that contribute to the mixed-use/transit-oriented environment public officials are aiming continually to create in Beaverton. An example ordinance for a Station Area – Medium Density Residential District is listed in Appendix 1. For additional reference, the city of Gresham, Ore., has 19 mixed-use districts that include transportation specific districts such as Transit Development Districts of varying densities, a Station Center District, and a Downtown Transit District (Gresham, Oregon City Government, 2008).

Local, regional, and state governments should lead by example on TOD. All construction of local and state government buildings should occur at or near TOD priority sites. Additionally, sites should be designed so as to incorporate walkable, bikable, transit-linked transportation components into overall site design.

Identify optimal characteristic requirements for TOD sites to create a future evaluation framework for application to Delaware. Create baseline evaluation variables and weighted-scoring methodology for identifying TOD opportunities with the highest potential for success. Appendix 3 provides a preliminary framework for evaluation.

**Recommendation #2: Create patterns of future land development that support transit-ready communities.**

Future land development in Delaware must correspond with future transportation investments. Even in areas where transportation infrastructure is not yet in place, land development must occur in a way that easily integrates into a larger transportation network.

Develop transit-supportive zoning districts. One way to do so is to create Multimodal Transportation Districts (MMTD). Williams and Seggerman’s “Model Regulations and Plan Amendments for Multimodal Transportation Districts” provides sample comprehensive plan and ordinance language for local planners to review when contemplating creation of MMTD policies.\(^2\) Transit-supportive zoning districts should be corridors that follow major transit lines such as rail lines, bus lines, and any future BRT lines.

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Connect the Perryville station of the Maryland Area Regional Commuter (MARC) rail system to the Newark station of the Southeastern Pennsylvania Transit Authority (SEPTA) commuter-rail system and connect the northern Delaware commuter rail service to Dover, Del. This may also be accomplished through the establishment of Bus Rapid Transit (BRT) systems between northern Delaware and Dover, Del. This is an ambitious and costly endeavor that is still in the planning stages, but this would be the best incentive for TOD in northern Delaware. Such an interstate connection would finally connect a multi-state network of rail transportation systems extending from Philadelphia and areas north to Washington, D.C., and areas extending as far west as Martinsburg, W.Va. (McGrath, 2008).

Currently, one of the hurdles to constructing rail infrastructure expansion in Delaware is demand assessment. In the same way that infrastructure placement can encourage use; transit infrastructure placement is dependent on existing need, not projected need. Often, demand projections are grossly inaccurate (Flyvberg, Holm & Buhl, 2005, pp. 131-146). Therefore, this necessitates decisive action on the part of local land use-planning departments in order to spur high-density, mixed-use development within current and projected transit corridors. To use the Kent County example again, the DKCMPO already mapped ¼-mile transit corridors on either side of current transit lines, perhaps this could be applied to potential future transit lines such as the current rail line running through the center of the county. Special zoning, incentive packages, and fast-
track approval processes for transit-oriented corridors can prepare the way for future transportation investment.

President Obama has outlined an aggressive policy focused on infrastructure that will encourage projects such as the Perryville-Newark connection and the Dover connection based on the availability of significant federal funding. The White House statement on transportation infrastructure reads:

President Obama and Vice President Biden will make strengthening our transportation systems, including our roads and bridges, a top priority. As part of this effort, Obama and Biden will create a National Infrastructure Reinvestment Bank to expand and enhance, not supplant, existing federal transportation investments (The White House, 2008).

A January 16, 2009 *Time* magazine article places the total infrastructure investment at $65 billion as part of the current economic-stimulus package (Newton-Small, 2009). This funding will be spent on highways and bridges, transit, rail, aviation, environmental infrastructure, Army Corps of Engineers, brownfields, federal buildings, and Coast Guard and maritime administration (Newton-Small, 2009). Top Democrat Congressman James Oberstar reports that “all the money will go to projects that are shovel-ready — meaning they’ve completed their environmental-impact studies, the engineering and design plans have been approved and certified, and in the case of roads, the rights of way have been acquired” (Newton-Small, 2008). Therefore, Delaware public officials must use all deliberate speed to ensure that all state projects applicable to the economic-stimulus package are “shovel ready.”
In order to increase cost efficiency, the Dover project connections could occur in phases with the first connection being made at Middletown, Del., the second at Smyrna/Clayton, Del., and the third at Dover, Del.

Delaware officials must also strengthen DelDOT “Complete Streets” Policy. “Complete Streets” integrate multi-modal paths, roadways, bike lanes, and mass-transit stops into one balanced transportation route. DelDOT officials wrote a 2009 white paper on how to improve Delaware’s “Complete Streets” policy. This is a very positive development, and the recommendations from the analysis should be implemented. Below is an excerpt from the policy initiative depicting complete-street classifications for differing land uses.
DelDOT also developed a policy-analysis flow chart that depicts the process in which complete-streets elements are incorporated into a broader planning process framework.
A starting point is to declare an intention to create “Complete Streets.” For instance, a South Carolina Department of Transportation Commission simply passed a
resolution with language that states “…bicycling and walking accommodations should be a routine part of the Department's planning, design, construction, and operating activities” (Thunderhead Alliance, 2006, p. 8). This resolution allows wiggle room for public officials but, nonetheless, states an intention to implement a positive goal. In April of 2009 the state of Delaware through Executive Order #6 adopted a stated Complete Streets policy complete with implementation strategies moving forward.

The National Complete Streets Coalition hosts “Complete Streets” workshops that allow for effective public participation in the process. If “Complete Streets” policies are to be enacted, public approval and education is of vital importance. DelDOT should consider hosting such public workshops or soliciting the National Complete Streets Coalition for assistance in hosting the workshops after the completion of the internal white paper.

Complete Streets funding can be tied to other project funding such as new road projects, road resurfacing projects, or other transportation infrastructure projects. This could be enacted by new ordinances, internal DelDOT policy changes, or changes to the Delaware state code.

The next step is to pass an implementation requirement. An Oregon statute has stronger language stating, “Footpaths and bicycle trails (bikeways and walkways) including curb cuts or ramps as part of the project, shall be provided wherever a highway,
road or street is being constructed, reconstructed or relocated” (Thunderhead Alliance, 2006, p. 8). In response to such a stringent statute, certain exceptions to the policy must be considered as well. For instance, one exception to implementing Complete Streets policies is excessive cost. Most ordinances or policies set the limit at 20 percent (Thunderhead Alliance, 2006, p. 10). This means that Complete Streets enhancements cannot be made if the cost of such measures exceeds 20 percent of the project cost. Policy makers must give special attention to exactly what “total project cost” means. The Guide to Complete Streets Campaigns rightly states that “sidewalks may be a significant cost if the project is defined as paving of a one-mile road subsection, but may make up a smaller portion when the project is defined more broadly to include all improvements in the whole corridor” (Thunderhead Alliance, 2006, p. 10). Indeed, “total project cost” calculations could either hinder or encourage more use of Complete Streets. Other exceptions might be that Complete Streets policies are unnecessary in the area of concern or that bicycle and pedestrian movement is prohibited in a given area do to a potentially dangerous environment (Thunderhead Alliance, 2006, p. 9).

Consult emergency medical staff on Complete Streets implementation. Complete Streets policies often favor narrower streets in order to decrease auto-centric transportation systems. Often local emergency medical officials and the state Fire Marshal are against such street narrowing measures because they are not conducive to high speed emergency vehicles such as fire trucks. Any Complete Streets policies must be reviewed by emergency medical professionals so that maximum safety can be ensured.
as public policy makers convert auto-centric transportation systems to fully integrated transportation systems.

Create “Walkable Districts” at the county and municipal level (Sirota, 2008, p. 18). Such districts would give “highest priority [. . .] to pedestrian/bike/transit movement, vehicular [movement would be] secondary” (Sirota, 2008, p. 18). Such districts would be located at town-centers and within high-density, mixed-use zones.

Create and implement a Walkable Town/City Plan. Such a plan could include an inventory of current walkability and an identification of key areas for walkability improvement. For example, the city of Towson, Md., has a walkability plan that focuses on specific roads, streetscaping, intersection design, signage and way-finding, a bicycle plan, and implementation strategies with clear benchmarks for progress.

Use Multi Way Boulevards in downtown-centers. Below is a graphic showing an example of Multi Way Boulevard width and layout. The graphic below is a topical view of a Multi Way Boulevard.
Multi-way Boulevard

- 4 lanes of through traffic in the center, plus a textured median and turning pockets at intersections.
- Side medians with trees, landscaping, and transit stops.
- Side lanes for access to businesses, parking, and local streets.
- Pedestrian friendly streetscape with wide sidewalks, street trees, landscaping, and pedestrian-scale lighting.


**Exhibit 24: Multi-Way Boulevard**

Foster pedestrian-oriented development. Pedestrian-oriented development (POD) provides vibrant pedestrian facilities that enhance the local transit system efficiency. Characteristics of POD include sidewalks, crosswalks, street lighting, street-trees, and high-density, mixed-use development. Use POD for economic-development.

PODs have great private-sector advantages. Gary M. Cusumano, of Newhall Land, says:

A pedestrian-oriented, mixed-use town-center brings together everything people want in one attractive, interesting place, often generating two to three times the draw of a traditional shopping center. . . Second, many people are hungry for homes in a town-center that allows them to walk to stores, restaurants,
entertainment, even work. Third, many employers want the wide mix of uses—all within walking distance—that a town-center provides, because that turns their office location into an amenity workers particularly value, which aids in their recruitment and retention efforts (Urban Land Institute, 2006, p. 65).

Projects (with a focus on walkability) offer greater development flexibility, premiums for both the value of housing and the location, and higher projected long-term returns—all positive economic features that can make a project more feasible and more appealing to lenders (Urban Land Institute, 2006, p. 68). “Although this finding only relates to housing projects, similar advantages exist for compact, high-density, mixed-use retail, office, and town-center projects” (Urban Land Institute, 2006, p. 68). Winter Springs Town-center, a 240-acre project started in 2002 in Winter Springs, Fla., had retail rents averaging $18 to $23 per square foot, compared with $16.50 per square foot at the nearest competing shopping center (Urban Land Institute, 2006, p. 65). “Despite higher rents, 90,000 out of 135,000 square feet of retail space [2/3 of all retail space] was leased before the first building had been completed” (Urban Land Institute, 2006, p. 65). Residential housing units also sold 10 to 15 percent above comparable housing in the market area, averaging $325,000 (Urban Land Institute, 2006, p. 65). The Keller Town-center located in Keller, Tex.; Easton Town-center located in Columbus, Ohio; Southlake Town Square located in Southlake, Tex.; and Reston Town-center located in Reston, Va., all have similar private-sector advantages that include higher annual rents per square foot, higher apartment rents, and higher hotel occupancy rates (Urban Land Institute, 2006, p. 65).
The Canada Mortgage and Housing Corporation found that “most public-sector costs were 48 percent lower in a nonresidential pedestrian-oriented development than in a nonresidential conventional development” (Urban Land Institute, 2006, p. 69). The same study found that public-sector costs for residential pedestrian-oriented development are five percent lower than conventional developments (Urban Land Institute, 2006, p. 69).

Private-sector advantages exist with POD. Studies show that home value is greater for POD and that consumers pay more for such types of development. An Urban Land Institute publication (1999) found that, among the New Urbanist communities examined, PODs on average are worth $20,189 more than homes in surrounding communities (Urban Land Institute, 2006, p. 61). Another study focused on 48,000 home sales in Washington, Ore. (Urban Land Institute, 2006, p. 61). Homebuyers were found to spend on average $24,255 more for “design elements that make walking easier, such as smaller block sizes, more street connectivity, and pedestrian access to commercial uses, and proximity to parks and transit” (Urban Land Institute, 2006, p. 61). Overall, pedestrian-friendly town-centers outperform traditional suburban real estate.

Public officials should take every feasible opportunity to locate government buildings such as libraries, schools, civic centers, city hall, performing arts centers, a convention center, parks, open spaces, or museums in or around POD. Public investment in development that supplements communities rather than becoming a detriment to the
community encourages private investment. Often, pedestrian-friendly developers provide parks and open spaces in their projects; public investment will offset the costs for public infrastructure as provided by the private-sector.

Public planners and administrators should streamline local site-review processes in order to fast-track approval and limit regulatory red tape on POD. Examples and specific strategies are listed under the fifth Implementation Strategy in the TOD Section of this document.

Creating a Pedestrian Level of Service (LOS) to use during the development-review process encourages POD by ensuring that POD-Friendly standards are enacted during the planning and design process for a development. Below is a sample LOS calculation published by a pedestrian advocacy group in San Francisco, Calif., that could serve as a starting point for discussion in Delaware:

Table 7: Pedestrian Level of Service (LOS) Definition

(Note that the definition of Pedestrian LOS does not include anything about mobility (except for the possibility of running into another pedestrian) or safety. This is an inherent bias of the LOS that strongly favors automobiles over pedestrians.)
## LEVEL OF SERVICE A

*Average Pedestrian Area Occupancy:* 13 sq. ft./person or more

*Average Inter-Person Spacing:* 4 ft., or more

*Description:* Standing and free circulation through the queuing area is possible without disturbing others within the queue.

## LEVEL OF SERVICE B

*Average Pedestrian Area Occupancy:* 10 to 13 sq. ft./person

*Average Inter-Person Spacing:* 3.5 to 4.0 ft.

*Description:* Standing and partially restricted circulation to avoid disturbing others within the queue is possible.

## LEVEL OF SERVICE C

*Average Pedestrian Area Occupancy:* 7 to 10 sq ft/person

*Average Inter-Person Spacing:* 3.0 to 3.5 ft

*Description:* Standing and restricted circulation through the queuing area by disturbing others within the queue is possible; this density is within the range of personal comfort.
### LEVEL OF SERVICE D

**Average Pedestrian Area Occupancy:** 3 to 7 sq. ft./person

**Average Inter-Person Spacing:** 2 to 3 ft.

*Description:* Standing without touching is possible; circulation is severely restricted within the queue and forward movement is only possible as a group; long-term waiting at this density is dis comforting.

### LEVEL OF SERVICE E

**Average Pedestrian Area Occupancy:** 2 to 3 sq. ft./person

**Average Inter-Person Spacing:** 2 ft. or less

*Description:* Standing in physical contact with others is unavoidable; circulation within the queue is not possible; queuing at this density can only be sustained for a short period without serious discomfort.

### LEVEL OF SERVICE F

**Average Pedestrian Area Occupancy:** 2 sq. ft./person or less

**Average Inter-Person Spacing:** Close contact with persons

*Description:* Virtually all persons within the queue are
standing in direct physical contact with those surrounding them; this density is extremely discomforting; no movement is possible within the queue; the potential for panic exists in large crowds at this density.

