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Complete Streets Training and Implementation in North Carolina

NCAMPO 2013 Conference

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Presentation Overview

- History and Purpose of Policy and Guidelines
- Training Program and Content
- Complete Streets Case Studies
- Training Results and Future Opportunities

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History of Complete Streets Policy and Guidelines

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What is Complete Streets?

NCDOT Mission Statement

Connecting people and places, safely and efficiently, with accountability and environmental sensitivity, to enhance the economy, health, and well-being of North Carolina.

NCDOT Complete Streets policy definition

Complete Streets is North Carolina's approach to interdependent, multi-modal transportation networks that safely accommodate access and travel for all users.

Complete Streets Policy Development

July 2009

- Complete Streets Policy Adopted

June 2012

- Design Guidelines Released

Download the Guidelines at
www.completestreetsnc.org

Goals of Complete Streets Policy

- To establish transportation choices
- Support transportation safety goals
- Support economic development goals
- Support public health goals
- Support local community-building
- Support environmental goals

Goals of Complete Streets Policy

- **To establish transportation choices**
- Support transportation safety goals
- Support economic development goals
- Support public health goals
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- Support environmental goals

25-30 percent of population is not able to drive due to cost, permanent or temporary disability, or age

Demand for walkable neighborhoods where getting around does not require a car

Goals of Complete Streets Policy

- To establish transportation choices
- **Support transportation safety goals**
- Support economic development goals
- Support public health goals
- Support local community-building
- Support environmental goals

2,454 pedestrians hit in 2010 (72 killed)

941 bicyclists hit in 2010 (20 killed)

Research shows that many more pedestrian and bicycle crashes are unreported

Goals of Complete Streets Policy

- To establish transportation choices
- Support transportation safety goals
- **Support economic development goals**
- Support public health goals
- Support local community-building
- Support environmental goals

Investment in bicycle, pedestrian, and transit accommodations shown to positively impact business development, tax revenue, and property values

Goals of Complete Streets Policy

- To establish transportation choices
- Support transportation safety goals
- Support economic development goals
- **Support public health goals**
- Support local community-building
- Support environmental goals

Research links sedentary lifestyles to heart disease, diabetes, depression, and other negative health outcomes

13% of kids walked or biked to school in 2009, compared to 48% in 1969

Goals of Complete Streets Policy

- To establish transportation choices
- Support transportation safety goals
- Support economic development goals
- Support public health goals
- **Support local community-building**
- Support environmental goals

Communities express a desire to improve quality of life and economic vitality for all citizens through safe, comfortable, convenient transportation options

Goals of Complete Streets Policy

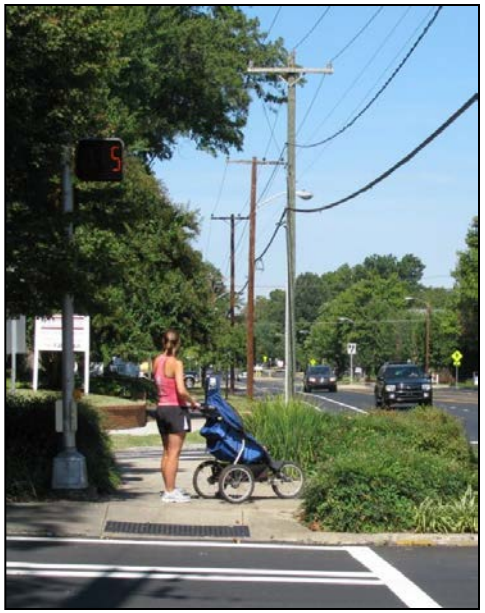
- To establish transportation choices
- Support transportation safety goals
- Support economic development goals
- Support public health goals
- Support local community-building
- **Support environmental goals**

A short, four-mile round trip by bike (instead of by car) can keep 15 pounds of pollutants out of the air we breathe.

40% of urban trips in the US are less than two miles… and 90% of those are taken by car.

