

Policy Review

Existing policies, ordinances, and design guidance documents at the county, state, and federal levels were reviewed that are relevant to walking and biking in Pender County. Findings are provided in the table below.

The following policies, ordinances, and design guidance were reviewed as part of this exercise:

- Pender County Unified Development Ordinance, 2022
- Pender County Code of Ordinances, 2020
- NCDOT Highway Typical Sections for Use in SPOT Online, 2019
- NCDOT Complete Streets Policy, 2019
- NCDOT Roadway Design Manual, 2018
- FHWA Guidance on Bicycle and Pedestrian Accommodation, 2011
- NCDOT Bridge Policy, 2000

POLICY	KEY RECOMMENDATIONS THAT RELATE TO THE PENDER COUNTY BICYCLE & PEDESTRIAN MASTER PLAN
<p>Pender County Unified Development Ordinance (2022)</p>	<p>The Unified Development Ordinance (UDO) regulates development within Pender County. There are several provisions in the UDO which affect the implementation of bicycle and pedestrian infrastructure in Pender County.</p> <p><i>4.6.10 Permitted Obstruction in Required Yards</i> Sidewalks, uncovered steps, and handicapped access ramps are included as permitted obstructions in any required yard.</p> <p><i>4.8.1 PD: Planned Development District</i> D. Development Standards - Development in a PD District shall be subject to all applicable regulations unless otherwise waived or modified by the County in the terms of the approved master land use plan. In no case shall the decision-making body waive or modify the following standards for a proposed PD development: 5) Street connectivity requirements; 6) Sidewalk and greenway requirements;</p> <p>E. Transportation and Circulation System 2) Pedestrian-oriented communities are encouraged to maximize opportunity for pedestrian activity and improve the quality of the pedestrian experience. Planned subdivisions must adhere to the design standards for drainage and paving in this Ordinance. 4) Adequately constructed and maintained bike and/or hiking trails shall be counted toward the open space requirement. Bicycle lanes and multi-use pathways that extend the minimum right-of-way width shall be designed in accordance with the North Carolina Bicycle Facilities Planning and Design Guidelines Manual.</p> <p><i>4.11.1 EC: Environmental Conservation District</i> C. Development Standards - In order to reduce the impact of development on the existing natural environment, the following standards apply to all land disturbing activities within an EC district:</p>

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- 1) With the exception of a pedestrian trail or a fence, no land disturbing activities may occur within a required yard or within one hundred (100) feet of:
- 2) All lands located within a designated floodway (AEFW);
- 3) All site area under the jurisdiction of the Army Corps of Engineers (the Corps) or the North Carolina Department of Natural Resources, Division of Water Quality (DWQ);
- 4) All lands located within a CAMA shoreline buffer;
- 5) All lands located below the high water line of an existing pond, lake, or stream; and
- 6) All lands with slopes steeper than twenty-five (25) percent.

4.12.6 Bicycle and Pedestrian Improvement Overlay District

The Bicycle and Pedestrian Improvement Overlay District is created on a case-by-case basis and informed by development activity, current and future roadway improvement projects, current and future bicycle and pedestrian usage and demand, and all relevant adopted plans.

E. District Requirements

1) Provision of Facilities and Infrastructure

a) Bicycle and pedestrian infrastructure shall be constructed as part of a development proposal within an adopted Bicycle and Pedestrian Improvement Overlay District if one or more of the following conditions are met:

- i) The proposed development is located within the jurisdiction of the Wilmington Metropolitan Planning Organization (WMPO) and is located along an existing or planned principal or minor arterial and/or major or minor collector street as defined by the WMPO Functional Classification Map, or;
- ii) The proposed development is located outside the jurisdiction of the Wilmington Metropolitan Planning Organization and is located along an existing or planned principal or minor arterial and/or major or minor collector street as defined by the NCDOT Functional Classification Map.
- iii) The proposed development is located along a road or street where bicycle and/or pedestrian improvements have been identified and included in an adopted bicycle and pedestrian plan or another adopted plan.

b) The type of facility provided shall be in accordance with adopted local and regional bicycle and pedestrian, transportation, and other plans. If a proposed development has road frontage on an existing or planned arterial or collector street as defined by the WMPO or NCDOT and is not listed on any adopted bicycle or pedestrian plan, then the required construction of bicycle and pedestrian infrastructure shall not be applied.

2) Facility Location, Design, and Construction

a) Where possible, bicycle and pedestrian infrastructure shall be constructed within the public right-of-way in consultation with NCDOT.

