



Section 6: Policies and Procedures

This part of the plan recommends changes to policies and procedures to improve the planning, development, and management of bicycle and pedestrian facilities in Anne Arundel County. The chapter focuses on planning; the zoning, subdivision and site development regulations, including the County's Design Manual; the Capital Budget and Program (CIP)¹; and maintenance issues. The objectives of the recommendations are to:

- ❑ ***Integrate pedestrian and bicycle issues more fully into all levels of the planning and development process in Anne Arundel County.***
- ❑ ***Ensure that planners, designers, and reviewers consider the full range of design elements that are important in the creation of pedestrian and bicycle-friendly communities and places.***
- ❑ ***Improve the content and organization of regulatory requirements so that pedestrian and bicycle considerations are incorporated at all levels of decision making.***

In this Section, policies are the goals, objectives and recommended actions that form the basis for decisions affecting the development of bicycle and pedestrian facilities. Procedures are the various ways these policies are implemented.

6.1 Recommendations for Existing Planning Documents

Plans provide the policy basis for many of the regulations and procedures that affect walking and bicycling in Anne Arundel County. Important planning documents are the General Development Plan (GDP), Small Area Plans (SAP), and other specialized plans. Below is a discussion of plans that have an impact on bicycle and pedestrian policies and procedures.

General Development Plan

Anne Arundel County's General Development Plan (GDP), adopted in 1997, is the County's official policy document guiding decisions relating to future growth, development, resource management, and provision of services in the County. Although the GDP does not have a separate pedestrian-bicycle element, its policies are generally strong with respect to bicycle and pedestrian transportation, especially in supporting improved connections among different land uses, and in calling for revisions to regulations to help achieve such improvements. Under County law (Code Art. 24 §1-103) the Office of Planning and Zoning must review the GDP every five years.

¹ Formally known as the Capital Budget and Program, this document is more commonly known and referred to as the CIP (Capital Improvements Program).



Policy Recommendation

Strengthen the policies in the GDP to serve as the foundation for implementing regulations.

Action 1: *Community Design (GDP, Part 2 Chapter 5 Section B) - Incorporate a policy regarding the central importance of pedestrian and bicycle mobility to community design.*

This policy would further strengthen the GDP's concepts and guidelines for community design and development².

Action 2: *Transportation (GDP Part 2 chapter 5 Section C) - Incorporate a policy regarding the importance of integrating pedestrian and bicycle issues into all levels of planning, project design and development and maintenance.*

Pedestrian and bicycle facilities are not currently given adequate consideration in the public and private sector project design and review process. This policy would serve as the foundation for procedures to improve this situation.

Action 3: *Mixed Use - Evaluate the effectiveness of mixed-use development district regulations in promoting mixed-use development in the County with provisions for multi-modal transportation.*

Encouraging mixed-use development is a major theme of the current GDP. The GDP recognizes that mixed-use developments are more conducive to walking and bicycling compared to communities where origin and destination points are separated by distances or other barriers to pedestrians and cyclists. In July 2001, the County adopted amendments to the Zoning Regulations (Bill No. 29-01) to promote Mixed Use Development Districts at locations identified in Small Area Plans. Time is needed to allow these new regulations to work, but the next GDP should evaluate the effectiveness of the existing and new regulations and whether modifications are needed.

Small Area Plans and Special Plans

It has been the County's policy to prepare special plans to help guide land use and transportation decisions³. When adopted by the County Council, special plans are listed in the County Code (Art. 24, §1-102) among documents used in the future development of land and the location of public facilities and services. Some of these plans include a bicycle and/or pedestrian element, but the plans vary significantly in the amount of attention each pays to bicycle and pedestrian issues, and are not consistent in their approaches. To ensure consistency in these plans' approaches, the following action is recommended:

² See Appendix 1 of the GDP.

³ These special plans include 16 Small Area Plans that cover the entire County; the Glen Burnie Urban Renewal Plan (1980); the Parole Urban Design Concept Plan (1994 as amended); the Parole Pedestrian and Bicycle Plan (1999 – advisory document, not formally adopted by County Council); the MD Route 175 Roadway and Streetscape and Odenton Town Center Master Plan (1999 – advisory document, not formally adopted by County Council); and the Greenways Master Plan (in preparation).