Key Elements of the Policy

- Policy applies to all NCDOT-maintained street projects
  - Except where pedestrians and bicyclists are prohibited by law
- Complete Streets is an approach to designing for all users and offers choices to accommodate needs of all people
  - Not a “one-size fits all” solution



Key Elements of the Policy

- NCDOT is committed to implementing the CS policy through new type of local gov’t partnership

- Supports implementation for new, existing, and maintenance projects

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Complete Streets Training Program

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Complete Streets Training Overview

- Four regional workshops in 2012
- 24 two-day training courses in 2013
  - 9 completed, 15 upcoming
- State **and** local engineers and planners are strongly encouraged to attend

Complete Streets Training Purpose

- The courses include:
  - Overview of the Complete Streets approach
  - Step-by-step guidance through the guidelines
  - Examples of successful projects around NC
  - Field and classroom exercises
  - Materials
  - PDH and AICP credits

Training Schedule Overview

Day 1

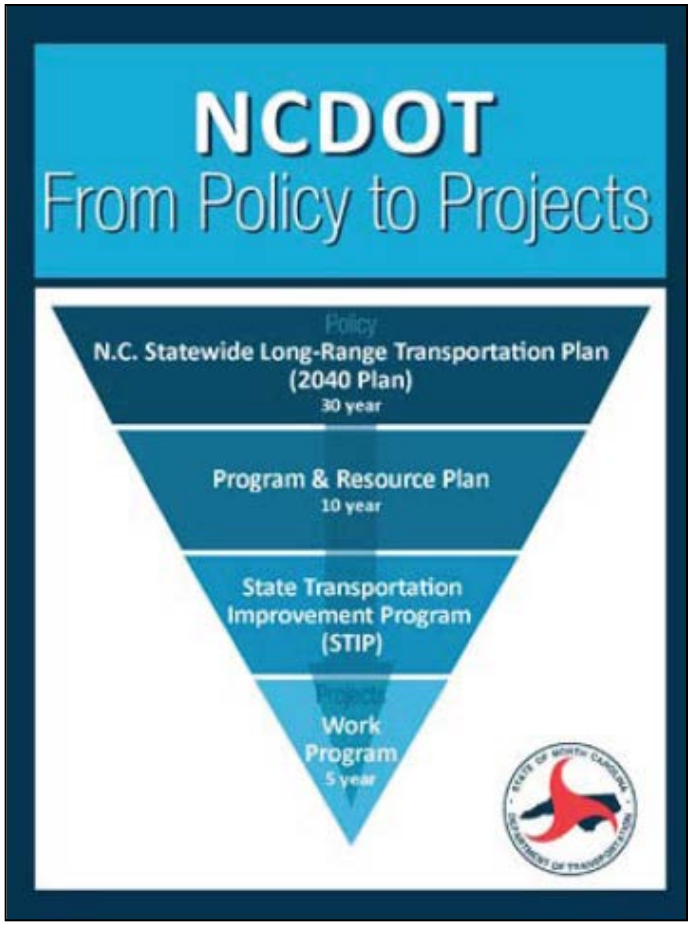
- Introductions and Overview
- CS in the Planning and Design Process
- Understanding User Needs and Context
- Field Activity
- Planning and Design Elements

Day 2

- Planning and Designing Complete Intersections
- Transit, Street Elements, and Structures
- Implementing CS in Maintenance and Operations
- Applying Complete Streets Exercise