(Source: www.walksf.org/pedestrianLOS.html)

In order to encourage POD people must answer “yes” to the following questions: 1) Is this place interesting? 2) Would I like to spend time here? 3) Are there things to do? 4) Is it safe to walk or lounge around? 5) Can I relax among trees, parks, or open spaces?

A POD should include various components to ensure a “yes” answer to the above questions. Street-trees provide shade for pedestrians and a separation between the auto-centric street and pedestrian space. The general ambiance of an area can be supplemented with street-trees. Multiple factors impact selection of street-trees. These include, but are not limited to: 1) the community’s recommended tree list, 2) the overall aesthetic value, 3) climatic concerns, 4) potential for disease and pests, 5) maintenance requirements, 6) the space available for root growth, and 7) the size of a mature tree crown and canopy (American Planning Association, 2006, p. 492). Development of a tree list provides guidance to site developers so that when they are required to put trees in or if they choose to, they have a reference to utilize. Trees have various aesthetic qualities, and the citizens along with public officials and the private-sector must think
about what aesthetic qualities of trees are most desirably to the community. Predictably, climatic concerns play into the street-tree equation since certain trees are more acclimated to certain environmental conditions than others. Governments should attempt to find the most durable trees that grow naturally in the local climate. If trees selected are from the climate that the local government body is in, usually they have more resistance to disease and insect infestation. Maintenance requirements must be addressed; if not, the trees could become detriments to walkability by blocking part of the walkway, obstructing the walkway with fallen limbs or above-ground roots. One way to avoid problems related to surface-root growth is to correctly assess what root growth will actually occur before the tree is planted. Lastly, actual canopy and crown size must be calculated in order to allow for adequate spacing of trees in relation to the street, nearby buildings, and the pedestrian pathway.

High-density is another vital component to POD. Multiple uses must be located in close proximity. If development is low density, the ability for people to walk from place to place decreases because the distance between places increases.

Vertical mixed-uses are also necessary for POD success. Ground level floors could include retail shops, restaurants, entertainment, and convenience stores, while the upper level might include office space, permanent residential units, and apartments.
Create dedicated pedestrian streets where applicable. Key requirements for successful dedicated pedestrian street implementation are the following: “1) [addition of] new activity generators to draw more people to the central area, establishing a new base of market support, 2) a merchandising mix that is more competitive with suburban centers, 3) links among all the city center’s major generators to foster market synergy among uses, and 4) street access and visibility, which are eliminated when a mall is created” (Palmier, 2004, p. 88). The best application of dedicated pedestrian streets in Delaware would be in the most urban area of the state, the city of Wilmington. Future opportunities may exist in Dover and some coastal beach areas in southern Delaware.

The Barcelona example shown below highlights a typical dedicated pedestrian street dominated by pedestrian traffic with mixed land uses. Residential housing is above while commercial businesses are located at street level. Commercial office space might be mixed in with residential uses located above. The residential component can create a community atmosphere within the area, adding “local flavor.” Open space or park areas might be located adjacent to dedicated pedestrian areas. The Barcelona photo shows street-tree canopies that provide shade to pedestrians. Mixed-uses provide a variety of ‘things to do’ which decides the success or failure of a dedicated pedestrian street. If people come to the street to live, work, and relax, the system will be more effective. If all or most people drive to get to the pedestrian street, parking becomes an issue. This may discourage a tourist population from traveling to a vibrant cultural hub that a dedicated pedestrian street can help to create. Integrating dedicated
pedestrian streets with adjacent roadways with street-side parking would help alleviate the problem. As mentioned above, use of multi-way boulevards could provide adequate parking and mass-transit connections for dedicated pedestrian streets. The Barcelona street is wide enough to handle heavy pedestrian traffic and bicycle traffic. Dedicated pedestrian street-width must be carefully calculated. If a street is too narrow, crowding will occur. If a street is too wide, the area may look abandoned or deserted. Both factors may discourage pedestrian activity.

(Source: http://depts.washington.edu/open2100/pdf/2_OpenSpaceTypes/Open_Space_Types/pedestrian_bike_streets.pdf)

Exhibit 25: A Dedicated Street: Las Ramblas, Barcelona, Spain

The New York City example (below) shows a dedicated pedestrian side street concept with a bike lane and pedestrian lane divided by planted buffer. The pedestrian street is separated from the automobiles with post barriers.
Delaware officials should create “Transit-Supportive Design Guidelines.” “Transit-Supportive Design Guidelines” promote “the physical development of properties and sites (and, to a lesser degree, subdivisions and corridors) in a manner that supports transit services” (Transportation Research Board & National Research Council, 1999, p. 19). These guidelines can be provided to private-sector developers, planning officials, public policy-makers, and other relevant organizations so as to provide a framework for improving future development in Delaware.

As with any guidelines created by government to persuade the private-sector to implement certain actions, incentives are key to success. Without proper incentives provided to developers for using “Transit-Supportive Design Guidelines,” the guidelines will be rendered useless. Possible incentive packages should be contemplated by local economic-development staff, planning officials, and private-sector developers. Tax
incentives, regulatory incentives, fast-track planning-review processes, and fee reductions could all be considered to boost the use of design guidelines.

The Canadian Institute of Transportation Engineers (July 2003) published *The Canadian Guide to Promoting Sustainable Transportation through Site Design*, which serves as an excellent reference for creating “Transit-Supportive Design Guidelines.”

The paper provides example guidelines, key principles, and case studies for the following categories: 1) land use planning, 2) site accessibility, 3) site layout and building design, 4) pedestrians, 5) bicycles, 6) transit, and 7) high occupancy vehicles.

The town of Denton, Md., created a pattern book to guide development toward certain aesthetic styles and site layout. Some transportation interconnectivity guidelines are included. For instance, the first graphic shows the development of a street grid pattern in conjunction with higher densities:

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4Ibid.
Exhibit 27: Denton, Md. Land Use Density Schematic

The below graphic shows various street types based on land use designations:
Exhibit 28: Denton, Md. Street Types vs. Land Use Designations

A Guide to Land Use and Public Transportation for Snohomish County, Washington (ntl.bts.gov/DOCS/GL.html) outlines various policy recommendations
relating to zoning provisions for transit, subdivision/site design, Transportation Systems Management (TSM) for businesses, pedestrian facilities, and park-n-ride/carpooling facilities for suburban areas.

The Ontario Ministry of Transportation created guidelines to direct development of all kinds to transit stops. The Ontario Ministry of Transportation Guideline states:

Official plans, or subdivision guidelines adopted by the municipality, should state that a significant majority of residence, jobs, or other activities/uses should be located within 400 (1/4 mile) meters of a transit stop. [Examples of possible implementation criteria include]:

90 percent of residences, jobs, or other activities/uses should be located within 400m (1/4 mile) walking distance of a transit stop or;

65 percent of residences, jobs, or other activities/uses should be located within 200m (1/8 mile) walking distance of a transit stop (Morris, 1996, p. 4).

This language should be applied to specific urban or rapidly growing suburban districts where growth in and around transit would support long-term public transportation priorities.
Delaware public officials should create mixed-use zoning policies and incentives in future transportation priority areas. By fostering mixed-uses in future transportation investment areas, high-density transportation hubs are created which set the stage for successful transportation systems with high usage. The state of Oregon, a leader on mixed-use zoning ordinances, published the *Commercial and Mixed-use Development Code Handbook* to serve as “a guide to encouraging ‘smart’ commercial and mixed-use development through public policy and land use ordinances, including a model ordinance” (Schwanke, 2003, p. 146).

In Hong Kong, the City Planning Board embraced a package of proposals that included use of broad terms to provide greater flexibility to change land use (Schwanke, 2003, p. 147). A Hong Kong spokesman for the Planning Board stated, “Although ‘retail shop’ and ‘barber shop’ have similar planning implications, they are regarded as two types of uses at present because they are separately listed in the [ordinance]. With the introduction of broad terms—e.g. ‘shops and services’—all uses in the same broad use could be interchangeable, which would significantly reduce the need to apply for planning permission” (Schwanke, 2003, p. 147).

Fast-track approval policies for mixed-use development proposals should be enacted. The *Mixed-use Development Handbook* states that “whatever zoning is in place, the approval process for mixed-use projects in many jurisdictions is often difficult and
time-consuming, often discouraging rather than encouraging mixed-use development” (Schwanke, 2003, p. 151). In Montgomery County, Md., county government officials have implemented a “Green Tape Program” (U.S. Environmental Protection Agency, 2008, p. 1). The “Green Tape Program” is designed to create fast-track approval processes for development proposals located within the downtown Silver Spring district defined by county government as an area in need of mixed-use, transit-ready revitalization (U.S. Environmental Protection Agency, 2008, p. 1). The “Green Tape Program” consists of a “Green Tape Team” of members covering site design issues like fire, building, electrical, mechanical, accessibility, zoning, and signage. This team provides extra help with specified revitalization projects (U.S. Environmental Protection Agency, 2008, p. 1). The objective of the program is to issue permits within two weeks of receiving the application (U.S Environmental Protection Agency, 2008, p. 1). Some developers receive permits in as little as two days, dependent on whether the developer took advantage of pre-design consultations (U.S. Environmental Protection Agency, 2008, p. 1). The “Green Tape Program” reviewed or is reviewing more than 20 major developments and numerous small projects (U.S. Environmental Protection Agency, 2008, p. 1).

Public officials should also address the issue of multiple uses within the same building because “mixing uses within the same building places different uses in the closest possible proximity” (Morris, 1996, p. 30) thereby greatly encouraging multiple
transportation uses within a given area. Mixed-use zoning regulations must be flexible enough to allow vertical mixed-use as well as horizontal mixed-use.

**Recommendation #3: Engage the public.**

The only way to implement ambitious transportation and land use integration policies is to engage and educate the public at every step along the way. The public may include citizens, public officials, community groups, business communities, politicians, and many others.

DelDOT should hold meetings at various locations around the state each month to discuss all current and future transportation projects. Meetings should use a workshop format where two-way communication can occur between the audience and transportation officials.

These workshops and other community engagement events should use design charrettes as often as possible. A design charrette is defined as:

a collaborative process for empowering people who are important to a project to work together and support the results; a rigorous and inclusive process that produces the strategies and implementation documents for complex and difficult design and planning projects . . . It is a continuous effort of at least four days long and uses continual feedback loops as leverage for change. The charrette is one of the most effective methods of getting public support for . . . increasing density and integrating a mix of uses and a diversity of residences (Schwanke, 2003, pp. 155-156).
Walters outlines five key factors for successful design charrettes: “1) involve everyone from the start to foster a shared community vision, 2) manage the process effectively to build trust between the team and the public, 3) work across disciplines to maximize group learning and productivity, 4) work in short feedback loops to test ideas and stimulate public participation, and 5) work in detail to test the feasibility of alternative concepts” (Schwanke, 2003, p. 167). A basic design charrette usually includes the following deliverables:

- Master plan map
- Three-dimensional renderings
- Project report
- Detailed presentation (usually in PowerPoint)
- Digital files of all major drawings and recommendations ready for uploading to the client’s website (Schwanke, 2003, p. 175).

Other additional deliverables resulting from a charrette may include the following:
- Marketing posters/brochures

- Supplementary PowerPoint presentations for technical or economic details

- Form-based codes/design guidelines

- Market feasibility analyses

- Traffic-impact analysis/modeling

- Physical site models or computer simulations (Schwanke, 2003, p. 176)

Significant variability in cost exists, depending on what type of design charrette a community wants. To hold a four-day design charrette that includes pre-charrette analysis and creation of post-charrette deliverables, depending on the scope of the project, the cost is estimated to be between $80,000 - $180,000 (Schwanke, 2003, p. 175). For a charrette that includes publicity materials, plans, recommendations, traffic analyses and calculations, physical presentation models, and high-quality dimensional computer simulations, the cost is approximately $150,000 (Schwanke, 2003, p. 176). For 7-10-day charrettes conducted by well-respected national or international firms, the cost can rise to $250,000 (Schwanke, 2003, p. 176). Post-charrette deliverables alone can cost an additional $10,000-$15,000 (Schwanke, 2003, p. 176).
During the community planning workshops, officials should use the Google Sketch-Up program. Officials can use the program to create quick site plan ideas that reflect what the community members are visualizing at the workshop in real time. Citizens could explain the ideas they have, get a planning official to sketch it out, analyze how it looks, and change it as they see fit. This real-time technology will allow citizens to be instrumental in the planning process and help officials to better educate the public on various planning strategies. Often citizens are opposed to higher-density, mixed-uses, or interconnectivity, but if they see visual representations of these policies in an appealing and workable way their opinions may change.

Non-governmental actors can lead the way to filling the information gap to better educate and activate the public. Appendix 4 shows an evaluation framework that formulated for the Eastern Shore Land Conservancy located on the eastern shore of Maryland’s Chesapeake Bay. The framework scores proposed developments based on their congruence with smart growth design principles that include mixed-use, high-density, energy conservation, walkability, and others. Development proposals are evaluated and categorized for later advocacy during the planning process. This non-profit group chose to enter the realm of advocacy on development site design to exert more influence on the local planning process. Other organizations can mimic this strategy to keep local government more accountable and the citizens more informed and engaged. For reader benefit, example applications of the framework are listed in
Appendices 5 and 6. Appendix 5 shows advocacy evaluation of the villages at Belle Hill, a development proposed in Elkton, Md. Appendix 6 shows Woodlands Perryville, a mixed-use, energy efficient development located in Perryville, Md.

It is significant to note that the Woodlands Perryville development had already been approved before I conducted the evaluation. Our staff decided to continue with the evaluation because of how progressive the development design at Woodlands Perryville was. We wanted to see how high a “smart growth” development would score in our framework versus a “run-of-the-mill” type development like the villages at Belle Hill.

Each evaluation includes two components: 1) framework evaluation based on the framework enumerated in Appendix 4 and 2) a review brief evaluation. The Appendix 4 framework is a more detailed evaluation format whereas the review brief evaluation is a quick run-down type evaluation of a proposal. Currently, the Eastern Shore Land Conservancy uses the review brief evaluation as a preliminary test to separate out developments with high scores to be evaluated under the Appendix 4 framework. Below is a visual display of the advocacy process as it occurs over time during the development review process:
Receive Planning Commission agenda from town or county government

Evaluate agenda to find potential projects for review

Use Google Earth to find adjoining land uses, etc., using site address information
Use GIS Software to cross-check parcels within priority areas

The project will be prioritized or discarded based on location analysis. A preliminary advocacy level will be determined as well.

Request specific parcel and site design information from planning departments based on initial review and coding needs

Once parcel and site design information are received, run projects through prioritization and evaluation framework. The evaluation will consist of an initial review and a second quantitative scoring review.