Action 4: *Adopt a checklist of pedestrian and bicycle considerations to be addressed in the remaining small area plans to be completed, future small area plan revisions and special plans.*

A checklist would serve as a guide for people charged with developing the plan, and ensure that all special plans give comprehensive and consistent consideration to walking and bicycling. The checklist could be adopted administratively and should include the following topics:

- Existing conditions (pedestrian and bicycle audit) assessing the degree to which the study area displays the following characteristics of pedestrian and bicycle friendly areas: supportive land use patterns; linkages to a variety of land uses; continuous connecting systems; pedestrian separation from traffic; well-functioning facilities; designated space; security and visibility; pedestrian and bicycle furnishings; and accessibility by all users;
- Review of previous plans/studies/recommendations (if any);
- Specific concerns arising from the audit, such as access to schools, parks, and other community facilities (libraries, churches), business areas; safety issues;
- Relation/connections to areas around the study area;
- Priority projects;
- Maintenance issues;

6.2 Zoning Ordinance, Subdivision Regulations and Design Manual

The Zoning Ordinance, Subdivision Regulations, and Design Manual are the three documents that have the most effect on pedestrian and bicycle facilities in Anne Arundel County. Through these regulations the County manages both the location and type of development that occurs (including density and intensity) as well as the design, layout and construction of sites and facilities. The Zoning Ordinance governs how land is used and the Subdivision Regulations govern how property parcels are developed⁴. The Design Manual sets forth procedures, standards, and criteria to be used by planners, engineers, and other design professionals in preparing designs and construction documents for approval by the County⁵. Unlike some jurisdictions, Anne Arundel County does not have a distinct set of site development or land development regulations containing consolidated requirements for design. Anne Arundel County's Zoning Regulations are unusual (compared to many other Maryland county codes) in that they

⁴ The Zoning Ordinance is Article 28 of the Anne Arundel County Code. The Subdivision Regulations are Article 26 of the Code. In this Plan, for simplicity, we refer to the Zoning Ordinance as the Zoning Regulations.

⁵ Often thought of as a single document, the Design Manual actually comprises two sets of two documents each: the Design Manual comprising i) the Design Manual; ii) A Supplement to the Design Manual; and the Standard Specifications and Details for Construction comprising, i) Standard Details for Construction; and ii) Standard Specifications for Construction. Although the Design Manual comprises the first two documents only, the Standard Details and Specifications are used in close conjunction with the Design Manual. In this Plan we refer to all four documents collectively as the Design Manual. The Design Manual covers the full range of construction design from right-of-way and land acquisition, to water and sewer, landscaping and buildings. The Design Manual is adopted administratively pursuant to responsibility delegated by ordinance, resolution, and executive or administrative order.



contain some design instructions that are more typically found in subdivision, land development or site plan regulations⁶.

Overall Assessment

The County has made recent amendments to the Zoning Regulations addressing pedestrian and bicycle needs. The mixed-use development regulations adopted in July 2001, strongly emphasize pedestrian and bicycle access⁷. Also, in March 2000, new language was added to the commercial and industrial sections of the Zoning Regulations requiring pedestrian and bicycle-oriented site layout. Overall, the Zoning and Subdivision Regulations and the Design Manual remain limited in their support of pedestrian and bicycle mobility:

- Regulations relating to pedestrian and bicycle mobility are scattered throughout the Zoning Regulations, are inconsistent from zoning district to zoning district, and are hard to follow.
- There is little practical guidance on how to design an enjoyable walking environment in residential areas.
- The pedestrian and bicycle requirements for commercial and industrial districts are different from what is required under the newly adopted mixed-use regulations.
- The regulations for Planned Unit Developments lack detailed and specific standards for walking and bicycling⁸.
- The roads components of the Design Manual are oriented almost exclusively to the needs of motor-vehicles. As a result, the needs of pedestrians and bicyclists are not sufficiently considered during the design process and often go unmet.
- Design issues are particularly important for pedestrians and cyclists. A myriad of design issues need to be considered in developing safe, comfortable, and attractive places to walk and bike. The Design Manual does not give adequate guidance for how to implement the Zoning and Subdivision regulations' requirements with respect to pedestrian and bicycle facilities.

⁶ The Zoning Regulations do contain a Site Plans section, Art. 24, at Title 15, but this section applies to only a limited set of development types.

⁷ See especially Art 28, §6-534 to §536

⁸ Nevertheless, more pedestrian and bicycle facilities such as sidewalks and off-road trails are provided in PUDs than in standard subdivisions. This appears to be a function of the PUD developers' desire to provide "amenities" in these developments, and the additional design review that is required for PUD approval compared to other types of development.



To address these deficiencies the following policy is recommended:

Policy Recommendation

Amend the Zoning Ordinance, Subdivision Regulations, and Design Manual to improve conditions for walking and bicycling in Anne Arundel County.

Discussion

The way the County's regulations are structured makes it difficult to easily incorporate new regulations addressing the needs of pedestrians and bicyclists. Facility and design considerations for bicyclists and pedestrians need to be fully integrated into all aspects of project design and development, not merely "added in" as a set of supplementary considerations.

