7

How Can Delaware Local Governments Implement Complete Streets?
Delaware local governments can support the state’s Complete Streets Policy to provide safe, equitable, and accessible transportation to all users and modes. The *IPA Complete Streets Implementation Checklist* (displayed below and in Appendix C) can provide a foundation for local governments in Delaware, and elsewhere, to achieve complete streets by evaluating the extent to which their community vision, plans, policies, design standards, and facility maintenance practices are consistent with complete-streets principles. This section provides examples of best practice implementation strategies. In addition, complete-streets strategies are summarized within an IPA Complete Streets National Best Practices Matrix (Appendix D) and a Delaware Local Government Complete Streets Implementation Matrix (Appendix E).

### IPA Complete Streets Implementation Checklist

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<td>Does the community meet ADA requirements for state and local governments to maintain accessible features in “operable working condition”?</td>
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7-1. Community Vision

Complete streets are both a process and an outcome. The process for successful policy development at the local government level will be different for each jurisdiction, but it generally comprises the following steps (McCann and Rynne, 2010):

- Define the problem.
- Gather data to support the need for change.
- Identify stakeholders.
- Develop strategic partnerships.
- Form a task force, advisory board, or coalition to lead the initiative and advise elected officials on policy change.
- Mobilize community members and build public support to catalyze change.
- Facilitate community workshops and forums to engage and educate the public, elected officials, partners, staff members, and local leaders.
- Develop, with public input, a comprehensive complete-streets strategy that includes National Complete Streets Coalition policy elements.

City of Chicago, Ill. – In Chicago, the vision for complete streets began in 2006 with a comprehensive initiative to increase pedestrian safety. A collaboration among three city departments—Police Department, Department of Transportation, and Office of Emergency Management and Communications—established a “Safe Streets Chicago” initiative to reduce pedestrian accidents and enhance traffic-law enforcement. Other outcomes of the initiative resulted in a pedestrian-awareness campaign and established a Mayor’s Pedestrian Advisory Council. The Council has been instrumental in developing policies and design standards, including the October 2006 adoption of the City’s Complete Streets policy, which is intended to routinely design roadways for all users (Safe Streets for Chicago, 2010).

Chicago’s Pedestrian Advisory Council, with support of a nonprofit advocacy group called the Active Transportation Alliance, has developed a comprehensive process to implement the city’s Pedestrian Plan, which includes a focus on the Complete Streets Policy. The comprehensive approach includes the following steps (Active Transportation Alliance and Hernandez):

- Develop a vision statement.
- Create a pedestrian philosophy.
- Propose a system of pedestrian policies.
- Identify implementation and funding strategies.
• Create an extensive public-awareness campaign.
• Develop demonstration projects and propose streetscape improvements.

7-2. Local Government Plans

7-2-1. Comprehensive Plans

For many communities, development patterns may reflect auto-centric design. A comprehensive plan is intended to serve as a guide for local officials in their decisions concerning land use, future development and growth, expansion (or development) of community facilities, and the establishment of community-related services. Comprehensive plans should clearly reflect an overall vision and specific strategies within the document’s elements (e.g., transportation) to achieve an equitable transportation network.

As the visioning and guiding document for communities, a comprehensive plan serves a vital role in shaping communities. Comprehensive planning allows a community to reflect on its past, understand current conditions in the community, and ultimately provide instructions for future development. In Delaware, comprehensive planning is required by Delaware Code in order to enable “the most appropriate uses of physical and fiscal resources of the municipality and the coordination of municipal growth, development, and infrastructure investment action with those of other municipalities, counties, and the state […]” (Delaware Code, Title 22: §702,c). With the backing of the Delaware Code, comprehensive plans have the legal capacity to serve as a framework or blueprint for future growth and development. In addition to guiding growth and development, a carefully crafted and publicly vetted comprehensive plan serves as a foundation for all land use decisions—from broad policy formulation to specific ordinance changes and/or detailed design standards (Delaware Code, Title 22:§702, b).

NPLAN Model Comprehensive Plan Language – Communities that seek to develop inclusive transportation networks need to evaluate how well their comprehensive plan facilitates complete streets. The National Policy and Legal Analysis Network to Prevent Childhood Obesity (NPLAN) has developed Model Comprehensive Plan Language on Complete Streets, a document to assist local governments incorporate complete streets concepts into a comprehensive plan (NPLAN, 2010). For NPLAN’s model comprehensive plan language, see www.nplanonline.org/sites/phlpnet.org/files/nplan/CompleteStreets_ComprehensivePlan_FINAL_20100223.pdf.

IPA’s Healthy Communities Comprehensive Plan Assessment Tool – The University of Delaware’s Institute for Public Administration developed a Healthy Communities Comprehensive Plan Assessment Tool that is geared for use specifically by Delaware local governments. The Assessment Tool is a downloadable document and checklist that is intended to guide cities and towns in Delaware to write more health-focused comprehensive plans or plan updates. It provides information about what makes communities healthier places to live and includes an easy-to-use checklist that shows officials what healthy-community principles should be included in their comprehensive plans.
The Assessment Tool stresses that while good pedestrian facilities and connectivity are basic elements of an active community, healthy communities are about more than just sidewalks and walkability. The Assessment Tool outlines strategies to promote changes in community design, public policies, and land use that cultivate active community environments within the comprehensive-planning process. The five principles of planning for a healthy community during the comprehensive-planning process are described in the next section of this document and online (www.ipa.udel.edu/healthyDEtoolkit/docs/CompPlanAssessmentTool.pdf).

