

# PBIC Webinar

## Integrating Ped/Bike Concepts into University Courses: New Materials and Noteworthy Practices



Mike Flynn, [Sam Schwartz Engineering](#)

Jeff LaMondia, [Auburn University](#)

Kari Edison Watkins , [Georgia Institute of Technology](#)

Carl Sundstrom, [UNC Highway Safety Research Center](#)

**August 19, 2015, 1 pm**



**Pedestrian and Bicycle  
Information Center**





# Today's Presentation

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- ⇒ Introduction and housekeeping
- ⇒ Presentations
- ⇒ Questions at the end





# Webinar Issues

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## ⇒ Audio issues?

Dial into the phone line instead of using “mic & speakers.”

## ⇒ Webinar issues?

Re-Load the webpage and log back into the webinar. Or send note of an issue through the Question box.

## ⇒ Questions?

Submit your questions at any time in the Questions box.



# CM Credits and Email

## ⇒ Certificate of Attendance

You will receive a certificate of attendance by email from the UNC Highway Safety Research Center



Pedestrian and Bicycle Information Center

Dear James,

Thank you for registering for "A Resident's Guide for Creating Safer Communities for Walking and Biking".

The Federal Highway Administration just released "A Resident's Guide for Creating Safer Communities for Walking and Bicycling," a free guide offering step-by-step instructions for residents and community groups looking to improve pedestrian and bicyclist safety, access, and comfort. This webinar offers an overview of the guide and will review how two communities used the principles outlined within it to make their communities more walkable and bikeable.

Tamara Redmon, with FHWA's Office of Safety, will introduce the guide and discuss how it fits within the US Department of Transportation's Safer People, Safer Streets Initiative.

Laura Sandt, with the Pedestrian and Bicycle Information Center, will discuss the content of the new guide and how residents can use it.



**PBIC Webinar** [www.pedbikeinfo.org](http://www.pedbikeinfo.org)



**Pedestrian and Bicycle  
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**Pedestrian and Bicycle  
Information Center**



# Integrating Ped/Bike Concepts into University Courses

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The Employer's Perspective

**Michael Flynn, AICP**  
Director of Active Transportation

**Sam Schwartz Engineering D.P.C.**



August 19, 2015



# Active Transportation is growing up

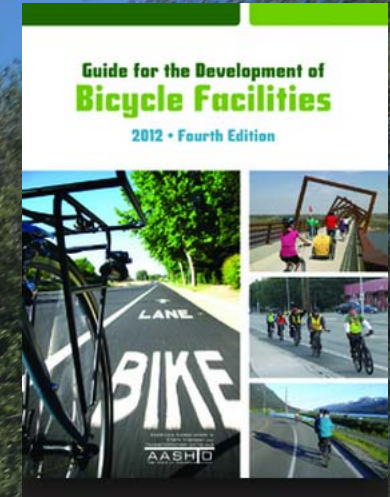
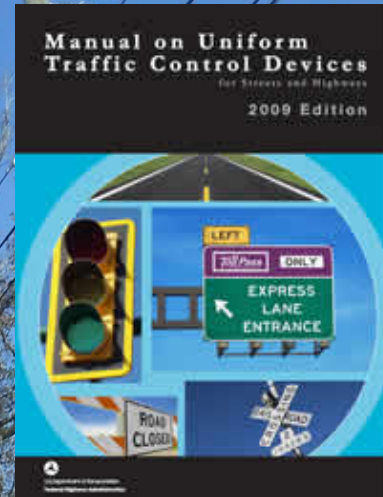
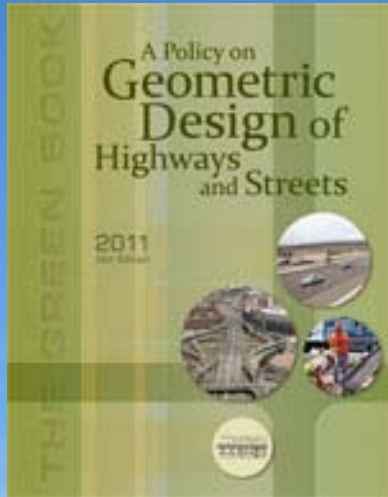
Then...

...Now

|                         |                                |
|-------------------------|--------------------------------|
| “Bike/Ped” silo         | Holistic view of urban streets |
| “Pedestrians,” “Bikes”  | People walking; people biking  |
| Lines on a map          | Quality                        |
| “The right thing to do” | Results-driven                 |
| Technical exercise      | User experience-driven         |