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- i) If off-road bicycle and pedestrian infrastructure (sidewalks, multi-use paths, and similar) cannot be constructed in the public right-of-way, the improvement shall be constructed within a dedicated public easement and shall be along the entire length of road frontage for the appropriate facility constructed or to-be-constructed.
 - b) Sidewalks shall be constructed as concrete or other like-material to minimum dimensions of 5' wide and 4" thick along the entire length of road frontage of a subject parcel not including driveways as described by AASHTO standards.
 - c) Multi-use paths shall be constructed as asphalt or other like-material to minimum dimensions of 10' wide and 4" thick along the entire length of road frontage of a subject parcel not including driveways as described by AASHTO standards.
 - d) Bike lanes and other on-road bicycle and pedestrian infrastructure shall be designed and constructed in accordance with AASHTO standards and in consultation with NCDOT.
 - e) Off-road bicycle and pedestrian infrastructure shall generally be constructed parallel to the adjacent street. Curves and meanders shall be kept to a minimum.
 - i) Deviations and meanders from the proposed route are permitted if the proposed route impacts wetlands, significant trees, creeks and streams, and/or other environmentally sensitive features or areas.
 - ii) Boardwalks may also be constructed where meanders are not appropriate with required state and federal permits, should they be required.
 - iii) Boardwalks shall maintain facility minimum width and design standards as described in this section and AASHTO standards and be in compliance with the Americans with Disabilities Act and as described in the United States Forest Service's Wetland Trail Design and Construction.
- 3) Payment-in-Lieu: A payment-in-lieu of bicycle and pedestrian facility construction shall be provided as an option to all applicants if construction is impractical or if genuine hardships caused by the construction requirement can be shown.
- a) If one or more of the following conditions are met, developers must utilize this option instead of constructing a sidewalk:
 - i) The road or street on which a parcel has frontage is included in the NCDOT State Transportation Improvement Program or other transportation improvement plan for widening within the next five years;
 - ii) The road or street on which a parcel has frontage is scheduled to receive bicycle or pedestrian infrastructure as part of another project.
 - iii) If deviations from a proposed route are required as described in Section 4.12.6.D.1.D above.
 - b) Payments-in-lieu of bicycle and pedestrian facility construction shall be calculated by determining a linear foot amount of facility responsibility for a parcel.

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- i) The type of facility required shall be determined by locally-adopted bicycle and pedestrian plans.
- ii) The linear foot length of sidewalk responsibility shall be the subject parcel's frontage along an arterial or collector street as defined by the NCDOT Functional Classification Map, minus proposed driveways widths as approved by NCDOT.
- iii) The dollar amount per linear foot of facility responsibility for each type of facility shall be determined by the Board of Commissioners, subject to change.
- iv) Total payment-in-lieu contribution shall be calculated by multiplying the linear feet of facility responsibility for a subject parcel by the price per linear foot of appropriate facility as set by the Pender County Board of Commissioners.

c) Those individuals utilizing the payment-in-lieu option shall still be required to dedicate public easements for facility construction and use if the facility cannot be entirely located within the public right-of-way.

4) Site Design

a) Access

- i) Pedestrians and bicyclists shall be provided with dedicated facilities to reach a building or structure from the location or point of the bicycle or pedestrian facility.
- ii) If pedestrian access is provided via a parking lot, said parking lot shall include islands and/or crosswalk striping to provide pedestrians with a safe corridor in which to move between sidewalk and front entrance.
- iii) Any bicycle or pedestrian infrastructure that crosses a driveway or curb cut shall include crosswalk striping or other similar markings to denote the path of the facility and to alert motorists.
- iv) If required facility to be constructed is a bike lane or multi-use path, bike racks shall be provided.

b) Building Design

- i) All commercial structures within the Bicycle and Pedestrian Improvement Overlay District shall have at least one (1) public entrance that directly faces the public street.

c) Amenities

- i) Pedestrian amenities, such as benches and seating areas, are encouraged in all scenarios and shall be required to be included in site designs when distance between front property line and main structure entrance is greater than 50 feet.
- ii) Other amenities, such as those providing shade and lighting, are encouraged. Any provided shade trees shall be in accordance with Article 8

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- 'Landscaping and Buffering' of this ordinance.
- iii) In accordance with standards in approved bicycle and pedestrian plans, amenities such as pet waste stations and bike repair stations shall be provided at regular intervals depending upon type of facility constructed.
- iv) Any provided amenities shall not be placed in the public right-of-way unless those amenities can be placed in such a way that does not obstruct the minimum facility width. Provided amenities placed in public rights-of-way shall be done so in consultation with NCDOT.
- v) Any provided amenities shall complement the design of other bicycle and pedestrian elements, nearby buildings and structures, and the character of the community.
- vi) Any provided amenities shall be constructed of durable, high-quality materials. Such materials include treated wood, metal and steel, and hardened plastics. Amenities shall be designed specifically for outdoor use. Indoor furniture shall not satisfy the requirements of this ordinance.
- vii) The property owner assumes all liability and all maintenance and upkeep responsibility for all provided amenities.
- viii) Any proposed amenities shall be clearly shown and labelled on all submitted site plans.

d) Any bicycle and pedestrian improvements made to a site shall be in compliance with the Americans with Disabilities Act and all other applicable federal, state, and local legislation.

7.6 Open Space

Whenever land is subdivided for residential purposes in excess of ten units, a portion of the land must be dedicated for open space.

B. Open space areas can be defined by active or passive open space as follows:

2) Passive Open Space areas must consist of undisturbed, unique and sensitive natural features when available, that may include streams, floodplains, wetlands (excluding tidal marsh) conservation resources, and natural heritage areas if identified. These natural spaces will be characterized by undisturbed soils and natural vegetative cover for wildlife habitat. Passive Open space may become part of designated County greenways. Amenities such as walking paths, piers, picnic areas and other passive recreational uses will be allowed with minimal disturbance of the vegetation.

C. Required Open Space: All new residential subdivisions shall provide open space in the amount of 0.03 acres per dwelling unit within the subdivision. No more than 50% of the required open space shall be designated as passive open space. 50% or more of the required open space shall be designated as active open space.