7-2-2. Official Map

While the comprehensive plan guides a community’s vision, goals, and objectives, an official map is a visual depiction of community’s current conditions and future land-use plans. While goals and objectives can be detailed and extensive, planning map(s) can reinforce the narrative within a comprehensive-plan component by illustrating where and how future development is intended. Official maps are also an easy way to show future investment and improvements to landowners and developers.

Official maps provide the details of a community’s transportation networks by showing trails, transportation plans, sidewalks, shared-used trails and other pedestrian facilities. Additionally, future facilities and infrastructure should be forecasted on the official map (Chester County Planning Commission 2007, 43).

7-2-3. Capital-Improvement Program (CIP)

Much like a comprehensive plan serves as a local government’s blueprint for growth and development, a capital-improvement program (CIP) plans for a community’s capital expenditures. A CIP comprises community planning, financial capacity, and physical development. A CIP consists of two parts—a capital-improvement plan and a capital budget. A capital plan forecasts major long-term capital needs for projects that are generally over a set dollar amount and useful life or project duration (e.g., over $10,000 and a useful life/duration of over five years). The first year of the plan is considered the capital budget (Vogt, 2004). It should be noted that while not all local governments in Delaware have developed CIPs, most could incorporate capital planning and a capital budget for major transportation project expenditures within the general operating budget.

CIPs should be consistent with local government goals and policies and should guide the funding and future capital improvements, such as transportation networks. In order to end the cyclical nature of auto-centric design in infrastructure investments, CIPs should be updated to include complete streets elements in long-term transportation projects. Again, while DelDOT funds the engineering, construction, and maintenance of most state roadways, Delaware local governments can develop CIPs to finance sidewalk expansion, streetscape improvements, construction of trail systems, curb ramps, and other ADA infrastructure improvements, and upgrades to street signs and crosswalks. Capital project funds can also be used to provide a match to project funding under the Transportation Enhancements Program, which is administered by DelDOT.
Marin County, Calif. – The local Marin County Bicycle Coalition (MCBC) has inventoried all of the CIP plans in the county to see if pedestrian and bicycle elements can be added (Marin County Bicycle Coalition, n.d.). When complete-streets elements were missing, the Coalition met with local officials to plan for the financing of complete-streets components within the CIP. Local governments can take a similar initiative to evaluate their own CIPs for inclusive and multimodal projects. By making incremental changes to projects over time, local governments can facilitate a more inclusive transportation network.

City of Rockville, Md. – Complete streets do not have to be a dedicated “project” within a CIP. Instead, complete streets could be an inclusive factor of all transportation-related CIP projects. The City of Rockville has clearly identified the need for complete streets and funding of elements within roadway projects within its jurisdiction’s CIP (Rockville, 2009).

New construction and re-construction roadway projects in the City shall accommodate users of all ages and abilities including pedestrians, bicyclists, transit users, motorists and adjacent land users….

Roadway projects shall be funded through the City’s Capital Improvements Program, through developer projects and contributions, through federal and state grants, and through revenues generated through the City’s speed camera program.

Essentially, Rockville has created a complete streets ecosystem that not only delineates the complete-streets elements but also connects complete-streets concepts to other planning documents.

7-3-4. Specific Plans

In addition to a local government’s comprehensive plan, specific plans can be prepared as a comprehensive-plan amendment or a stand-alone document. These supplemental plans support long-range goals, specific community objectives, or address the need for transportation or other public facilities. Downtown revitalization and/or streetscape, bicycle, trail, and circulation master plans should clearly identify equal access for all users and modes of transportation, and support complete-streets principles.

Downtown Revitalization and Streetscape Plans

Since the decline of downtowns in the 1950s and ’60s, many communities have focused redevelopment efforts in downtown and urban areas. Many of these efforts include complete-streets principles. Incorporating streetscape elements, which reflect a community’s character and heritage but also cater to the needs of all road users, can help provide a business-friendly and inviting environment for patrons. Appealing streetscape features include street trees, sidewalk and curb improvements, pedestrian lighting, upgraded crosswalks, wayfinding signage, street furniture, gateway features, transit-friendly amenities, and public gathering places—all of which should be ADA-compliant.
According to the University of Richmond’s Pew Partnership for Civic Change, “maintaining and developing genuine public spaces,” as well “focusing on developing the unique qualities of downtowns” are important steps to revitalizing downtowns (University of Richmond). It further details these strategies by stating:

*Downtowns should also improve pedestrian walkways through installation of attractive lights, benches, and flowers in order to draw shoppers and other traffic. Careful planning through widening sidewalks, encouraging mass transit, and landscaping can encourage “on-street” activities such as commerce and dining and widen the public sphere, promoting community* (University of Richmond).