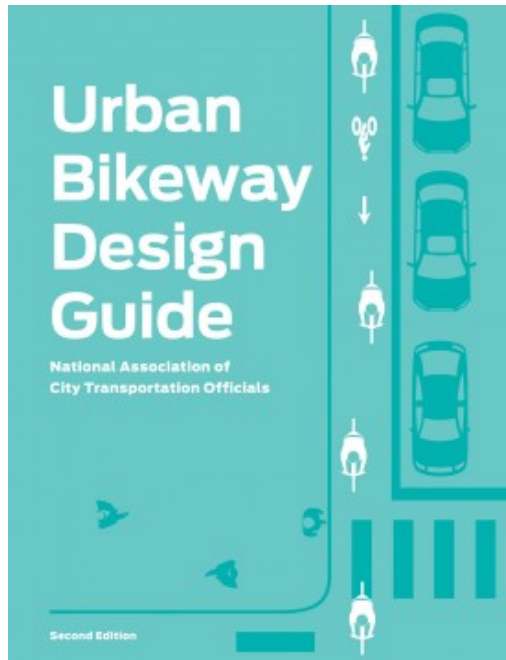




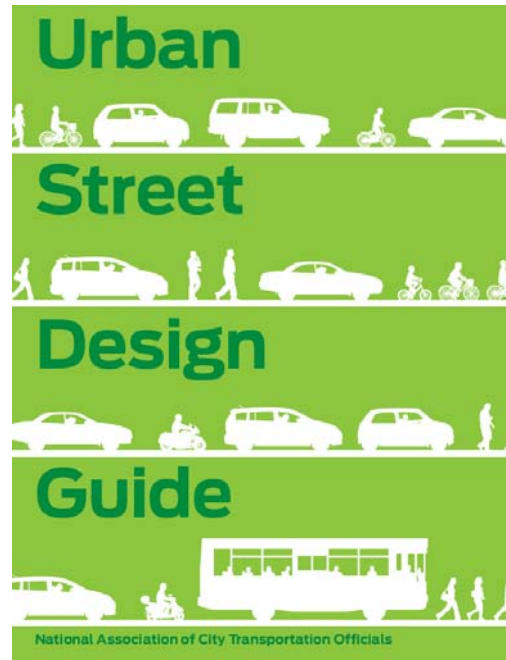




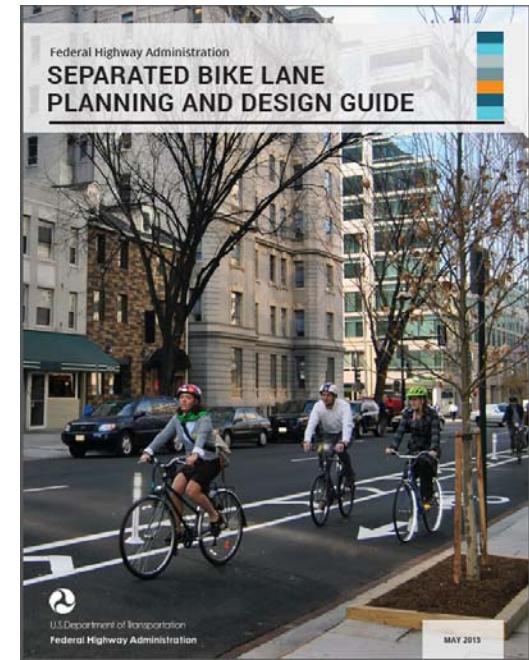
# Sophisticated Design Guidance



Published Spring 2011  
2<sup>nd</sup> Edition Fall 2012



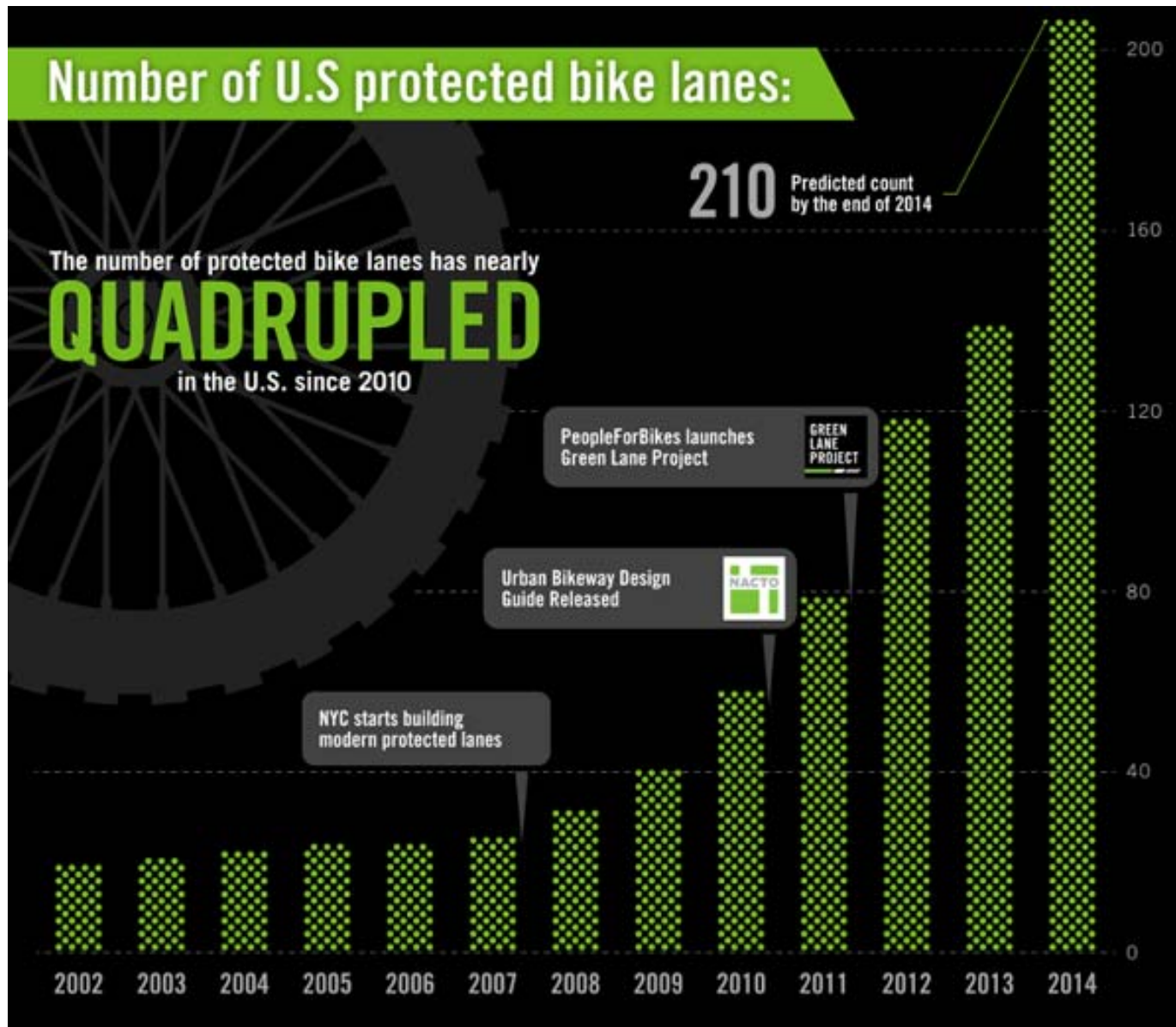
Published Fall 2013



Published Spring  
2015



# The Bike Lane Revolution





# The Bike Lane Revolution





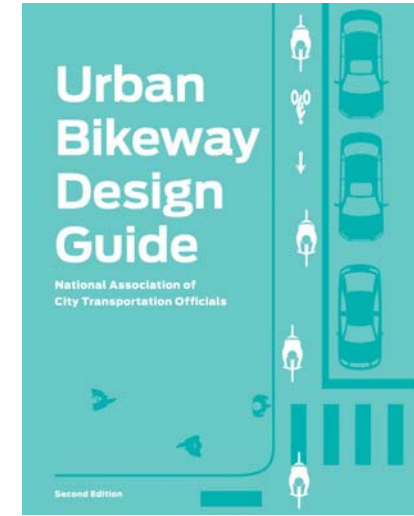
# Vision Zero Policies/Goals



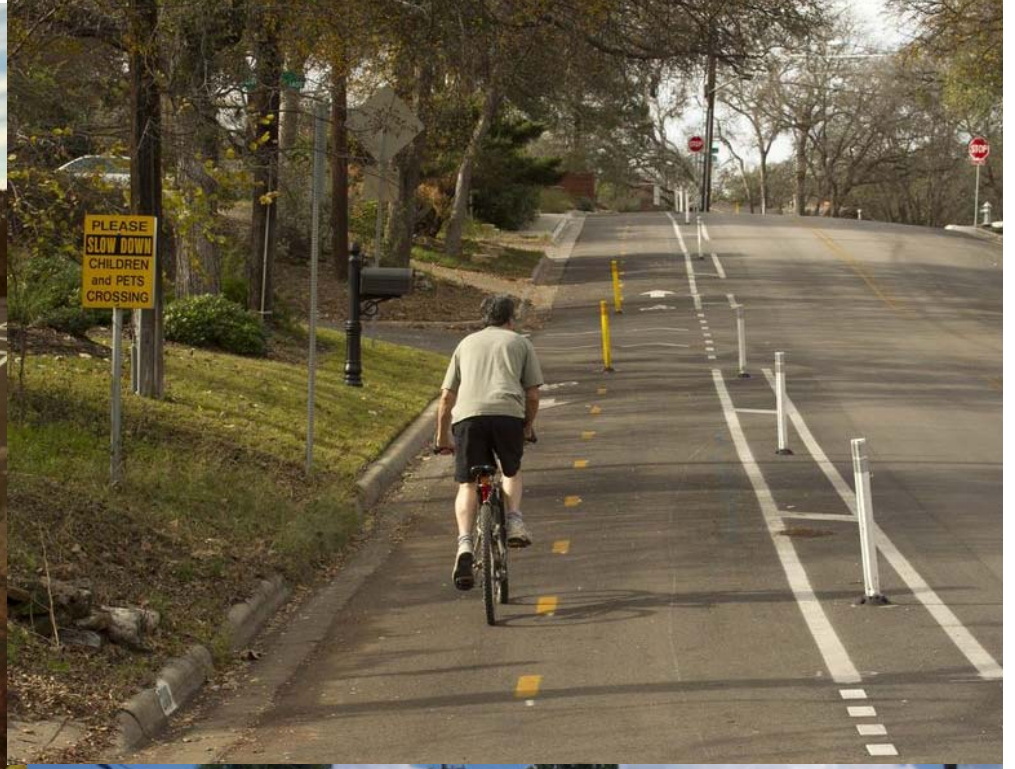


# NACTO Member Cities







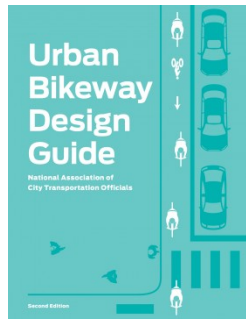






**One-way Cycle Track**





## Design Guidance

### Two-Way Cycle Track

#### Required Features

**1** Bicycle lane word, symbol, and/or arrow markings (MUTCD Figure 9C-3) shall be placed at the beginning of a cycle track and at periodic intervals along the facility to define the bike lane direction and designate that portion of the street for preferential use by bicyclists.

**2** If configured on a one-way street, a "ONE WAY" sign (MUTCD R6-1, R6-2) with "Except Bikes" plaque shall be posted along the facility and at intersecting streets, alleys, and driveways informing motorists to expect two-way traffic.

**3** A "DO NOT ENTER" sign (MUTCD R5-1) with "EXCEPT BIKES" plaque shall be posted along the facility to only permit use by bicycles.

**4** Intersection traffic controls along the street (e.g., stop signs and traffic signals) shall also be installed and oriented toward bicyclists traveling in the contra-flow direction.