This Plan's approach to making these changes is to put **general requirements** to address bicycle and pedestrian needs in the Zoning and Subdivision Regulations and to place the **detailed design provisions** in appropriate sections of the Design Manual. In order to ensure consistency between different zoning districts in the Zoning Regulations, this would mean moving some of the detailed site layout design requirements relating to pedestrian and bicycle facilities that are currently in the Zoning Regulations into the Design Manual.

This proposed approach is favored over simply amending the language in the current Zoning Regulations or recommending the creation of a new stand-alone design section in the Code for the following reasons:

- 1) Amending the current Zoning Regulations would require adding detailed language in each of the over 25 different zoning and special districts, which would be legislatively cumbersome and give undue weight to bicycle and pedestrian considerations.
- 2) Including design requirements for pedestrian and bicycle accommodations demonstrates that roads are transportation facilities, not merely automobile conveyances.

Some communities such as Portland, OR, Wilmington, DE, and Birmingham, AL have developed detailed, stand-alone, pedestrian and bicycle design guidelines. In the future, Anne Arundel County should develop such guides. However, in the short term, amendments and additions to existing documents would be more easily developed and simpler to integrate into existing regulations.

Zoning and Subdivision Regulations:

Action 5: Incorporate general requirements to address pedestrian and bicycle needs into the Zoning and Subdivision Regulations.

The general requirements should be consistent in different sections of the regulations and require the following:



1) Provide pedestrian and bicycle facilities as part of site design or subdivision. The existing language in the commercial and industrial zoning districts that was adopted in 2000 could be adapted for use in the other zoning districts. This language reads: “Convenient functional linkages shall be achieved by providing vehicular, bicycle, and pedestrian connections to promote the circulation and flow of vehicles, bicycles, and pedestrians between the development and existing uses.”

2) Make pedestrian and bicycle considerations integral to the development layout.

3) Connect to existing pedestrian and bicycle facilities and destinations in the vicinity of the proposed development. The vicinity would vary depending on the size and scale of the development, and could be defined further in the Design Manual. Destinations would include schools, recreation facilities, open space, community facilities, and transit.

4) Use the Design Manual as a guide to locating and designing pedestrian and bicycle facilities to achieve the above three requirements.

Table 1 identifies the specific sections of the Zoning and Subdivision Regulations that should be reviewed for changes to address pedestrian and bicycle requirements in all land use and development types.

Table 1: Sections of the Zoning and Subdivision Regulations to be Reviewed for Possible Amendments to Accommodate Pedestrian and Bicycle Needs

Land Use/ Development Type	Code Sections Where References Should Be Revised Or Added	Notes
Parole Town Center, Odenton Town Center	Zoning Regulations: Art. 28, §1B & §1C, Art. 28 §15-102.(a)(6), §15-104A, and §15-104B	Section 15 is the Site Plans section of the Zoning Regulations.
Residential Districts	Subdivision Regulations: Art. 26, §2-203 Pre-submittal Art 26, §2-304 Contents of Sketch Plan Art 26, §3-201 Highways Streets and Roads	Unnecessary to include requirements in the Zoning Regulations since all residential developments would either go through subdivision or be covered under other regulations such as PUD or Town Center regulations. Important to consider pedestrian and bicycle provisions at the sketch plan stage so that needs are considered in initial designs. It is also important to allow for review at “final” plan stage since some types of projects skip the sketch plan stage and make their initial plan submittal as a final plan.
Commercial and Industrial zoning districts	Zoning Regulations Titles 3 and 4: Site layout requirements of each district e.g. Art. 28 §3-107, §3-209, §3-309, §3-408. Subdivision Regulations: general requirements per Residential Districts plus Art 26, §4-206 Street System	Add to the existing language: “Convenient functional linkages shall be achieved by providing bicycle and pedestrian connections...”
Special Exceptions Maritime Districts Town Center Districts Suburban Community Centers	Zoning Regulations Art. 28 §15-102.(a)(6)	§15-102 is the required information section. Rather than include all four requirements here, some of the requirements could be added to Art. 28, §15-101.
Planned Unit Developments	Zoning Regulations	This is the Conceptual Development Plan and Report section.



	Art. 28 §13-103(b)	
Mixed Use	Zoning Regulations Art. 28 §6-531 to §6-536	These are sections of the regulations adopted in July 2001 ⁹ .
Parking	Zoning Regulations Art. 28 §7-101 §7-103	
Subdivisions	Art. 26, §1-104 (2)	Consideration should be given to adding language to the legislative intent section of the Subdivision Regulations that the intent is to provide access for pedestrians and bicycles. The intent section of the Zoning Regulations is very brief and less suited to amendment.