**City of Dubuque, Iowa** – The city initiated a complete-streets pilot program in conjunction with an economic-development master plan to revitalize its historic downtown (Millwork) district. The plan calls for a mixed-use redevelopment of 300,000 square feet of retail/commercial space and 700 housing units to encourage residents to live and work near the city center. This expansion is expected to result in 900 new jobs and an increase in the tax base by $77 million. Consistent with complete-streets principles, streets will be designed to promote use by drivers, transit vehicles, pedestrians, bicyclists, older adults, children, and persons with disabilities (City of Dubuque, 2010). Combining plans for economic-development revitalization with the redesign of existing streets is the perfect opportunity to utilize both complete-streets and transit-oriented-design philosophies to build a better transportation and business environment. The city identifies complete streets as a crucial element of its revitalization plan (City of Dubuque, 2010):

*A key component of the Millwork District revitalization plan is to redevelop the area street network using the Complete Streets model. The Complete Streets model will produce a more livable environment by creating an area that is easy to use for pedestrians, bicyclists, transit riders, older people and families.*

**Bicycle Plans**

Bicycle plans can be developed as part of the transportation component of a new, or update to a, comprehensive plan or developed as a separate master plan that is consistent with local land-use plans. In all instances a bicycle plan should be part of a comprehensive, multimodal transportation system that provides connectivity and linkages to key destination points, and ensures accessible, convenient, healthy, safe, efficient, and cost-effective travel. A bicycle plan should seek to establish programs and facilities to foster an integrated, multimodal transportation system.

**Town of Elkton, Md.** – The Town of Elkton formed a bicycle plan advisory committee to develop a bicycle network that connects the Cecil County and East Coast Greenway, local neighborhoods, central business district, parks, and transit stations. The proposed plan seeks to enhance the existing transportation system, support economic development, and improve quality of life and the health or area residents and visitors. The plan will focus on improving the built infrastructure, signage, education, and enforcement strategies to promote bicycling as a viable transportation mode in the Elkton and Cecil County, Md., area (WILMAPCO, 2010).
Trail Feasibility Studies

Trail feasibility studies are conducted to determine what opportunities and constraints exist for constructing a facility to connect towns or destination points, which may serve both transportation and recreational purposes. Abandoned railways, utility corridors, floodplain corridors, power-line corridors and extra rights-of-way, can be utilized as trails. Trail studies can identify these available spaces and opportunities for trails in a community. In areas where trail networks are built or being considered, they should be integrated into existing transportation networks. Connecting a trail network to existing sidewalks and/or bicycle lanes allows users safe transitions to and from trail networks to traditional street networks. On high-volume/high-speed thoroughfares, trails may be an optimal alternative to sidewalks and bicycle lanes on the main road. Trails can offer an inclusive network near these streets while protecting users from the hazards of automobile movement. By using context-sensitive design, trails can be utilized as alternative-transportation corridors for pedestrians and bicyclists.

Multi-use trails can be designed to accommodate all users. The U.S. Forest Service has issued a Forest Service Outdoor Recreation Accessibility Guide (FSORAG) that addresses slopes, surfaces, and other considerations of making trails accessible. Local governments can use FSORAG as a guideline for developing trail systems.

Circulation Plans

In the past, many circulation plans focused strictly on traffic and the movement of vehicles. Circulation plans are now being developed by local jurisdictions and MPOs to provide an in-depth study and long-range improvements to the street network; trail system(s); vehicular, bus, pedestrian, and bicycle circulation; and on- and off-street parking. These 20- to 30-year plans provide guidance on future capital improvements as it relates to implementing a long-term vision for providing multimodal transportation.

City of Wilmington, Del. – The city recently completed a Downtown Circulation Study following extensive public outreach, data collection, and traffic analysis. The purpose of the plan was to provide recommendations for improving the transportation network in downtown Wilmington. Recommendations include plans for bus route and schedule changes; a downtown transit center; streetscape, pedestrian, and bicycle improvements; reconfiguration of traffic movement on some streets; turn-lane changes; and designation of an on-street shared bicycle route with signage, pavement markings (sharrows), and bike-parking facilities (WILMAPCO, 2010).

Grand Traverse Commons, the City of Traverse City, and Charter Township of Garfield, Mich. – These cities have made pedestrian and bicycle movement an important part of their circulation plan. The introduction to the plan states:

The Circulation Plan is a plan for pedestrian, bicycle and vehicular movement. An effective circulation system will be essential in maintaining and enhancing the overall health, safety, accessibility, and quality-of-life of the Grand Traverse Commons (City of Traverse City and Charter Township of Garfield, 2009).
Recognizing the entire circulation of a community is not just “vehicle-based” is an important step toward complete-streets principles. By making circulation plans forecast pedestrian as well as bicycle connections, these circulation plans will eventually filter down into future developments and improvements.

**ADA Transition Plans**

As previously discussed, state and local governments that have responsibility or authority over streets, roads, or walkways must develop a transition plan to ensure that public and transportation facilities are accessible and brought up to ADA standards. Under 28 CFR, part 35, §35.150, public entities with more than 50 employees must develop an ADA transition plan to describe how non-compliant facilities, programs, and services will be become ADA-compliant (ada.gov).