Choose projects for further focus based on final scores, then define scope of advocacy

No Action

Action Progression

The preparation phase (before the Concept or Sketch Plat Hearing) of site review should take no more than an hour. The advocacy phase (starting at the Concept or Sketch Plat Hearing) could take several hours (sitting through public hearings) depending on the action progression level.

The site review timeline is challenging given the short turn around we would have between evaluating site proposals and mounting advocacy strategies for or against a given proposal.

At First Concept or Sketch Plat Hearing

Written Comments Only

Written and Oral Testimony

Conduct full blown campaign including the preceding actions plus grassroots organizing and media work

Legal or legislative action

Preliminary Plat
Exhibit 29: ESLC Town Advocacy Framework Developing Sustainable Town on the Eastern Shore Flow Chart

Appendix 7 lists an additional “Whole Communities” town advocacy framework that is similar to the review brief evaluation. This is not currently in use by the Eastern Shore Land Conservancy for town advocacy evaluation, but is used in other contexts.

These evaluation frameworks provide Delaware non-profit organizers and public officials alike with concrete scorecard sheets for evaluating development proposals for various land use and transportation integration components (i.e. mixed-use, high-density, employment center, sense of place, etc.).

**Recommendation #4: Review and implement ordinance changes that create more transit-supportive land use.**

By engaging in a process of vibrant debate and idea-sharing public officials can use tools that can foster greater transit-supportive land use in Delaware. The following recommendations serve as a spring board for discussion.

Interconnectivity language should be considered for inclusion in local ordinances. The city of Eugene, Ore., has the following language as part of its decision criterion for subdivisions:
The proposed subdivision is laid out to provide safe, convenient, and direct bicycle and pedestrian access to nearby and adjacent residential areas, transit stops, neighborhood activity centers such as schools and parks, commercial areas, and industrial areas, and to provide safe, convenient, and direct transit circulations. At a minimum, nearby is interpreted to mean uses within ¼ mile that can reasonably be expected to be used by pedestrians and uses within 1 to 2 miles that can reasonably be expected to be used by bicyclists (Morris, 1996, p. 4).

Municipalities and county governments should review cul-de-sac policies and lower cul-de-sac length to 500 ft. or less. Nozzi states “. . . for pedestrians and bicyclists, cul-de-sacs—particularly those greater than 500 feet long—create substantial travel barriers” (Nozzi, 2003, p. 30). Article IV, 187-58(G)(1) of the Kent County Code sets a cul-de-sac length limit at 600 ft. Article III, 99-17(G) of the Sussex County Code reads that all cul-de-sac streets shall not exceed 1,000 ft.

Add language to limit the use of cul-de-sacs such as the following:

Cul-de-sacs, dead end streets or alleys, and flag lots* shall only be permitted when the following conditions are met:

- One or more of the following conditions prevent a required street connection: excess slope (20 percent or more); presence of a wetland or other body of water that cannot be bridged or crossed; existing development on adjacent property that prevents a street connection; presence of a freeway or railroad.
• A street pattern that either meets standards for connection and spacing or requires less deviation from standards is not possible.

• An access way is provided consistent with the standards for access ways.

• Cul-de-sacs shall be as short as possible and shall not exceed 400 feet in length.

• *Note: Flag lots are lots that do not front on or abut a public street that are accessed via a narrow, private right-of-way. They can result in an increased number of curb cuts (Morris, 1996, p. 5).

Another example reads: “Cul-de-sacs shall be permitted only where there is no feasible connection with an adjacent street. If cul-de-sac streets represent more than 10 percent of the total lane miles in a development, the subdivider shall be required to demonstrate that alternative internal circulation systems that would minimize use of cul-de-sacs are infeasible” (Morris, 1996, p. 5).

Add language to create allowances for future street extensions. For example, a provision could state: “Where the subdivision or partition is adjacent to land likely to be divided in the future, streets, bicycle paths, and access ways shall continue through to the boundary lines of the area under the same ownership as the subdivision or partition,
where the planning or public works director determines that such continuation is necessary to provide for the orderly division of such adjacent land or the transportation and access needs of the community” (Morris, 1996, p. 7).

Another provision could read: “Where the subdivision or partition includes only part of the area owned by the applicant, the planning director or public works director may require a sketch of a tentative layout of streets, bicycle paths, and access ways in the remainder of said ownership” (Morris, 1996, p. 7).

Alleyway creation provides more interconnectivity between land uses and off-street parking. San Diego, Calif., implemented language on alleyway requirements that reads: “For wholly new developments or any redevelopment designed to increase existing gross floor area by 50 percent or more on a lot or premises abutting an improved alley, the required off-street parking area shall be so located that the abutting alley may be utilized for vehicular access to and from said lot or premises” (Morris, 1996, p. 17).

The city of Minneapolis, Minn., defines streets in terms of land use type served rather than specific road type created. For example, the Access Minneapolis: Ten-Year Transportation Action Plan (2008) defines eight place types: 1) Activity Centers, 2) Commercial Corridors, 3) Community Corridors, 4) Neighborhood Commercial Nodes, 5) Transit Station Areas, 6) Growth Areas, 7) Major Retail Centers, and 8) Industrial
Employment Districts (City of Minneapolis, 2008, pp. 2-1-2-5). The Minneapolis streets organizational chart is listed in Appendix 2.

Ensure *integrated access-management* to reduce traffic conflicts. Public officials can ensure that adjacent unsignaled commercial driveways do not necessarily result in two access points, but one access point in order to create interconnectivity between the commercial uses (Miller, 2004, p. 32). This is a simple policy to enact during the planning process that can improve interconnectivity throughout Delaware. In order to provide incentive to the private-sector, *comprehensive access-management codes* should be adopted that tie density allowances to access-point consolidation (Miller, 2004, p. 32).

Encourage short walking distances by limiting block length. Nozzi states, “if our goal is short walking distances, our community is going to want short, walkable blocks, not longer than 300 to 500 feet” (Nozzi, 2003, p. 117). He further states that “if long blocks are unavoidable, they can be shortened with shortcut alleys or arcades or sidewalk paths that run from street to street in the middle of a block” (Nozzi, 2003, p. 117).

Zoning ordinances should be enhanced to define minimum, rather than maximum, densities. Often density requirements attached to zoning classifications are used as a way to limit density in a given area, such as an agricultural area or a suburban
district. On the other hand, minimum-density requirements could be used to encourage higher-density development in designated growth corridors, future growth corridors, transit corridors, and urban areas.

Additionally, minimum setbacks often defined in land use regulation should be reduced or eliminated as they are often barriers to sustainable development. Parking standards should be reduced or eliminated in certain circumstances as well in favor of maximum parking standards for specific districts (Central Business Districts, downtowns, sites near a high capacity transit station). A San Mateo County (Calif.) District study advocated that “for small-scale infill development to occur, on-site parking requirements must be no higher than 1.3 spaces per housing unit” (San Mateo County District, 2007). If automobile-centric parking standards are eliminated or reduced, non-automobile transportation standards need to be established to ensure that with decreased automobile parking, other transportation facilities are adequate. Excessive parking requirements and regulations can inhibit a planner’s ability to adequately assess actual parking needs at a given site. The one-size-fits-all approach eliminates a more effective case-by-case parking-evaluation process.

Bicycle facilities, pedestrian facilities, transit services, or transit-supportive plazas can substitute for automobile parking standards during the preliminary stages of site-review. Although Chapter 33.266.110 Minimum Required Parking Spaces of the
Portland, Ore., Code defines minimum parking requirements, there are exceptions tied to other transportation systems. The purpose of the ordinance section sets the tone:

The purpose of required parking spaces is to provide enough on-site parking to accommodate the majority of traffic generated by the range of uses that might locate at the site over time. Sites that are located in close proximity to transit, have good street connectivity, and good pedestrian facilities may need little or no off-street parking. Transit-supportive plazas and bicycle parking may be substituted for some required parking on a site to encourage transit use and bicycling by employees and visitors to the site. The required parking numbers correspond to broad use categories, not specific uses, in response to this long-term emphasis. Provision of carpool parking, and locating it close to the building entrance, will encourage carpool use (City of Portland, Oregon, 2009, pp. 2-3).

Later in the ordinance, exceptions based on alternative transportation systems are defined. First, the mass-transit element:

Exceptions for sites well served by transit. There is no minimum parking requirement for sites located less than 500 feet from a transit street with 20-minute peak-hour service. Applicants requesting this exception must provide a map identifying the site and TriMet schedules for all transit routes within 500 feet of the site (City of Portland, Oregon, 2009, pp. 3-4).

Second, the bicycle element:

Bicycle parking may substitute for up to 25 percent of required parking. For every five non-required bicycle parking spaces that meet the short or long-term bicycle parking standards, the motor vehicle parking requirement is reduced by one space. Existing parking may be converted to take advantage of this provision (City of Portland, Oregon, 2009, pp. 3-4).
Not only does the bicycle element provide a parking substitution standard, it provides incentivized substitution. Any successful substitution language should include a baseline standard and incentivized allowances.

Third, the plaza element:

Substitution of transit-supportive plazas for required parking. Sites where at least 20 parking spaces are required and where at least one street lot line abuts a transit street may substitute transit-supportive plazas for required parking, as follows. Existing parking areas may be converted to take advantage of these provisions. Adjustments to the regulations of this paragraph are prohibited.

Transit-supportive plazas may be substituted for up to ten percent of the required parking spaces on the site;

The plaza must be, adjacent to and visible from the transit street. If there is a bus stop along the site’s frontage, the plaza must be adjacent to the bus stop;

The plaza must be at least 300 square feet in area and be shaped so that a 10 ft. x 10 ft. square will fit entirely in the plaza; and

The plaza must include all of the following elements:

- A plaza open to the public. The owner must record a public-access easement that allows public access to the plaza;
- A bench or other sitting area with at least five linear feet of seating;
- A shelter or other weather protection. The shelter must cover at least 20 square feet. If the plaza is adjacent to the bus stop, TriMet must approve the shelter; and
- Landscaping. At least ten percent, but not more than 25 percent of the transit-supportive plaza must be landscaped to the L1 standard of Chapter 33.248,
- Landscaping and Screening. This landscaping is in addition to any other landscaping or screening required for parking areas by the Zoning Code (City of Portland, Oregon, 2009, pp. 3-4).

Fourth, the motorcycle element:

Motorcycle parking may substitute for up to five spaces or five percent of required automobile parking, whichever is less. For every four motorcycle parking spaces provided, the automobile parking requirement is reduced by one space. Each motorcycle space must be at least four feet wide and eight feet deep. Existing parking may be converted to take advantage of this provision (City of Portland, Oregon, 2009, pp. 3-4).

Transportation-mode integration policies can be enacted to create a more accessible and interconnected transportation network. To integrate several modes of transportation into one seamless system it requires cooperation. This means that multiple organizations, both public and private, must come together to create some sort of working partnership or agreement on how to move forward on pressing transportation integration issues. One way to integrate modes is through use of transportation management associations which are organizations that serve as private-public facilitators on transportation enhancement issues. Delaware currently has a transportation management association with membership from across the region. The Delaware TMA focuses much time and effort on balancing private sector interests with public transportation infrastructure needs.
To continue to enhance the regional transportation network, Delaware officials should partner with Maryland officials to complete the establishment of a Cecil County Transportation Management Association (CCTMA). Since private-sector employers in Cecil County, who are located close to the Delaware state line, contribute to the regional transportation network, better coordination and mutual agreement is needed between Delaware and Maryland transportation officials as well as the interstate private sector. WILMAPCO completed a study on the feasibility of a CCTMA in 2009 (Zegeye, 2009, p. 2). The report focuses on TMA structure, development, and overall feasibility with emphasis on creating a business model for effective CCTMA development (Zegeye, 2009, p. 2).

In Appendix 8, a research brief is provided on regional transportation planning structures. The research brief provides in-depth information about both Delaware and non-Delaware transportation structures. For some localities, creation of a transportation management association may not be optimal given certain conditions; therefore, other models may be useful.

Some localities have required a certain level of bicycle facilities be installed with each new development or with relevant land uses. Poulsbo, Wash., has language on bicycles that reads:

With the approval of the Director, developers may receive credit in the form of a decrease in required vehicle parking. By providing at least five covered bicycle
parking facilities, one vehicle parking space will be eliminated. No more than ten percent of the required vehicle parking for that land use shall be replaced with covered parking facilities (Morris, 1996, p. 18).

Some localities will simply tie bicycle parking to required automobile parking (Morris, 1996, p. 18). The bicycle parking requirement is reflected as a percentage of required vehicles spaces (Morris, 1996, p. 18). Austin, Tex., and Salem, Ore., chose 5%; Boulder, Colo., and Madison, Wis., chose 10 percent, while Deschutes County, Ore., and Ashland, Ore., each chose 20 percent (Morris, 1996, p. 18). Each county or municipality must make an independent decision regarding the ideas that factor into the goal of transportation integration while also realistically assessing the actual amount of cyclists who would make use of facilities.

A provision written like the one above was intended for mass-transit linkages and reads:

An existing use (within 400 feet of a transit route) may reduce the number of required parking spaces by up to ten percent to provide a transit stop and related amenities, including a public plaza, pedestrian sitting areas, and additional landscaping (however such landscaping shall not exceed 25 percent of the total area dedicated for transit-oriented uses) (Morris, 1996, p. 18).

Another example, with different methodology, regarding transit reads:

The director may reduce the number of required off-street parking spaces when one or more scheduled transit routes provide service within 660 feet of the site. The amount of the reduction shall be based on the number of scheduled transit runs between 7:00-9:00#a.m. and 4:00-6:00#p.m. each business day up to a
maximum reduction as follows: 1) Four percent for each run serving land uses in the (Government/Business Services) section and the (Manufacturing) section up to a maximum of 40 percent; and, 2) Two percent for each run serving land uses in the (Recreation/Culture) section, (General Services) section, and the (Retail/Wholesale) section up to a maximum of 20 percent (Morris, 1996, p. 18).

**Recommendation #5: Create an agenda highlighting “low hanging fruit” and a timeline for action for implementation of study recommendations.**

To enact the recommendations highlighted in this thesis Delaware policy officials, upon review of this document, should create an agenda highlighting “low hanging fruit.” Policy makers and public officials must agree upon the possible and the impossible, the relevant and the irrelevant. Important questions must be answered:

What study recommendations can be easily implemented?

Which recommendations are most important? Which are most necessary at the current time?

Upon which recommendation(s) can everyone agree?