Action 6: *Adopt bicycle parking requirements.* Providing secure parking is a key ingredient in efforts to encourage bicycling. The lack of secure place to leave bicycles discourages potential cyclists from making bicycle trips. A three-part strategy is recommended to implement bicycle parking.

1) *Bicycle parking requirements should be added to the Zoning Regulations so that adequate bicycle parking is provided in new development.*

General bicycle parking requirements should be added to the Zoning Regulations at Art. 28, Title 7 (Off-Street Parking) and include:

- Requirement to provide bicycle parking.
- Required number of bicycle spaces.
Typical requirements used around the U.S. include: for commercial uses, places of assembly, and recreation facilities, one bicycle space per ten to 20 auto spaces (depending on expected use); for schools and colleges, one space per four to ten students; and for multi-family dwellings one space per dwelling unit (see sample ordinances in appendix).

Bicycle parking design requirements should be included in Landscape Manual¹⁰, per the Association of Pedestrian and Bicycle Professionals Bike Parking Standards.

Bicycle parking should be installed along roads and at public destinations (e.g. at schools, libraries, government offices, parks, parking garages, and transit hubs). Businesses should be encouraged to provide bicycle parking for their customers and employees.

Design Manual

As discussed above, a myriad of design issues need to be considered in developing safe, comfortable, and attractive places to walk and bike. With respect to bicycle and

⁹ The regulations contain good, general design prescriptions for pedestrians. The language for bicycles, however, could be strengthened. The following specific provision should be reconsidered as it could produce unsafe conditions for pedestrians; Art. 28 §6-536.(B) states that “Walkways shall be designed to accommodate bicycles as well as pedestrians, with facilities for the temporary storage of bicycles”.

¹⁰ Art. 28, §7-102 refers to the Landscape Manual for off-street parking design standards. The Landscape Manual is a stand-alone document prepared by the Office of Planning and Zoning, serving as Chapter X of the County’s Design Manual.



pedestrian issues, the two key parts of the Design Manual are the Manual itself and the Standard Details for Construction. Key design provisions that should be incorporated into the Design Manual are discussed in this section. To ensure design issues are addressed comprehensively, this Plan recommends the following:

Policy Recommendation

Incorporate detailed design standards and guidelines for pedestrian and bicycle facilities into the Design Manual.

General Design Manual Provisions

Action 7: Reference design guides, special plans and studies in the Design Manual.

1) *Reference as a guide for designers the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities (1999).*

The Guide would supplement the Design Manual's existing reference to AASHTO's A Policy on Geometric Design of Highways and Streets (often referred to as the Green Book). The Guide for the Development of Bicycle Facilities covers a broad range of design issues including different types of bicycle facilities, lane markings, intersection treatments, and design criteria for off-road trails.). AASHTO is currently preparing a similar guide for the development of Pedestrian Facilities, which should also be referenced when complete. Suggested location: Design Manual Chap III.I (General).

2) *Reference special plans and studies to be used when considering pedestrian and bicycle facilities.*

The Design Manual already cites the GDP (Chap. III. Sec. II.B.4), and the County Code cites not only the GDP but the approved Small Area Plans to be used as guides in decision making (Art 24, §1-102). The Design Manual would reinforce use of these documents by citing them and should also reference this Pedestrian and Bicycle Master Plan, including the facilities network plan. Other special plans such as the Parole Pedestrian and Bicycle Plan (1999), MD Route 175 Roadway and Streetscape and Odenton Town Center Master Plan (1999), and the Greenways Master Plan could also be referenced. Suggested location: Design Manual Chap III.II (Design Criteria).

3) *Add a general statement describing the need for flexible and context-sensitive roadway design practices.*

This will give designers and the County the flexibility to adjust design to fit particular circumstances. The Manual already gives overall flexibility to the County in design decisions, but specifying the context sensitive aspect of designing facilities for pedestrians and bicycles would be advantageous. For example, where right-of-way is limited, choices may need to be made between desirable design features such as sidewalks, buffers and their respective widths. Generally, a sidewalk without a buffer is preferable to no sidewalk at all, but



these decisions require flexibility and consideration of the specific context.
Suggested location: Design Manual Chap III.II (Design Criteria).

Right-Of-Way, Standard Road Sections and Utility Easements

Action 8: *Revise standard road sections to better accommodate the needs of bicycles and pedestrians.*

(1) *Include bicycle facilities on standard sections.*

The design characteristics¹¹ of different road types in the County are shown on eight standard road sections in Section VI (Paving) of the Standard Details for Construction. None of the sections currently include bicycle lanes. Bicycle lanes (minimum width of 5-feet adjacent to a curb, 4-foot minimum on an open road section) or wide paved shoulders need to be shown on the standard paving detail for the appropriate road types so that they are considered for inclusion when roads are built or reconstructed, or even when roads are repaved and restriped. A Bicycle Level of Service (BLOS) analysis would be used as the basis for decisions regarding the inclusion and type of a bicycle facility to be designed on any given roadway (see Section 4).