The publication, *ADA Transition Plans: A Guide to Best Management Practices*, provides a “Self-Evaluation Checklist” (see Appendix F) and outlines seven steps to compliance for state and local governments by preparing an ADA transition plan. These steps include (Jacobs Engineering Group, 2009):

- Designating an ADA Coordinator
- Providing notice to the public about ADA requirements
- Establishing a grievance procedure
- Developing internal design standards, specifications, and details
- Assigning personnel for the development and completion of a transition plan
- Adopting a schedule and budget for the transition plan
- Monitoring the progress on the plan’s implementation

### 7-3. Local Government Policies

While DelDOT is responsible for nearly 90 percent of roadways in the state of Delaware, local governments have responsibility for land-use policies that impact and influence transportation networks. Local policymakers have direct control over decisions that shape land-use and development patterns, street interconnectivity, multimodal transportation options, the extent to which the built environment is bike-, pedestrian-, and transit-friendly, and the degree to which a community environment is healthy and active. As previously discussed, local government policies should be consistent with those at the federal and state level, be context-sensitive, address community-identified transportation-related issues, and include common policy elements recommended by the National Complete Streets Coalition.

Title II of ADA requires state and local governments to make public facilities, programs, and services accessible to persons with disabilities. Under 28 CFR, §35.130(b)(7), which
implements ADA Title II, local governments are required to make “reasonable modifications” to policies, practices, or procedures to prevent discrimination to persons with disabilities. Reasonable modifications may include amendments to local laws, ordinances, and regulations that unintentionally, but negatively, impact people with disabilities (ada.gov).

7-3-2. Local Government Resolutions

In many instances, the first formal step by a local government toward complete streets is the adoption of a complete-streets resolution. The process of implementing complete streets may begin with a resolution that states a community’s desire for an inclusive and equitable roadway system.

**National Policy and Legal Analysis Network to Prevent Childhood Obesity (NPLAN)** – This organization has created model resolutions for use by communities, which can align a local complete-streets plan or program with a state policy. The models include an “Introduction Version” for a broad resolution, and an “Advanced Version” for a more direct approach to complete streets. These resolutions can also serve to align a community’s complete-streets initiatives with state and federal policies (NPLAN, 2010). For NPLAN’s model resolution, see www.nplanonline.org/nplan/products/model-complete-streets-laws-and-resolutions.

**City of Independence, Minn.** – In this jurisdiction, a complete-streets resolution directed the city’s administrative staff to draft a policy for review and approval. “…The Council directs City staff to develop a City Complete Streets policy and accompanying implementation procedures…” (City of Independence, 2010). Once adopted by city council, city staff is responsible for the development and implementation of subsequent policies that support the spirit of the resolution.

**City of Las Cruces, N.M.** – This community took a more direct or “advanced” complete streets–resolution approach. Elected officials adopted a resolution to include “Complete Streets Guiding Principles” (City of Las Cruces, 2009). These principles require that roadways and the maintenance of roadways comply with the complete-streets principles. Additionally, the Las Cruces resolution outlines strategies for complete-streets implementation that includes a requirement to update “city plans, manuals, rules, regulations and programs, as appropriate” (City of Las Cruces, 2009).

7-3-3. Local Government Subdivision Ordinances

Subdivision ordinances are a cornerstone to developing future multimodal and accessible transportation networks. The importance of a well-written subdivision ordinance cannot be overstated. While many complete-streets projects require incremental retrofitting, subdivision ordinances can make sure that communities’ expanding transportation networks are built to consider and address the needs of all users and modes of transportation.

Most Delaware local governments use DelDOT street-design standards that comply with federal requirements for roads. DelDOT’s 2010-adopted *Standards and Regulations for Subdivision Streets and State Highway Access* manual provides guidance and regulations that
support complete-streets principles and the state’s policy. In addition, local governments can develop more stringent subdivision regulations and design standards to enhance various modes of travel, connectivity, bicycle and pedestrian circulation, and installation of sidewalks. Communities may establish enhanced design standards, which also conform to state and federal standards, to create a unique streetscape that provides a sense of place and local character (e.g., historic and cultural).

**NPLAN** – This organization has developed a model subdivision ordinance that may be adapted for use by local governments, see: www.nplanonline.org/sites/phlpnet.org/files/nplan/CompleteStreets_LocalOrdinance_FINAL_20100223.pdf. This model ordinance encourages flexibility and explains on how varying ordinance language will influence the outcome of regulations. Additionally, NPLAN’s model ordinances include language that keeps communities in compliance with federal and state policies. While communities should not adopt a cookie-cutter approach to complete-streets design, model ordinances provide a starting point and guidance on how to best draft subdivision ordinances that support the design of complete streets.

**City of North Myrtle Beach, S.C.** – This municipality adopted complete-streets principles as a minimum requirement of its subdivision ordinance. This ordinance clearly shows the intentions of “complete streets” in the development of subdivisions. The subdivision ordinance states:

> All streets shall be designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a “complete street” (City of North Myrtle Beach, 2009).