#### Recommended Features

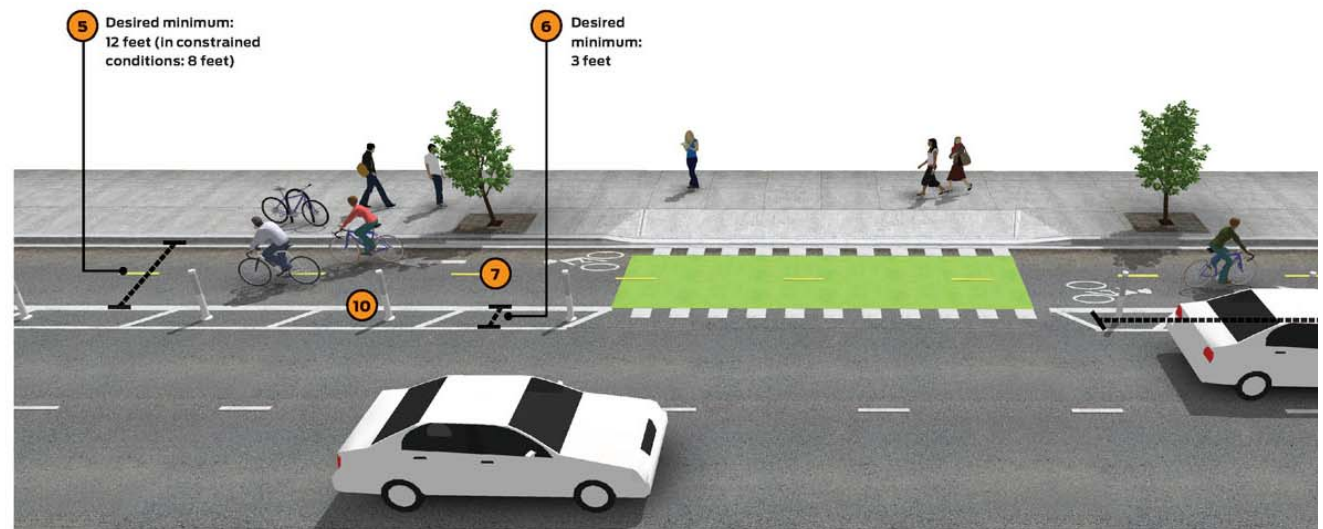
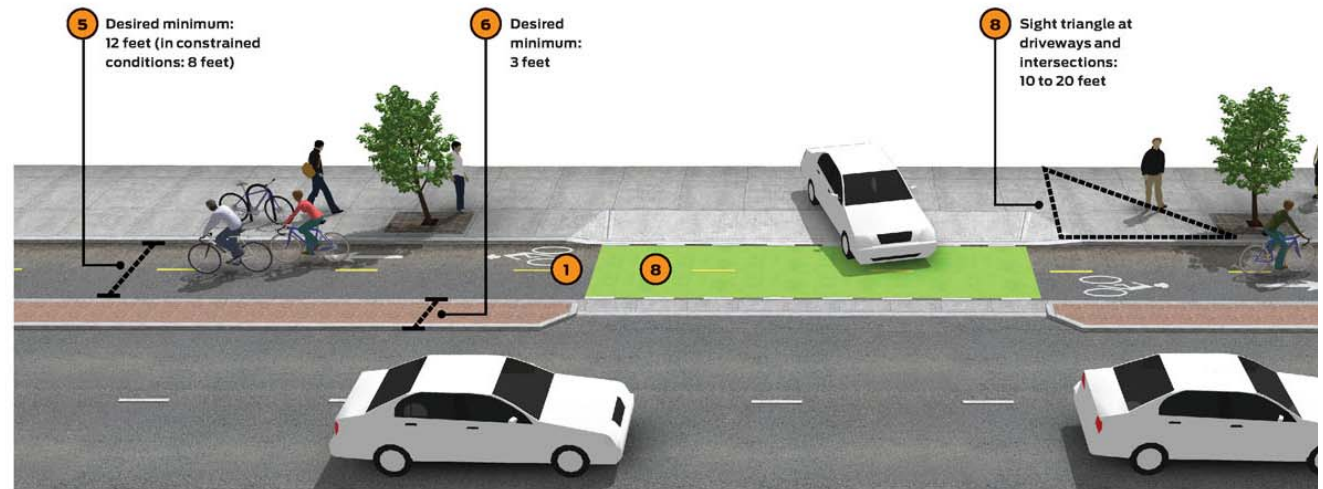
**5** The desirable two-way cycle track width is 12 feet. Minimum width in constrained locations is 8 feet.<sup>42</sup>

**6** When protected by a parking lane, 3 feet is the desired width for a parking buffer to allow for passenger loading and to prevent dooring collisions.<sup>43</sup>

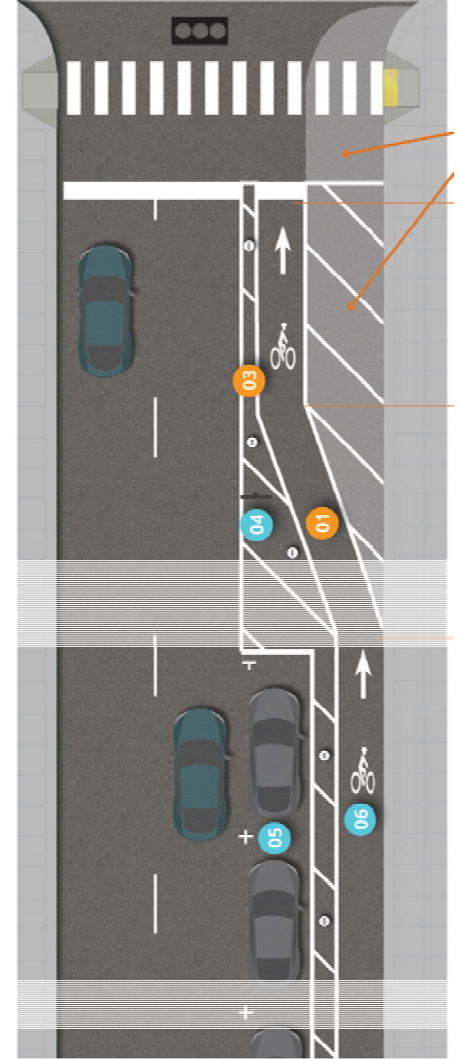
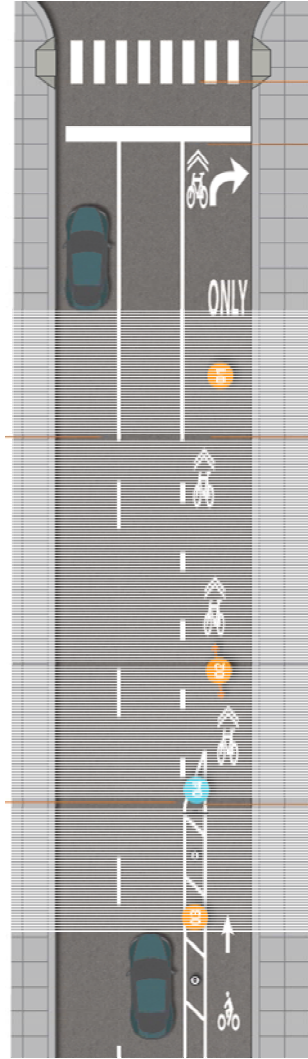
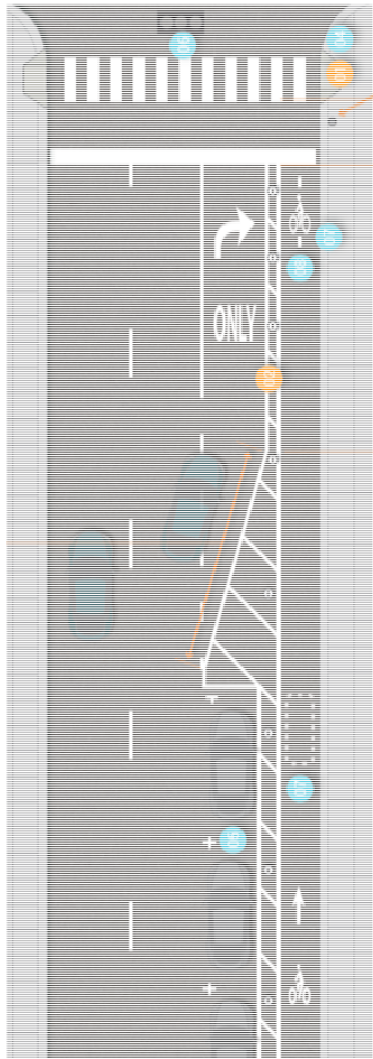
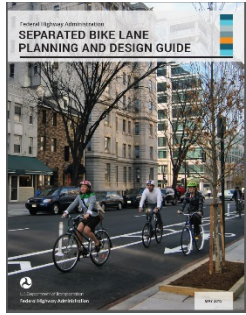
**7** A dashed yellow centerline should be used to separate two-way bicycle traffic and to help distinguish the cycle track from any adjacent pedestrian area.

**8** Driveways and minor street crossings are a unique challenge to cycle track design. A review of existing facilities and design practice has shown that the following guidance may improve safety at crossings of driveways and minor intersections:

- If the cycle track is parking protected, parking should be prohibited near the intersection to improve visibility. The desirable no-parking area is 30 feet from each side of the crossing.<sup>44</sup>
- For motor vehicles attempting to cross the cycle track from the side street or driveway, street and sidewalk furnishings and/or other features should accommodate a sight triangle of 20 feet to the cycle track from minor street crossings, and 10 feet from driveway crossing.
- Color, yield lines, and "Yield to Bikes" signage should be used to identify the conflict area and make it clear that the cycle track has priority over entering and exiting traffic.<sup>45</sup>