A timeline for action should be created. Once attainable recommendations are agreed upon, a timeline for implementation must be created in order to keep government officials on a schedule of action. Benchmarks and periodic goals should be set so that progress can be made with all deliberate speed.
Podcasts, web conferencing, and teleconferencing can be utilized to conduct meetings periodically to assess progress on project implementation strategies and to avoid excessive travel costs for those participating in implementation. Many respondents in discussions during a workshop highlighted, as a result of budget constraints, the inability for many to continue to attend frequent meetings on this topic around the state, so the general consensus of those in attendance was to use alternative communication strategies when possible.


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APPENDICES

APPENDIX 1: Beaverton, Ore., Zoning Ordinance

(Note: Appendix 1 refers to Recommendation 1, Implementation Strategy 8. The sample ordinance defines one of the many transit-supportive zoning districts defined by the city of Beaverton, Oregon.)

20.20.10. Station Area - Medium Density Residential Districts (SA-MDR)

1. **Purpose.** The zoning district is generally located within one mile of light rail station platforms. Areas designated SA-MDR are medium-density residential neighborhoods with a minimum of 24 units per net acre and a maximum density of 30 units per acre. [ORD 4111; June 2000]

Secondary uses include commercial uses and neighborhood parks. Small free-standing office uses are allowed within multiple use developments as defined in Chapter 90 of this ordinance, provided they do not exceed more than 50% of the residential floor area provided within the development, and that minimum residential densities are met. Retail uses are only allowed within multiple use developments, provided each individual establishment does not exceed more than 10,000 square feet of floor area, and that minimum residential densities are met. [ORD 4224; August 2002]

2. **District Standards and Uses.** Station Community – Medium Density Residential Districts and uses shall comply with the following:

A. **Permitted Uses:**

   Unless otherwise prohibited or subject to a conditional use, the following uses and their accessory uses are permitted:

   1. Administrative Facilities (subject to Use Restriction c.)
   2. Commercial Schools
   3. Attached Dwellings [ORD 4224; August 2002]
4. Eating or Drinking Establishments (subject to Use Restrictions b and e.)

5. Educational Institutions

6. Financial Institutions

7. Home Occupations

8. Live/Work Facilities

9. Medical Clinics (subject to Use Restriction c.)

10. Nursery, Day or Child Care Facilities

11. Office (subject to Use Restriction c.)

12. Parks

13. Places of Worship (subject to Use Restriction a.)

14. Rental Businesses (subject to Use Restriction d.)

15. Residential Care Facilities [ORD 4036; March 1999]

16. Retail Trade (subject to Use Restrictions b and e.)

17. Service Businesses (subject to Use Restrictions b and e.)

18. Social or Fraternal Organizations (subject to Use Restriction a.)

19. Utility Transmission Lines

20. Collocation of wireless communication facilities on an existing wireless communication facility tower [ORD 4248; April 2003]

21. Installation of wireless communication facilities on streetlights, excluding streetlights on power poles, traffic signal lights, and high voltage power utility poles within public road rights-of-way [ORD 4248; April 2003]
22. Attachment or incorporation of wireless communication facilities to existing or new buildings or structures that are not exclusively used for single-family residential or multi-family residential purposes [ORD 4248; April 2003]

23. Temporary wireless communication facilities structures (See also Temporary Structures – Section 40.80) [ORD 4248; April 2003]

10. Temporary Living Quarters

11. Transit Centers

12. Utility Installations, other than transmission lines

20.20.10.2.B.

13. Vehicle Sales, Lease or Rental (subject to Use Restrictions b and f.)

14. Construction of a wireless communication facility tower [ORD 4248; April 2003]

15. More than two (2) satellite antennas greater than two (2) meters in diameter on one (1) lot [ORD 4248; April 2003]

16. Direct-to-home satellite service having antennas greater than one (1) meter in diameter [ORD 4248; April 2003]

C. Prohibited Uses: The following principal, secondary or accessory non-transit-supportive uses shall not be established as new uses, nor may existing uses or structures be converted to the following uses in any Station Community District:

1. Automotive Services, Major

2. Bulk fuel dealerships

3. Bulk retail uses

4. Car washes

5. Cemeteries

6. Detached Dwellings [ORD 4224; August 2002]
7. Electrical power generators
8. Golf courses
9. Junk yards and motor vehicle wrecking yards
10. Kennels, excluding those accessory to veterinary Medical Clinics or medical Research Facilities
11. Manufacturing
12. Self Storage Facilities [ ORD 4354; June 2005]
13. Mobile Home Parks
14. Motels
15. Nurseries and greenhouses, retail and wholesale
16. Recreational vehicle parks and campgrounds
17. Research Facilities
18. Solid waste transfer stations
19. Truck stops
20. Warehouses or Cold Storage Plants, except those storing materials or products primarily manufactured on site or used in the on-site process, or used in the maintenance or operation of on-site facilities.
21. Storage yards
22. Attachment of a wireless communication facility to existing or new non-residential buildings that does not utilize stealth design [ORD 4248; April 2003]
23. Other uses which in the determination of the Director are non-transit-supportive and do not meet the intent and purpose of the Station Area – Medium Density Residential District as stated in the comprehensive plan and this ordinance.

D. Use Restrictions:

1. Uses which include drive-in, drive-through or drive-up window facilities within the Station Area - Medium Density Residential Districts are subject to approval of a Conditional Use.

2. Subsections A and B above indicate permitted and conditional uses subject to restrictions. The restrictions are described in this subsection. The letter reference in
parenthesis found for each use permitted with restrictions in subsections A and B refer to the restrictions below.

a. Buildings larger than 10,000 square feet are subject to approval of a Conditional Use.

b. These uses are permitted only within multiple use developments, and shall have a maximum size of 10,000 sq. ft., provided that the minimum residential densities are met.

c. This use is allowed only in multiple use developments. Office uses shall not exceed 50% of the proposed residential floor area within the multiple use development, and shall be permitted only when minimum residential densities are met.

d. These uses are permitted only within multiple use developments, and shall have a maximum size of 5,000 sq. ft., provided that the minimum residential densities are met.

e. Bookbinderies shall have a maximum size of 2,000 square feet.

f. This activity is conducted wholly within an enclosed structure. No accessory open air sales, display, or storage allowed with this use.

E. District Requirements:

(reserved)
APPENDIX 2: Place Types
<table>
<thead>
<tr>
<th>Place Type</th>
<th>Identifying Characteristics</th>
<th>Form</th>
<th>Building Placement</th>
<th>Frontage Types</th>
<th>Typical Density</th>
<th>Edge Treatments and Open Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Centers, Growth Centers</td>
<td>Diversity of uses with citywide and regional draw, Medium and high density residential uses, though varies by location, Accommodates retail and commercial services, entertainment uses, educational campuses, or other large-scale cultural or public facilities, Significant pedestrian and transit orientation, May have concentration of employment, Mix of uses occurs within and among structures</td>
<td>Traditional urban form regarding building siting and massing, Unique urban character that distinguishes them from other commercial uses</td>
<td>Small or no setbacks, Buildings oriented to street</td>
<td>Storefronts, Landscaped buffer areas, Shallow to medium setback, Buildings oriented to street</td>
<td>Medium to very high</td>
<td>Places and squares, Pocket parks, Trees planted in pits/renches, Streetscaping but minimal planted boulevards</td>
</tr>
<tr>
<td>Commercial Corridors</td>
<td>Historically have been prominent destinations in city, High traffic volumes, Mix of uses, with commercial uses dominating, Residential uses tend to be medium to high density, Primary Transit Network corridors</td>
<td>Buildings generally retain a traditional urban form in their siting, massing and relationship to the street</td>
<td>Medium to high</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Corridors</td>
<td>Connect more than two neighborhoods, Moderate traffic volumes and may be principal travel routes, Primary Transit Network corridors with some exceptions, Primarily residential with intermittent commercial uses clustered at intersections in nodes, Small scale retail sales and services serving immediate neighborhood</td>
<td>Traditional commercial and residential form and massing</td>
<td>Low to medium</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neighborhood Commercial Nodes</td>
<td>Generally retail or services on at least three corners of intersection, Oriented to pedestrian traffic, with few automobile-oriented uses, Generally serve needs of surrounding neighborhood with limited number of businesses serving larger area, Commercial uses are typically focused close to a single intersection of community corridors though may be more dispersed, Mix of uses occur within and among structures</td>
<td>Generally have a historic commercial function and form</td>
<td>Medium to high</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major Retail Centers</td>
<td>Large concentration of retail floor space, and have at least one major chain of grocery or household goods retail, Significant parking, Convenient and direct access to a the regional road network</td>
<td>Varies, generally large single story retail buildings with large surface parking lots, Policy direction for reinforcing elements of traditional urban form</td>
<td>Varies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential Neighborhood</td>
<td>Primarily residential but may contain scattered non-residential uses including small scale commercial and public/ institutional</td>
<td>Varies</td>
<td>Varies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial Employment District</td>
<td>Protected areas intended for industrial growth and expansion without residential uses in their boundaries, Designated in the Industrial Land Use and Employment Policy Plan</td>
<td>Varies</td>
<td>Varies</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Definitions and names are derived from the Minneapolis Plan.
APPENDIX 3: TOD Evaluation Framework

Delaware TOD is in its infancy. Currently no real TOD exists in Delaware that would be identified TOD as is traditionally defined, although there are many exciting opportunities and partial examples. The closest example Delaware has is in Wilmington at the SEPTA R2/Amtrak station. In New Castle County the SEPTA R2 commuter rail line features, including the Wilmington station, four train stations, all of which have TOD potential either through having some existing TOD attributes or by having potential for TOD to occur in the station area in the future. Important public policy changes must occur at these sites in order for them to further develop and be established as TODs. The same goes for large scale bus hubs in Delaware.

*TOD is the synthesis of land use and transit in community design.*
The following is the variable list for TOD site review. Special consideration was given to make this framework relevant to unique Delaware circumstances. The framework design is intended to balance specific TOD site design considerations with broader TOD policy goals for Delaware. Under each variable are sub-factors that define the several attributes associated with the variables. For each variable a rating will be assessed, a rating explanation will be provided, and recommendations moving forward will be listed. One point will be awarded for each sub-factor that is deemed ‘satisfactory’ based on site review. The sum of sub-factor points will be tallied as the overall rating. Listed below are the variables and sub-factors:

➤ **Existence of a high capacity/high volume transit station**

Any successful TOD starts with a functional transit stop. A satisfactory transit stop is one that has adequate trip frequency and service capacity to handle current and future service demand. A satisfactory transit stop is one that through trip frequency and service capacity is equipped for conversion into TOD. This variable will receive a 0 or 1 score dependent on whether or not the transit stop is deemed satisfactory for a future TOD site.

➤ **Adequate Zoning**

- Station Area Plans/Circulation Plans
- Transit-supportive Zoning
- Mixed-Use
  - Quantity/Quality of mixed-use structures
  - Vertical/Horizontal mixed-use
  - Access to:
    - Food (grocery store, restaurants, Farmer’s Market)
    - Open Space (parks, trails, baseball fields)
    - Entertainment (museums, malls, movie theatre, arts)
    - Healthcare (hospital, doctor’s office, pharmacy)
    - Education (school, university, libraries)
    - Housing (apartments, assisted living, houses)
    - Economy (jobs, businesses, industry, office space)
- Density

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• Allow use of Transfer of Development Rights (TDR) credits at or near transit facilities as an incentive for transit-oriented design

• Streetscape Design and Pedestrian Accessibility
  ▪ Street Trees / Tree Medians / Sidewalk Buffers
  ▪ Street Grid (discretionary use of Beta Index), Cul-de-sacs
  ▪ Traffic Calming:
    o Speed Bumps
    o Traffic Circles
  ▪ Sidewalk Quality
  ▪ Street Lights
  ▪ Bicycle facilities (Racks, lanes, lockers)
  ▪ Multi-modal paths (does not include sidewalks)

• Parking
  ▪ Minimum vs. maximum parking standards
  ▪ Alternative parking

The most important aspect to ensuring ‘adequate zoning’ is ensuring that mixed uses are permissible. Mixed-use is universally recognized as necessary for successful TOD. Knapp and others in *Incentives, Regulations, and Plans: The Role of States and Nation-states in Smart Growth Planning* highlight ordinance and public policy auditing as a strategy to ensure that mixed-use can easily occur in areas favorable for TOD.6 They state:

> The 20th century saw rising expectations for safety and space that many would argue led to over-regulation in Western society. Achieving new values in the city requires that we re-examine all of our rules—zoning codes, engineering standards, fire standards, and building codes—to be sure they are reasonable.7

But how do we get there? What factors impact the success of mixed-use? Weigandt, speaking about mixed-use developments in Germany, highlights the Südstadt of Tübingen as a successful mixed-use site.8 He outlines the following factors as keys to the site’s success:

- Its location at the edge of the central city, which is equally attractive for residential and commercial use

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7 Ibid.
8 Ibid., 89.
The high demand for both residential and commercial space in the region

Homogeneous land prices for residential and commercial use, fixed by the developer at a rather low level

The high density of buildings, which reduces the costs of construction

A strict application of planning laws which allow for mixed use on a small scale including its designation as a ‘mixed use area’

The early attraction of commercial users (‘pioneers’) to the area, which has shaped its image, made it attractive for other firms, and increased the tolerance of residents for commercial users

The principle of development from the lot was flexibly adjusted to the specific needs of firms (for example, stores using the ground level of two adjacent buildings)

A small, professional administrative group which is responsible for the implementation process has an office in the area, and actively promoted the concept to the public\(^9\)

In total, Weigandt proposes the following principles and guidelines for effective mixed-use development implementation in Germany:

- Functional mix has to be a basic principle of urban planning in all cities as it is a necessary condition for sustainable development.

- Functional mix must not be isolated to specific areas, but must be a basic guideline for the strategic planning of the whole city.

- In existing areas with a functional mix, it is essential to guarantee legally the structure of mixed use and to coach existing and potential companies

- Urban brown land should, whenever possible, be developed with a mixed use. Its location makes it attractive for residents and a broad spectrum of companies. Consequently, for these sites, functional mixture is a particularly interesting concept for investors.

- New settlements at the fringe of cities should be developed as mixed use areas. This requires a long-term perspective and high flexibility of the functional and architectural design.

\(^9\) Ibid., 91.
In Germany, the planning of mixed use areas does not require new laws and instruments. There are more legal possibilities than are realized by the market and planning practices. But to strengthen the programmatic character of functional mixture, a ‘diverse urban mixture’ should be introduced into the federal building law as a basic planning goal.

To facilitate planning and stabilization of mixed use areas, the requirements of environmental regulations and building law have to be adjusted.

Tax laws and subsidies for creating residential space or for creating jobs need to be changed in such a way that proximity of different functions becomes economically attractive for developers and investors. The current practice, to subsidize either residential or commercial use and thus to prohibit indirectly other kinds of use, is an obstacle to the development of mixed use areas.