E. Standards for Park, Recreation and Open Space Areas: Except as otherwise approved by the Planning Board, all park, recreation and open space areas shall meet the

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	<p>following criteria:</p> <p>3) Greenways: If open space is a greenway, the land shall be a continuous linear parcel through the subdivision of at least 30 feet in width.</p>
<p>Pender County Code of Ordinances (2020)</p>	<p>While many regulations related to bicycle and pedestrian facility development in Pender County are contained in the UDO, there are a few relevant sections of the Code of Ordinances.</p> <p><i>14.190. – Watershed buffer areas required</i></p> <p>(a) A minimum 30-foot vegetative buffer for development activities is required along all perennial waters indicated on the most recent versions of U.S.G.S. 1:24,000 (7.5 minute) scale topographic maps or as determined by local government studies. Desirable artificial streambank or shoreline stabilization is permitted.</p> <p>(b) No new development is allowed in the watershed buffer except for water-dependent structures and public projects such as road crossings and greenways where no practical alternative exists. These activities should minimize built-upon surface area, direct runoff away from the surface waters and maximize the utilization of stormwater best management practices.</p>
<p>NCDOT Complete Streets Policy (2019)</p>	<p>The NCDOT Complete Streets Policy Update was adopted by the Board of Transportation in August 2019. This policy requires NCDOT to consider and incorporate multimodal facilities in the design and improvement of all transportation projects in North Carolina. The adopted Comprehensive Transportation Plan (CTP) is considered the controlling plan for the identification of nonmotorized facilities to be evaluated as part of a roadway project. The CTP may include and/or reference locally adopted plans for public transportation, bicycle and pedestrian facilities, and greenways. Bicycle, pedestrian, and public transportation facilities that appear in the CTP directly or by reference will be included as part of the proposed roadway project, and NCDOT is responsible for the full cost of the project. Bicycle, pedestrian, and transit facilities incidental to a roadway project where a need has been identified through the project scoping process but not identified in an adopted plan may be included in the project. Inclusion of these incidental facilities requires the local jurisdiction to share the incremental cost of constructing the improvements based on population thresholds. The policy also establishes maintenance responsibility for active transportation facilities. Bicycle, pedestrian, and transit improvements inside a municipal boundary are subject to local maintenance. For bicycle, pedestrian, and transit improvements outside of a municipal boundary where a county maintenance agreement has not been executed to maintain the facility, NCDOT will maintain the facility after construction if the bicycle or pedestrian facility lies within NCDOT right-of-way. Projects that have not completed environmental review prior to August 2019 are subject to the Complete Streets Policy.</p> <p>Maintenance of Multimodal Facilities: A local maintenance agreement will be executed within the timeframe identified in the PDN for all separated bicycle and pedestrian improvements (e.g., sidewalk or shared-use path) inside or outside a municipal boundary. In the event an agreement cannot be reached, the next highest non-separated facility type will be evaluated for inclusion in the project. Exceptions may be made on a case-by-case basis and NCDOT may agree to maintain separated facilities when a maintenance agreement is not in place in unique project areas of high pedestrian/bicycle demand or high risk related to crossing</p>

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	distance or other conditions.
NCDOT Highway Typical Sections for Use in SPOT Online (2019)	<p>This document contains 57 different highway typical cross sections for use in SPOT Online. The typical sections listed in this guidance provide a variety of options for users to choose from when entering the desired cross section for a new project in the application. Each typical section includes several data elements, such as the number of lanes, median type, and amount of right-of-way needed. These data elements are used to calculate quantitative scores for the Prioritization process, as well as calculate a planning-level cost estimate for the project.</p> <p>This guidance contains typical sections (2F and 2P) for 2-lane undivided roads with paved shoulders and sidewalks in Coastal Area Management Act (CAMA) designated counties. These typical sections prescribe design speeds of 25 to 45 miles mph and minimum clear zones of 20 ft. Pender County is considered a CAMA county.</p>
NCDOT Roadway Design Manual (2018)	<p>The Roadway Design manual provides general design information, design criteria, and plan preparation guidance for NCDOT roadways. Guidance on clear zones can be referenced in Part 1, Chapter 1-4N. Guidance states that the recommended clear zone range for flat, level terrain adjacent to a straight section of a 60mph highway with an average daily traffic of 6000 vehicles is a width of 30 to 32 feet. For steeper slopes on a 70-mph roadway, the clear zone range increases to 38 to 46 feet. Additional clear zone guidance is provided for roadway facilities based on design speed, design ADT, and roadside slope.</p> <p>Guidance on multimodal design elements can be referenced in Part 1, Chapter 4 Sections 4.14, 4.15, and 4.16. Guidance states that shared-use paths, often referred to as greenways, are paths physically separated from motor vehicle traffic and used by pedestrians, bicyclists, and other non-motorized users. The width of a shared-use path may vary, based on expected user volumes and context.</p> <ul style="list-style-type: none"> • <i>Desirable width – 12 to 14 feet</i> • <i>Minimum width – 10 feet; 8 feet in exceptionally constrained areas</i> <p><i>Vertical clearance, minimum – 8 feet</i></p>
FHWA Guidance on Bicycle and Pedestrian Accommodation (2011)	<p>Under the US Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation, "The DOT policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems...transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes." There are no Federal laws or regulations that prohibit shared use paths or bicycle use along or near Interstate highways or other freeways. Bicycle and pedestrian accommodations may be allowed on Interstate and other major highways and freeways. Bridges are essential in any transportation network, and many Interstate or other freeway bridges often are the only possible bridges across rivers, canyons, railroads, other highways, or other major barriers. Major highway bridges often are necessary links for nonmotorized transportation networks.</p> <p>Under 23 U.S.C. 217(g), transportation plans must consider bicycle and pedestrian</p>

