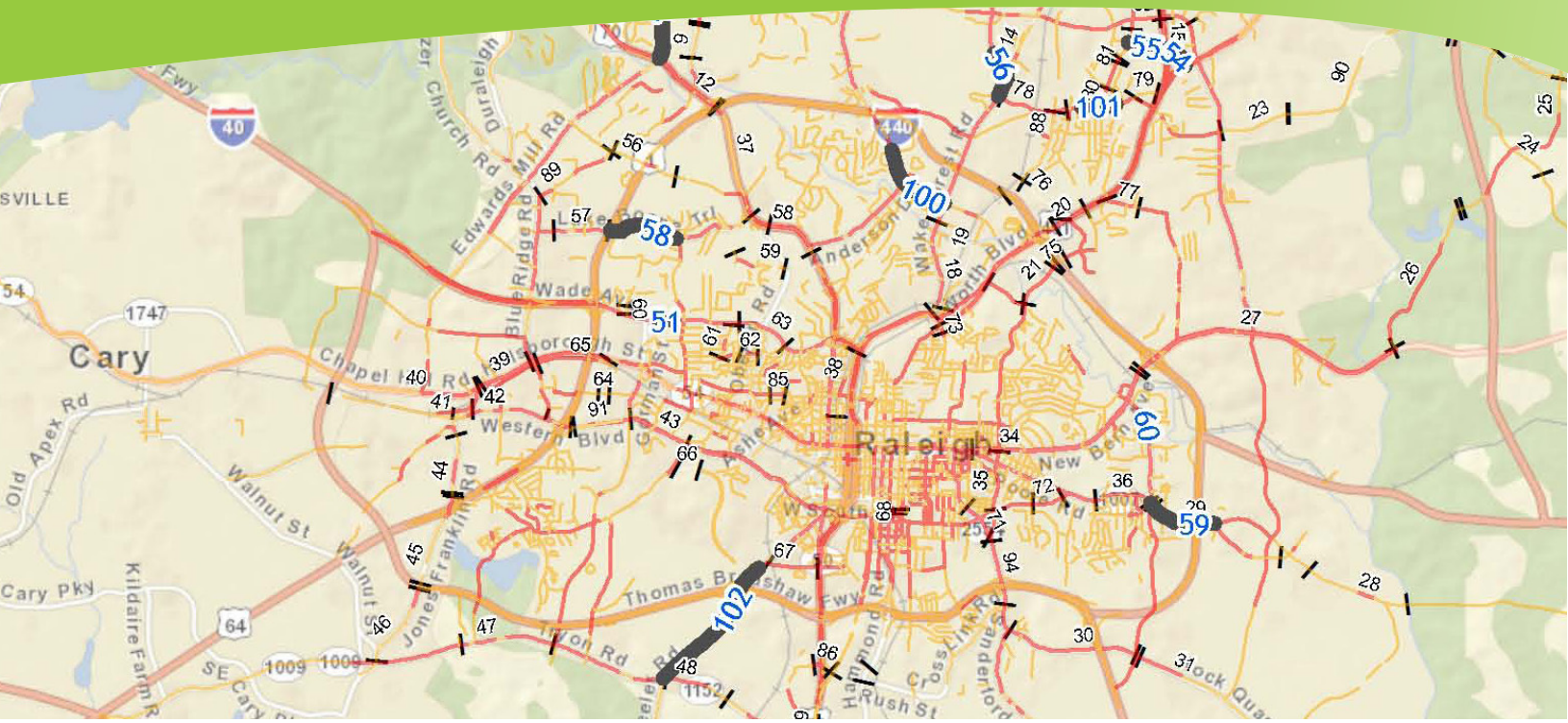
CHAPTER SIX
SUMMARY OF RECOMMENDATIONS



Introduction

This chapter summarizes the pedestrian network recommendations found in previous chapters, and introduces complementary programmatic and policy recommendations necessary to enhance walkability in the City of Raleigh. Recommendations are summarized in a series of tables. General recommendations are listed first. These are followed by recommendations that address the four primary findings discussed in Chapter 2, Existing Conditions: *Install sidewalks where needed; maintain sidewalks where they exist; make it easier and safer for pedestrians to cross the street; and change motorists' behavior with respect to pedestrians.*

Chapter 7, Implementing the Plan, includes a suggested timeframe for implementing each of these recommendations and identifies a lead entity.