The city’s subdivision regulations specifically address the need for pedestrian improvements in certain contexts, such as bulb-outs and median refuges. Additionally, bicyclists are clearly supported with by ordinance language that states:

> (9) Bicycle accommodation: Any vaults, covers, castings, and drainage grates must be designed to accommodate bicycle travel. Bicycle lanes or separated path/trail may be required, with construction standards and width determined by street type (City of North Myrtle Beach, 2009).

Not all communities will use the term “complete streets” within subdivision ordinances. Instead, communities may adopt complete-streets principles within subdivision regulations that are inclusive of all users and modes of transportation. Requiring sidewalks, pedestrian, and bicycle amenities, as well as connected streets, are just a few ways to incorporate complete streets in a subdivision ordinance.

### 7-3-4. Local Government Zoning Codes

Local government zoning codes, which are consistent with a comprehensive plan, are an important regulatory tool regarding the built environment (Hoch, 2007, 343). Delaware specifically permits a zoning code “in accordance with a comprehensive plan and designed
to lessen congestion in the streets, to secure safety from fire, panic and other dangers, to promote health and the general welfare...” (Delaware Code, Title 22: §303). Pedestrian and bicycle infrastructure promote health and the general welfare, which the Delaware Code supports within municipal zoning ordinances. Local governments should evaluate zoning ordinances to see if local laws support pedestrian and bicycle infrastructure.

Traditional zoning separates land uses into residential, commercial, industrial, and agricultural uses. A new alternative to conventional zoning provides a regulatory approach that is more flexible and context sensitive. Form-based codes focuses less on land use and more on physical form—such as compact, mixed-use development and pedestrian-friendly design.

While most municipalities will not undertake a comprehensive zoning code re-write, conventional zoning codes can be amended, or new form-based codes can be adopted to add complete-streets elements. Amendments to zoning ordinances must be consistent with the visions of a community and recommendations of its comprehensive plan. Without connecting the vision of complete streets from a comprehensive plan to zoning ordinances, the harmony of these documents may be questioned.

Local government officials can make public policy decisions to support smart growth strategies and zoning for new developments that enhance walkability, use of transit, and multiple modes of transportation. Zoning ordinances can be revised to implement policies that support compact and mixed-use development, transit-oriented development, urban infill, and walkable/bikable street design. Form-based coding can be adopted as a regulatory device to change the hierarchy of traditional zoning to emphasize form over use.

**City of Seattle, Wash.** – The City of Seattle and the Seattle DOT have devised several plans and policy documents that address pedestrian issues. Seattle’s Land Use Code (Title 23) replaces a conventional zoning code, which was retired in 1995. It conveys the city’s ongoing attempts and long-term commitment to create a safe, walkable pedestrian environment that supports—and is supported by—compact and mixed-use patterns of development. The Land Use Code establishes patterns of development (rather than strict zoning districts) that strengthen pedestrian areas, promote transit, encourage infill, and protect single family land use. Land uses provide an emphasis on mixed use, pedestrian- and transit-supportive environments, which are the hallmarks of complete streets (City of Seattle, Wash.).

### 7-3-5. Local Government Unified Development Codes

More local governments are adopting unified development codes (UDCs), which update and combine a local government’s existing zoning and subdivision regulations into one cohesive document. Many UDCs incorporate design principles and development codes to create sustainable and healthy neighborhoods, walkable communities, incentives for infill development, mixed-use districts, improved street connectivity, and innovative urban design.

**New Castle County, Del.** – The county has adopted a UDC with subdivision design standards that reflect complete-streets principles. Chapter 40, Article 20, “Subdivision and Land Development Design Principles,” provides principles for the layout and design of subdivisions and
land developments. The intent of the design principles is to ensure that all new developments are consistent with the county’s vision for planned community character. The UDC requires all subdivision plans to be reviewed against specific design standards. One of the six plan-review standards, stated within §40.20.110, highlights the need to provide for circulation patterns that are interconnected and address the needs of motorists, pedestrians, and bicyclists:

All street and circulation patterns shall provide for the safe, efficient, and convenient movement of vehicular and pedestrian traffic. Vehicular travel lanes, pedestrian movement systems, and parking should be separated. Within the context of overall community development, the internal circulation system should promote and encourage the increased use of pedestrian and bicycle movement among residential, local shopping, schools, and other areas. Road connections shall seek to avoid external automobile trips through the employment of superblocks, stub streets, connecting open space, bicycle-pedestrian ways, and other design techniques and devices (New Castle County, 2010).

City of Dubuque, Iowa – This municipality received an American Planning Association (APA) Iowa Chapter award for the development and adoption of its UDC in 2009. Dubuque’s UDC incorporates into a single code all zoning, subdivision, site-development, historic-preservation, and sign regulations. The UDC updated Dubuque’s subdivision and site-development regulations to promote sustainable design, require street connectivity, provide development-design guidelines, and require street-network access by pedestrians, bicyclists, and public-transit riders. A specific section on Complete Streets is to be developed and has been noted within the document as a future section of the UDC. The Land Subdivision Section of the UDC states that pedestrian infrastructure, separate bicycle paths, bicycle lanes, and/or shared-use lanes are required—based on the context of the roadway and in accordance with the city’s comprehensive plan. In addition, the Subdivision Design Standards section addresses the need for street connectivity:

All streets, sidewalks, and bike/hike trails shall connect to other streets, sidewalks and bike/hike trails within the subdivision, and to the property lines, to provide for their extension to adjacent properties. Each subdivision shall connect to the existing and planned street network of the City to ensure connectivity between properties, distribution of traffic, and access for public and emergency services (City of Dubuque, 2009, p. 184).