It is paramount for the success of mixed urban structures that a specific profile of the area is developed very early and that the development is actively marketed from the beginning.

Mixed use projects need consistent political support against short-term fluctuations of the market. It is therefore important to make local politicians responsible early in the process.

Mutual tolerance of residents and firms is necessary, despite low levels of disturbances in mixed use areas. Concerns and complaints should be avoided by giving and receiving advice and information early in the development process.  

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10 Ibid., 98-99.
Adequate zoning also allows site design flexibility while at the same time encouraging use of progressive design strategies. Greenberg writing on TOD and success factors raises the issue of fenestration and TOD zoning. Greenberg states that “windows are frequently required at ground level, and a certain percentage of glass is often specified. The intent is to ‘enliven’ the street by providing visual interest that encourages people to walk and take transit. Requiring fenestration goes hand in hand with avoiding blank walls on pedestrian streets.”

Fenestration should not necessarily be required on developers arbitrarily via a new TOD zoning ordinance. Fenestration may be incorporated into zoning ordinance modification for the purposes of incentivizing creation of a streetscape conducive to maximum pedestrian activity and commerce.

A TOD site would benefit from zoning that defined minimum densities rather than maximum densities. Proactive ordinances must be in place to spur the process. For instance, “the city of Woodinville, WA allows a 10 percent increase above the zoning district's base density for developments located within one-quarter mile of transit routes with frequent service.”

Site design allowances must be in place to give developers the prerogative with regard to street width, minimum setbacks, building height, etc.

- **Congruence with Regional Land Use Plan**
  - Comprehensive Plan (municipal, county)
  - Long-Range Transportation Plan (WILMAPCO, DelDOT, DTC)
  - Master Water & Sewer Plan
  - Local Area Plan
  - Better Models for Development in Delaware
  - Strategies for State Policies and Spending
  - Intergovernmental Coordination

A TOD proposal must match a regional growth strategy that is universally endorsed by all stakeholders. The county or town Comprehensive Land Use Plan, the Regional Transportation Plan, the Long Range Transportation Plan, the Department of Transportation priorities and policies, and the Metropolitan Planning Organization interests must all be in line for a successful TOD to occur. Ellen Greenberg in *Regulations Shape Reality: Zoning for Transit-Oriented Development* found that “states with strong local planning traditions and mandatory consistency between local comprehensive plans and development regulations used policy documents as well as more focused development regulations to foster transit-oriented projects.”

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14 Ibid., 59.
In Denver, Col. effective local land use planning has played an instrumental role in the success of TODs. Strategic regional land use plans such as *Blueprint Denver*\(^{15}\) and *Metro Vision 2020*\(^{16}\) featured a number of TOD-focused goals effectively putting TOD front and center as a serious public transportation priority. This paved the way for TOD area planning and transit-ready development projects occurring in Arvada, Col., Englewood, Col., and Boulder, Col.\(^{17}\) Arvada, Col. created the *Arvada Intermodal Transit Village Concept Plan* in preparation for further TOD and transit-ready development as the locality prepares for a future train station to the north.\(^{18}\)

Station Area Plans, such as what the town of Arvada, Col. created, lead to successful TODs because they identify strategies for equipping a certain zone with facilities or regulatory incentives needed to attract TOD projects. Station-area plans “function as scripts for guiding public and private investments in and around transit stops.”\(^{19}\)

Key components of TOD-friendly station-area plans, as defined in a literature review conducted by Gwen Chisholm, include the following:

- **Results of a market feasibility study.** According to the Puget Sound Regional Council (1999), local governments are usually best positioned to perform station-area market analysis, though transit agencies sometimes are able to conduct such assessments just as well.

- **A physical plan for streets, pathways, utilities, mitigations and community enhancement.** Some observers recommend establishing a capital-improvements program that clearly denotes public commitments and responsibilities for physically supporting TODs.

- **A land use plan.** In addition to being prescriptive, the plan should identify specific steps that need to be taken to create the densities and land use mixes necessary to support and sustain future transit services.

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\(^{18}\) Ibid.

A staging plan. Land use planning tends to be spatial in nature; however, attention must also be given to the phasing of major improvements over time, specifying who will do what and when.

Regulatory and fiscal incentives. Good station-area plans not only lay down the rules but also offer incentives, such as tax abatement or density bonuses that reward developers for actions that support TOD.\(^{20}\)

The below table outlines the station area planning process defining who does what and when. This provides stakeholders with a checklist of sorts on how to complete a station area planning process for a potential TOD site. Completing an effective and detailed station area plan ensures TOD success.

<table>
<thead>
<tr>
<th>Preliminary Planning</th>
<th>Government</th>
<th>Citizens</th>
<th>Transit Agencies</th>
<th>Developer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-Coordinate input on alignment selection and</td>
<td>-Participate in station siting decisions</td>
<td>-Evaluate alternate alignments and station locations</td>
<td>-Provide early input regarding potential development opportunities</td>
</tr>
<tr>
<td></td>
<td>alternative station locations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Station Area Planning</td>
<td>-Mobilize the local community</td>
<td>-Actively participate in all phases of planning</td>
<td>-Support station area planning with technical information</td>
<td>-Engage actively in the station area planning process</td>
</tr>
<tr>
<td></td>
<td>-Lead station area planning</td>
<td>-Identify local impacts and concerns</td>
<td>-Purchase necessary land and right-of-way</td>
<td>-Review economic analysis and station area opportunities</td>
</tr>
<tr>
<td></td>
<td>-Incorporate public and transit agency input</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implementation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Design and Build station</td>
<td>-Issue permits for station facility</td>
<td>-Participate in station design</td>
<td>-Design and construct stations</td>
<td>-Review land acquisition needs</td>
</tr>
<tr>
<td></td>
<td>-Focus public input</td>
<td></td>
<td>-Build auxiliary facilities to support</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>station</td>
<td></td>
</tr>
<tr>
<td>B. Revise regulatory system</td>
<td>-Audit and revise regulations</td>
<td>-Review and provide input to regulatory changes</td>
<td>-Assist with code revision and analysis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Simplify permit process</td>
<td></td>
<td>-Build infrastructure to mitigate impacts</td>
<td></td>
</tr>
<tr>
<td>C. Fund and build improvements</td>
<td>-Build supporting infrastructure</td>
<td>-Help set priorities</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Secure funding and determine level of mitigation</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^{20}\) Ibid., 16-17.
Public Support

- Design Charettes
- TOD Commissions
- Outreach Education
- Intergovernmental Cooperation
  - State/Regional Forum on TOD
  - Planning Support Services to local government from state

Public support is necessary for any TOD site to be successful. For TOD to occur, prior policy commitments must be agreed upon by the business, government, and citizen stakeholders in the community. The Arvada, Col., case demonstrates strong public commitment to TOD. The city of Arvada in cooperation with Denver invested approximately $20 million dollars to purchase and clear land to make available for private sector TOD projects.22

Often citizen stakeholders are hesitant to support increased density due to concern over higher traffic, property value, new citizens moving into the area, and mixed uses. Design charettes should be held to bring the public into the process so that the community makes the TOD a success together. Front end public involvement in the planning process is necessary so as to keep the public engaged in decision making throughout rather than having a large crowd protest the proposal at the final approval stage. The CityCenter TOD located in Englewood, Col., was bolstered by commitment from the government to locate public facilities at the TOD site. Government schools, libraries, court houses, recreation centers, and administrative buildings all bring people to a TOD site making it more viable. When such public commitments and investments are used in ways that enhance community and the quality of life of citizens directly public support will be strong.

Public-Private Partnerships

• Public/Private Infrastructure Investment
• Private Property Acquisition
• Property Owner Support
• Adequate Market Demand
• Fast-track Review Processes
• Regulatory Incentives
• Tax incentives
• Neighborhood or Destination Retail

Public-private partnerships are vital to the ultimate success of a TOD. Often, under normal market conditions, TOD sites are not feasible for private sector investment. Government agencies at all levels must make connections with the business community to create incentives-based TOD.

The Urban Land Institute’s *Developing Around Transit: Strategies and Solutions That Work* reports that developers assess the following when evaluating whether or not to invest in a potential market opportunity for transit-supportive infill development:

- The community’s history of and openness to development around transit
- The transit agency’s and planning agency’s commitment to assisting development around transit
- The flexibility of local codes and regulations as they pertain to mixed-use development, parking requirements, and other key issues involved in developing in transit districts
- The potential availability of creative financing assistance from the city or transit agency
- The degree to which district design standards, planning guidelines, and planned public investments are likely to achieve an attractive, friendly, and walkable context for development

A crucial aspect to ensuring a planning agency’s commitment to assisting development around transit is use of fast-track development review processes. The city of Boulder, Colorado minimizes discretionary review of projects “conforming to design and development standards” within mixed-use districts. Although the Boulder policy is for

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mixed use districts the same principle could be applied to TOD districts. Dittmar (2004) reports that approval processes in Boulder were reduced from 3-4 years to 4-6 months.25 A planning agency can also allow developers to forego TISs to further streamline the approval process. On tax incentives and lower fees do Schneider (2004) states that “through tax exemption thousands of housing projects with affordable prices have been attracted to transit-oriented locations.”26

The city of Portland, Ore. exempts TOD sites from property taxes. Regulatory Barriers Clearinghouse reports that developments with 10 or more units are eligible for the 10-year property tax exemption provided they meet the following affordability requirements set by the Portland city code:

- Twenty percent of rental units should be affordable to households earning no more than 60 percent of the area median income (AMI) or 10 percent should be affordable to households earning no more than 30 percent of the AMI.

- The rental units are to remain affordable for the duration of tax exemption plus an additional five years thereafter.

- For-sale units should be sold to households earning no more than 100 percent of the AMI for a family of four.27

A Puget Sound Regional Council report on creating transit station communities outlines five key economic success factors for TOD.

- A strong overall market. A stronger market for development, particularly higher density residential and office space, will help create the critical mass of development at station area locations.

- The locational advantages of each station area. These advantages are carefully considered by potential investors, and successful development is focused at those station areas with multiple advantages, including good auto access, as well as transit access.

- Land use and transportation planning coordinated at the regional and local levels.

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25 Ibid.  
26 Ibid.  
- Land use regulations that permit higher density residential and commercial development at station areas.

- The public sector actively involved in development partnerships with the private sector. Public sector actions can include investment in pedestrian and transit improvements, land assembly, site preparation, and development subsidies.²⁸

The same report provides a checklist of actions local government can take to actively promote TOD. The following baseline components for a TOD marketing strategy were listed as:

- Preparing a regional demographic and economic forecast that is broken down to the corridor or station level

- Establishing supportive intergovernmental agreements

- Working with decision-makers to draft enabling legislation to support transit-oriented development

- Writing model policy and codes for adoption by local governments

- Supporting public relations and advertising to promote desired projects

- Removing regulatory barriers from existing local codes

- Investing public dollars strategically to effect change, including infrastructure and utilities

- Removing other barriers, such as derelict buildings, unkempt properties, and crime

- Providing on-going advertising and public relations efforts to publicize successful transit-oriented developments

- Conducting educational programs at the local level for lenders, developers, and others²⁹

Parzen and Sigal writing Financing Transit-Oriented Development define four key fiscal factors for TOD success that include increasing certainty, enabling public investors to

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²⁸ Puget Sound Regional Council, Creating Transit Station Communities in the Central Puget Sound Region, Seattle: Puget Sound Regional Council, June 1999, 47.
²⁹ Ibid., 46.
capture the value of public investment, structuring the deal, and addressing place and node: financing TOD’s distinctive components.\textsuperscript{30}

Increasing certainty refers to the risk that private sector investors face when contemplating TOD projects. To increase certainty the authors suggest that planners institute a regulatory and permitting environment that, from the very start, provides developers seeking approval for TOD projects with an easy, flexible, and time-efficient approval process.\textsuperscript{31} Parzen and Sigal also highlight the need to partner with large, experienced development firms on TOD projects.\textsuperscript{32} Often smaller firms advocate for and seek to build TOD projects, yet they have difficulty accumulating capital for projects given their size and, subsequently, the increased risk investors face with lending to them.\textsuperscript{33}

Mixed-use, high density projects can, at times, face public resistance due to citizen concern over traffic, property values, or detriment to community character. Private firms with TOD proposals must demonstrate that they have vision and an organized business plan outlined for their project to bolster public confidence.\textsuperscript{34} Front-end public investment in TOD projects can spur private sector investment by establishing a higher level of trust that public actors will make good on promises made.\textsuperscript{35} The government is proving to the private sector that they will follow through with transit infrastructure improvements.

Enabling public investors to capture the value of public investment refers to two key TOD success factors: the first, educating and garnering support from the community for a TOD project. The second is maximizing the public utility gained by a TOD investment through aggressive efforts in structuring public-private partnership agreements.\textsuperscript{36} TOD necessitates proactive governing that requires public champions of TOD to consistently push the process upward and onward.\textsuperscript{37} This public advocacy must foster TOD preparation and implementation strategies. Public-private partnerships work better when TOD projects are phased because this produces early cash flows.\textsuperscript{38} Parzen and Sigal explain:

\begin{quote}
A project that either creates a neighborhood or transforms it, attracting new investments and people, will tend to have much lower value—and lower returns—in the beginning than it will several years down the road. TODs often test new markets, either through design or through location. Design innovations include
\end{quote}

\begin{footnotesize}
\textsuperscript{31} Ibid., 87.
\textsuperscript{32} Ibid.
\textsuperscript{33} Ibid.
\textsuperscript{34} Ibid., 88.
\textsuperscript{35} Ibid.
\textsuperscript{36} Ibid., 90.
\textsuperscript{37} Ibid.
\textsuperscript{38} Ibid., 93.
\end{footnotesize}
the development of higher density housing in areas that traditionally have had only single-family homes; untested locations include underutilized areas in suburban downtown and industrial brown field sites.\textsuperscript{39}

To improve the public utility of public-private partnerships the authors also suggest cultivating new and special interest equity investors.\textsuperscript{40} The authors cite a 2002 announcement from the Federal Realty Investment Trust ending their eight year old program that targeted mixed-use town center developments for land acquisition and development as a sign of dwindling sources of investment for innovative development projects.\textsuperscript{41} The reasoning for such a move was that “mixed-use urban-style projects require too much investment up front, but pay off only gradually, which does not align well with the objectives of most real estate investment trusts’ shareholders for steady earnings and a growing dividend.”\textsuperscript{42}

Addressing place and node is crucial to financing TOD’s distinctive components. Financial commitments should be focused on creating place, developing a main street, and fostering a vibrant downtown square.\textsuperscript{43} Housing diversity and affordability are important as their existence ensures more consumer activity occurring at difference times of the day.\textsuperscript{44}

- **Fully Integrated Transportation System**
  - Diversity of Mode
  - Interconnectivity
  - Usability
  - Parking configuration (regulatory requirements, site design)
  - Park-n-Ride/Park-n-Pool use

Biking facilities, pedestrian networks, mass transit routes and stops, roadways, and park-n-ride facilities must be linked into a seamless network orchestrated for time efficiency, interconnectivity, and convenient cross-system transfers.