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	<p>accommodations.</p> <p><i>23 U.S.C. 217(g) Planning and Design. --</i></p> <ol style="list-style-type: none"> <li data-bbox="477 338 1370 590">1. <i>In General. --Bicyclists and pedestrians shall be given due consideration in the comprehensive transportation plans developed by each metropolitan planning organization and State in accordance with sections 134 and 135, respectively. Bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities, except where bicycle and pedestrian use are not permitted.</i> <p><i>Safety considerations. --Transportation plans and projects shall provide due consideration for safety and contiguous routes for bicyclists and pedestrians. Safety considerations shall include the installation, where appropriate, and maintenance of audible traffic signals and audible signs at street crossings.</i></p>
<p>NCDOT Bridge Policy (2000)</p>	<p>This policy establishes design elements of new and reconstructed bridges on the North Carolina Highway System. Vertical clearances for new structures shall be designed above all sections of pavement including the useable shoulder. Future widening and pavement cross slope will be considered in design clearance. Vertical clearances for facilities are as follows: over interstates, freeways, and arterials: 16'-6" to 17'-0"; over local and collector roads and streets: 15'-0" to 15'-6"; over all railroads: 23'-0" to 23'-6" or less if approved by Railroads; pedestrian overpasses and sign structures vertical clearance: 17'-0" to 17'-6". Sidewalks shall be included on new bridges with curb and gutter approach roadways that are without control of access. A minimum handrail height of 42" is required.</p>



Policy Recommendations

The following policy recommendations were developed for Pender County to improve bicycle and pedestrian infrastructure within the County and to help implement the recommended bicycle and pedestrian network projects. Key recommendations for bicycle and pedestrian-related policies, ordinances, and design considerations are included in the table below.

POLICY RECOMMENDATION	DESCRIPTION
<p>Define active transportation facilities</p>	<p>Pender County should establish definitions for active transportation facilities including greenways, sidepaths, bike lanes, and sidewalks. Defined facilities will support consistent terminology across all future policies, ordinances, and design guidelines. The County could amend its UDO to incorporate a glossary with these new definitions.</p> <p><i>Please refer to the Facility Typology Guidance within this plan for recommended facility definitions.</i></p>
<p>Expand the number of Bicycle and Pedestrian Improvement Overlay Districts to require developer-built bicycle and pedestrian facilities in high-growth and other priority areas of the County</p>	<p>According to the County’s UDO, bicycle and pedestrian infrastructure shall be constructed as part of a development proposal within an adopted Bicycle and Pedestrian Improvement Overlay District. Each Bicycle and Pedestrian Improvement Overlay District is created on a case-by-case basis and informed by development activity, current and future roadway improvement projects, current and future bicycle and pedestrian usage and demand, and all relevant adopted plans.</p> <p>Pender County should expand its Bicycle and Pedestrian Improvement Districts in high-growth areas of the County, especially areas of regional significance, and in areas identified as high-priority for pedestrian and bicycle facilities (see Figure X High-Priority Projects).</p> <p>An existing Bicycle and Pedestrian Improvement Overlay District was created along the US-17 corridor between Washington Acres Rd and Sloop Point Loop Rd in 2018. The County should consider the following:</p> <ol style="list-style-type: none"> 1.) Expand Bicycle and Pedestrian Improvement Overlay Districts along all corridors identified in the Network Plan, or at a minimum, those corridors identified as high priority corridors. 2.) Evaluate adopting new and expanding existing Overlay Districts in areas proposed as Regional Mixed Use in the Pender 2.0 Comprehensive Plan, which include US-17, NC-210, US-117, US-421, Washington Acres Road, Factory Road, Hoover Road, and sections of the East Coast Greenway running along Blueberry Road, Country Club Road, and Sloop Point Loop Road.
<p>Adopt active transportation-related policies that are consistent with the goals of the CAMA</p>	<p>Pender County is considered a Coastal Area Management Act (CAMA) county; therefore, it should adopt policies (including design considerations for bicycle and pedestrian facilities) that are consistent with the goals of the CAMA. The CAMA of 1974 mandates all 20 coastal counties to have a land use plan and requires permits for any development in specially designated areas called Areas of Environmental Concern (AEC).</p> <p>According to Pender County’s Land Use Plan (2018), AECs are generally those areas that are in close proximity to water (e.g., ocean, ICWW, creeks, etc.) or marsh (wetlands). A CAMA permit must be acquired if a development project meets all of</p>

POLICY RECOMMENDATION	DESCRIPTION
	<p>the following conditions:</p> <ul style="list-style-type: none"> • The project is located within one of the 20 coastal counties of North Carolina • The project is considered "development" under CAMA • The project is within, or affects, an Area of Environmental Concern established by the Coastal Resources Commission • The project does not qualify for an exemption <p>The 2018 Pender County Land Use Plan states that Pender County strongly supports the designation and preservation of all remaining coastal wetlands. Acceptable land uses within coastal wetlands may include utility easements, fishing piers, and docks. Under the Environmental Conservation District in the UDO, the County states that pedestrian trails are exempt from the list of land disturbing activities within the EC district.</p> <p>The County should consider expanding their list of permitted and non-permitted land uses within coastal wetlands to consider bicycle and pedestrian facilities like boardwalks and bridges. If both fall within "pedestrian trails" then the terminology should be defined in a glossary or expanded further upon to clearly articulate the permitted uses.</p>
<p>Establish an active transportation facility maintenance plan</p>	<p>Pender County will need to consider establishing an active transportation facility maintenance plan that includes debris removal and schedules for facility clean-up coordination, routine and special maintenance, and re-striping and resurfacing schedules for paved greenways, sidepaths, and sidewalks along roadways where NCDOT has not assumed maintenance responsibilities. This could fall under the purview of the Parks & Recreation Department or another county department that could either take on the responsibility in-house, or procure a contractor through procurement to conduct the routine maintenance.</p>
<p>Include a Provision of Public Access policy in the Unified Development Ordinance (UDO)</p>	<p>The County should consider a provision within the UDO to allow public access greenways, sidepaths, and sidewalks within easements or rights-of-way of all new utility corridors. According to Rails-to-Trails Conservancy, greenways and trails may be co-located with the following types of utilities:</p> <ul style="list-style-type: none"> • Electric transmission lines • Gas lines • Sewer lines • Water pipelines • Broadband/fiberoptic • Irrigation canals/districts <p>Working with landowners may be essential to acquiring property and constructing a continuous and comprehensive greenway network. Standard greenway easement widths vary between 20-30 ft with 30 ft as the preferred width, 20 ft constrained.</p> <p>Establishing this policy provides an avenue for greenways, sidepaths, and sidewalks to be incorporated into new developments as services are established, as opposed to retroactively granting public access to easements.</p>