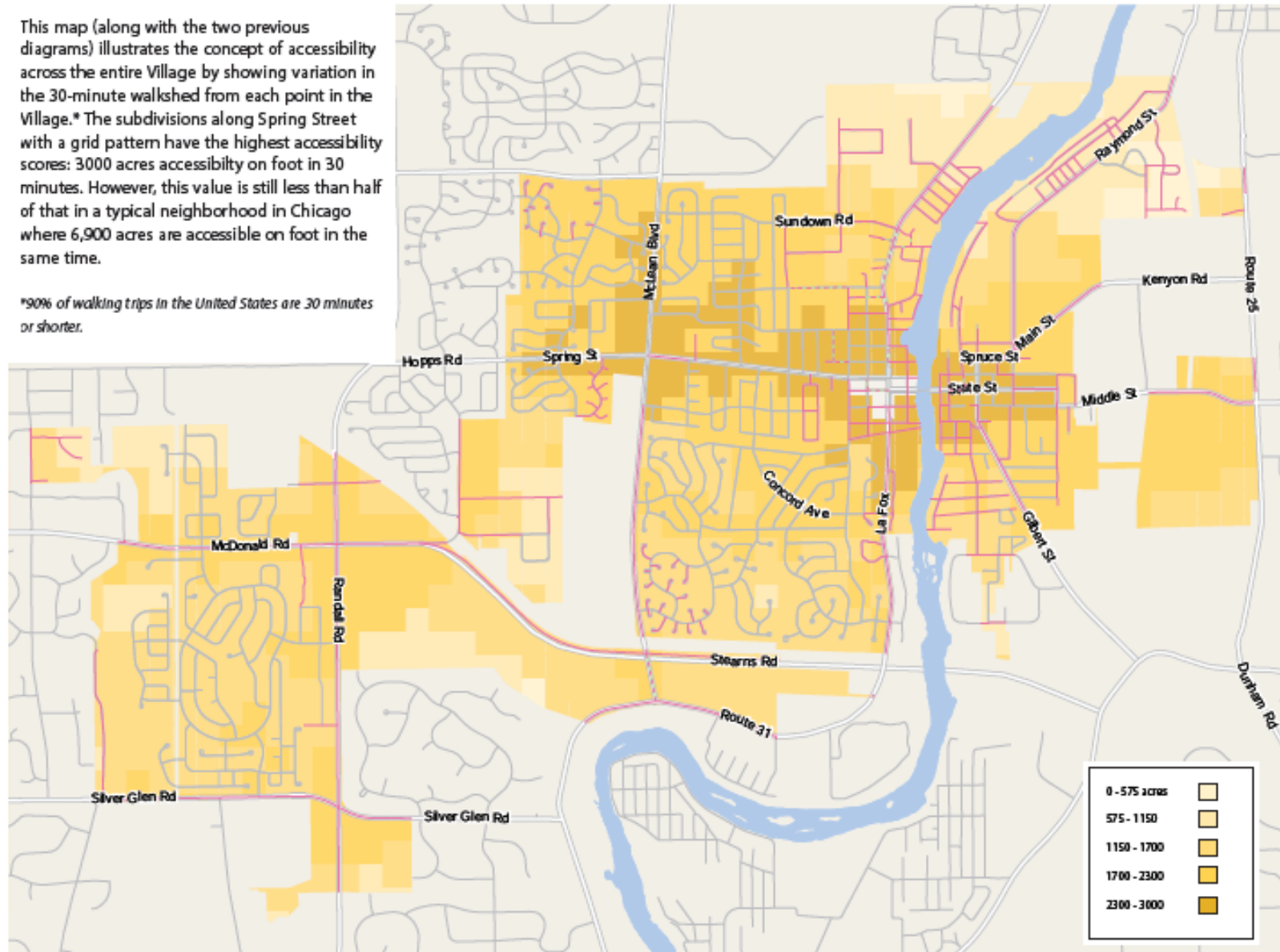




# Spatial Analysis – Access

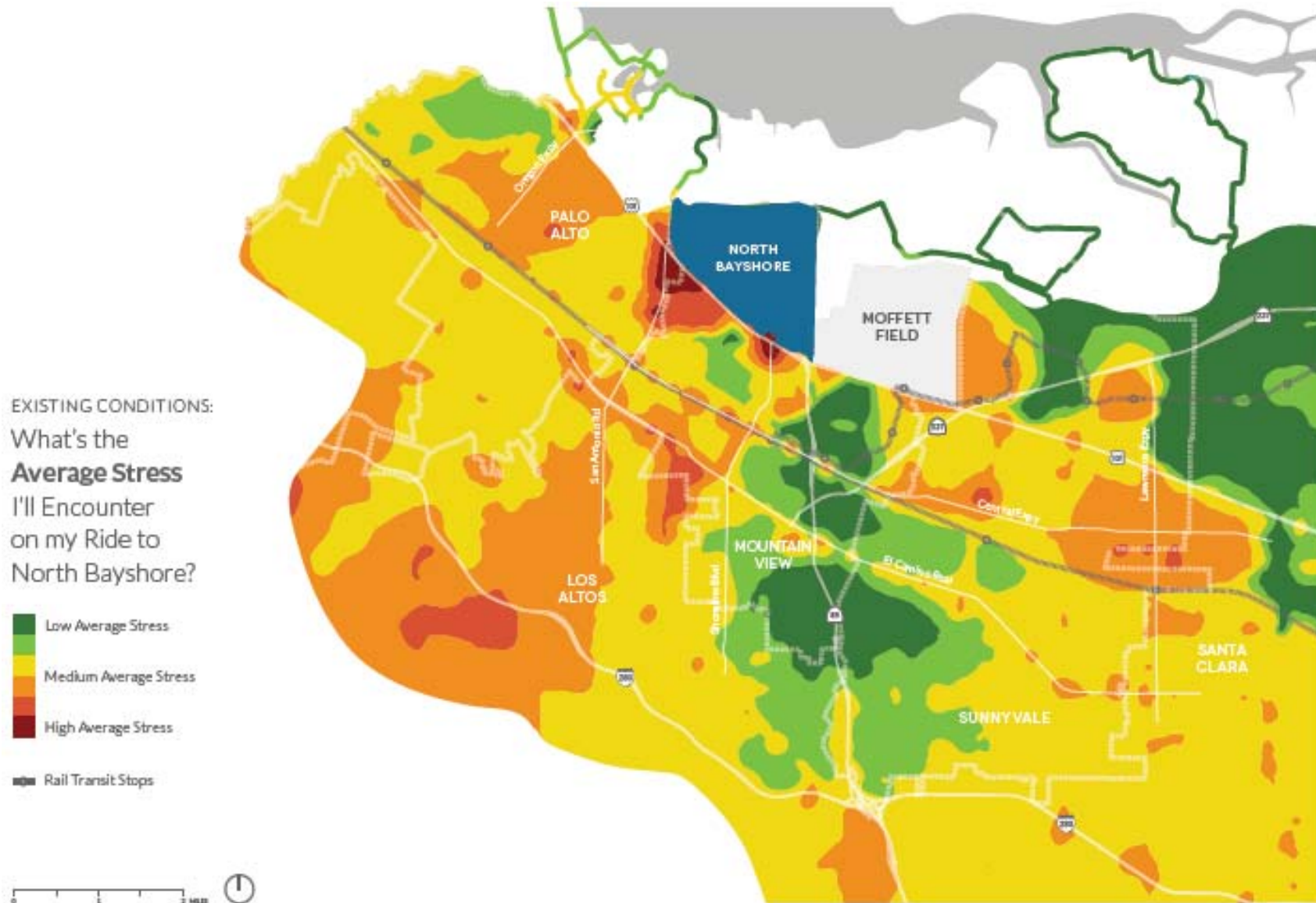
This map (along with the two previous diagrams) illustrates the concept of accessibility across the entire Village by showing variation in the 30-minute walkshed from each point in the Village.\* The subdivisions along Spring Street with a grid pattern have the highest accessibility scores: 3000 acres accessibility on foot in 30 minutes. However, this value is still less than half of that in a typical neighborhood in Chicago where 6,900 acres are accessible on foot in the same time.

*\*90% of walking trips in the United States are 30 minutes or shorter.*





# Spatial Analysis – Bike Comfort





# Spatial Analysis – Equity

## Equity Socioeconomic and Health Priority

Low High



The Equity Map identifies locations where pedestrian improvements will serve residents with the greatest needs. The dark purple areas on the map show where there are more people who have lower incomes, disabilities, and diabetes, who do not own a car, and who are obese and/or less physically active. Data from the 2000 United States Census and the most recent health survey by King County were used to create this map.





# Communication

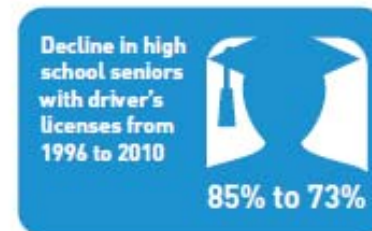
## 5. We're in the middle of a technology boom that is reshaping transportation.

After a half century of little technological change, innovation is providing an explosion in new transportation options. The list of new technologies impacting transportation expands every day. More than any other innovation, the smart phone is changing transportation. People can use it to find the most convenient bus route, understand when the next bus is coming, and read the news or a book on the way to their destination.



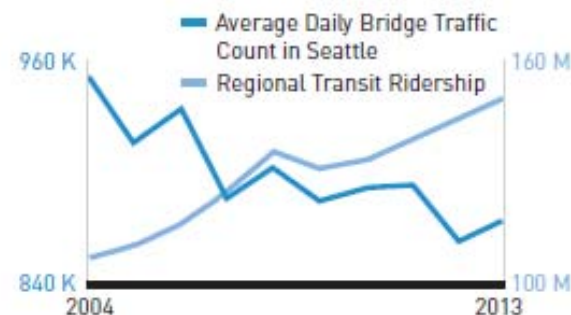
## 6. Everyone wants new transportation options.

Whether you are a millennial or a baby boomer, people want to live where they can easily walk and use transit. For young people in particular, the trend towards new travel behavior is strong. Recent studies show that people under 34 are not buying cars or getting driver's licenses at the rates of previous generations.



## 7. Across the board, everyone is driving less.

Even after adjusting for changes in the economy, the trend is clear: Americans are driving fewer miles every year. That trend is true in Washington State, where the long-term forecast is for total miles traveled by vehicles to decline 18% by 2025 from its peak in 2000. At the same time, transit ridership is at record highs and growing. Fewer cars on the road mean that when you do have to drive, you'll be up against less traffic.





# Communication

## INTEGRATING PLANS

What is the end result of this process?  
Streets that work for all users.

For example, while Dexter Avenue's design solution with buffered bicycle lanes behind transit stops was right for this location, it's not a perfect fit for every street. Streets like East Marginal Way or 23rd Avenue are also important multimodal corridors and will have their own unique designs.