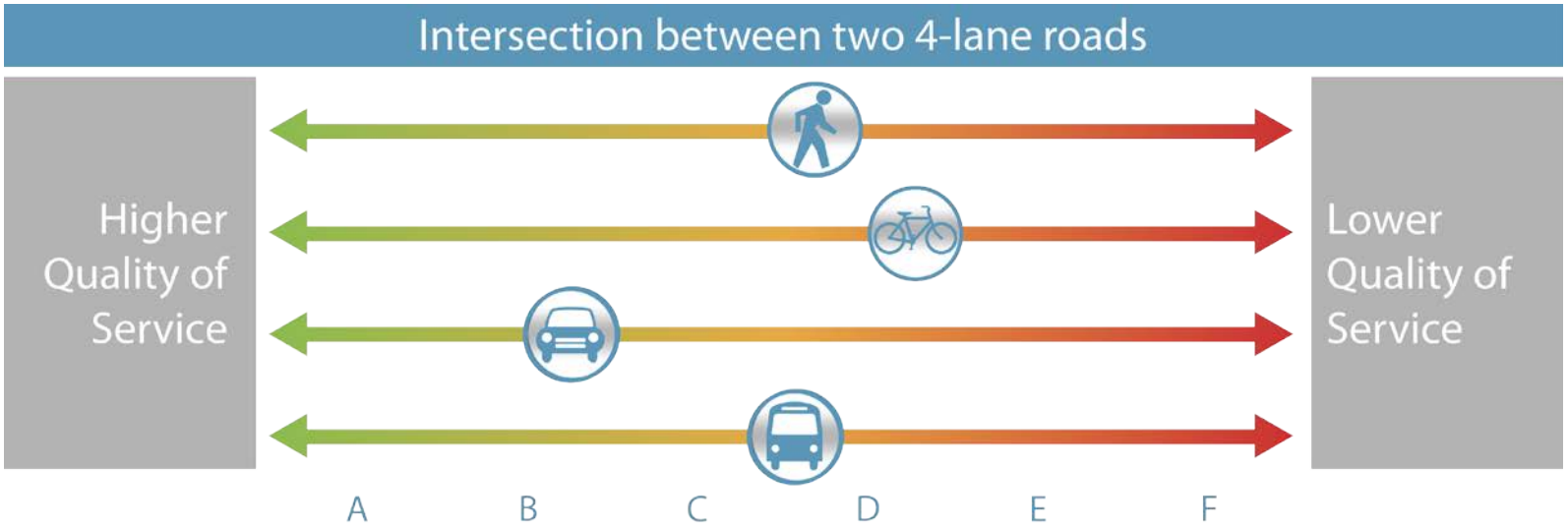
Incorporating Complete Streets in the Planning and Design Process

- Identify how the CS policy fits into the planning and design process
- Use shared long-range planning to meet Complete Street goals.
- Capture short-term opportunities through maintenance projects.
- Emphasize importance of documenting local plans, goals, and vision
- Identify and involve stakeholders



Understanding User Needs and Context

- Understand the built environment and its relationship to street types
- Defining context of an area (both existing and future)
  - Land use and context have significant impact on design and use of street
- Balancing quality of service for all road users



Complete Streets Planning and Design Elements

- Integrating area type and land use with street function
- Street cross-section and intersection design recommendations
  - Dimensional guidelines allow flexibility
- Cross-sections should fit the land use context
  - Not a “one size fits all” standard

Complete Streets Planning and Design Elements

Sample from Guidelines: **Urban/Suburban Main Street**

PLAN VIEW

KEY ELEMENTS

- May function as an arterial, collector or local street. May function as a collector serving as a primary thoroughfare for traffic circulation in a limited area. May function as a local street for an outlying business district.
- Designed to carry vehicles at low speeds.
- A destination street for a city or town, serving as a center of civic, social and commercial activity.
- Serves substantial pedestrian traffic as well as transit and bicycles.
- Characterized by wide sidewalks, crosswalks and pedestrian amenities, due to emphasis on pedestrian travel.
- Bicycle lanes are allowed but typically not necessary on these streets due to lower speeds and volumes and the desire to keep pedestrian crossing distances to a minimum.

STREET CROSS-SECTION ZONES

Sidewalk Zone: The pedestrian walk area is of sufficient width to allow pedestrians to walk safely and comfortably. Pedestrians are the priority on a main street.

Green Zone: Consists of the area between the sidewalk zone and curb. Includes street trees and other landscaping, as well as interspersed street furnishings and pedestrian-scale lighting in a hardscaped amenity zone.

Parking/Transit Zone: Accommodates on-street parking and transit stops. Width and layout may vary.

