

RALEIGH PEDESTRIAN PLAN

DECEMBER 2012



Photo by: Jason Pace



**Bicycle &
Pedestrian
Transportation**

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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ACKNOWLEDGEMENTS

This plan was developed by the City of Raleigh with funding from the North Carolina Department of Transportation's Bicycle and Pedestrian Planning Grant Program.

About the NCDOT Bicycle and Pedestrian Planning Grant Program

The NCDOT Division of Bicycle and Pedestrian Transportation and the Transportation Planning Branch created an annual matching grant program – the Bicycle and Pedestrian Planning Grant Initiative – to encourage municipalities to develop comprehensive bicycle plans and pedestrian plans. This program was initiated in January 2004 and is currently administered through NCDOT-DBPT.

To date, a total of \$3.6 million has been allocated to 135 municipalities through this grant program. Funding for the program comes from an allocation first approved by the North Carolina General Assembly in 2003 in addition to federal funds earmarked specifically for bicycle and pedestrian planning through the Department's Transportation Planning Branch.

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EXECUTIVE SUMMARY



Executive Summary

The City of Raleigh's Comprehensive Pedestrian Plan promotes a walkable Raleigh by recommending safe, convenient pedestrian facilities and connections to important destinations. The Plan will help guide the City's ongoing investments in sidewalks and crossings in order to improve the quality and safety of the existing pedestrian network; and identify ways to increase the awareness and benefits of walking.

The Pedestrian Plan builds on of the City's 1992 ADA Transition Plan, 1993 Sidewalk Priority Funding Program, 2030 Comprehensive Plan, and the Unified Development Ordinance (UDO) update; and serves as a companion plan to the City's 2009 Bicycle Transportation Plan.

This plan was developed with guidance from a Steering Committee comprised of stakeholder members from public, private and non-profit organizations, and with opportunities for public input at each stage of the plan development process. The Plan reflects both current practices and incorporates new pedestrian-friendly standards and programs. In short, the Plan underscores the importance of Raleigh's pedestrian network as an integral asset of the transportation system.

Access, mobility and safety are common themes in the Plan. The City's 2030 Comprehensive Plan lays out a blueprint for adequately and safely accommodating pedestrians on all streets. Adopted in October 2009, the Comprehensive Plan includes updated pedestrian goals: aiming

for sidewalks on both sides of all streets and emphasizes pedestrian-oriented development rather than pedestrian-accessible development.

Raleigh is working to earn Walk Friendly Community designation by the Pedestrian and Bicycle Information Center, joining three other North Carolina cities, Charlotte, Davidson, and Cary, by focusing on four goals: establish a framework to implement optimal pedestrian accessibility; develop technical standards for improving pedestrian access in the land development process; identify ways to increase funding for pedestrian infrastructure; quadruple the pedestrian journey to work mode share by 2020 (approximately 6% currently).

A review of existing conditions for the pedestrian network and pedestrians' experience using that network revealed four key findings:

- » Install sidewalks where missing
- » Maintain sidewalks where they exist
- » Make it easier (and safer) for pedestrians to cross the street
- » Change motorists' behavior with respect to pedestrians (especially at intersections)

The Plan includes resources and recommendations to address these findings, including a summary of best practices and intersection design Standards (Chapter 3), an Updated Sidewalk Program (Chapter 4), pedestrian facility recommendations (Chapter 4), programs and initiatives to increase walking rates in Raleigh (Chapter 5). Recommendations for sidewalks include a new sidewalk prioritization system for City-initiated projects and nearly nine miles of sidewalk to be installed over the next four years using \$4,750,000 in bond funding. Recommendations for intersections and crossings include a new system to determine highest priority pedestrian crossing needs at intersections and a dozen design templates for various intersection elements.

RALEIGH COMPREHENSIVE PEDESTRIAN PLAN VISION

Enhance pedestrian mobility in Raleigh where all streets adequately and safely integrate pedestrians within the existing roadway network and on all future roadway projects.