POLICY RECOMMENDATION	DESCRIPTION
<p>Promote bicycle and pedestrian connections at existing cul-de-sacs</p>	<p>Cul-de-sacs and single-entry developments limit walkability due to their lack of connectivity. Constructing roadway connections to existing cul-de-sacs or stub streets is also challenging, therefore bicycle and pedestrian facility connections can help address limitations in terms of connectivity and walkability.</p> <p>An adopted code would mandate that bicycle and pedestrian connections be made between any proposed development and an adjacent existing or proposed development, or at a minimum, a 20 to 30-foot right-of-way be stubbed to a property line and reserved for future bicycle and pedestrian connections. The County could mandate that a preferred greenway, sidepath, or sidewalk facility be constructed between a proposed development and an adjacent development, or require that connections be made to an existing greenway, sidepath, sidewalk, recreational area, commercial area, or school.</p>
<p>Adopt outdoor lighting ordinances or codes</p>	<p>Pender County should adopt outdoor lighting ordinances or codes that minimize costs, promote energy conservation, support safe trail systems and healthy habitat environments for threatened and endangered species within the County. The County should add its new provisions to 7.11 OUTDOOR LIGHTING in the UDO.</p> <p>A Model Lighting Ordinance exists to address the need for strong, consistent outdoor lighting regulation in North America. Several municipalities throughout the nation have adopted similar codes to control light pollution, including glare, light trespass, and skyglow.</p> <p>Visit the link to learn more about the Model Lighting Ordinance: https://www.darksky.org/our-work/lighting/%20public-policy/mlo/</p> <p>Rails-to-Trails also provides a toolbox on bicycle and pedestrian lighting design: https://www.railstotrails.org/build-trails/trail-building-toolbox/design/lighting/</p>
<p>Establish wayfinding standards</p>	<p>Pender County should consider establishing county-wide bicycle and pedestrian facility wayfinding standards to foster consistent branding, placement, use, and design of wayfinding signage (including route confirmation, directional, and kiosk signage). Wayfinding standards should complement the existing greenways, sidepaths, and park wayfinding standards to create a comprehensive multi-modal wayfinding system.</p>

Example Policies

A peer review of policies from other areas regarding overall developer responsibilities for bicycle and pedestrian facilities was conducted to provide Pender County with examples that can be used to guide policy recommendations in Pender County.

POLICY	RELEVANT LANGUAGE									
<p>City of Durham and Durham County Unified Development Ordinance (2023)</p>	<p><i>12.4 Pedestrian and Bicycle Mobility</i> <i>12.4.2 Sidewalk Requirements</i> A. A sidewalk shall be provided along public or private right-of-way as shown in the table below.</p> <table border="1" data-bbox="480 548 1081 646"> <thead> <tr> <th>Street Type</th> <th>Rural Tier</th> <th>All Other Tiers</th> </tr> </thead> <tbody> <tr> <td>Freeways; Expressways</td> <td>None</td> <td>None</td> </tr> <tr> <td>All other streets</td> <td>None</td> <td>Both Sides</td> </tr> </tbody> </table> <p>B. Preliminary and minor plats, and developments required to improve existing right-of-way to City or NCDOT standards, as applicable, shall provide public sidewalk within right-of-way pursuant to paragraph 12.4.2A, Sidewalk Requirement. C. For all other development except as exempted pursuant to paragraph 12.4.2D, Exemptions, required sidewalk along the right-of-way frontage of the development site shall be provided, as applicable per paragraph 12.4.2A, through only one of the following two methods. The following methods shall not be used in combination:</p> <ol style="list-style-type: none"> 1. Sidewalk located within the right-of-way and/or on-site <ol style="list-style-type: none"> a. Sidewalk shall connect to external sidewalks that extend to the property of the subject development, including connectivity to crosswalks and end of pavement at all adjacent intersections. b. Sidewalk located on-site shall meet the following criteria: <ol style="list-style-type: none"> (1) The sidewalks shall be located within a public access easement; (2) The maximum distance from the right-of-way, measured to the closest edge of the sidewalk to the right-of-way, shall be 20 feet; and (3) Lighting per Sec. 7.4, Outdoor Lighting, shall be provided either by proposed or existing on-site lighting, or street lights within the right-of-way. 2. Payment-in-lieu (City only) <ol style="list-style-type: none"> a. Payment-in-lieu of constructing required sidewalk shall be made at the rate set by the City Council. b. In order to accommodate future sidewalk, a recorded easement shall be provided along frontage of the subject property where no sidewalk is proposed if the existing right-of-way is not of sufficient width to accommodate a sidewalk. <p><i>12.5 Recreation Land</i> <i>12.5.2 Dedication, Impact Fees, and Payment-in-Lieu</i> A. In the County</p> <ol style="list-style-type: none"> 1. The applicant for a residential development shall be responsible for either: <ol style="list-style-type: none"> a. Dedicating 1,150 square feet of land for recreation purposes (including active and passive recreation areas, including trails) for each proposed dwelling unit; or b. Making payment-in-lieu equivalent to the tax value of 1,150 square feet of comparable property per dwelling unit. 2. One of the following shall be required: 	Street Type	Rural Tier	All Other Tiers	Freeways; Expressways	None	None	All other streets	None	Both Sides
Street Type	Rural Tier	All Other Tiers								
Freeways; Expressways	None	None								
All other streets	None	Both Sides								