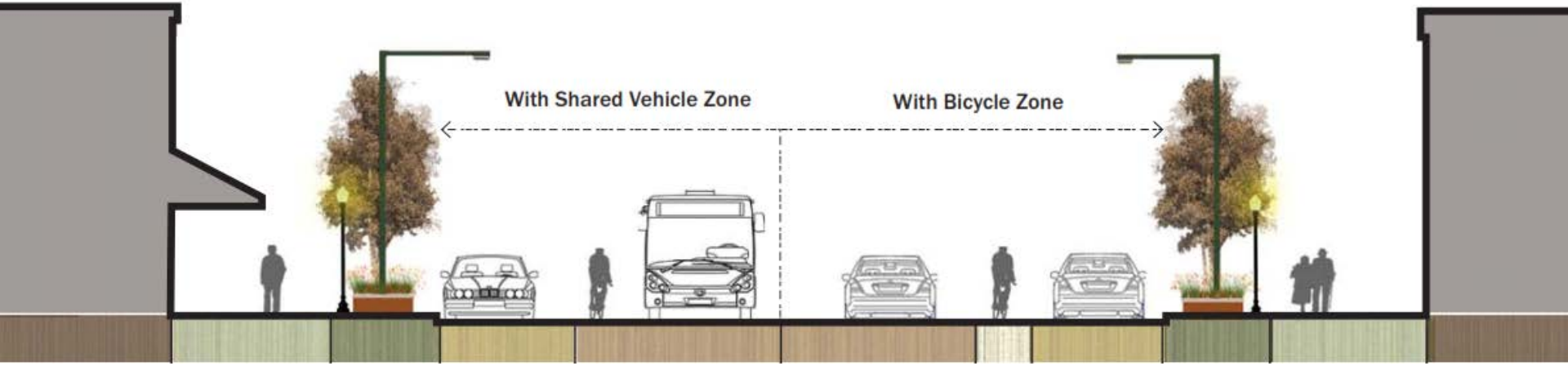
Bicycle Zone: A zone for bicyclists separate from vehicular traffic.

Motor Vehicle / Shared Vehicle Zone: The primary travel way for vehicles. A shared vehicle zone has mixed traffic (cars, trucks, buses and bicycles).

Development Zone: Development should be pedestrian-oriented with narrow setbacks and an active street environment.

Complete Streets Planning and Design Elements

Sample from Guidelines: **Urban/Suburban Main Street**



STREET COMPONENT DIMENSIONAL GUIDELINES

	Sidewalk Zone *(feet)*	Green Zone *(feet)*	Parking /Transit Zone *(feet)*	Motor Vehicle / Shared Vehicle Zone *(lane width- feet)*	Bicycle Zone *(feet)*
Central Business District	10' - 12' 12' - 20' in high volume pedestrian areas	6' - 8'	8' - 10'	10' - 13' (see note 4)	6' lanes (see note 4)
Urban Center / Suburban Center	8' - 12' 12' - 20' in high volume pedestrian areas	6' - 8'	8' - 10'	10' - 13' (see note 4)	6' lanes (see note 4)
Suburban Corridor / Urban Residential / Suburban Residential	8' - 10' 12' - 20' in high volume pedestrian areas	6' - 8'	8' - 10'	10' - 13' (see note 4)	6' lanes (see note 4)

Designing for Transit in Complete Streets

- Focuses on unique aspects of transit planning and design
- CS provides opportunities to increase transit usage by ensuring access/connections for peds/bikes
  - Nearly every transit trip begins and ends as a walking trip
- Coordination with transit agencies is key
  - Transit stop/station location selection, amenities, crossings

Accommodating Pedestrians and Bicyclists on Structures

- Bridges are key links for all modes
  - Often the only connection for peds/bikes
- Long-term investments, infrequently replaced
- Considerations for sidewalks, bicycle lanes, and multiuse paths for both bridges and underpasses