From 2030 Comprehensive Plan, Element B, Transportation

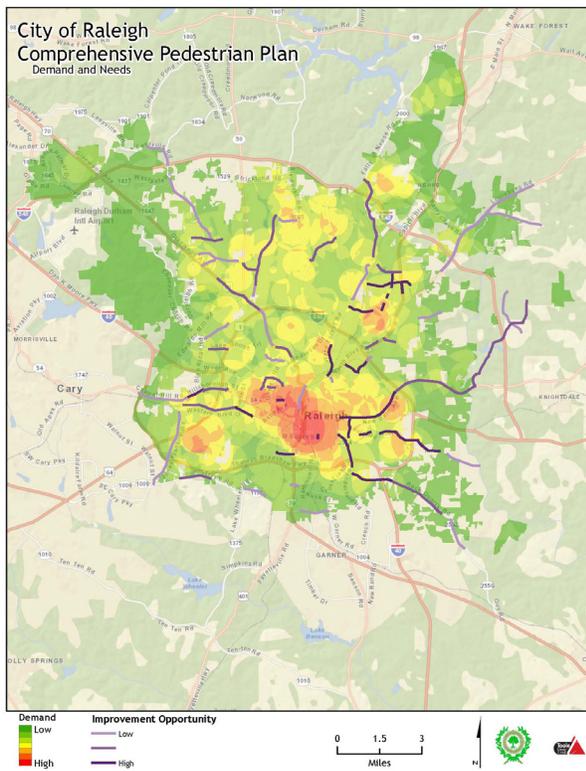


Capital area transit offers well-outfitted bus stops at some locations

The Plan includes recommendations for several intersections and corridors throughout the City. First, detailed recommendations for improvements to six example locations based on field studies and best practices can be applied to other locations in the City (see Chapter 4). In the longer term, mobility and access improvements

are recommended on a corridor-wide basis by re-allocating the public right-of-way to establish more pedestrian space through wider sidewalks, streetscape improvements, and buffers. Longer term recommendations also include consideration of separating pedestrians and motor vehicles in a limited number of locations where travel mode goals may conflict (see Chapter 8).

Building on existing enforcement, education, encouragement and evaluation programs, nearly two dozen programs and initiative are recommended. Success of these programs is based on establishing community ownership; using resources efficiently (especially with respect to technology); and regular assessments to ensure the greatest outcome. These “Programs and Initiatives for Walkable Raleigh” include a separate Pedestrian Advisory Committee,



Demand and needs analysis.

Figure 9 - Slip Lane Design For Improved Pedestrian Safety

OVERVIEW:
A slip lane may be installed at an intersection to allow motorists to make a right turn without entering the main traffic pattern of the intersection. Typical slip lane designs can create conflicts for pedestrians and bicyclists traveling through the intersection. In these cases, pedestrian and bicyclist movement across the slip lane can be improved through design techniques that reduce motor vehicle speed, improve visibility for all users, and reduce the number of conflict points between pedestrians and motorists.

A design technique is to eliminate the practice of designing the slip lane to feed into an acceleration/speed change lane. The slip lane-acceleration lane combination is usually based on balancing multiple factors including traffic volume, speed and roadway classification, but not pedestrian activity and adjacent land use. As a result, the slip lane-acceleration lane combination is often detrimental to pedestrians because it is typically designed for higher turning speeds. Including the level of pedestrian activity and adjacent land use when determining the need for an acceleration/speed change lane with the slip turn lane is one way to accommodate pedestrian safety needs at the intersection. If deemed appropriate, a similar design to that shown below can be used to slow turning vehicles at the pedestrian crossing. A raised crosswalk may be considered at the crossing where motor vehicle speeds are relatively high, or the pedestrian environment is perceived to be unsafe.