General recommendations

This section contains general recommendations that address walking in Raleigh.

Photo 41. Raleigh's 2012 Bicycle and Pedestrian Advisory Committee.

Update the ADA Compliance Plan to reflect current conditions and needs. Raleigh's ADA Transition Plan was created in 1992 in response to the 1990 Americans with Disabilities Act. The original implementation plan was fulfilled within the following few years. However, regular updates of the plan are useful in ensuring the needs of pedestrians with disabilities are met. The City of Raleigh Public Works will continue to ensure ADA Compliance. The proposed Public Right of Way Accessibility Guidelines (PROWAG) can provide the basis against which the ADA Compliance Plan should be updated. The sidewalk assessment recommended in this chapter would provide the needs assessment for an ADA Transition Plan update. *Plan reference: Chapter 5, Programs and Initiatives for Walkable Raleigh*

Collaborate with Capital Area Transit and Triangle Transit to maintain stops and improve access to stops. Capital Area Transit (CAT) ridership is growing, up by 34.3 percent between March 2008 and March 2012. Transit riders are pedestrians just before and just after riding the bus. Thus, with total annual passenger boardings at 6.5 million, complete, safe and comfortable access to bus stops is increasingly important. The demand and need analysis developed as part of this Plan may also be a good resource for CAT and Triangle Transit to use in working with the City to ensure access to transit needs are identified and addressed. The City currently uses a work order database tracking and management software called Cityworks to generate work orders, including addressing needs at bus stops. The Cityworks system can include GIS layers, making it a relatively powerful tool for inventorying stops and tracking conditions at the stops. The City would benefit from integrating into Cityworks the GIS-based demand analysis completed for this Plan, which includes conditions along walking routes to the stop such as pedestrian infrastructure and crossing conditions, and crashes. *Plan reference: Chapter 2, Existing Conditions; and Chapter 3, Best Practices, Design Standards and Raleigh's Sidewalk Program*

Expand and enrich the Pedestrian Program online resources. The existing Pedestrian Program website includes information about the Pedestrian Plan and the City's Sidewalk Program (City-initiated and petitioned sidewalks), as well as other capital projects that include sidewalks. In addition to staff contacts, the page offers links to related offices, publications and opportunities, such as the City's Office of Transportation Planning, the City's Planning Department, the City's Comprehensive Plan, the Downtown Raleigh Pedestrian Study (May 2011), and the Bicycle and Pedestrian Advisory Commission.

The website's reach can be broadened to serve as a clearinghouse for other existing programs and activities that affect pedestrians, and for new programs and activities that are implemented (such as those recommended in this plan). Existing programs that can be included (or at least referenced) on the Pedestrian Program

web page include Safe Routes to School (Wake County), See.Fix.Click, and CAT schedule information. Several programs and activities recommended in Chapter 5, Programs and Initiatives for Walkable Raleigh programs also lend themselves to the City's Pedestrian Program landing page, when implemented, such as a City-sponsored SRTS program, the Close Call reporting form, pedestrian network traffic reports, neighborhood walking groups, and an Adopt-a-sidewalk or bus stop program.

Recommendations to Address Primary Findings

The recommendations summarized in this section address the primary findings described in Chapter 2, Existing Conditions: Install sidewalks where needed; maintain sidewalks where they exist; make it easier and safer for pedestrians to cross the street; and change motorists' behavior with respect to pedestrians.