U.S. Environmental Protection Agency (EPA) – The agency published Essential Smart Growth Fixes for Urban and Suburban Zoning Codes to help local governments modify or revise existing regulations to create building blocks for smart growth, complete streets, and sustainable development. Essential “fixes” include ways to modify codes to mix land uses, encourage compact development patterns, increase transit- and pedestrian-friendly development, and enact standards to modernize streets and foster walkable places (EPA 2009).

7-4. Design Standards

Most Delaware local governments use street-design standards that comply with federal and
state requirements for roads that will be dedicated to DelDOT. DelDOT’s 2010-adopted Standards and Regulations for Subdivision Streets and State Highway Access manual also provides guidance and regulations that support complete-streets principles and the state’s policy. In addition, local governments can develop more stringent subdivision regulations and design standards to enhance various modes of travel, connectivity, bicycle and pedestrian circulation, streetscapes, trails and shared-use paths, and pedestrian/bicycle features and amenities. Communities make take on the responsibility of creating their own design standards (while in compliance with DelDOT and federal standards) for creating unique identities that provide a sense of place and local character.

7-4-1. Local Government Design Standards Based on Established National Guidelines

Delaware local governments can use established guidelines to ensure complete streets and a well-planned and designed transportation system. Federal agency guidelines and manuals, DelDOT design guidelines and publications, as well as ADAAG and PROWAG can all be cited to make sure that a municipality’s design standards meet recognized national design guidelines.

Prince George’s County, Md. – The Countywide Master Plan of Transportation (MPO T) is a master plan that addresses the strategic transportation issues for all modes in Prince George’s County. Within Chapter IV, “Trails, Bikeways, and Pedestrian Mobility,” is a listing of ten complete-streets principles that will be integrated within master planning strategies. One of the ten principles, “Ensure Universal Accessibility,” references national design standards and guidelines that will be used to accommodate all ages and groups along sidewalks and intersections. It states:

All street crossings should include ADA-compliant curb cuts and ramps, and all pedestrian signal buttons should be handicap accessible. Implementation of accessibility features should also include truncated domes for the visually impaired on access ramps and increased crossing times that are sufficient for elderly, disabled, or slower pedestrians. To the extent feasible and practical, all pedestrian connections (sidewalks, trails, plazas, etc., should comply with the U.S. Access Board’s proposed Trail Accessibility Guidelines (currently under review), the ADA Accessibility Guidelines (ADAAG), and the Federal Highway Administration’s Guide for Accessible Sidewalks and Trails” (Prince George’s County, 2008, 31).

7-4-2. Local Government Design Guidelines

Local governments can also develop jurisdiction-specific design guidelines to convey a vision for an accessible, livable, and multimodal community. The examples below illustrate how several cities have developed street-design guidelines to incorporate complete-streets elements when roads are being planned, constructed, retrofitted, upgraded, or modified.

City of New Haven, Conn. – The Board of Aldermen directed a Complete Streets Steering Committee to guide the development of a process to implement a vision for complete streets. The process includes a policy document, design manual, public process, educational
campaign and traffic enforcement. The City of New Haven Complete Streets Design Manual
provides guidance on building, repairing, and rehabilitating city streets to balance the needs
of all users while respecting the social and economic fabric of the community. The manual
formalizes a public-participation process for street re-design that incorporates engineering
principles, a variety of context-sensitive design treatments, methods of evaluation, and
funding strategies (City of New Haven, 2010).

City of Charlotte, N.C. – The City adopted Urban Street Design Guidelines (USDG) in 2007 as
a supporting component of its Transportation Action Plan (TAP). The USDG include
“methodologies and recommendations for implementing key aspects of the TAP—increasing
the quantity and quality of streets, enhancing the integration of land-use and transportation
decisions (sometimes on a block-by-block basis), and providing ‘complete’ streets for
residents, property owners, and all types of travelers.” The design guidelines embrace a
philosophy that assumes that the safety, convenience, and comfort of cyclists, pedestrians,
transit users, motorists, and the surrounding community will all be considered equally when
planning and designing streets—including street retrofits and modifications. To achieve a
complete street network, guiding principles include (City of Charlotte, 2007):

• Streets are a critical component of public space.
• Streets play a major role in establishing the image and identity of a city.
• Streets provide the critical framework for current and future development.
• Charlotte’s streets will be designed to provide mobility and support livability and
economic development goals.
• The safety, convenience, and comfort of motorists, cyclists, pedestrians, transit riders, and
neighborhood residents will be considered when planning and designing Charlotte’s
streets.
• Planning and designing streets must be a collaborative process, to ensure that a variety of
perspectives are considered.