	<ul style="list-style-type: none"> a. Dedication of land; or b. Payment-in-lieu of dedication. <p>B. In the City</p> <ul style="list-style-type: none"> 1. The applicant for a residential development shall be responsible for: <ul style="list-style-type: none"> a. Paying a recreation impact fee or dedicating 575 square feet of land for parks and active recreation areas for each proposed dwelling unit; and b. Paying a resource based recreation impact fee or dedicating 575 square feet of land for passive recreation areas (including trails) for each proposed dwelling unit. 2. Where recreation service districts have been established, payments made under this section shall be expended within the respective district from which collected. 3. The following, individually or in combination, shall be required based upon jurisdiction and whether the development is located on the Durham Trails and Greenways Master Plan or the Durham Comprehensive Bicycle Transportation Plan: <ul style="list-style-type: none"> a. Payment of an impact fee; b. Dedication of land; or c. Payment-in-lieu of dedication.
<p>Town of Wake Forest Unified Development Ordinance (2022)</p>	<p><i>6. Subdivision and Infrastructure Standards</i></p> <p><i>6.8 Sidewalks and other Pedestrian Facilities</i></p> <p><i>6.8.1 Sidewalks</i></p> <p>A. General Standards/Location: Sidewalks are required in accordance with the Town of Wake Forest Transportation and Pedestrian Plan, and the Town Street Classifications in Section 6.7.2. Alternative facilities or a payment in lieu may be considered in accordance with C and D below.</p> <p>C. Alternative Compliance: Alternative provisions for pedestrian movement meeting the intent of this section may be used where unreasonable or impractical situations would result from application of these requirements. Such situations may result from significant street trees, impending road widening, topography, utility easements, lot configuration or other unusual site conditions. In such instances, the Administrator may approve an alternate plan that proposes different pedestrian amenities provided that the intent of this section is fulfilled.</p> <p>D. Payments in Lieu: In lieu of alternative compliance in C above, the Administrator may approve a payment in lieu (in accordance with an adopted annual fee schedule) where any one or a combination of factors render compliance impractical:</p> <ul style="list-style-type: none"> 1. Steep slopes 2. Absence of existing sidewalks along the corridor and in the general neighborhood 3. Where sidewalks are not shown on the town’s adopted Pedestrian Plan. <p><i>6.9 Bicycle Facilities</i></p> <p><i>6.9.1. Requirement For Installation</i></p> <p>A. Bike lanes or separate off-street multi-use paths shall be installed on new or modified roadways where designated for such by the Town of Wake Forest Transportation Plan or similarly adopted plan; and/or as specified in Section 6.9.3 below where the adopted plan does not provide sufficient guidance.</p> <p>B. Where a proposed development does not include new or widening of existing collector or thoroughfare streets, the developer shall reserve right-of-way sufficient to accommodate the appropriate bikeway facility.</p>

**City of Salisbury Land
Development
Ordinance (2022)**

4. Subdivisions and Infrastructure

4.9 Sidewalk Program

A. Sidewalk Requirements.

1. Existing Streets. As part of a proposed subdivision or new development along an existing publicly-maintained street in the corporate City limits, sidewalks shall be constructed along all applicable street frontages per the standards of Section 4.7 of this Chapter.

2. Infill Lots. Sidewalk construction may not be required if the new development lot is considered an infill lot pursuant to Section 6.3.I, Infill Provisions, Sidewalk Compatibility Standards.

3. New Streets. As part of new street construction, sidewalks shall be constructed along both sides of the new street per the standards of Section 4.7 of this Chapter.

B. Sidewalk Alternatives for Existing Streets. When the approving authority determines that the construction of a required sidewalk along an existing publicly-maintained street is unfeasible due to special circumstances, including but not limited to: an impending road widening; impracticality due to topography, streams, or other environmental limitations, or if constructed it would not connect with a similar existing or proposed improvement therefore would not provide an immediate or future or future transportation or public safety benefit, the approving authority may approve a payment in lieu of sidewalk construction.

C. Sidewalk Payment In Lieu Program. As authorized under this section, a payment may be made to the City of Salisbury in lieu of sidewalk construction. The value of the payment shall equal the average linear foot sidewalk project cost, as determined by the Engineering & Development Services Department of the City of Salisbury and calculated per time and material cost at the time of the request. The applicant is informed of the amount to be paid upon issuance of the zoning permit, or adoption of the ordinance for a Conditional District Overlay development, and payment shall be made prior to issuance of the Certificate of Occupancy.

Payments received in lieu of construction shall be placed in a restricted fund and set aside in a deferred revenue account to be used to install or repair sidewalks within the general area of the corporate City limits.