A key factor to creating multi-modal networks is to be sure that parking available does not undermine the network, but enhance it. One way to address these issues is through zoning codes that define the “rules of the game” with regard to parking. “The city of Minneapolis, Minnesota zoning code allows reduced parking (up to 10 percent) for multifamily dwellings located within 300 feet of a transit stop.”\textsuperscript{45} Another example in

\textsuperscript{39} Ibid.
\textsuperscript{40} Ibid., 94.
\textsuperscript{41} Ibid.
\textsuperscript{42} Ibid.
\textsuperscript{43} Ibid., 101.
\textsuperscript{44} Ibid.
Los Angeles County, California allows a “40 percent reduction in parking requirements for new residential developments in certain TOD districts.” Boulder, Col. worked with private developers to construct a mixed-use parking garage with retail commercial stores on the ground floor.  

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46 Ibid.
APPENDIX 4: Framework for Evaluation of Town Advocacy ESLC Priority Areas

Framework for Evaluation of Town Advocacy ESLC Priority Areas: Developing Sustainable Towns on the Eastern Shore

General Purpose

The mission of the Eastern Shore Land Conservancy (ESLC) is to sustain the Eastern Shore's rich landscapes through strategic land conservation and sound land use planning. ESLC must continue to be a leader in fostering prudent land use policy in the region, not only in the field of natural resource conservation and preservation, but in sustainable, smart growth development in and around Eastern Shore towns. If vibrant downtown centers are created and sustained, growth and development will flourish in the towns, not in the suburbs. When the inner core of a town dies, suburban sprawl and scattered “hodge-podge” development trends undermine our long-term sustainable development goals for the Eastern Shore.

While ESLC LUP has long been a strong advocate for better planning processes and smarter growth in the Eastern Shore region, much of that advocacy has been focused on our rural areas and the periphery of our towns. With an increased focus on towns, our voice as a strong advocate should follow our educational work into town.

Therefore, ESLC is piloting a comprehensive effort to inventory the parcels from Cecil County to Dorchester County within towns and designated growth areas to formulate a database to monitor, identify, prioritize, and evaluate parcel by parcel as they enter the development review process. As we monitor comprehensive plans, annexations, rural subdivisions and rural rezonings, so should we monitor development proposals. This database system will allow ESLC to quickly review, analyze, and ultimately take a position on proposals. With this system, ESLC can quickly provide in-depth comments and recommendations to the developer in early stages of the development review process. Additionally, ESLC’s town planning efforts will have the capacity to proactively oppose, support, or support with conditions development proposals, thereby, operating more efficiently and exerting its influence over land use policy in the region more strategically.

This paper provides detailed descriptions of how the parcel database/mapping system and overall prioritization/evaluation process will operate within the context of three main action categories: 1) Monitor, 2) Prioritize, and 3) Evaluate. The “Monitoring” process will be conducted by the Town Planning Manager and will be as automated as possible –
consisting primarily of development review announcements from each of the area’s jurisdictions. The “Prioritization” process will be quick review to determine whether or not the proposal falls in one of the Town Advocacy Priority Areas. It can be presumed that anything falling outside of the Town Advocacy Priority Areas would nearly automatically be opposed as rural development. The “Evaluation” section will include “Score Coding Sheets” which quantify how ESLC will define parcels of primary focus and parcels of concern based on site evaluation. The sheet structure will follow an organizational framework for each decision-making variable that includes: 1) a value statement, 2) variable name, 3) quantitative definition, and 4) context/explanation. The value statement explains the general ESLC guiding principle behind the decision-making variable. Variable name will be used as a column heading in the Excel spreadsheet. The quantitative definition explains the attributes and subsequent scoring system for the decision-making variable. The context/explanation provides insight as to how the attributes and scoring system were defined as well as the additional context in which the variable was created.

All scores compiled for each parcel will be averaged to create a final score.

Green variables are those that should be easily evaluated by ESLC staff based on review of site design information provided by local planning departments. Red variables indicate metric that will be difficult to assess based on evolving circumstances during the development review process.

1) Monitor ESLC staff must monitor and identify potential subdivision proposals that are proposed in priority parcels at or before the “Concept Plat” stage if possible.

The ESLC Town Advocacy Priority Areas will include all towns and surrounding growth areas as defined by county comprehensive plans in the following counties: 1) Cecil, 2) Kent, 3) Queen Anne’s, 4) Talbot, 5) Caroline, and 6) Dorchester. Land use maps from all six counties are located in Appendix 7 for reference. When parcel prioritization is described in part two this issue will be described further.

For parcel monitoring and identification within previously defined priority areas, ESLC staff can access this information through county and municipal interactive GIS software, county comprehensive plan maps, or through review of Planning Commission agendas on a rolling basis. For instance, the Cecil County government website provides an interactive major subdivisions plat mapping program. Viewers can use the program to find proposed subdivisions at varying stages in the development review process. If one wanted to find all proposals in the “Concept Plat” stage one could simply click on the corresponding button and every single development in Cecil County currently listed in the “Concept Plat” stage would be listed. Information sharing agreements could also be made with local planning staff to facilitate a smooth transfer of data to ESLC for analysis.
Appendices 1-6 provide varying subdivision proposal review processes from every county in the ESLC area of concern.

2) Prioritize The next step after sites have been identified is to prioritize which sites are most important. This step must be completed immediately after identification. Through use of the “Prioritization Score Coding Sheet” parcels will be prioritized based on a quantitative scoring system to be entered into an Excel spreadsheet. The code book will provide the variables for prioritization, the scoring system, and what values should be entered for which column in the Excel spreadsheet.

Prioritization Score Coding Sheet

ESLC MISSION STATEMENT: The mission of the Eastern Shore Land Conservancy is to sustain the Eastern Shore’s rich landscapes through strategic land conservation and sound land use planning.

Value Statement #1: ESLC is committed to fostering a vibrant downtown atmosphere within every town in the ESLC area of concern in order to promote commercial, residential, and industrial growth in town.

1) Variable Name: PriorityParcel
2) Quantitative Definition: 1 point = Growth Area, not within town limits; 2 points = Within Town Limits; 3=Downtown/Central Business District of Town
3) Context/Explanation: Priority parcels are evaluated in terms of two groups: 1) parcels within town limits and 2) parcels within growth areas, but not in town limits. Parcels within town limits shall be broken up into two groups: 1) parcels in the downtown/central business district of a town and 2) parcels within town limits, but not in the downtown/central business district of a town. The downtown/central business districts of towns can be defined on an ad hoc basis by ESLC staff determination. Growth areas shall be defined based on two parameters: 1) a county or municipality’s land use plan and 2) supplemental ESLC growth area designations. In instances where ESLC does not agree with a locality’s land use plan, ESLC should create an alternative growth area designation in order to better reflect the goals and ideas of ESLC. For example, let us examine the Cecil County land use map:
Four areas circled above represent potential problem areas where ESLC may see things differently than Cecil County officials with regard to growth areas. The red areas denote areas defined as “Suburban Districts” that extend to the north adjacent to the Fair Hill Natural Resource Center, south onto the Elk Neck peninsula approaching Elk Neck State Park, and then south again extending to the tip of Carpenter’s point. The Rising Sun area town district designation also extends into rural areas which may serve as a cause for concern as ESLC works to model parcel evaluation protocol off of land use plans that are pursuant to individual county comprehensive plans.

Parcels within town limits are given 2 points because they are of primary focus as compared to growth areas not within town limits because vibrant downtowns are of the utmost importance in terms of contributing to regional smart growth goals. The highest priority areas are downtown/central business districts that are crucial to establishing a vibrant central town hub of activity.

1) **Variable Name:** Infill
2) **Quantitative Definition:**
   a. Adjacent Parcels that are Developed = 1 point per parcel
   b. Parcel Land Use types per adjoining parcel:
      i. Residential=1
      ii. Commercial=3
      iii. Industrial=2
      iv. Agricultural=0
3) **Context/Explanation:** N/A

1) **Variable Name:** PFA
2) **Quantitative Definition:**
   a. Is the proposal in a Priority Funding Area (PFA)? 1=Yes; 0=No
3) **Context/Explanation:** ESLC will support development in areas designated for state infrastructure development. PFAs are located in towns and adjacent growth areas and support ESLC smart growth objectives.

1) **Variable Name:** Infrastructure
2) **Quantitative Definition:**
   a. Would the proposal plug into existing or planned water & sewer infrastructure? 2=Existent; 1=Planned; 0=None
   b. Would the proposal plug into existing or planning transportation investment areas (TIAs)? 2=Existent; 1=Planned; 0=None
   c. Would the proposal plug into existing or planning broadband telecommunications infrastructure? 2=Existent; 1=Planned; 0=None
3) **Context/Explanation:** N/A
Value Statement #2: ESLC is committed to time efficiency and exerting maximum influence on local land use planning decisions regarding town development and adjacent growth area development.

1) **Variable Name:** TimeLine
2) **Quantitative Definition:** What is the timeframe for project completion at date of evaluation? 3= <1 year; 2= 2-3 years; 1= 3-4 years; 0=4+ years
3) **Context/Explanation:** N/A

1) **Variable Name:** PlanStage
2) **Quantitative Definition:** What stage in the planning process is the development in? Concept=2; Preliminary=1; Final=0
3) **Context/Explanation:** N/A

Value Statement #3: ESLC is committed to reusing and rehabilitating old buildings in municipalities wherever possible as opposed to continuously building new structures. Furthermore, ESLC supports reconstructing such buildings in town so that the traditional and historical architectural design of the community is preserved.

1) **Variable Name:** ReBuild
2) **Quantitative Definition:**
   a. Does the project re-use/rehabilitate an old/existing structure? 1=Yes; 0=No
   b. Does the new building design follow traditional/historical architecture of the community? 1=Yes; 0=No
   c. Are other on-site historical resources protected? 1=Yes; 0=No
3) **Context/Explanation:** N/A

3) Evaluate Through use of the “Evaluation Score Coding Sheet” parcels will be evaluated based on a quantitative scoring system to be entered into an Excel spreadsheet by coders. The code book will provide the variables for evaluation, the scoring system, and what values should be entered for which column in the Excel spreadsheet so that coders can easily manage data entry and so that multiple coders have uniform data entry protocol to follow.

_Evaluation Score Coding Sheet_

ESLC MISSION STATEMENT: The mission of the Eastern Shore Land Conservancy is to sustain the Eastern Shore’s rich landscapes through strategic land conservation and sound land use planning.

Value Statement #1: ESLC is committed to fostering sustainable municipal redevelopment of brownfields sites because such redevelopment protects the environment, avoids blight in downtowns, and contributes to the local economy.
1) **Variable Name:** Brownfields

2) **Quantitative Definition:**
   
   1) Is the site a Brownfields site? 1 point = Yes; 0 points = No

3) **Context/Explanation:** N/A

Value Statement #2: ESLC is committed to supporting social and economic equity on the Eastern Shore by fostering sustainable economic/job opportunity, affordable housing, secure neighborhoods, and diverse communities in Eastern Shore municipalities.

1) **Variable Name:** SocEconDiv

2) **Quantitative Definition:**
   
   a. Housing-Jobs Balance: Can people afford to live and work in the community? 1=Yes; 0=No (Brief explanation should be provided)

   b. Neighborhood Commercial Needs: How does this development impact the neighborhood commercial needs of the town? 1=Net Positive on the area (exclusively commercial development); 0=Neutral Impact (mixed-use development); -1=Net Negative on the area (exclusively residential without commercial) (Brief explanation of reasoning should be provided)

   c. Does the location have access to jobs and local businesses? (On a scale from 1 to 5) Poor access=1; Great Access=5

   d. Gentrification: Is there a risk of gentrification occurring as a result of the development? 0=Substantial Risk; 1=Low Risk; 2=No Risk

   e. Housing Diversity: How many different types of housing are there (apartments, single-family homes, multi-family housing, senior housing, etc.)? 2= 3+ types; 1= 2 types; 0=1 type

   f. Police: Does the proposal necessitate increased police patrols? Yes=0; No=1

   g. Fire Department: Does the proposal necessitate increased fire/EMS coverage? 0=Yes; 1=No

   h. Schools: Does the proposal necessitate increased education investment in the area? 0=Yes; 1=No

3) **Context/Explanation:** N/A

Value Statement #3: ESLC encourages landowners of all types – individuals, businesses, and governments (local, state, and federal) to be good stewards of land to help maintain healthy wildlife populations and clean water. In order to proactively address 21st century environmental problems, ESLC advocates the development of green communities and green building design in and around municipalities as part of the comprehensive land use planning process on the Eastern Shore.

1) **Variable Name:** GreenDev

2) **Quantitative Definition:**
   
   a. Is any component of the development LEED certified at any level
(Platinum, Goal, Silver, or Certified)?
   i. 1 point per level
3) **Context/Explanation:** N/A

1) **Variable Name:** AltEn
2) **Quantitative Definition:**
4) Is the following incorporated into the project: shared on-site nonpolluting renewable energy generation technologies such as solar, wind, geothermal, low-impact hydroelectric, and biomass?
   i. Yes=1
   ii. No=0
3) **Context/Explanation:** N/A

1) **Variable Name:** GreenScape
2) **Quantitative Definition:**
   a. Does the proposal preserve on-site natural resources?
      i. Forest: Yes=1; No=0
      ii. Wetlands: Yes=1; No=0
      iii. Streams: Yes=1; No=0
      iv. Waterway Buffers/Shoreline: Yes=1; No=0
      v. Prime Agricultural Land: Yes=1; No=0
   b. If on-site natural resources are not preserved, are the losses offset or mitigated in some way either through re-forestation or creation of artificial wetlands, etc.?
      i. Yes=1
      ii. No=0
3) **Context/Explanation:** N/A

1) **Variable Name:** StormWater
2) **Quantitative Definition:**
   a. Are stormwater management facilities adequate?
      i. 1=Yes
      ii. 0=No
3) **Context/Explanation:** N/A

Value Statement #4: ESLC supports high-density, mixed-use, transit-oriented town development that create community hubs, improve our transportation infrastructure, contribute to land-efficient compact-development, and create places worth keeping.