Install sidewalks where missing

Use the new sidewalk prioritization system to determine sidewalk implementation phasing. The new sidewalk prioritization system is GIS-based with objective scoring built into the process. Once the initial score is determined in GIS, three additional scores are added to the total. *Plan reference: Chapter 3, Best Practices and Chapter 4, Pedestrian Recommendations*

Make the best use of funding for sidewalk projects. The bond referendum passed in October 2011 will provide up to $7.75 million in funds to install sidewalks where needed and requested. Chapter 7 includes a sidewalk implementation plan for City-initiated projects keyed to $4.75 million in anticipated bond revenue in fiscal years 2013 through FY 2016. Sidewalks identified through the City's petition process will be funded from $3 million, using a new process developed by the City in early 2012. See Appendix A for information on this new process. *Plan reference: Chapter 2, Existing Conditions and Chapter 4, Pedestrian Recommendations.*

Photo 42. Bus stop on Creedmoor Road at Plaza Place needs a sidewalk.

Ensure new development projects include sidewalks that support existing or anticipated pedestrian demand. Retrofitting sidewalks after development occurs can cost more than including sidewalks as part of the development. The City's 2030 Comprehensive Plan and Draft Unified Development Ordinance provides the basis for ensuring that the pedestrian network grows along with the City in order to encourage and support a multi-modal transportation network. Plan reference: *Chapter 2, Existing Conditions.*

Update the missing sidewalk GIS layer to establish other attributes. The City's sidewalk GIS layer should be combined with the new missing sidewalk layer to track the status of the pedestrian network in the public right-of-way. Existing worn paths should be geo-coded and added to the missing sidewalk layer. As sidewalk projects are completed, the GIS layer should be updated to reflect this status. Additional data about the pedestrian network is also needed in the GIS layer, as described below under "Maintain sidewalks where they exist: Develop a sidewalk asset management system. . ." *Plan reference: Chapter 3, Best Practices.*

Maintain and improve sidewalks where they exist

Use bond revenue designated for sidewalk repair to improve pedestrian mobility and safety. As mentioned in the previous section, maintaining existing sidewalks needs to be a high priority. The City's backlog of needed repairs will be relieve through up to $4 million in revenue from the fall 2011 bond referendum designated for sidewalk repairs. Identifying locations where repairs are needed is made through the City's See.Click.Fix. program and other citizen request mechanisms, and through periodic surveys of sidewalk conditions. If the City implements a close call reporting system, information from this system can also be used to identify maintenance needs. *Plan reference: Chapter 2, Existing Conditions and Chapter 5, Programs and Initiatives for Walkable Raleigh*

Photo 43. Sidewalk being built along Lake Wheeler Road between Lineberry Road and Stewart Drive.

Establish a dedicated funding source for the City's Streetscape Program. The City of Raleigh has a strong track record of developing streetscape projects that retrofit and improve existing sidewalk systems. These projects can include the installation of medians, curb extensions, street trees, landscaping, pedestrian-scale lighting, and undergrounding utilities. Previous award-winning examples include the Glenwood South and Hillsborough Street Renaissance projects. These projects result in better walkable environments for pedestrians and often have significant economic development benefits for adjacent properties. Increasing funding for this program will help ensure the implementation of more of these types of projects throughout the City.

Develop a sidewalk asset management system that includes sidewalk condition and ADA compliance. The Missing Sidewalk GIS layer generated as part of developing this plan provides the beginning of a sidewalk asset management system. Additional information for the layer that would complete the system includes sidewalk condition (this requires a field assessment of all sidewalks) and ADA-compliance information (identified through the field assessment), as well as information on intersections, bus stops and school zones. All sidewalk and intersection GIS layers should be tied to the roadway center line layer so that it is possible to map the entire right-of-way width.