Implementing Complete Streets in Maintenance and Operations

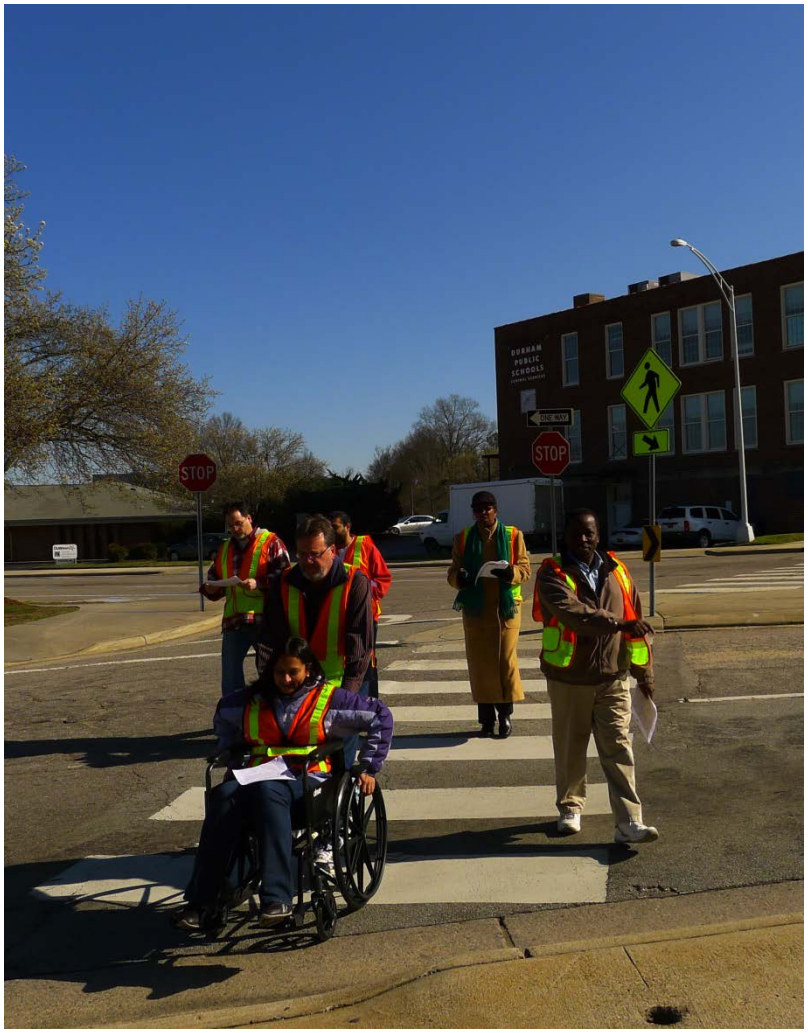
- Maintenance and operations projects are opportunities to integrate CS elements rather than simply reconstruct the same roadway configuration
- Improved coordination between NCDOT and local agencies (e.g. resurfacing schedules)
- Case studies of road diet (conversion) projects

Street Elements – Design and Safety Considerations

- Landscaping and street trees
- Stormwater facilities
- Provision of sidewalks: slopes and retaining walls
- Curb ramps/accessibility
- Utilities
- Travel way considerations
  - Drainage grates
  - Clear zone requirements
  - Rumble strips

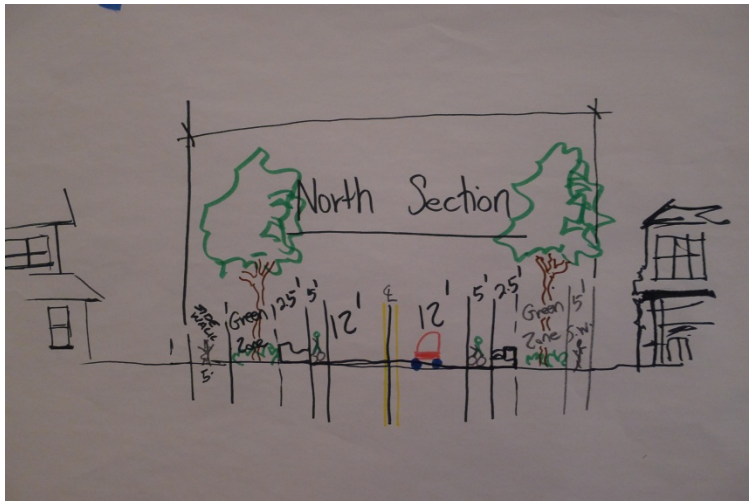
Field Exercise

- Small groups use prompts to evaluate the local area
- Assess the context, user needs, deficiencies
- Wheelchairs simulate the needs of individuals with disabilities
- Provides real-world application of concepts presented during training