1) **Variable Name:** Density
2) **Quantitative Definition:**
   a. What is the density of the development proposal?
      i. 4+units/acre = 3
      ii. 2-3units/acre = 2
iii. 1 unit/acre = 1
iv. <1unit/acre = 0

b. Specific to commercial proposals, Floor Area Ratio (FAR) is:
   i. 1+=3
   ii. 0.5-1=2
   iii. 0.4-0.5=1
   iv. <0.4=0

3) **Context/Explanation:** Since these parcels are either in towns or in designated growth areas—the higher the density the better. We do not want to support low-density sprawl like development in our towns and growth areas because this is a poor use of what should be our economic, residential, and industrial hubs for the region. For part (b) if FAR cannot be ascertained, count part (b) as 0.

1) **Variable Name:** MixedUse
2) **Quantitative Definition:**
   a. Horizontal Mixed-use: 1=Yes; 0=No
   b. Vertical Mixed-use: 1=Yes; 0=No
   c. For single-use or single building developments, does the land use contribute to a greater mixed use network in surrounding ¼ radius area?
      1=Yes; 0=No
3) **Context/Explanation:** It is useful to account for horizontal and vertical mixed-uses separately so as to incentivize use of both strategies by developers.

1) **Variable Name:** StreetScape
2) **Quantitative Definition:**
   a. Street Trees: 1=Yes; 0=No
      i. Existent or Planned Canopy Creation: 1=Yes; 0=No
   b. Grid Streets: 1=Yes; 0=No
   c. Prevalence of Cul-de-sacs: 1=No; 0=Yes
   d. The following proximity categories will be scored as follows:
      2=Adjoining; 1=Nearby (within walking distance—not more than a mile); 0=Far (within short driving distance)
      i. Proximity to parks/public space/recreation facilities/museums/etc.:
      ii. Proximity to Food:
         1. Proximity to Farmer’s Market:
         2. Proximity to Grocery Store:
         3. Proximity to a Restaurant:
      iii. Proximity to Shopping/Entertainment:
         1. Proximity to shopping mall/movie theatre/clubs/arts/etc.:
      iv. Proximity to Healthcare:
         1. Distance from a Hospital:
         2. Distance from a Doctor’s Office:
         3. Distance from a Drug Store:
   v. Proximity to Education
1. Distance from a School:
2. Distance from College:
3. Multi-modal path connections to schools:
4. Distance from a Library:

e. Traffic Calming:
   i. Usage of Speed Bumps: 1=Yes; 0=No
   ii. Usage of Traffic Circles: 1=Yes; 0=No
   iii. Street Tree Medians: 1=Yes; 0=No
   iv. Green Buffers between sidewalks and roads: 1=Yes; 0=No

f. Average Setbacks:
   i. 0-10 ft. = 6; 10-20ft.= 5; 20-30ft.= 4; 30-40ft.= 3; 40-50ft.= 2; 50+ft.= 1

g. Street Width Average: 1 point given for every foot less than 30ft. width

h. Sidewalks: Both sides of the road=2; One side of the road=1; None=0
   i. Sidewalk Width: 1 point given for every foot wider than 4ft.
   ii. Green Buffer between sidewalk and street: Yes=1; No=0

i. Street Lights: 1=Yes; 0=No

j. Bicycle Racks: 1=Yes; 0=No

k. Designated Bike Lanes: 1=Yes; 0=No

l. Multi-modal paths (does not include sidewalks): 1=Yes; 0=No

m. Multi-modal paths (does not include sidewalks) are connected to a regional pedestrian transportation network: 1=Yes; 0=No

n. Mass Transit Connection or Allowances for Future Connections: 1=Yes; 0=No

o. Parking: Is parking minimized so as to promote alternative forms of transportation rather than auto-centric community design, rate from 1-5: Parking is minimized=5; Parking is not minimized=1

p. Transit Oriented Development (TOD): Would the proposed development be a TOD (TOD is defined in Appendix 8)? Yes=1; No=0

q. Connectivity:
   i. Intermodal connections: Do pedestrian networks meet bicycle networks and do bicycle networks lead to mass transit stops, etc.: (Rate from 1 to 5) 5=Excellent; 1=Poor

3) Context/Explanation: N/A

1) Variable Name: TDR
2) Quantitative Definition:
   a. Does the development proposal use TDRs? Yes=1; No=0

3) Context/Explanation: N/A

Value Statement #5: ESLC, based on preliminary site design evaluation, will engage in advocacy to influence how growth occurs in and around town.

1) Variable Name: Engage
2) **Quantitative Definition:**
a. What level of engagement will ESLC pursue with regard to this
development proposal? None=0; Written comments only=1; Written and
oral testimony=2; Written and oral testimony and lobby decision
makers=3; Conduct full blown campaign including the preceding actions
plus grassroots organizing and media work=4; Legal or legislative
action=5

3) **Context/Explanation:** Appendix 9 outlines ESLC engagement protocol and
decision factors.

1) **Variable Name:** Extran
2) **Quantitative Definition:** If extraneous factors exist, ESLC staff have the
opportunity to add a unique metric or series of metrics with an appropriate scoring
system in order to account for the “outlier” variable.
3) **Context/Explanation:** N/A

**APPENDIX 5: Villages at Belle Hill**

The below evaluation of the Villages at Belle Hill consists of the following: 1) a graphic
of the site plan, 2) the town advocacy issue review brief, and 3) the Appendix 4
evaluation framework scoring sheet.
TOWN ADVOCACY ISSUE REVIEW BRIEF

The following document provides criteria for the initial analysis of a potential town advocacy engagement. It is intended to help staff select those issues that will have the most regional meaning and impact on town-centric land use and growth management.

Project: Villages at Belle Hill – The Condor Group LLC - Elkton, MD
Date: August 24, 2009
Reviewer: Theodore Patterson

Basics:
- The Villages at Belle Hill are located just off of I-95, southeast off of Belle Hill Road, adjacent to Appleton Rd. outside of Elkton. Commercial land uses are not adjacent to, but in the general vicinity of the development. The development size is approximately 50 acres with a proposed 300 residential units.

Engagement Criteria: Rate 0 to 5  (0 = lowest, 5=highest)

__5_______ Town Building Impact: The proposal significantly impacts existing downtown landscapes, business, and overall community character within an ESLC Priority Town Area.
Region-wide Policy Impact: From a regional perspective, the proposal strengthens/weakens sound land use and growth management related law, regulations, program, or adopted policy (see ESLC Vision and ES 2010 Goals for further description).

Outcome: There is a real opportunity for ESLC to affect the outcome, including partners and/or the local community likely to engage in the issue with ESLC.

Smart Growth Values: The proposal supports ESLC’s mission statement, town advocacy value statements, and overall smart growth principles creating walkable, high density, mixed use, transit oriented town developments that build communities, create jobs, and provide for easy movement downtown.

Total (max = 20)

Position: Check one that best applies

Support
Oppose
Advisory/Monitor

Level of Engagement: Check one that best applies

0: None
1: Written comments only
2: Written and oral testimony
3: Written and oral testimony and lobby decision makers
4: Conduct full blown campaign including the preceding actions plus grassroots organizing and media work.
5: Legal or legislative action.

Other Considerations/Notes:

The below chart shows the score results for the Villages at Belle Hill evaluation using the Appendix 4 ESLC framework.

<table>
<thead>
<tr>
<th>Villages at Belle Hill</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PriorityParcel</td>
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</tr>
<tr>
<td>Infill</td>
<td>12</td>
</tr>
<tr>
<td>PFA</td>
<td>1</td>
</tr>
<tr>
<td>Infrastructure</td>
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</tr>
<tr>
<td>Timeline</td>
<td>2</td>
</tr>
<tr>
<td>Category</td>
<td>Score</td>
</tr>
<tr>
<td>------------------</td>
<td>-------</td>
</tr>
<tr>
<td>PlanStage</td>
<td>2</td>
</tr>
<tr>
<td>ReBuild</td>
<td>1</td>
</tr>
<tr>
<td>Brownfields</td>
<td>0</td>
</tr>
<tr>
<td>SocEconDiv</td>
<td>6</td>
</tr>
<tr>
<td>GreenDev</td>
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</tr>
<tr>
<td>AltEn</td>
<td>0</td>
</tr>
<tr>
<td>Greenscape</td>
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</tr>
<tr>
<td>StormWater</td>
<td>1</td>
</tr>
<tr>
<td>Density</td>
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<tr>
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</tr>
<tr>
<td>StreetScape</td>
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</tr>
<tr>
<td>TDR</td>
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</tr>
<tr>
<td>Engage</td>
<td>3</td>
</tr>
<tr>
<td>Extran</td>
<td>0</td>
</tr>
<tr>
<td>Final Score</td>
<td>56/128</td>
</tr>
<tr>
<td>Percentage</td>
<td>43.75%</td>
</tr>
</tbody>
</table>
APPENDIX 6: Woodlands Perryville

The below evaluation of the Woodlands Perryville development consists of the following: 1) a graphic of the site plan, 2) the town advocacy issue review brief, and 3) the Appendix 4 evaluation framework scoring sheet.

TOWN ADVOCACY ISSUE REVIEW BRIEF
The following document provides criteria for the initial analysis of a potential town advocacy engagement. It is intended to help staff select those issues that will have the most regional meaning and impact on town-centric land use and growth management.

Project: Woodlands Perryville – Town Point Development – Perryville, MD
Date: August 24, 2009
Reviewer: Theodore Patterson

Basics:
- The Woodlands Perryville project is located in Perryville, MD. The site is within town limits do west of downtown Perryville. The development incorporates mixed-use, TND, LEED certification (pending), housing diversity, alternative energy, sustainable transportation systems, etc. The entire project is on roughly 45 acres that incorporates open space areas.

Engagement Criteria: Rate 0 to 5  (0 = lowest, 5=highest)

_____5____  **Town Building Impact**: The proposal significantly impacts existing downtown landscapes, business, and overall community character within an ESLC Priority Town Area.

_____5____  **Region-wide Policy Impact**: From a regional perspective, the proposal strengthens/weakens sound land use and growth management related law, regulations, program, or adopted policy (see ESLC Vision and ES 2010 Goals for further description).

_____5_____ **Outcome**: There is a real opportunity for ESLC to affect the outcome, including partners and/or the local community likely to engage in the issue with ESLC.

_____5____  **Smart Growth Values**: The proposal supports ESLC’s mission statement, town advocacy value statements, and overall smart growth principles creating walkable, high density, mixed use, transit oriented town developments that build communities, create jobs, and provide for easy movement downtown.

_____20____  =  Total (max = 20)

Position: Check one that best applies

_____X_____  =  Support

__________ =  Oppose

__________ =  Advisory/Monitor

Level of Engagement: Check one that best applies

__________ = 0: None

__________ = 1: Written comments only

__________ = 2: Written and oral testimony

__________ = 3: Written and oral testimony and lobby decision makers

_____X_____ = 4: Conduct full blown campaign including the preceding actions plus grassroots organizing and media work.

__________ = 5. Legal or legislative action.
Other Considerations/Notes:

- This project is one that we should have been very supportive of. This would have been a great chance to get behind something that ESLC could show as a great way to develop land, a model for town development in the region.

The below chart shows the score results for the Woodlands Perryville evaluation using the Appendix 4 ESLC framework.

<table>
<thead>
<tr>
<th>Woodlands Perryville</th>
</tr>
</thead>
<tbody>
<tr>
<td>PriorityParcel</td>
</tr>
<tr>
<td>Infill</td>
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<tr>
<td>PFA</td>
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<tr>
<td>Infrastructure</td>
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<td>Timeline</td>
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<tr>
<td>Mixed Use</td>
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<tr>
<td>StreetScape</td>
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<tr>
<td>TDR</td>
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<tr>
<td>Engage</td>
</tr>
<tr>
<td>Extran</td>
</tr>
<tr>
<td>Final Score</td>
</tr>
<tr>
<td>Percentage</td>
</tr>
</tbody>
</table>
APPENDIX 7: ESLC Town Advocacy Evaluation Sheet

Developing Sustainable Towns on the Eastern Shore

Project Name:

Type of Project:

Brief Project Description:

Strength: (maximum of 25) ___

1. Prioritization 1 2 3 4 5
   a. Offers real opportunity to influence the design of the development
   b. Site review is still in the sketch/concept/preliminary stages of the planning process
   c. Located in town, around town, or in a growth area as defined by the county Comprehensive Plan
   d. Located in an area where smart growth needs to occur and historically has not

Describe:

2. Community Building 1 2 3 4 5
   a. Supports the redevelopment of historic properties
   b. Implements brownfields redevelopment
   c. Supports mixed-use, high density design principles that build neighborhoods
   d. Accounts for police, schools, and EMS to ensure adequate public facilities to current and new residents

Describe:

3. Transportation 1 2 3 4 5
   a. Creates a grid street system with connectivity to other adjacent developments
   b. Incorporates walkability components in the design (multi-modal paths, wide-sidewalks, etc.)
   c. Modeled after TOD principles.
d. Locates multiple land uses in close proximity to one another

Describe:

4. Environment 1 2 3 4 5
   a. Catalyzes healthy water quality (sewer/water treatment, storm water management, etc.)
   b. Incorporates green building and design principles (such as LEED type development)
   c. Utilizes alternative energy where possible to encourage sustainable development

Describe:

5. Economy 1 2 3 4 5
   a. Supports job access, affordable housing, and downtown central business district redevelopment
   b. Empowers and creates small, local businesses to grow and prosper
   c. Creates a mix of commercial land uses providing a downtown one-stop-shop for residents

Describe:
APPENDIX 8: Framing Potential Regional Structures

This research brief will explore the creation of a transportation planning entity that will act as a forum for articulation and coordination of sustainable transportation needs/solutions. Four case studies are examined below: 1) the Delaware Transportation Management Association (TMA), 2) the Sacramento Blueprint Project, 3) the Cape Cod Commission, and 4) the Wilmington Area Planning Council (WILMAPCO). These case studies were selected not necessarily for their similarities in scale or purpose, but for the potential lessons in management, structure, and implementation that they provide.

For additional reference on creating transportation planning entities, the Center for Urban Transportation Research produced the *TMA Handbook: A Guide to Successful Transportation Management Associations* (2001) which provides a wealth of in-depth knowledge on how to go about creating a regional transportation planning agency. The handbook covers topics ranging from budget management to performance criteria providing a truly comprehensive perspective on these issues. WILMAPCO is completing TMA feasibility study on a potential Cecil County, Md., TMA to be released in mid-to-late summer. This document would provide perhaps the most beneficial insight that we can get with regard to creating for any Eastern Shore transportation planning entity in the future.