7. Recreational Open Space

7.6 Payment in Lieu of Allocation

Development that meets all of the following criteria shall be eligible for payment in lieu of allocation of recreational open space:

- Contains less than 50 proposed dwelling units, and
- Is located less than one-fourth-mile radius from an existing or planned public park (or public school with recreational facilities accessible to the general public), and
- Includes a proposed connection to the park or school by sidewalk or greenway trail.

A. The value of such payment shall be 300 percent of the predevelopment tax value of the required recreational open space area. A combination of recreational open space allocation and payment in lieu of allocation shall be permitted.

B. All payments shall be made prior to Final Plat approval. Failure to submit the required payment prior to Final Plat approval will delay approval until payment is rendered.

C. All funds received for payment in lieu shall be deposited into a special Parks and Recreation Development fund. Collected payments, including accrued interest, shall be expended solely for the acquisition, development, or rehabilitation of the existing or planned public park that was employed for payment in lieu eligibility.

D. An amount of land, equivalent to the payment in lieu value, located elsewhere within

	<p>the City's Parks and Recreation Master Plan planning area may be accepted subject to City Council approval.</p>
<p>City of Wilson Unified Development Ordinance (2022)</p>	<p><i>7. Parks & Open Space</i> <i>7.3 Payment in Lieu of Park Space Dedication</i> Any person developing and/or subdividing property subject to this chapter may, upon approval of the Administrator, make a payment in lieu of any required dedication of public recreational space, except that the dedication requirement for any areas designated as future greenways on an adopted plan are not eligible to be met by payments in lieu of dedication. <i>7.3.1 Fee Determination and Disbursement</i> A. Determination of Payment In Lieu: Payment in lieu of dedication shall be the product of the post-development appraised value of the land (per gross acre) to be developed multiplied by the number of acres to be dedicated. The following formula shall be used to determine the fee: Post Development Appraised Value of Entire Development (per gross acre) X Required Park space Dedication (acres) =Payment in Lieu Dedication Fee B. Determination of Post Development Appraised Value: The Post Development Appraised Value of the Entire Development shall be established prior to Preliminary Plat approval by an Appraiser who is a Member of the Appraisal Institute (MAI) or a North Carolina General Certified Appraiser. C. Credit for Park and Greenway Connections: Credit toward a payment in lieu shall be given for the cost of constructing pedestrian/bicycle accessways that connect to existing parks or greenways, up to a maximum of 50% of the required payment in lieu. Such pedestrian/bicycle accessways shall meet the standards of Section 6.7.2 and the City of Wilson Manual of Specifications, Standards and Design. D. Disagreements Regarding Payments In Lieu: Any disagreement in the amount of required payment shall be resolved by conducting a professional appraisal of the fair market value of the property. The professional appraiser shall be mutually agreed upon by the developer and city. An appraiser shall be appointed by the city, at the developer's expense, should an agreement not be reached. E. Disbursement of Payments In Lieu: All payments made in lieu of dedication shall be made at the time of Final Plat approval or prior to the issuance of the first Certificate of Occupancy (whichever comes first as appropriate). Failure to submit the required fee along with such applications will delay approval of such submissions until payment is rendered. All funds received for payment in lieu of dedication shall be deposited in a special fund or line item to be used only for the acquisition, development, or redevelopment of public recreation space by the city. <i>7.3.2 Required Payments in Lieu</i> A payment in lieu of dedication may be required by the Administrator. Reasons for requiring payments in lieu of dedication may include, but are not limited to, sufficient proximity to existing public parks as determined by the Director of Parks and Recreation and/or existing topographic or geographic conditions as determined by the Administrator.</p>
<p>Town of Mooresville Unified Development Ordinance (2022)</p>	<p><i>5. Development Standards</i> <i>5.1 Access and Connectivity Standards</i> <i>5.1.4. Landowner or Developer Responsible for Improvements</i> A. The landowner or developer of the development, subject to the requirements of this section shall provide the road, street, bikeway, sidewalk, greenway, and other access and circulation improvements, both on the development site and, as appropriate; off the site, as required by the approved development approval or permit, in accordance with the standards of this section, the engineering requirements in the Land</p>

Development Design Standards manual, which is incorporated herein by reference, the regional Comprehensive Transportation Plan, the Mooresville Transportation Master Plan, and the standards of Chapter 6: Subdivision Standards.

B. The landowner or developer of the development, as appropriate, shall dedicate any on-site required rights-of-ways or easements, as appropriate, for transportation system improvements, such as streets and bicycle and pedestrian facilities, identified in local and regional plans such as Mooresville Transportation Master Plan, the Comprehensive Plan, and the regional Comprehensive Transportation Plan (CTP), and where appropriate, construct such facilities in accordance with the standards of this UDO.

5.1.6 Street, Sidewalk, and Greenways Standards

C. Bicycle Facilities

1. Bicycle Facility Requirements

- a. All development that includes street construction shall include a combination of bicycle facilities and low-speed local streets, where applicable, that provide a safe, comfortable, and convenient route within the development and to bicycle facilities outside the development.
- b. Bicycle facilities shall be installed on new streets in accordance with the CTP and/or the Town's Bicycle Plan. Any collector or higher street not within such plan shall provide an on-street bicycle lane and appropriate buffer. Sharrows and bicycle lanes are strongly encouraged on all local streets.
- c. For development along existing streets for which bicycle facilities are identified in the CTP and/or the Town's Bicycle Plan, the developer shall dedicate additional right-of-way as necessary to accommodate the bicycle facility.
- d. Where appropriate due to anticipated traffic volumes or conflicts with vehicular traffic, on-street bicycle facilities shall include features that enhance separation from motor vehicles such as physical buffering through means such as bollards, parked cars, or by being placed behind the roadway curb; or use of a separate shared sidepath or greenway trail, in accordance with the standards of the Town's Bicycle Plan.
- e. Greenways and bicycle-pedestrian bridges shall be constructed to the standards of this UDO and the Town's Bicycle Plan.