**A BUSES & STREETCARS**

Buses and streetcars provide an affordable, convenient way to get around. Up-to-the-minute arrival information provided at stops and on smartphone apps makes using public transportation easier. And all those people on the bus mean fewer cars on the road competing for parking spaces and adding to congestion.

## B PROTECTED BIKE LANES

Separated from vehicles, they make biking safer and more comfortable for people of all ages and abilities.

 SMART TRAFFIC SIGNALS

Smart Traffic Signals detect buses approaching an intersection and hold green lights longer to keep buses, trucks and cars moving on time.

## D PAVEMENT

Beneath the surface of the roads there are many precise layers of pavement, strategically sloped to drain water so the road stays clear. Pavement markings are constantly refreshed to stay visible and keep all travelers safe.

**(F) MARKED CROSSWALKS**

All intersections are crosswalks. Marked crosswalks put people driving and biking on high alert to watch for people crossing the street.

## PEDESTRIAN COUNTDOWN SIGNALS

Countdowns tell people how long they have to cross the street, so they can make safer decisions about when to enter a crosswalk.

## LIGHTING

Traditionally, street and sidewalk lighting has focused on driver needs. Pedestrians need smaller scale, targeted lighting to make walking safer and more comfortable.



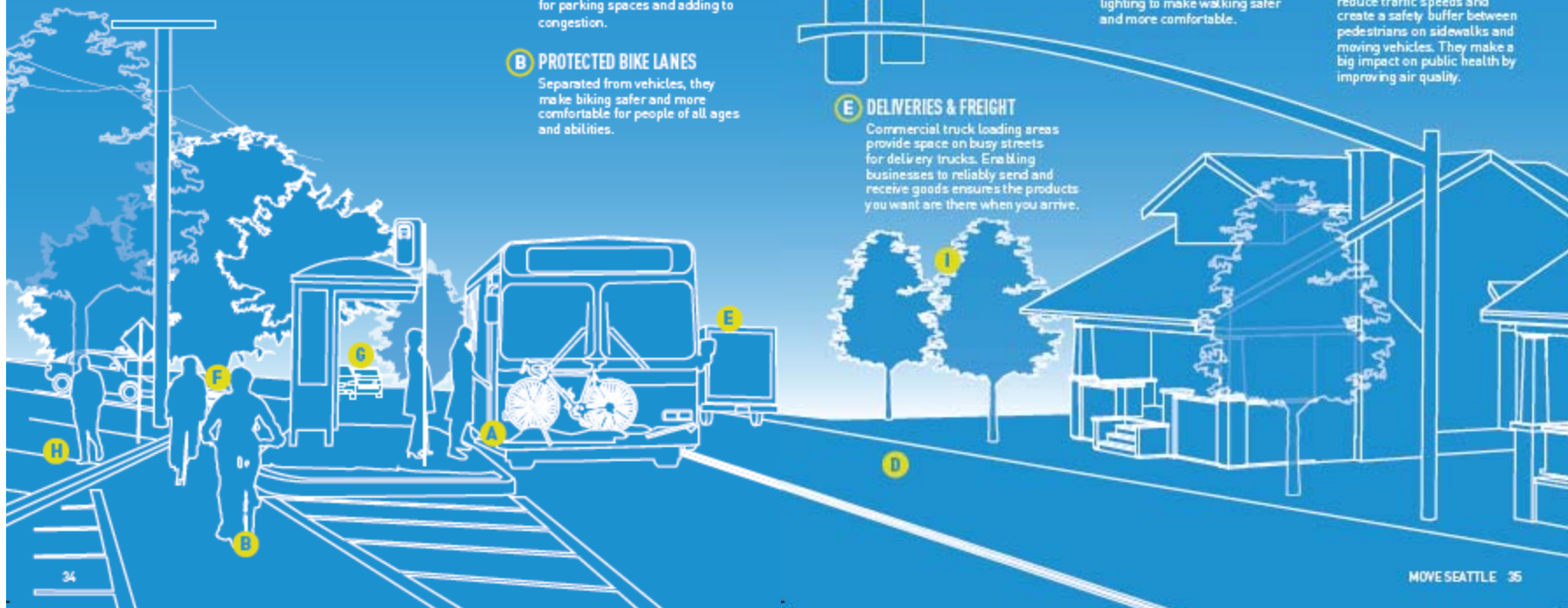
As a national leader in smart parking management, our goal is to set parking rates to ensure a spot is always open when you need it.

## H ACTIVE STREETS & SIDEWALKS

Sidewalk cafes, markets, and parklets turn sidewalks into places to be, not just spaces to pass through. They provide a place to meet people and connect with the community, and increase foot-traffic to nearby businesses.

**STREET TREES**

Over 100,000 street trees reduce traffic speeds and create a safety buffer between pedestrians on sidewalks and moving vehicles. They make a big impact on public health by improving air quality.



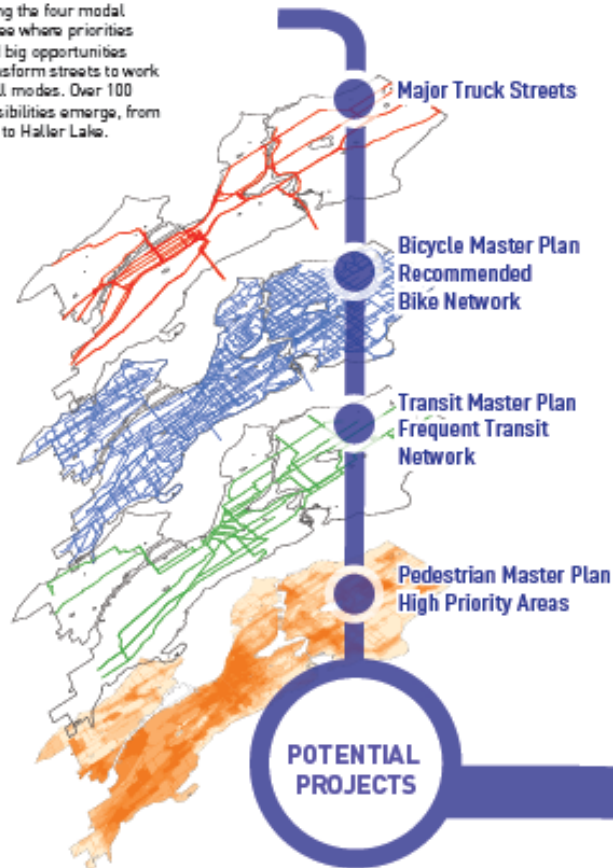


# Communication

Funding is limited.  
This is how we  
prioritize projects.

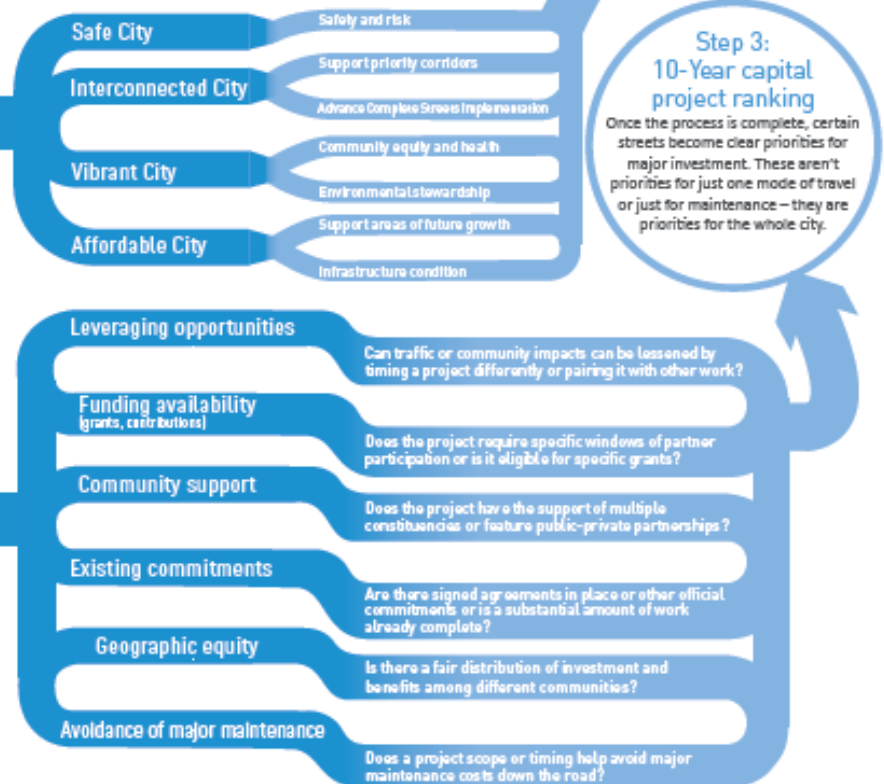
## Step 1: Identify potential projects

By overlaying the four modal plans, we see where priorities overlap and big opportunities exist to transform streets to work better for all modes. Over 100 project possibilities emerge, from South Park to Haller Lake.



## Step 2A: Numerical scoring

Each project goes through a rigorous scoring process based on our four core values. Projects are evaluated on criteria as diverse as number of high-collision intersections they address to car ownership rates of nearby households.