Applying Complete Streets Concepts (Exercise)

- Participants apply multi-step process using an actual roadway project
  - Define land use and transportation context
  - Identify issues and define objectives
  - Deliberate tradeoffs and make recommendations
- Develop alternate cross-sections based on materials presented in training and design guidelines



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Complete Streets Projects in North Carolina

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West Jefferson Streetscape

- NCDOT resurfacing provided opportunity for downtown improvements recommended in pedestrian plan
- Town worked with Blue Ridge Electric to remove overhead utilities
- Funding from local health department and Town
- Created more inviting area downtown

BEFORE

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AFTER

US 421 Widening in Boone

- Widening of corridor by NCDOT – main route into town and campus
- Town desired a multimodal outcome with gateway features
- Municipality worked with NCDOT to incorporate bike lanes and sidewalks, in addition to other features
- Good example of late-stage coordination

BEFORE

DURING

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AFTER

Charlotte's East Boulevard Road Diet

- Few opportunities for ped crossing along four-lane, undivided corridor
- Higher levels of ped/bike crashes
- Using Pedscape Plan, City recommended reduction to three lanes with addition of bicycle lanes and medians
- Successful project despite complex construction

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BEFORE

AFTER

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Training Results and Upcoming Opportunities

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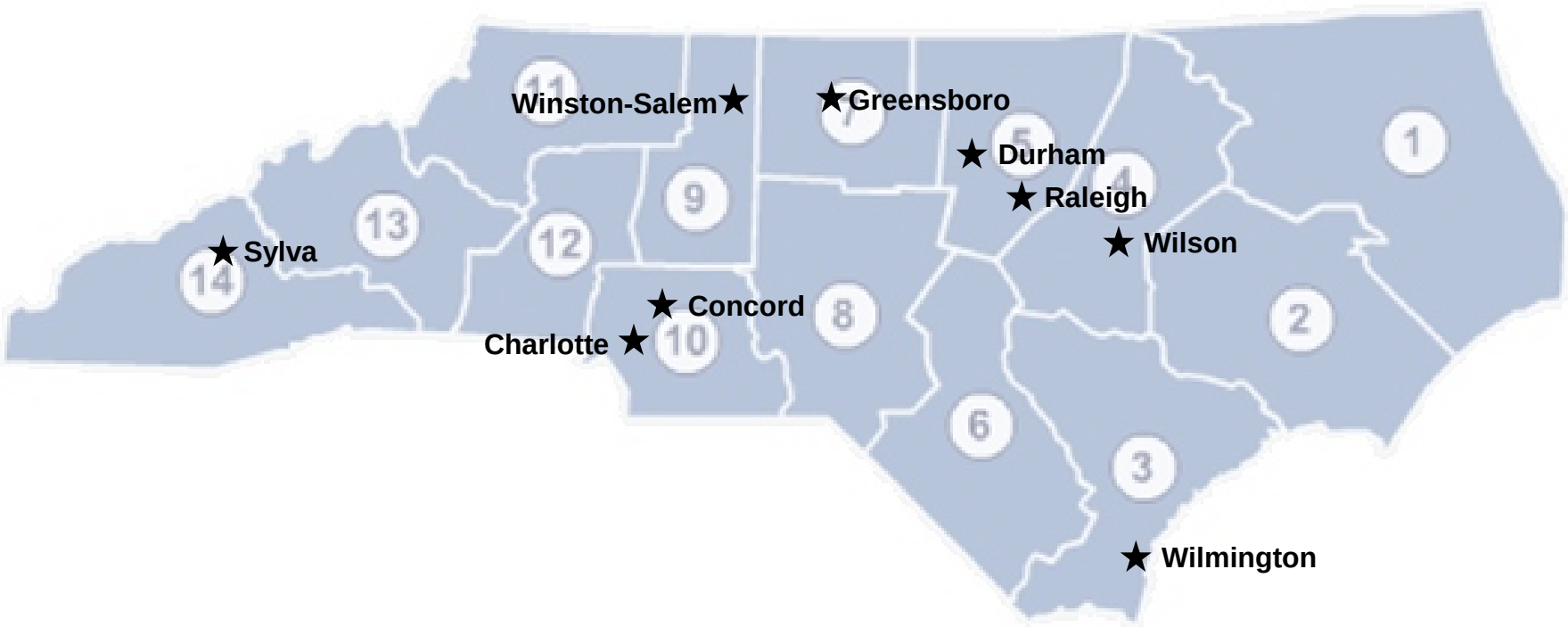
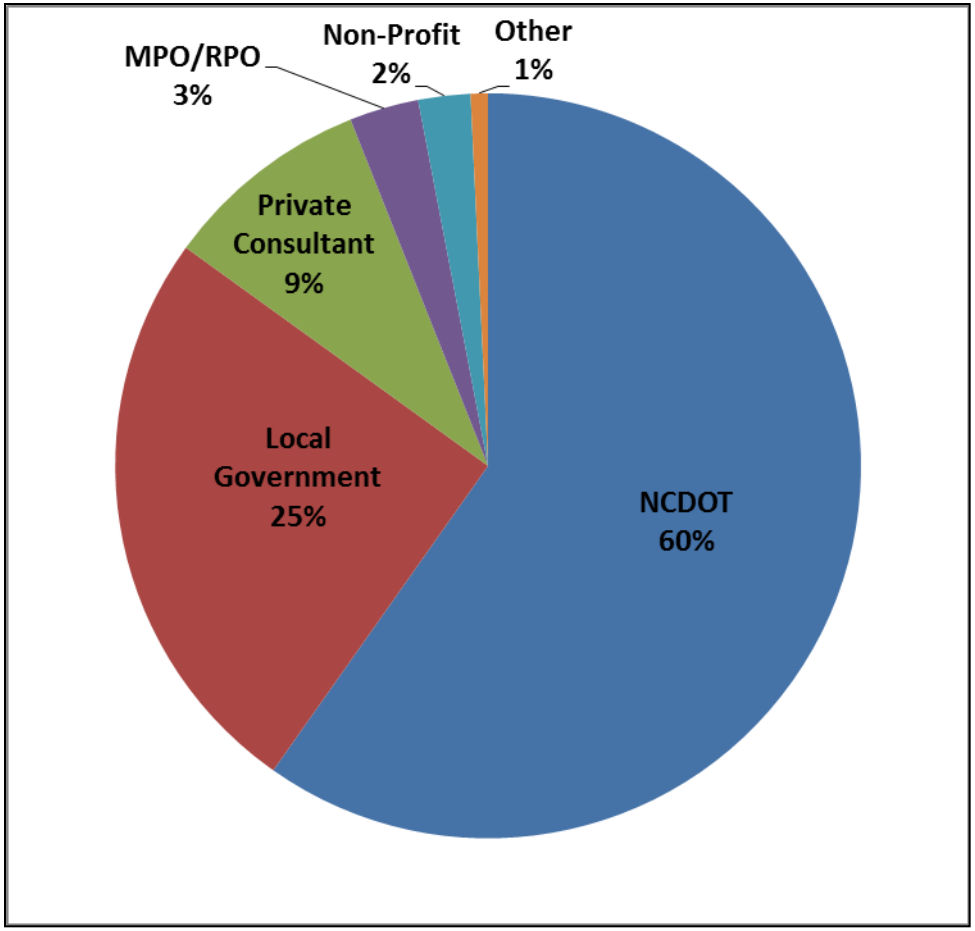
Where We Have Been…