Make it easier and safer for pedestrians to cross the street_

Apply example location concept improvements to other areas of the City. Improvement concepts were developed for six representative locations in Raleigh. Recommended improvements were drawn from typical treatments used to improve walking conditions along and across the roadway, and thus are applicable to other locations in Raleigh. *Plan reference: Chapter 4, Pedestrian Recommendations*

Use new intersection design templates for intersection and mid-block crossing changes. Small changes in an intersection can make a significant improvement to pedestrian safety when crossing the street at full intersections or mid-block. The templates included in Chapter 4

provide best practice guidance for a wide range of pedestrian safety improvements and are based on existing and emerging design standards. *Plan reference: Chapter 3, Best Practices, Design Standards and Raleigh's Sidewalk Program.*

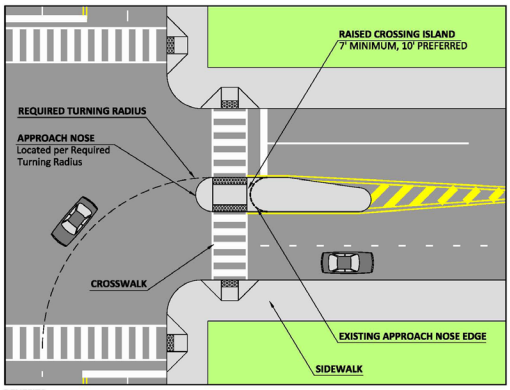
Establish and use criteria to prioritize intersection improvements. Intersections in Raleigh were not specifically evaluated for pedestrian crossing conditions, other than those included in the six example locations. Chapter 3 includes a three-step process for determining how to prioritize needed work. The process begins with the pedestrian demand and needs analysis completed for the City as the first filter to determine high need intersections. *Plan reference: Chapter 2 Existing Conditions, Chapter 3, Best Practices*

Change motorists' behavior with respect to pedestrians

Figure 4 - Median Nose Extension Design For Improved Pedestrian Safety

OVERVIEW:
Center medians at intersections can be utilized or modified to provide a refuge for pedestrians crossing the roadway to reduce crossing distances and minimize exposure to motor vehicles. Existing medians that do not extend into an intersection where a formal pedestrian crossing is desired can be extended to provide a refuge for pedestrians.

Many intersection designs terminate the median before an intersection, creating additional motor vehicle maneuvering space. This design can be detrimental to pedestrians because crosswalks are typically installed directly at an intersection. Therefore, traditional center medians may not provide a refuge area for pedestrians to stop when crossing the roadway in stages. After considering necessary vehicle turning envelopes, a similar design to that shown below can be used to extend the median. Refuges in medians should include at-grade cut throughs or curb ramps to provide an accessible pedestrian path. An at-grade cut through is used when there is not adequate space to install curb ramps and a landing pad in the median zone. If the median is landscaped, the vegetation must not obstruct necessary clear sight lines or impede pedestrian movement and visibility.



BENEFITS:
- Reduces the width of roadway that pedestrians must cross at one time
- Reduces pedestrian crashes at multi-lane sites

SUITABLE LOCATIONS:
- Particularly beneficial on multi-lane roadways
- Suitable at both controlled and uncontrolled locations

Implement the Programs and Initiatives for Walkable Raleigh education and enforcement programs. Behavior change is influenced by physical and programmatic elements. On-going education and enforcement programs can impact motorist behavior, complementing infrastructure changes such as roadway geometry, traffic operations and signal improvements. The Programs and Initiatives aimed at affecting motorists' behavior should be implemented and remain part of "everyday business." *Plan reference: Chapter 5, Programs and Initiatives for Walkable Raleigh*

Develop criteria for installing curb extensions and other pedestrian-related, neighborhood traffic management program features included in Chapter 3, Best Practices/Intersection Templates. Readily available design standards for intersection elements and mid-block crossings help ensure pedestrian-friendly, neighborhood

traffic management program features are designed into roadway reconstruction or new road projects. The templates developed for this Plan reflect standards established by the City of Raleigh. *Plan reference: Chapter 3, Best Practices, Design Standards and Raleigh's Sidewalk Program*