(2) *Revise standard road sections to specify five feet as the standard sidewalk width and to specify a minimum buffer width between roadway and sidewalk.*

Four feet of sidewalk width is not wide enough for two people to walk comfortably abreast. Throughout the U.S. many communities are moving towards installing five-foot wide sidewalks as a standard. Further, the Design Manual's four-foot minimum sidewalk requirement meets the current, but not the proposed national recommendations for the Americans with Disabilities Act or AASHTO's national pedestrian design guidelines. These standard guidelines, which are expected to be adopted in 2003, will recommend five feet as a minimum sidewalk width. Although five feet might not be possible in all locations, the Design Manual should require five feet as the standard, and six feet where the sidewalk directly abuts a roadway curb (that is, where there is no buffer).

The Design Manual's standard details for paving do not specify a minimum buffer width between roadway and sidewalk. Generally a five-foot landscaped buffer is adequate where automobile traffic is light, but a buffer wider than five feet may be needed along busy roads. Shoulders, bicycle lanes, or on-street parking can also assist in buffering pedestrians from vehicle travel lanes. The Federal Highway Administration has developed new guidelines (Designing Sidewalks and Trails for Access, 2001) for sidewalk placement based on adjoining land use, which should be reviewed for applicability to Anne Arundel County.

Adding bicycle lanes, wide shoulders and wider sidewalks would increase the amount of impervious surface along roadways in the County by a small amount. Reducing impervious surface, in general, is a goal of the County and the State in order to reduce pollution from urban storm water runoff. The total increase in

¹¹ Right-of-way, pavement width, closed or open section, sidewalk etc.



impervious surface from new bikeways and wider sidewalk is likely to be very small compared to the miles of roadway in the County. Few roads will need wider pavement widths to accommodate bicycles due to low traffic volumes, existing shoulders or where a bicycle lane can be added through restriping, Bicycle Level of Service (BLOS) will likely be adequate without a new dedicated bicycle lane. In addition, any small increase in storm water runoff from pedestrian or bicycle facilities needs to be balanced against the environmental and health benefits of providing transportation alternatives that reduce vehicle trips as a result of more people walking and bicycling.

(3) Revise standard road sections to show wider right-of-way that may be needed in some cases to meet the needs of all users.

The Design Manual's standard road sections generally require a minimum of 60 to 80 feet of right-of-way. This width does not allow sufficient room for the needs of all users (motor vehicles, bicycles, and pedestrians) in all situations. As a result, when right-of-way is constrained, the needs of some users, often pedestrians or bicyclists, are compromised through narrow or non-existent sidewalk, reduced or non-existent buffers, disappearing shoulders at intersections, and/or lack of room for bikeways.

Acquiring more right-of-way can be costly and procedurally difficult and is therefore a very sensitive issue. There are options, however, for achieving a wider section width without acquiring more right-of-way. One option is to allow sidewalk and/or the sidewalk buffer to be placed outside the right-of-way in a "sidewalk easement" that allows for public access and maintenance. Another option is to reduce motor vehicle lane widths. On a case-by-case basis, decisions on road sections should take into account the desired bicycle and pedestrian level of service.

Action 9: *Add a standard section for off-road trails into the Design Manual.*

The Anne Arundel County Department of Recreation and Parks has standards for off-road trails¹² and the AASHTO's Guide for the Development of Bicycle Facilities (1999) also contains a typical section.

Action 10: *Investigate the potential of modifying utility easement agreements to allow for shared use utility and trail development.*

- 1) *Trails can be built on existing utility easements, if a dual recreation use agreement is in place. A modification to existing utility easements would require the permission of each property owner with an easement along a particular corridor.*
- 2) *When new easements are being negotiated in areas that have a high potential for future trail development, dual use easements should be pursued.*

¹² 11-foot base (10-foot wide trail section plus one foot to protect trail edges) with a two inch asphalt surface layer.