City of Tacoma, Wash. – In 2009 City Council adopted a resolution to endorse the creation
and ongoing development of Complete Streets Design Guidelines. The resolution directed
the city manager to prepare and implement comprehensive design guidelines for mixed-use
centers and residential complete streets. The objective is to “provide a framework and cost-
effective tools to support street designs that safely, comfortably, and appropriately accommo-
date all users and transportation modes; foster a sense of place in the public realm; and,
reduce environmental impacts” (City of Tacoma, 2009).

City of Louisville, Ken. – The Louisville Metro Complete Streets Manual provides a
comprehensive approach to advancing the Mobility and Comprehensive Form goals of its
comprehensive plan. The manual addresses streetscape design in context with the existing
character of the community. In addition to providing a design framework for complete
streets, it recognizes the need for user-oriented transportation facilities, appropriate
Complete-streets facilities based on functional classification of the roadway/thoroughfare type, and streetscape design. One section of the document is a “Streetscape Master Plan Manual,” which will be used to guide future roadway corridor future development and a plan for appropriate bicycle and pedestrian facilities, access management and connectivity, street trees, and unified streetscape amenities.

7-5. Facility Maintenance

As previously stated under 28 CFR, Part 35, §23.133 (which implements Title II of ADA), all ADA-designated public facilities and features must be maintained “in operable working condition” for use by persons with disabilities (ada.gov). Accessible designs are useless if public facilities are subject to maintenance practices that negatively affect safety, security, and/or mobility of persons of all ages and abilities.

7-5-1. Common Maintenance Issues

While a facility may have been constructed to ADA standards, some common maintenance issues that impact accessibility (on pedestrian, bicycle, and transit facilities) include (Carter, 2011):

- Drainage issues (e.g., ponding of water at the base of curb ramps)
- Objects protruding into an access route (e.g., trees, vegetation, banners, awnings, temporary signs, trash cans, parked vehicles)
- Access-route blockages (e.g., temporary signs)
- Poor pedestrian management in construction zones (including sidewalks)
- Pavement buckling caused by tree root intrusion
- Accumulation of snow and/or ice
- Lack of sweeping and debris removal
- Lack of routine maintenance and repairs
- Gaps in pedestrian facilities and intermodal connections

7-5-2. Maintenance Needs

Maintaining sidewalks, bikeways, multi-use paths, trail systems, transit stations and shelters facilities, and other accessible pedestrian/bicycle facilities is important to ensure the following attributes.

Safety—Protect the public welfare, minimize user conflicts, and address dangerous conditions such as cracked or loose concrete, holes, step separation, depressions, tree-root damage, vegetation overgrowth, other physical obstacles and/or the aftermath of inclement
weather (e.g., accumulation of snow and/or ice). Local governments should develop a winter maintenance plan/policy document to address responsibilities, timeframes, and priorities for clearing pedestrian/bikeway infrastructure.

**Universal access**—Provide accessible facilities that are maintained to ADA standards. Universal access enables all citizens to travel using public transportation facilities and is defined as “a synthesis of universal design, good engineering practices, and constitutional law” (Project Universal Access, n.d.). In addition to accessible design, transportation facilities need to be maintained in a safe and usable condition to achieve universal access, transportation equity, and mobility for users of all ages and abilities. Wherever possible, public-transportation facilities and infrastructure must be designed and maintained to allow safe travel by children, older adults, and persons with disabilities.

**Multimodal mobility**—Recognize that maintenance of sidewalks, bikeways, multi-use paths, trail systems, and transit facilities is essential to the proper functioning of the overall transportation system. The issue of maintenance on public-transportation facilities also extends to roadway components such as sidewalks, crosswalks, intersections, curb ramps, bike lanes, and bus stops/transit shelters that are used by pedestrians, bicyclists, transit users, and persons with disabilities.

**A safeguard of public assets**—Provide routine maintenance, regular inspections of public transportation facilities, and regularly scheduled repairs. Maintenance strategies should be incorporated in the planning and design of new public-transportation facilities. In addition, local governments should develop an overall preventive-maintenance program to protect public investment, extend the useful life, and delay repairs of public facilities.

**Control of risk**—Minimize hazardous conditions that may expose a local government to a potential lawsuit. In recent years, states and local governments have been exposed to civil liability and precedent-setting case law due to instances of ADA non-compliance. To reduce injuries and minimize exposure to liability, local governments must maintain accessible transportation facilities and features (e.g., sidewalks, curb ramps, crosswalks, shared-use paths, on-road bicycle facilities, bikeways, and transit stops/shelters). To prevent and/or minimize lawsuits and exposure, good maintenance practices should be adopted, such as periodic street/sidewalk sweeping, surface repairs, tree pruning, trash removal, litter pick-up, re-painting of pavement markings, and snow and ice removal. To ensure that public transportation facilities are well maintained, accessible, and safe, local governments should:

- Develop an ADA transition plan.
- Determine repair and replacement criteria for ADA-designated transportation facilities.
- Develop a preventive maintenance plan, with scheduled inspections of ADA-designated transportation facilities (including pedestrian, bicycle, and transit infrastructure).
- Implement a winter maintenance–management plan that addresses pedestrian facilities.
• Adopt a policy to establish and define responsibilities and procedures for routine maintenance, emergency repairs, and winter weather operations (i.e., snow and ice removal).