BENEFITS:

- Approach angles between 55-60 degrees discourage high speed turns, thus reducing speeds in the ramp area
- Improve sight distances
- Improve pedestrian safety at crossing
- Reduce pedestrian crossing distances on multi-lane roadways

SUITABLE LOCATIONS:

- Multi-lane roadways with intersections requiring very large turning radii, or with heavy volumes of right-turning traffic

DIRECTIONAL ISLAND DESIGN:

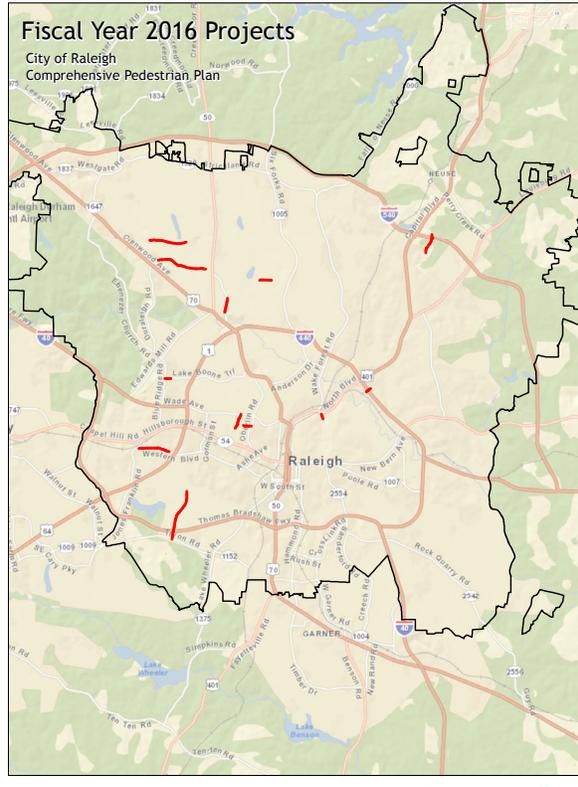
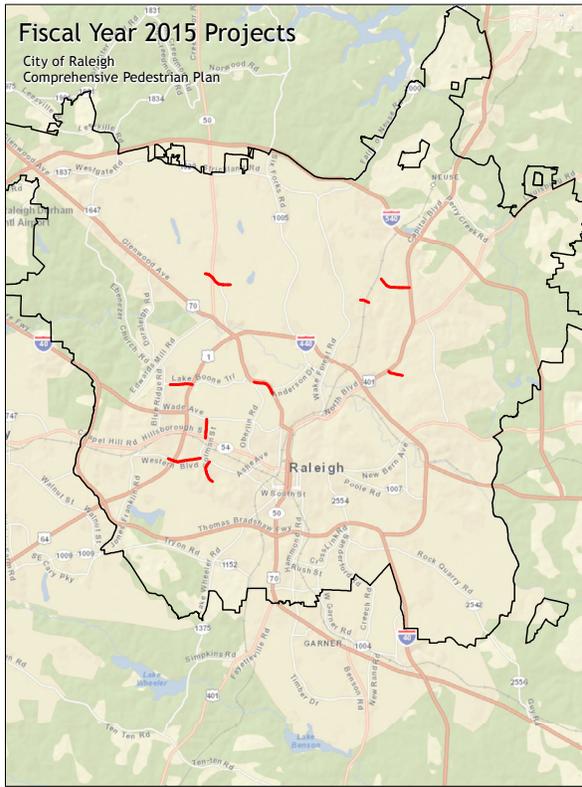
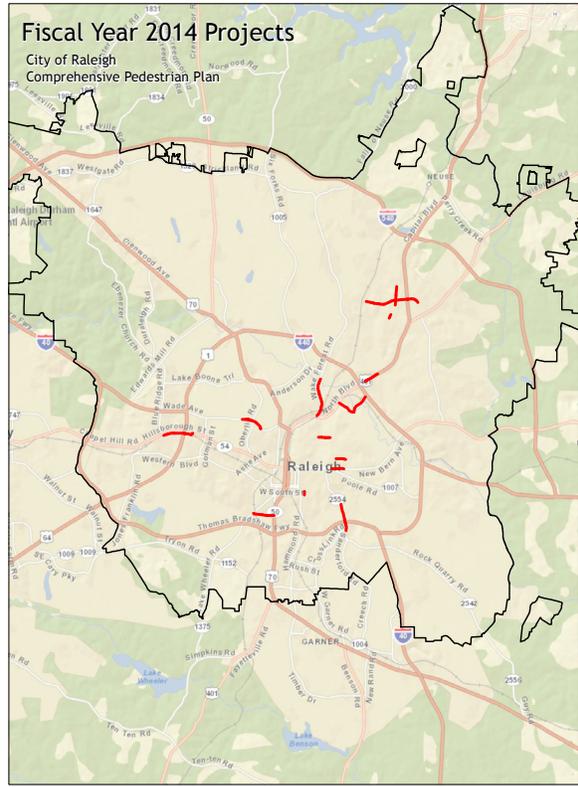
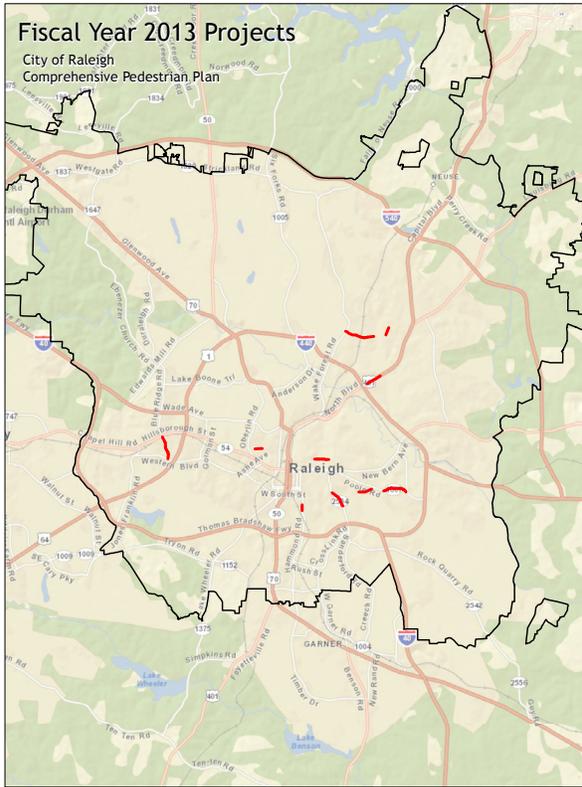
- Island could include landscaping if adequate space and sight distances can be maintained.
- Pedestrian access on island could be accomplished by a street level cut-through in lieu of curb ramps.