2. Exceptions

- a. The Planning Director may waive or modify the requirement to install bicycle facilities if the Planning Director determines:
 - i. Development of the bicycle facility is impractical or infeasible due to the presence of topographic conditions or because of existing development patterns and the applicant makes a payment to the Town in-lieu of the installation;
 - ii. Adding a greenway or other bicycle facility will exceed more than five percent of the land area within the overall site;
 - iii. The street is under construction or a contract for construction has been signed and the planned improvement would remove the bicycle facilities; or
 - iv. When a connection between properties requires a bicycle or pedestrian bridge and there is no legally established right-of-way or easement to complete the connection to the other side, a fee-in-lieu payment may be permitted for 50 percent

of the bridge cost; however, legal access shall be provided to the property line allowing a future connection to be made.

b. The Planning Director may adjust the sidewalk width standards in this section or the street tree and planting width standards in the landscape and buffer standards in this chapter, to facilitate inclusion of a bicycle facility along a street due to the conditions identified in this section.

D. Sidewalks

1. Sidewalk Requirement

Sidewalks are required in accordance with the following:

- i. Except in the RC and RLS districts, sidewalks shall be constructed on both sides of all new streets. In the RC and RLS districts, sidewalks shall be constructed on at least one side of all new streets.
- ii. Sidewalks shall be constructed along the entire frontage of a proposed development with an existing street, unless there already is an existing sidewalk that complies with the standards of this section. A sidewalk that does not comply with the ADA or other standards of this section shall be upgraded to comply.
- iii. Except in the TD and DE districts, sidewalks shall be a minimum of five feet wide. In the TD and DE districts, the minimum sidewalk width shall be six feet or the width of the sidewalk along the street frontage adjoining the site, whichever is greater.

2. Exceptions

The Planning Director may modify or waive the requirement to install sidewalks if:

- i. The applicant provides a facility that provides equivalent or better pedestrian access, such as a sidepath or similar facility; or
- ii. Installation of sidewalk on a single residential lot used for not more than two dwellings that is more than 500 feet away from any existing sidewalks;
- iii. Topographic conditions or natural features, such as steep grades do not allow connections to be made without stairs, or because of existing development patterns, and the applicant makes a payment to the Town in-lieu of the installation. All fees collected by the Town pursuant to this section shall be deposited in a dedicated Town fund used only for construction of bicycle pedestrian facilities that provide sufficient benefit to the development providing the in-lieu fee.

Wilmington Urban Area MPO Model Ordinance (2021)

1. Bikeways, Sidewalks, and Greenways

1.02 Applicability

- (a) This Article applies to all development within the [JURISDICTION] jurisdiction.
- (b) No construction shall commence until all required plans and designs have been reviewed and approved by the [JURISDICTION] or other governmental approving agency.
- (c) No [JURISDICTION] services or utilities shall be extended to any development until the applicant has installed the infrastructure specified in this chapter.

1.03 Easements

- (a) Easements shall be provided in locations and dimensions required by the [JURISDICTION] in order to:
 - (i) Allow for adequate pedestrian access.

- (ii) Allow for adequate bicycle access.
- (iii) Allow for adequate right-of-way for street types.
- (iv) Allow for adequate storm drainage facilities.
- (v) Allow for adequate access to service bicycle and pedestrian infrastructure
- (vi) Allow for adequate right-of-way for construction of bicycle and pedestrian infrastructure.

(b) Whenever a piece of land in a proposed site plan includes any part of a greenway designated in the comprehensive plan, bicycle plan, or pedestrian plan, the greenway shall be platted and dedicated as a greenway easement.

1.04 Exemptions and Appeals

(a) Fee-in-Lieu

- (i) Where the [JURISDICTION] determines that construction of public improvements would not be feasible, a fee in lieu may be permitted.
- (ii) Right-of-way and easements may still be dedicated to the [JURISDICTION] to allow access.

(b) Surety

- (i) Required improvements identified in this chapter that are not completed prior to the issuance of a building permit will be bonded in accordance with [JURISDICTION] development standards in an amount of 125% of the estimated construction cost.
- (ii) All required improvements secured by a surety shall be installed prior to the issuance of the first certificate of occupancy.

1.05 Overlay District

(a) Greenway Overlay District

- (i) The purpose of the Greenway Overlay District is to promote health, safety, convenience, and welfare by providing increased connectivity and infrastructure to surrounding parks, neighborhoods, businesses, and bicycle and pedestrian networks.
- (ii) A multi-use path shall be installed by the developer in accordance with the comprehensive plan.
- (iii) Where sidewalks and multi-use paths meet the street ADA compliant ramps shall be installed.
- (iv) Bicycle and pedestrian infrastructures shall be installed in accordance with [JURISDICTION] design standards.

(b) Pedestrian Benefit Zone

- (i) The purpose of the pedestrian benefit zone is to promote safe and convenient pedestrian infrastructure in designated zones with high density.
- (ii) Concrete sidewalks shall be constructed along the entire frontage of all commercial, residential, industrial, and park sites within the pedestrian benefit zone.
- (iii) If concrete sidewalks currently exist but are in poor deteriorated condition, the sidewalk shall be replaced to [JURISDICTION] design standards.