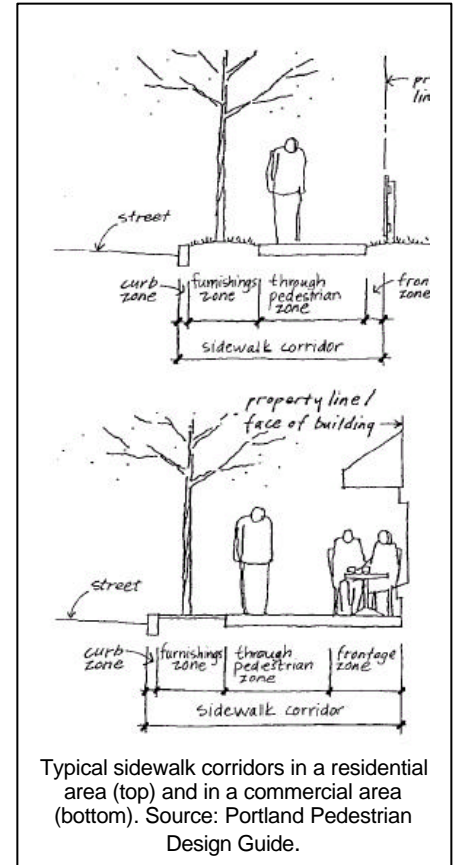


The Pedestrian Environment

Action 11: Add a new chapter to the Design Manual addressing the design needs of pedestrians.

This is not envisioned as a long chapter. It could even be a separate document like the Office of Planning and Zoning's Landscape Manual, which the Design Manual incorporates by reference. The chapter's purpose would be to give general guidance to designers and reviewers on improving the function of streets and sites for the comfort and enjoyment of pedestrians, balancing these improvements with motor vehicle capacity and safety interests. Although some of this guidance could be placed in existing chapters of the Design Manual, especially Chapters III, and XI¹³, no existing chapter is suitable for consolidating the full range of design issues so that the needs of pedestrians are fully considered at all stages of a project. It is into this proposed chapter that some of the general design language currently in the Zoning Regulations could be moved. Guidance that should be in this chapter includes:

- 1) General statement regarding the importance and value of design for pedestrians.
- 2) Direction to consider pedestrian issues at the earliest stage of project conception.
- 3) Definition of "vicinity" for purpose of identifying existing pedestrian and bicycle facilities and destinations in the vicinity of a proposed development (as described above, the requirement to address the vicinal connections would be in the Zoning Regulations).
- 4) General guidance for designing streets and sites to serve pedestrians including:
 - Low vehicle design speeds (traffic calming)
 - Street trees and landscaping (including root guard considerations)
 - Street furnishings
 - Narrow auto vehicle lanes
 - Reduced curb radii at intersections
 - Pedestrian (and bicycle) connections through to adjacent streets at the end of cul-de-sacs
 - Buffers for pedestrians from roadways
 - Lighting
 - Street intersection design
- 5) General guidance for commercial, business development regarding pedestrian access:



¹³ Chapter III covers Roads and Streets, Chapter XI covers Buildings.



- Placement of parking
- Delineated walkways through parking lots
- Direct access to the front of buildings from sidewalks and nearby transit connections
- Alignment of walkways for convenient and reduced travel distances
- Pedestrian connections between buildings on-site and adjacent properties
- Avoiding barriers (walls, ditches, landscaping or roads without safe crossings) to pedestrian and circulation between buildings on and adjacent to development sites

Action 12: *Address sidewalk corridor design issues in the Design Manual.*

Chapter III of the Design Manual has a brief discussion of sidewalks that includes a reference to the need to vary sidewalk width depending on pedestrian volume (Section II.F.5). The Design Manual should add specificity to the general design guidance in the proposed new chapter on pedestrian environment by describing or referencing the many factors that should be considered in designing attractive, safe, comfortable sidewalk corridors. A sidewalk corridor, for example, contains four distinct zones each with its own design considerations: the curb zone, furnishings zone, through pedestrian zone, and frontage zone.

Bicycles

Chapter III of the Design Manual (Section II.F.6) discusses bikeways, but in an ambiguous manner. Bicycle facilities need more detailed consideration in the Design Manual.

Action 13: *Revise and expand the treatment of bicycle facilities in the Design Manual*

- 1) *Use and define standard terms for bicycle facilities, and reconsider use of the term “bikeway”.*

The Design Manual uses the term “bikeway” but it is not defined leaving ambiguity about what constitutes a bicycle facility. AASHTO’s Guide for the Development of Bicycle Facilities describes bikeway as a “generic term for any road, street, path, or way which in some manner is specifically designated for bicycle travel...”. Since bikeway is a generic term, the Design Manual should use terms in the AASHTO guide including “signed shared roadway”, “bicycle lane”, and “shared use path”.