## Step 2B: Qualitative rating

We complement our data-driven process with more artful criteria too. These ratings are important since some projects may not score highly in the numerical analysis, but may have other compelling reasons for being considered further.



# Communication

## **Eliminate Movements**

Reduce number of movements entering a complicated intersection

## **Extend Medians**

Lengthen/widen existing medians to tighten up intersection

## **Delayed Turning**

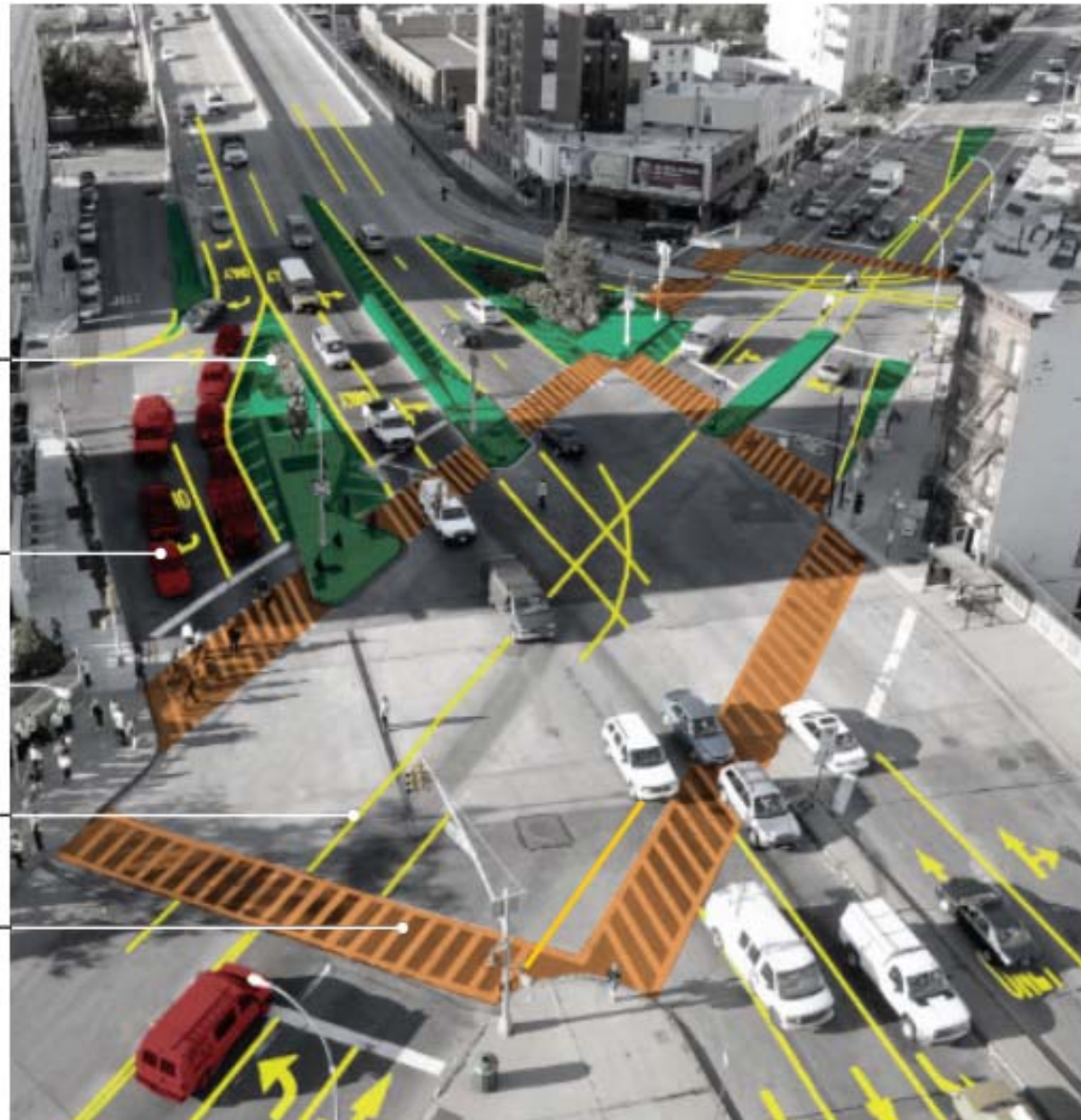
Allow through vehicles to move while holding turning vehicles, giving pedestrians a head start or a conflict free crossing

## **Lane Designation**

Clarify who belongs where

## **Crosswalks**

New signals allow pedestrians to cross.  
Add crosswalks where pedestrians want to cross





# Wanted: those who “get it” ...and can do it

## The ideal candidate...

- Understands the **big picture** behind what they do (policy, culture & demographic changes)
- Is familiar with quickly evolving **best practices** in engineering, planning & design
- Knows the kinds of **analyses** (especially **GIS**) that can support innovative projects
- Is capable of **communicating ideas** in a user-friendly, visual way
- **Is passionate about what they do!**



# Thank you

**Michael Flynn, AICP**

Director of Active Transportation

Sam Schwartz Engineering, D.P.C.

[mflynn@samschwartz.com](mailto:mflynn@samschwartz.com)

**Sam Schwartz Engineering D.P.C.**



# PBIC Webinar

## Integrating Ped/Bike Concepts into University Courses: PBIC Transportation Short Series



**Carl Sundstrom**

UNC Highway Safety Research Center



Pedestrian and Bicycle  
Information Center





# Purpose

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- ⇒ Designed to augment existing undergraduate courses
- ⇒ Originally created in 2013, updated in 2015
  - ⇒ PBIC
  - ⇒ Auburn University Civil Engineering
    - ⇒ Dr. Rod Turochy
    - ⇒ Dr. Jeff LaMondia
  - ⇒ UNC Dept. City & Regional Planning
    - ⇒ Dr. Daniel Rodriguez
  - ⇒ New assignments developed by Toole Design Group





# Materials

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- ⇒ 3 classes
  - ⇒ Presentation slides for three 50-minute lectures
  - ⇒ Detailed slide notes
- ⇒ 4 assignments
- ⇒ Reading list
- ⇒ Instructor information sheet



# Class 1: Planning for Pedestrians and Bicycles

## ⇒ Covers:

- ⇒ Motivations to plan for pedestrians and bicyclists
- ⇒ The relationship between land use and transportation
- ⇒ The interaction between pedestrian and bike planning and other planning processes.

### 2. Safety Concerns (cont'd): Toward Zero Deaths

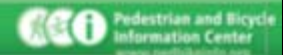
- Eliminating fatalities and serious injuries for all road users
- Employs a combination of engineering, enforcement, education, and emergency services (the 4 Es)
- Evaluation is also important
- Institutionalized at state or jurisdiction level
- Also called "Vision Zero"



VISION  
ZERO  
SF



Editable Area





# Class 2: Pedestrian and Bicycle Facility Design

- ⇒ Explains how streetscape influences design
- ⇒ Gives examples of roadway design for pedestrians and bicyclists
- ⇒ Identifies opportunities to retrofit existing streets for pedestrian and bicycle use






## Class 3: Pedestrian and Bicycle Data and Performance

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- ⇒ Describes the data needs for bicycle and pedestrian monitoring, analysis, and planning
- ⇒ How to collect and analyze that data
- ⇒ How to calculate and understand facility analysis tools

### Why Collect Data?

- Planning and Funding
  - Determine when/where people walk and bicycle (or not)
  - Identify presence and quality of facilities
- Benchmarking
  - Show whether goals are being met (or need to be reevaluated)
  - Compare to other areas
- Accountability



Editable Area

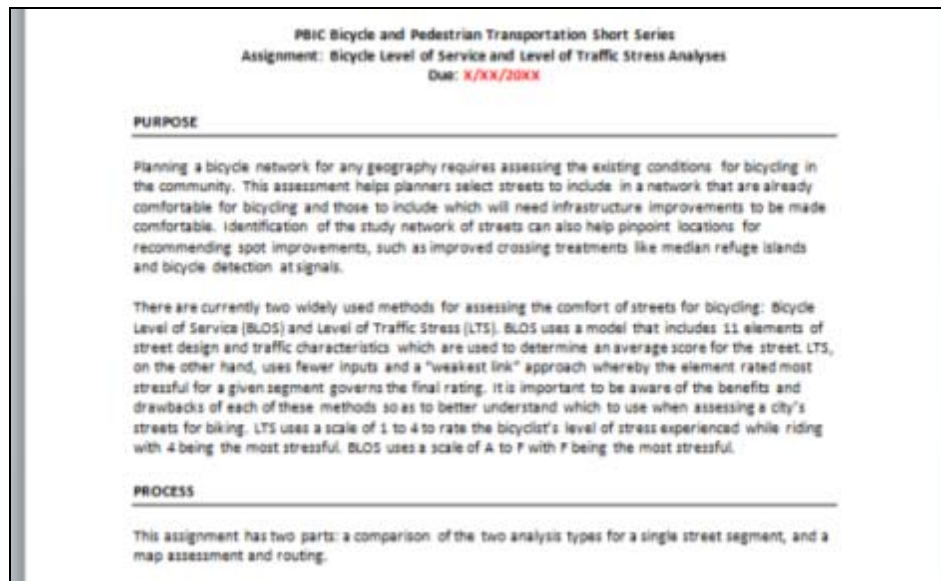


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[www.pedbikeinfo.org](http://www.pedbikeinfo.org)