(Numbers on map indicate North Carolina DOT Divisions)

Who We Have Trained…

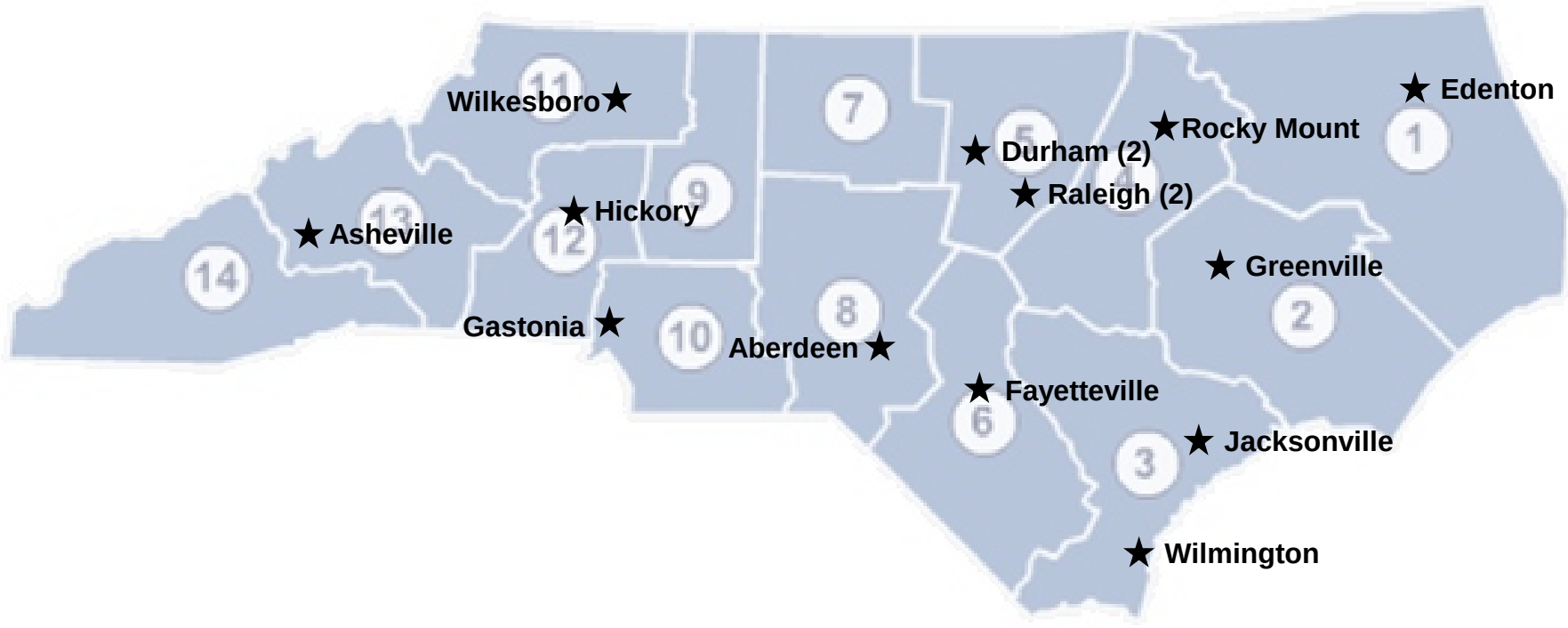
- 266 participants in first nine courses
  - Average: 29+ per training
- Representatives from NCDOT, local governments, MPOs, RPOs, non-profits, and private firms



What Participants Have Said…

- “Well worth the time - all transportation planners, engineers, and land use planners need to be exposed.”
- “Excellent review course of Complete Streets Design Guideline principles and implementation. Definitely will help me in my daily work with any roadway projects.”
- “It was valuable having a field assessment to see a real life example of where a complete streets policy worked/did not work.”

Where We Are Going…



15 upcoming training sessions

Visit www.completestreetsnc.org for more information!

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Thank you!

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