• Prioritize and budget for maintenance activities.

• Keep inspection records.

• Develop a complaint policy system to record and track problems and their respective resolution.

7-5-3. Maintenance Responsibilities

Often, confusion exists over which entity (e.g., state government, local government, public agency, transit agency, school district, employers/businesses, or private commercial or residential property owner) is responsible for the maintenance of ADA-designated transportation facilities. Delaware local governments should review “Municipal Maintenance Agreements” and establish internal policies that clarify roles and responsibilities of maintenance of accessibility-specific transportation facilities and features.

Municipal Maintenance Agreements

DelDOT is responsible for planning, designing, building, and managing Delaware’s statewide transportation system. In addition, DelDOT is responsible for maintaining about 90 percent of the over 13,500 lane miles of roads in Delaware (DelDOT, 2009). When a road constructed by DelDOT within a municipal boundary is completed, the jurisdiction and DelDOT generally enter into a “Municipal Maintenance Agreement.” Delaware local governments should be aware that there is no standard municipal maintenance agreement for a state-maintained road within a municipality. Maintenance agreements vary among municipalities, or even among state-maintained roads within a given municipality.

Local governments should review, to the extent feasible, each specific municipal maintenance agreement to determine the limits of DelDOT maintenance on a state-maintained road within the town boundaries. Generally, DelDOT will conduct “curb-to-curb” maintenance on a state-maintained road within a municipality. Accessibility-specific transportation facilities, such as pedestrian facilities that are outside a curb, will fall under the maintenance responsibility of a municipality (Carter, 2011). DelDOT will generally plow snow on all state-maintained roads within a municipality with the exception of the cities of Wilmington, Newark, and Dover (Racca and Condliffe, 2002).

Municipal Maintenance

Delaware municipalities are responsible for maintenance of all municipal roads—including all roadway pavement, curbs, sidewalks, crosswalks, signs, traffic-control devices, shoulders, lighting, and street furniture. Local governments are also responsible for snow removal on municipal roads that are not maintained by the state.

Municipal ordinances may be adopted to require property owners to maintain transportation
facilities and infrastructure that comply with ADA standards. Local ordinances can be prescriptive and specify detailed maintenance requirements (e.g., clearing snow and ice, maintaining an accessible route, prohibiting route blocking, trimming overgrown vegetation). Another option is for local ordinances to make reference to and/or adopt federal (e.g., ADAAG and PROWAG) and state standards (DelDOT) by reference. For example, a municipality can incorporate PROWAG §R209 in a sidewalk-maintenance ordinance to specify “no protruding or overhanging objects in access route.”

City of Newark, Del. – The city’s Municipal Code, Chapter 26 (Streets), Article III (Sidewalks), §26-25 states that it is the “duty of abutting [property] owner to maintain sidewalks in safe condition.” The ordinance states (Newark, Delaware Code of Ordinances):

Every property owner shall maintain any sidewalk abutting his property in a safe and useable condition including compliance with Americans with Disabilities Act (ADA) guidelines. Sidewalks which are not continuously even or which collect rain water on any part of the walking surface, or which do not meet ADA guidelines, shall not be considered safe and useable.

Snow Removal from Pedestrian Facilities

Many local government ordinances require property owners to remove snow/ice from an abutting sidewalk after a winter storm. These regulations should be incorporated or cited within a winter maintenance–management plan when delineating responsibilities of the municipality, residents, and other responsible entities. Local governments need to clearly communicate to property owners the purpose, requirements, timeframe, and enforcement of a sidewalk-snow-removal ordinance to ensure its effectiveness.

Generally, municipal public works departments also have winter emergency–operations plans, policies, and/or practices that govern roads. However, most plans focus on how an agency will implement plowing of roads in response to a major event and stress the need to keep roads clear to ensure the safety of motorists, emergency responders, and a free flow of commerce.

Still, most winter emergency–operations plans fail to address the ADA requirement to maintain accessibility-specific pedestrian facilities “in working order” once installed. Local governments need to be responsible for clearing snow and ice from these pedestrian facilities on all municipal-maintained roads within corporate boundaries. If covered under a municipal maintenance agreement with DelDOT, a local government must also remove snow and ice from ADA-related pedestrian features (such as sidewalks beyond a curb) on state-maintained roads within a municipality.

Local governments should consider the development and adoption of a winter maintenance–management plan, or amend existing winter-operations plans, to address the need to clear all transportation facilities (e.g., roads, sidewalks, bikeways, transit stops/shelters) after a major storm. The ideal plan will be developed in collaboration with multiple agencies and stakeholders, address snow and ice removal responsibilities, determine snow/ice removal
priorities, establish levels or response and response time(s), cite the legal basis for the plan, and be communicated to all stakeholders.

**City of Dover, Del.** – The city’s 2010/2011 Public Services Emergency Plan is an excellent example of a comprehensive plan that is devised to consider the need to ensure mobility and access by pedestrians and transit users. The plan provides a list of operations for snow and debris removal—including Delaware Transit Corporation transit routes, bus transfer areas, crosswalks and main intersections, and sidewalks along city property (City of Dover, 2011).