- 2) *Remove restrictions for bikeways on roads where the design speed exceeds 40 mph.*

The Design Manual¹⁴ currently places restrictions to bikeways on such roads. This is inconsistent with national standards and places severe limitations on the

¹⁴ Design Manual Chap III, Sec. II.F.6



County's ability to accommodate bicyclists where it is needed most. There is no precedent for this requirement, in fact, national standards recommend bike lanes in locations with higher design speeds, and therefore the restrictions should be revised. Currently, SHA policy has no design speed limitations for bikeway facility development. However, SHA does prohibit bicycle use on interstates, toll roads and in travel lanes on roadways posted speed limits of 50 mph and over

- 3) *Cite Bicycle Level of Service (BLOS) analysis as the basis for decisions regarding the design of a bicycle facility on any given roadway, including the most appropriate cross-section. (See Section 4 of this Pedestrian Bicycle Master Plan)*
- 4) *Use standard pavement markings and signs for bicycle facilities as described in the AASHTO guide (1999) and the MUTCD (2000).*
- 5) *Reference traffic signal loop sensors that can be triggered by bicycles and the use of bicycle-friendly drainage structures and covers.*

Drainage inlet grates are potentially dangerous obstacles to bicyclists if they are not bicycle-friendly. The County's Standard Details for Construction include a standard for a bicycle-friendly reticular replacement grate (type D/31 Type E & H Replacement), but it should also be referenced in the Design Manual.

- 6) *Include bicycle parking design requirements.*

These should include guidance for the appropriate location of bicycle parking areas on site, the design of bicycle parking areas, access requirements, lighting requirements, provision of racks in parking garages and other indoor parking areas. These requirements might be best added to the Landscape Manual, which contains the Design Manual's criteria for parking and loading spaces and for parking lot design (See Action 6).

Intersections

Action 14: *Expand the Design Manual's treatment of intersection design to accommodate the needs of all users.*

The Design Manual devotes a complete subsection to intersection design (Chap. 3 Section II.G). More detailed treatment is needed, however, to accommodate the needs of all users. Discussion of the following items should be added:

- Pedestrian and bicycle crossing measures at different types of intersections, including free right turn intersections, circles, driveways, and commercial entrances
- Measures to reduce crossing distance at intersections including designating tighter turn radii, and curb extensions
- Use of high-visibility crosswalks, including use of different street surface materials, and angled crosswalks through streets with medians.
- Lane markings for bicycles at different types of intersections



- Pedestrian refuge islands
- Mid-block crossings
- ADA Accessible curb ramps
- Pedestrian signal heads, including audible pedestrian signals for the visually impaired
- Guidance for shared use paths (off-road trails) when crossing roads
- Crossing times
- Pedestrian scale lighting
- Appropriate pedestrian signage

Buildings

Action 15: *Expand the Design Manual's section on buildings to address pedestrian access.*

Chapter 11 of the Design Manual (Buildings) includes a short section on design criteria for site plans (Chap. 11, II.B). This section should describe the importance of site planning for pedestrian needs, referencing the recommended new Design Manual chapter on general pedestrian environment and site design, and citing criteria such as direct access to the front of buildings from sidewalks, delineated walkways through parking lots, and pedestrian furnishings.

6.3 Project Design and Review

Bicycle and pedestrian facilities are designed and developed through the County's CIP and through the private development process (for subdivisions and site developments). The Department of Public Works (DPW) is the lead county agency for implementing capital projects. The Office of Planning and Zoning's Development Review Division is the lead agency for the review of private sector development proposals that can include bicycle and pedestrian facilities. The Department of Inspections and Permits also reviews private development proposals, and is the lead agency for some categories of projects that receive little or no review by the Office of Planning and Zoning.

Policy Recommendation

Optimize the project design and review processes to incorporate the needs of pedestrians and bicyclists in transportation projects, and to improve the level of interagency coordination with respect to pedestrian and bicycle project design and implementation.

Action 16: *Expand input from OPZ's Transportation Division, into project review.*

A particular strength of the current private sector development review process is the coordinated review by planners and engineers within the OPZ's Development Review Division. However, from a bicycle and pedestrian perspective, the Development Review Division would also benefit from expanded input from OPZ's Transportation Division. An expanded level of input would bring a broad perspective to the review of specific



development projects. As the County completes more Small Area Plans, these broader perspectives will become more important.

Action 17: *Consider expanding the role of the Department of Inspections and Permits in reviewing projects for pedestrian and bicycle considerations.*

The Department of Inspections and Permits is the lead review agency for a number of types of projects that do not go through lead review by the Office of Planning and Zoning. These include commercial developments that do not involve a subdivision or a site plan, and residential development on legally existing lots. Although such projects may be small, they can be important to the County's pedestrian and bicycle route networks. For example, they may form a gap between two subdivisions that provided a sidewalk along their street frontages. If the gap is not filled as part of development approval, the County's only option to complete the connection will be a capital project that may involve costly or difficult right-of-way acquisition.

Changes to the permitting process could involve a major level of effort, as the Department of Inspections and Permits reviews a very large number of projects. Amendments to Code Article 20 (Construction) would also be needed to ensure the Department of Inspections and Permits has clear legislative authority to require dedication of right-of-way or improvements along road frontage as part of project approval.