**Delaware Transportation Management Association (TMA) – Wilmington, Del.**

**Brief History:** The Delaware TMA is a 15 year old institution started in the early 1990s along with many other TMAs around the country.49 The influx of TMA development occurred as a result of federal EPA regulations mandating Employee Commute Options (ECOs).50 ECOs required companies with more than 100 employees to reduce vehicle miles traveled and the number of vehicles on the road as a result of the impact their business caused on the local transportation network.51 ECOs were later repealed by Congress, but many TMAs remained.52 The statewide Delaware TMA initially started as a New Castle County specific organization that assisted companies with ECO compliance.53

49 Osborne, Bill, Executive Director, Delaware Transportation Management Association. Interview conducted 6/1/09.
50 Ibid.
51 Ibid.
52 Ibid.
53 Ibid.
Structure and Size: The organization has three staff positions: 1) Executive Director, 2) Program Manager, and 3) Executive Assistant. The Delaware TMA currently has 42 members down from 59 members in FY 2008 representing a roughly 29% drop in membership.\(^5^4\) Given the current economic climate Executive Director Bill Osborne expects this trend of declining membership to continue.\(^5^5\) The membership includes private sector companies like W.L. Gore & Associates, Inc. or J.P. Morgan Chase & Company with other non-private sector members such as the City of Wilmington and the University of Delaware.

The TMA generated roughly $118,000 in dues payments last year.\(^5^6\) The dues payment structure is differentiated between non-profit vs. for-profit entities. For-profit entities are charged $1.50 per employee per year and non-profits are charged $1.00.\(^5^7\)

Description of Region Served: The Delaware TMA serves all of Delaware in varying capacities, especially urban areas such as Wilmington. Delaware TMA officials serve on the following local, regional, and statewide bodies: Wilmington Area Planning Council (WILMAPCO) Technical Advisory Committee, Dover/Kent County Metropolitan Planning Organization (DKCMPO) Technical Advisory Committee, WILMAPCO and DKCMPO Subcommittees (air quality, non-motorized transportation, and congestion management), New Castle County Smart Growth Committee, Newark Transit Subcommittee, Wilmington Renaissance Transportation Committee, Wilmington Circulation Study Committee, 2010 Campaign for Active Transportation Committee, Delaware Chamber of Commerce (transportation committee), Central Delaware Chamber of Commerce Transportation Committee, Delaware Economic Council, Air Quality Partnership through Delaware Natural Resources and Environmental Control, and the Delaware Valley Regional Planning Council.\(^5^8\) The Delaware TMA serves a mix of urban, suburban, and rural areas.

Purpose/Goals: The Delaware TMA is “dedicated to achieving reductions in traffic congestion, improving mobility and air quality, and educating employers and their employees about transportation alternatives.”\(^5^9\) The Delaware TMA mission statement reads:

TMA Delaware will act as an advocate for its members, in the creation of public policy and innovative transportation solutions. TMA Delaware will provide

\(^{5^4}\)Osborne, Bill, Executive Director, Delaware Transportation Management Association. Interview conducted 6/1/09.
\(^{5^5}\)Ibid.
\(^{5^6}\)Ibid.
\(^{5^7}\)Ibid.
\(^{5^8}\)Osborne, Bill, Executive Director, Delaware Transportation Management Association. Interview conducted 10/22/08.
\(^{5^9}\)Ibid.
members and clients with technical services, information, education and pro-active guidance relating to transportation issues and opportunities.\textsuperscript{60}

**Accomplishments:**

- The Delaware TMA is a very relevant actor in regional transportation planning discussions because of its connection with the private sector.

- Since Bill Osborne took over as Executive Director of the Delaware TMA the organization is increasingly impacting untraditional transportation related topics, namely environmental and energy policy.\textsuperscript{61}
  - For example, the Delaware TMA was very involved in the Delaware Governor’s Energy Advisory Council bringing sustainable transportation issues to the forefront.

**Website Link:** www.tmadelaware.org/

**The Sacramento Blueprint Project – Sacramento, Calif.**

**Brief History:** The project was created in December 2004 by the Sacramento Council of Government’s (SACOG’s) Board of Directors to promote mixed-use, high-density, and transit-friendly development in the six-county SACOG area surrounding the city of Sacramento. The project is part of SACOG’s 2035 Metropolitan Transportation Plan.

**Structure and Size:** The project is a subsidiary of the SACOG and Valley Vision, a community “action tank” whose goal is to “secure the social, environmental and economic health of the Sacramento Region.” Over 70 additional non-profit, governmental, and private sector stakeholders cooperatively lead the Sacramento Blueprint Project. The project is facilitated through SACOG. To view the organizational structure of SACOG visit: http://www.sacog.org/about/SACOG_OrgChart.pdf. Below is more information about the Sacramento Blueprint Project’s budget and funding sources:

**Blueprint Project Revenue Sources (FY 2000-01 through April 2005)**

Core Revenues Available to SACOG

- Federal Planning Funds (FHWA & FTA) $ 535,000*  
- SACOG Regional Planning Funds (TDA) $1,643,000

\textsuperscript{60} Delaware Transportation Management Association. Website. http://www.tmadelaware.org/  
\textsuperscript{61} Osborne, Bill, Executive Director, Delaware Transportation Management Association. Interview conducted 6/1/09.
Subtotal: $2,178,000 (51%)

Special Revenues Made Available for Blueprint Project

- California HCD Grant: $515,000
- Congressional Earmarks: $470,000
- Valley Vision (through private foundations): $400,000
- State Treasurer’s Grant: $330,000
- Caltrans Grant: $300,000
- Sacramento Regional Foundation: $100,000

Subtotal: $2,115,000 (49%)

Grand Total: $4,293,000 (100%)

* This includes only those funds spent directly on the Blueprint Project and represents about six percent of our federal planning funds. During this four-year project approximately another 50 percent of our federal planning funds were spent on public outreach, land-use monitoring, land-use and travel model development, and forecasting all of which provided the basis for a successful Blueprint Project. The other 45 percent of federal planning funds were used to meet our mandates as a Metropolitan Planning Organization (multi-modal planning and programming, and air quality conformity).

**Description of Region Served:** The Sacramento Blueprint Project covers a six county area surrounding the city of Sacramento that includes El Dorado County, Placer County, Yuba County, Sutter County, Yolo County, and Sacramento County. The area is urban and suburban around the city of Sacramento with dense farmland areas to the west and a large tract of forestland to the east.

**Purpose/Goals:** The Sacramento Blueprint Project purpose is to facilitate “a bold vision for growth that promotes compact, mixed-use development and more transit choices as an alternative to low density development.” To implement these goals, the organization educates regional planners on Blueprint principles for growth and development.

**Accomplishments:**

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• The Sacramento Blueprint Project is successful in fostering greater communication among stakeholders. By use of charrettes, public outreach meetings, seminars, forums, and listening sessions, the transportation planning process in the area has truly become a collaborative community based process.

• According to Kasey Lizon, a technical planner affiliated with the project, a great success has been raising the level of dialogue with regard to land use and transportation integration in the Sacramento region. She stated that previous transportation planning efforts lacked the land use component and were therefore deficient. As result of raising this awareness, SACOG through the Blueprint Project was able to pass an ambitious and progressive Regional Transportation Plan that brings forward thinking comprehensive planning to the area.

  o Lizon also commented that approximately 10-12 towns and count in the SACOG area have adopted Blueprint principles and elements into their comprehensive plans and master plans.

Website Link www.sacregionblueprint.org/sacregionblueprint/home.cfm

Cape Cod Commission – Barnstable County, Mass.

Brief History: Throughout the 1980s development pressure endangered the unique value of the Cape Cod region. The Cape Cod Commission was created in 1990 to combat unsustainable growth trends. The Commission was authorized by the Massachusetts legislature and then confirmed by a referendum citizen vote. To view the actual Massachusetts law visit: http://www.capecodcommission.org/CCCact.htm.

Structure Size: The Cape Cod Commission is a department of the Barnstable County, Mass. government representing the Cape Cod region. The Commission serves as both a regional planning and regulatory agency focusing on three areas of work that include planning, technical assistance, and regulation. The Commission is funded through the Cape Cod Environmental Protection Fund. The Cape Cod Environmental Protection Fund is sustained through property tax apportionment from the several towns in the Cape Cod region. The Cape Cod Commission has the following departments:

63Lizon, Kasey, Planner, Sacramento Blueprint Project, Interview conducted 6/17/09.
64Ibid.
65Ibid.
66
68Ibid.
70Ibid.
71Ibid.
Affordable Housing
Coastal & Marine Resources
Economic Development
Geographic Information System (GIS)
Historic Preservation
Natural Resources and Open Space
Planning (RPP, DCPCs, more)
Regulatory (DRIs)
Transportation
Waste Management
Water Resources

The Cape Cod Commission Board is comprised of representatives from all 15 area towns, a county representative, 2 minority representatives, and a state Governor appointee.72

Description of Region Served: The Cape Cod Commission serves Barnstable County, Mass., a region dominated by suburban subdivisions with fragmented forest and open space in between. Urbanized town centers are evident, but for the most part the area is dominated by decentralized, low density development. Major metropolitan areas are located to the northwest and west, Boston and Providence respectively. Both Boston and Providence are just shy of an hour and a half away from Barnstable, Mass. which is located in the heart of the Cape Cod Commission area.

Purpose/Goals: “The purpose of the Cape Cod Commission is to further: the conservation and preservation of natural undeveloped areas, wildlife, flora and habitats for endangered species; the preservation of coastal resources including aquaculture; the protection of groundwater, surface water and ocean water quality, as well as the other natural resources of Cape Cod; balanced economic growth; the provision of adequate capital facilities, including transportation, water supply and solid and hazardous waste disposal facilities; the coordination of the provision of adequate capital facilities with the achievement of other goals; the development of an adequate supply of fair affordable housing; and the preservation of historical, cultural, archaeological, architectural, and recreational values.”73

Accomplishments:

- The Cape Cod Commission with widespread consensus coming from over 100 public and private stakeholders in the Cape Cod region is currently engaged in an

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73 Cape Cod Commission, Mission Statement, Barnstable County FY2010 Budget 12/17/08.
aggressive effort to start 16 economic development projects. If approved, this would serve as a major step forward for the region.

- The Cape Cod Commission functions much like an MPO, yet it is not an MPO, instead the Commission works very closely with the local Cape Cod MPO exerting substantial influence over the process of transportation funding prioritization and regional transportation planning. This is an excellent accomplishment and serves as a critical example of how a non-MPO organization can be just as effective as an MPO in a region, thereby, substantially improving the comprehensive planning efforts in Cape Cod.

Website Link: www.capecodcommission.org

Wilmington Area Planning Council (WILMAPCO)

**Brief History:** WILMAPCO was initially created in 1963 pursuant to federal law requiring the creation of a Metropolitan Planning Organization (MPO) when populations in and around an urban area exceed 50,000 people. In the beginning, WILMAPCO handled issues other than transportation such as housing and water resources, but in 1993 the MPO was re-organized to only focus on transportation issues exclusively.

**Structure and Size:** WILMAPCO is led by local government. Currently the WILMAPCO Executive Council consists of the following local actors: Delaware Governor Appointee, Delaware Department of Transportation, Delaware Transit Corporation, City of Wilmington, New Castle County government, New Castle County Municipalities' Representative, Maryland Governor Appointee, Maryland Department of Transportation, Cecil County government, Cecil County Municipalities' Representative.

WILMAPCO has two additional standing committees: the Public Advisory Committee and the Technical Advisory Committee. The Public Advisory Committee “advises the Council on public participation strategies for WILMAPCO.” The Technical Advisory Committee “oversees the technical work of WILMAPCO, preparing key products with the WILMAPCO staff and developing recommendations for Council approval of relevant projects and programs.” WILMAPCO also has six other subcommittees focused on

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75 Zegeye, Tigist, Executive Director, WILMAPCO. Interview conducted 6/3/09.
76 Ibid.
77 WILMAPCO Council Members. www.wilmapco.org/Council/index.htm#Council%20Members.
subjects that include air quality, goods/freight movement, congestion management, data/demographics, planning at the edge, and non-motorized transportation.\textsuperscript{80}

WILMAPCO funding is from the Federal Transportation Administration based on a statutory apportionment formula.

**Description of Region Served:** WILMAPCO serves Cecil County, Md., and New Castle County, Del. Both counties have vibrant rural, suburban, and urban landscapes. The biggest city in the region is Wilmington, Del. The most rural areas are in southern Cecil County.

**Purpose/Goals:** WILMAPCO focuses on transportation planning and transportation infrastructure funding prioritization. As a regional Metropolitan Planning Organization (MPO) WILMAPCO is charged with the task of creating regional transportation plans and long-term transportation plans for the region that, most importantly, set the fiscal agenda for long-term transportation investment.

**Accomplishments:**

- WILMAPCO effectively engages the public in transportation planning and utilizes its relationship with public officials to broker long-term transportation solutions to congestion problems largely associated with congestion on I-95 between Newark and Wilmington.

- WILMAPCO is also a leader in advocating for alternative transportation systems like commuter rail, bikeways, and improved pedestrian facilities.

**Website Link:** www.wilmapco.org

**Case Analysis**

The above cases outline a general overview of what are complex, well developed organizations that exist within a broader network of planning organizations. The Delaware TMA is the most useful example because of cost, the private sector connection, and easy solution implementation. Since a TMA generates its own revenue through private sector membership fees the public sector costs are limited to none—which always increases the potential support for a regional project such as this. The TMA is also effective because of the private sector connections which are absolutely necessary for the success of any would-be Eastern Shore transportation planning entity. A TMA also hits “low-hanging fruit” type solutions that are more easily implemented. The Delaware TMA emphasizes things like telecommuting, ridesharing, incentives-based programs for employers to offset parking/number of auto-commuters, and public education on mass

\textsuperscript{80}WILMAPCO Website. www.wilmapco.org.
transit schedules. These actions are small initial steps toward approaching bigger issues such as major capital project funding prioritization or large scale transportation/land use integration planning.

The Sacramento Blueprint Project provides the “community connection.” No other case embodies the true capability of collaborative community based planning like the Sacramento Blueprint Project case does. As public officials plan an Eastern Shore entity special attention and consideration should be given to incorporating public engagement practices from the Sacramento Blueprint Project into a transportation planning entity on the Eastern Shore.

The Cape Cod Commission provides a comprehensive planning structural perspective. The Cape Cod Commission focuses not only on transportation, but on other issues related to affordable housing and the environment. A transportation planning entity cannot be narrowly focused because land use planning, environmental planning, community design, and general infrastructure planning all enter into the transportation puzzle.

The WILMAPCO case provides insights with regard to structure and function as well. An Eastern Shore transportation planning entity would benefit from creating committees on the topics that WILMAPCO does (air quality, non-motorized transportation, etc). Any transportation planning entity would also be more useful if transportation funding prioritization was integrated into the organizational function just as it is in WILMAPCO.