# Assignments

- ⇒ Walkability Assessment/Audit
- ⇒ Level of Service
- ⇒ Level of Traffic Stress & Assessing Level of Service
- ⇒ Existing Conditions Analysis





[www.pedbikeinfo.org/university](http://www.pedbikeinfo.org/university)





## TRAINING & EVENTS

### Webinars

[Livable Communities](#)[Ped Focus Series](#)[PSAP Series](#)[Additional Webinars](#)

### University Courses

### In Person Training

[CEU & PDH Information](#)[Course Costs](#)[Instructors](#)[Course References](#)[For Instructors](#)

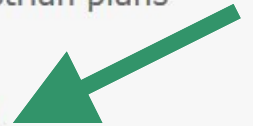
### Conferences & Events

## University Level Courses

Integration of pedestrian and bicycle planning into transportation planning is essential in creating sustainable, livable communities. Three interdisciplinary university-level courses have been developed to explore the core concepts of pedestrian and bicycle design and strategies related to creating effective and comprehensive bicycle and pedestrian plans and programs. The three courses are:

- [Pedestrian and Bicycle Transportation Short Series \(NEW FOR 2015!\)](#)
- [PBIC Bicycle and Pedestrian Planning Course for Graduate Students](#)
- [FHWA University Course on Bicycle and Pedestrian Transportation](#)
- [Other University Course Materials](#)

Students taking either course will recognize the legitimacy of the bicycle and pedestrian modes, understand how policy, planning, and engineering practices can be improved to create a more balanced transportation system, and become familiar with basic policies, practices, tools, and design principles that can be used to create bicycle and pedestrian-friendly communities.





# <http://www.pedbikeinfo.org/university>

[Data & Resources](#)[Community Support](#)[Planning & Design](#)[Training & Events](#)[Programs & Campaigns](#)

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# www.pedbikeinfo.org/university

## Other University Course Materials

### Course Instructor Contacts

Several instructors are teaching similar pedestrian and bicycle transportation courses around the US. To learn more about the course offerings at different universities, please contact the following individuals or review the course materials:

- Ron Eck, West Virginia University, Department of Civil and Environmental Engineering  
[Ronald.Eck@mail.wvu.edu](mailto:Ronald.Eck@mail.wvu.edu)
- Billy Fields, Texas State University-San Marcos, Department of Geography  
[Transportation Systems Syllabus](#)
- Ben Gomberg & David Leopold, University of Illinois at Chicago, College of Urban Planning and Public Affairs  
[Implementing Complete Streets in Chicago Syllabus](#)
- Anne Lusk, Harvard School of Public Health, Department of Nutrition  
[Transportation, the Environment, and Health Syllabus](#)  
[Built Environment, Human Energy Expenditure, and Public Health Syllabus](#)
- Jeff Olson, Skidmore College  
[jolson@altaplanning.com](mailto:jolson@altaplanning.com)
- William Riggs, California Polytechnic State University, College of Architecture and Environmental Design, Department of City and Regional Planning  
[Capstone Assignment: Education, Advocacy, and Awareness Videos](#)
- Greg Rybarczyk, University of Michigan-Flint, Department of Earth and Resource Science  
[Sustainable Transportation: Bicycle and Pedestrian Travel Syllabus](#)
- Marc Schlossberg, University of Oregon, Department of Planning, Public Policy, and Management  
[Bicycle Transportation Syllabus](#)
- Bob Schneider, University of Wisconsin-Milwaukee, School of Architecture and Urban Planning  
[Pedestrian and Bicycle Transportation Syllabus](#)
- Ryan Snyder, UCLA, Urban Planning Department  
[Pedestrian and Bicycle Planning syllabus, assignment descriptions, and lecture slides](#) (Zip 530 MB)
- Online Master of Sustainable Transportation, University of Washington  
[uwmst@uw.edu](mailto:uwmst@uw.edu)

### Course Syllabi and Other Course Materials

A comprehensive collection of course materials will be available in 2015.

If you know of other instructors teaching courses and/or willing to share their contact information or other materials, please contact Kristen Brookshire at 919-962-2971 or [brookshire@hsrsrc.unc.edu](mailto:brookshire@hsrsrc.unc.edu).

### TRB Joint Subcommittee on Pedestrian and Bicycle University Education

To learn more about the educational opportunities within pedestrian and bicycle transportation, visit the [Transportation Research Board's Joint Subcommittee on Pedestrian and Bicycle University Education](#).

Share your course materials!



Pedestrian and Bicycle  
Information Center



# **Incorporating PBIC Pedestrian/Cyclist Course Modules in Civil Engr Courses**

**Jeffrey LaMondia**

Asst. Professor, Civil Engineering  
Auburn University

August 19, 2015



# Materials Implemented in Three Civil Courses

- Introduction to Transportation Engineering
  - Sophomore/Junior Level, 50 Students, Required
- Geometric Design
  - Junior/Senior Level, 35 Students, Core Transport
- Transportation Planning
  - Senior/Graduate, 20 Students, Elective



# Intro to Transportation Engineering

- Day in Roadway Design
  - “Facility Design” module
  - Compliments cross-sectional design section
  - How do we design to support all modes?
- Day in Planning
  - “Planning” module
  - Compliments discussion on the general planning process
  - How do we adapt the planning process to include ped/bike?



# Intro to Transportation Engineering

- Pictures & Discussion are Key for Undergrads!









# Intro to Transportation Engineering

[ACTIVE LIVING TOPICS](#) [TOOLS & RESOURCES](#) [NEWS & EVENTS](#) [FOR GRANTEES & RESEARCHERS](#) [CONSULTING & ABOUT US](#)

[Home >](#)



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 **TOOLS AND MEASURES**  
**Pedestrian Environment Data Scan (PEDS) Tool**

January 2004  
January, 2004  
Author: Kelly Clifton, Andréa Livi, Daniel A. Rodríguez  
Topic: Transportation, Trails and Greenways, Public Transit, Roads and Streets, Pedestrian Facilities, Parks & Recreation, Trails and Greenways, Communities, Architecture and Building Design  
Population Served: Unspecified  
Location by State: [National](#)  
Study Type: [Measures](#)

**STAY UP TO DATE**  
email address

**ANNUAL CONFERENCE :**  
[Submit an abstract!](#) ALE  
31 - February 3, 2016 at



**DESCRIPTION:**  
The PEDS measures environmental features that influence walking in the US. An electronic (palmOS) version of the audit is available, materials. More information on the pedestrian environment scan instrument and protocols, can be found on the University of North Carolina's website.

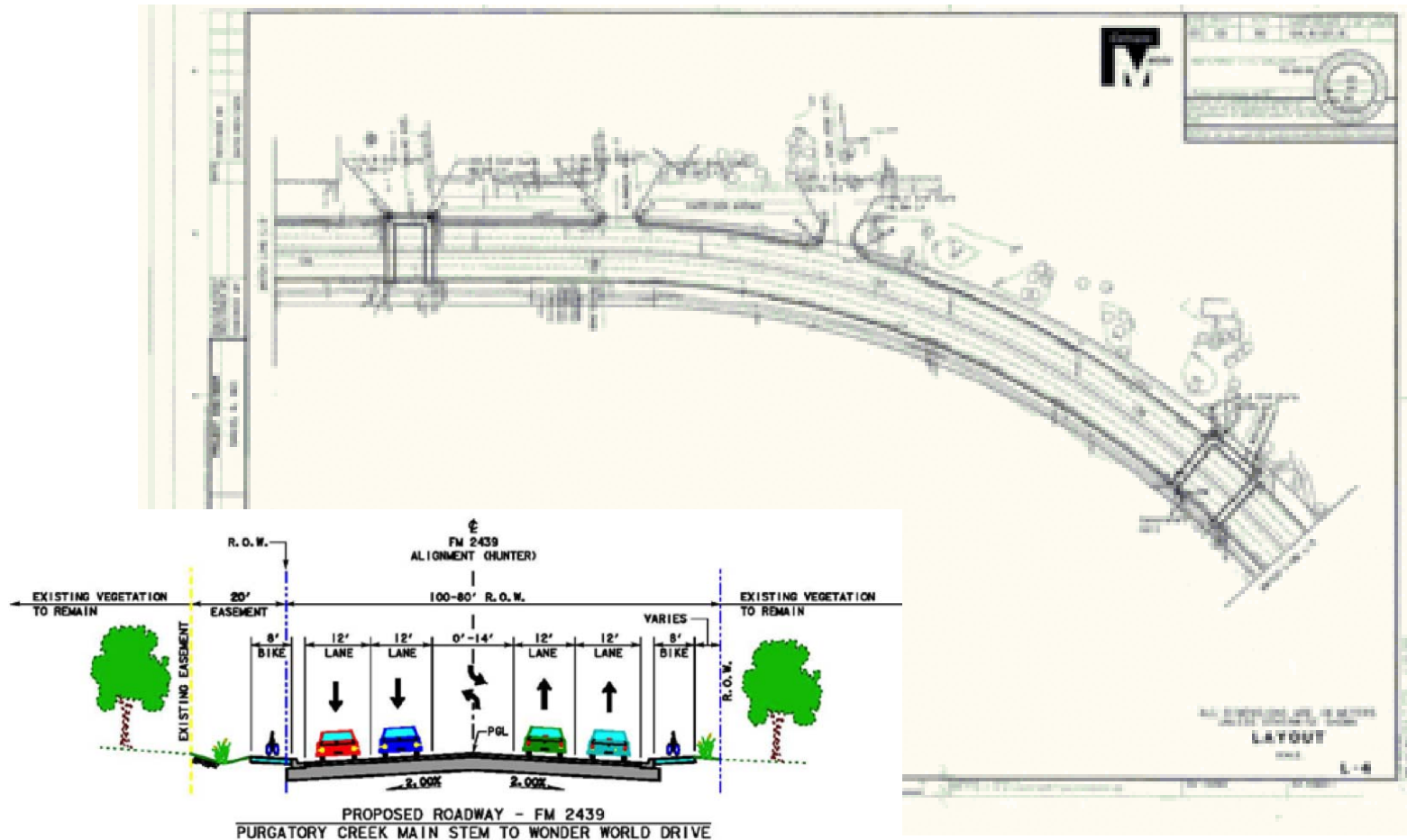


# Geometric Design

- Day in Roadway Design
  - “Facility Design” module
  - More in-depth discussion on where we would include different types of facilities
  - Require ped/bike facilities as part of their final project