Considering the high level of effort that will be needed to change the permitting process (which would be primarily for non-commercial projects that don't go through review by the Office of Planning and Zoning), and the concern that such changes may result in only modest gains for the bicycle and pedestrian network. It is recommended that permit changes be pursued as a long-term goal. It is also recommended that the Pedestrian and Bicycle Coordinator become more familiar with the permitting process, particularly those projects that may have the potential to "fall through the cracks" during this process.

In order to address bicycle and pedestrian gaps, the Department of Inspections and Permits will need legislative authority to require right-of-way dedication and provision of facilities. These types of changes will enable the Department to require bicycle and pedestrians as a condition of permit approval.

Action 18: *Revise project reviewer checklists to incorporate pedestrian and bicycle elements.*

The County's project reviewers use checklists to ensure they consider the broad and complex range of regulations, policies, and procedures that need to be reviewed in any project. These checklists should be revised to include the pedestrian and bicycle elements discussed in this Section.



6.4 Capital Budget and Program (CIP)

The CIP is the County's land acquisition and facilities development program. It is the County's most important tool for the physical development of pedestrian and bicycle facilities. The following actions are recommended:

Action 19: *Incorporate Tier 1 Recommended Areas and Designated Pedestrian Improvement Zones (as denoted on the Network Plan in Section 4 of this Plan) into the CIP.*

Action 20: *Incorporate pedestrian and bicycle elements into all capital projects.*

Insufficient representation of bicycle and pedestrian interests in the project and design review process means that bicycle and pedestrian facilities are generally not given adequate consideration. The project design and review processes should be optimized to incorporate the needs of pedestrians and bicyclists in all capital projects from the outset of project design.

Action 21: *Review potential restriping opportunities during all resurfacing projects.*

Routine transportation projects such as resurfacing projects or intersection improvements can offer the opportunity to improve conditions for walking and/or cycling in a particular area. In some cases, based on Bicycle Level of Service, low cost improvements can be made through restriping that can greatly benefit pedestrians and/or bicyclists.

Action 22: *Incorporate the Neighborhood Traffic Control program into the CIP.*

This existing County program improves conditions for walking and bicycling through traffic calming. Including it in the CIP would give it greater prominence.

6.5 Maintenance

Pedestrians and bicyclists are very sensitive to the condition of their facilities. Attractive, well-maintained facilities attract users. A bicyclist who encounters frequent or recurring maintenance issues on their regular route may find biking too difficult or hazardous. The County has a model maintenance and management program for its trail system, but until recently, the County has done limited maintenance of on-street pedestrian and bicycle facilities. This is a function both of the County's currently limited pedestrian and bicycle network and of its sidewalk repair policy which states that repair of sidewalks is the responsibility of the property owner¹⁵. The County has made progress in the past few years initiating new maintenance-related capital projects including masonry reconstruction and the installation of sidewalk rootguard. Maintenance of pedestrian and bicycle facilities will become a very important issue as the physical network grows. The following actions are recommended:

¹⁵ Code Article 25, §4-112.



Action 23: *Establish a system to address both regular and remedial inspection and maintenance of the on-road and off-road network.*

The first step in developing a maintenance program is to identify what tasks need to be undertaken and who is responsible for each task. A maintenance schedule then lays out maintenance tasks and identifies the division or department that should have primary responsibility for each task. The Pedestrian and Bicycle Coordinator (as recommended in Section 3 of this Plan) should coordinate the execution of the maintenance schedule and be the point of contact for citizens with questions regarding maintenance.

Recommended maintenance practices include:

- Sweeping bicycle lanes and shoulders regularly to remove debris
- Surface repairs to provide a smooth surface, free of cracks, potholes, bumps and other physical problems
- Cutting back vegetation including intrusive tree roots to prevent encroachment
- Maintenance of bicycle signs, striping, and markings
- Maintenance of drainage facilities including catch basins and drainage grates
- Careful repair of utility cuts to prevent rough surfaces for cyclists
- Snow removal

(See Appendix D for more details)

A Facility Improvement Request Form would give citizens an easy means of reporting maintenance concerns supplementing or replacing the DPW's existing service request program. The form would allow citizens to notify the County about existing conditions affecting bicycling or of more general concerns or suggestions regarding bicycling in the County. The requests would be submitted to the Pedestrian and Bicycle Coordinator who would then refer the request to the appropriate division.

Action 24: *Work with the State Highway Administration to address the maintenance of sidewalk on state roads.*

In the past, responsibility for maintenance of sidewalk along state roads was not clearly defined. In recent years, SHA's policies on pedestrian and bicycle issues have been undergoing changes. Clear policies and procedures for maintenance should be established with the State being responsible for all transportation modes, including bicycling and walking, along its rights-of-way.