Example of best practices intersection template

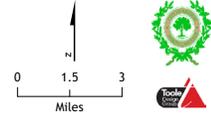
additional staffing needs, a GIS-based sidewalk asset management system, a Raleigh-specific Safe Routes to School program, and pedestrian safety and law education for various audiences. Implementation strategies for Plan recommendations are tied to available resources, and emphasize safety improvements, the ability to phase improvements and leverage resources, and available technology. For example, the new City-initiated sidewalks identified through the new sidewalk ranking system can be built with the following annual anticipated bond revenue.

- » The table shows the funding and miles of sidewalk to be built, and the graphics illustrate where the improvements are planned over the four-year timeframe. Larger maps for sidewalk projects in each fiscal year are included in Chapter 7.

	FY 2013	FY 2014	FY 2015	FY 2016	Total
Bond revenue	\$750,000	\$1,500,000	\$1,000,000	\$1,500,000	\$4,750,000.00
Miles of sidewalk	4.6	8.9	5.9	7.4	26.8



— Fiscal Year Projects
 □ Extra-Territorial Jurisdiction



The City of Raleigh is well on its way to creating a walkable community. Drawing on examples from within its own boundaries and implementing recommendations from this Comprehensive Pedestrian Plan and other key planning guides such as the Comprehensive Plan, the City will achieve its vision.