# Geometric Design





# Transportation Planning

- Day in Planning
  - “Planning” module
  - More in-depth discussion on needs of ped/cyclists
  - Often, guest speaker from the City or Campus
- Day in Data Collection
  - “Data/Performance ” module
  - Incorporated into the GIS component of the course
  - Final group projects often include ped/bike topics



# Transportation Planning

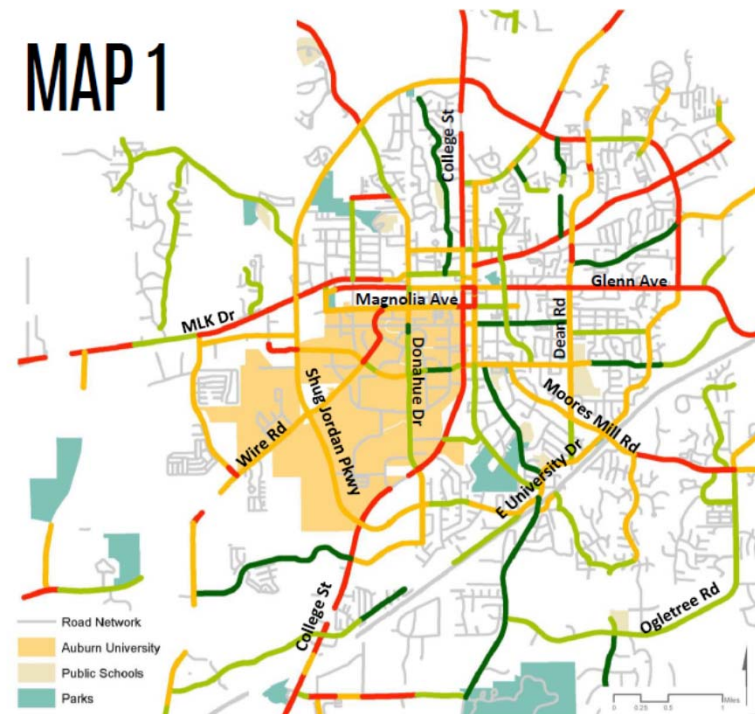
## Bicycle Segment LOS (*Abseg*)

$$LOS = 0.2(\text{ABSeg}) + 0.03(e^{ABInt}) + 0.05(Cflt) + 140$$

$$0.507 \cdot \ln\left(\frac{Vol}{4 \cdot PHF \cdot L}\right) + 0.199 \cdot Fs(1 + 10.38HV^2) + 7.066\left(\frac{1}{PC_5}\right)^2 - 0.005(W_e)^2 + 0.760$$

- $Vol$  = Volume of directional traffic (vph)
- $L$  = Total number of *through* lanes
- $PHF$  = Peak hour factor
- $Fs$  = Effective speed factor  $= 1.12 \ln(S - 20) + 0.81$ ; where  $S$  is the posted speed limit
- $HV$  = % of traffic that is heavy vehicles
- $PC_5$  = FHWA's five point surface condition rating
- $W_e$  = Average effective width of outside through lane (if no on-street parking and shoulder/bike lane  $< 4$  ft; if shoulder lane  $\leq 4$ , the add width to width of outside through lane)

## MAP 1





# Questions?

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# Integrating Pedestrian and Bicycle Transportation into Engineering Curriculum

**Dr. Kari E. Watkins**

Georgia Institute of Technology

Ped Bike Information Center Webinar

August 19, 2015





# Goals

- Encourage students to think multimodally
- Introduce design guides that supplement traditional guides
- Incorporate project and field work
- Overcome barriers to good planning and design
  - Changing engineering mindset
  - Educating future professionals from all aspects of the process (highway designers, traffic engineers, land use planners, developers)





# Key themes to incorporate

- Why cycling and walking?
- Designing with cyclists and pedestrians in mind
  - Access management
  - Signal progression speeds
- Vehicle delay vs. person delay
- Peak hour vs. all-day focus
- Thinking critically about guidebooks
  - AASHTO, MUTCD, HCM, NACTO





# Civil Engineering Transportation Courses

- **Introduction to Transportation** (undergrad core)
  - One to two modules
- **Urban Transportation Planning** (graduate core)
  - Three dedicated modules plus labs (two weeks)
- **Multimodal Transportation** (undergrad elective)
  - Ten modules (five weeks) plus quizzes
  - Design Project
- **Complete Streets Design** (graduate elective)
  - Fourteen week course
- **New Course: Sustainable Transportation Abroad** (undergrad)



# Introduction to Transportation

- Undergrad core course
- Incorporate themes of multi-modality throughout
- One to two specific modules
  - Need for ped/bike facilities
  - Planning for ped/bike facilities
  - Design for ped/bike facilities
- In-class exercise using local intersection redesign
- Incorporate cyclists and pedestrians into final project





# Urban Transportation Planning

- Graduate core course
- Combine concepts into all lectures
- Specific lectures
  - ADA / Pedestrian design
  - Bike infrastructure
- Wheelchair lab





# Multimodal Transportation

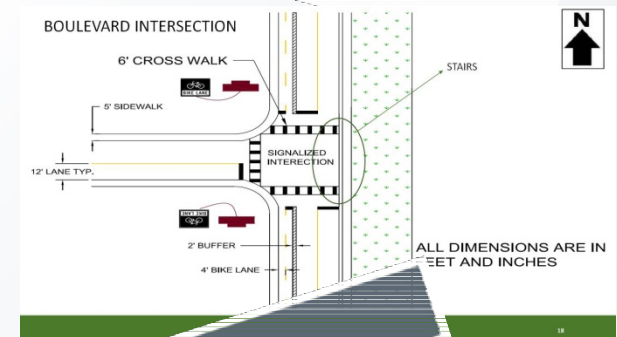
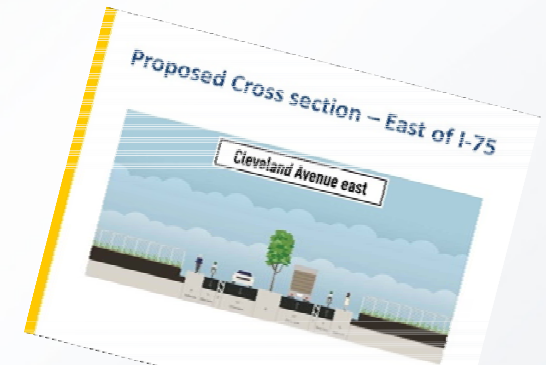
- Undergrad elective course
- Freight and passenger multimodality
- Ten modules
  - Complete streets
  - Access management & Traffic calming
  - Pedestrian design & ADA
  - Bikeway design
  - Urban street design
  - Performance measurement





# Multimodal Transportation Course Project

- Complete Streets Design
  - Assess users of corridor
  - Balance street space use for all modes
- Local corridors suggested by Atlanta Bike Coalition, City of Atlanta, Atlanta Regional Commission
- Final report and presentation
  - Representative cross-sections
  - Proposed design two major intersections
  - Representative design for minor intersections
  - Overall circulation for various modes





# Complete Streets Design Course

- First half
  - Students combined with Multimodal Transportation Course
- Second half
  - Tactical Urbanism project
  - Learn skills necessary
    - Performance Metrics
    - Data Collection
    - Permitting
  - Execute physical project
  - Credit to Dr. Wes Marshall, U Colorado





# Sustainable Transportation Abroad

- Tied to Multimodal Transportation course
- New Global Engineering Leadership minor
- One to two weeks abroad
  - 1<sup>st</sup>: Netherlands
  - Tour cities on bike and transit
  - Presentations by local engineers and planners
  - Credit to Dr. Rob Bertini, Cal Poly; Dr. Peter Furth, Northeastern; Portland State





# Thank You!

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Urban Transportation Information Lab

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# Questions?

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⇒ **Archive at [www.pedbikeinfo.org/webinars](http://www.pedbikeinfo.org/webinars)**  
Download a video recording and presentation slides

⇒ **Questions?**

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