Bicycle & Pedestrian Programs and Design Movements

Overview

There is an array of programs and initiatives within the fields of transportation, planning and public health that relate to or support pedestrian and bicycling policies and infrastructure, and education and encouragement programs. This module will introduce different movements in transportation and design that lend themselves to more bicycle and pedestrian oriented planning.

Learning Objective:

- Understand the transportation and design movements shaping planning
- Explore how movements affect transportation for bicyclists and pedestrians
- Apply the concepts of the design and transportation movement to real world examples

Suggested Use

_x_Professional Development _x_Graduate Level _x_Undergraduate

Time Required

__Less than 1 hour _x_ 1 hour __2-3 hours __Half-day Workshop __Full-day Workshop

Instructions

1. Announce purposes and give brief overview of the day
2. Give lecture
3. Break for discussion and questions
4. Assignments
5. Circulate handouts and evaluations

Lecture

"Context of Other Programs and Initiatives."

1. Transportation
    a. Complete Streets
    b. Context Sensitive Design/Solutions
    c. Traffic Calming
    d. Shared Streets
2. Design
    a. New Urbanism
    b. Traditional Neighborhood Design
    c. Smart Growth
    d. Active Living & Public Health
3. Discussion

Materials/Handouts

- Complete Streets: Livable Communities
- Complete Streets: Transportation Costs
- This is Smart Growth
- Charter for New Urbanism
- Active Living Research Briefing

Assignments and Activities

1. Discussion on Initiatives
2. In Field Observations and Recommendations

Suggested Readings

1. Active Living Research & Resources: http://www.activelivingresearch.org/
2. Congress for New Urbanism: http://www.cnu.org/
3. Complete Streets: http://www.completestreets.org/
4. Smart Growth Online: http://www.smartgrowth.org/

Related Modules

- Bicycle Facilities
- Pedestrian Facilities
- Education and Encouragement

Bicycle & Pedestrian Programs and Design Movements

Assignment 2: In-Field Observations & Recommendations

Assignment Description for *Instructor*:

In small groups or individually, have students visit street segments of nearby roads. Students should evaluate the road segment and make recommendations to improve the roadway for pedestrians and cyclists. Recommendations should be based on current needs of the area.

Instructor Prep Work:

Select local street segments for the class to visit and analyze. Roads sections should have room for improvement to recommend traffic calming devices or other design solutions.

Time Required:

Out of class:

- 30 minute observations
- 1-2 hour write up

In class:

- 5 minutes for presentations

Assignment:

Students will write a report with photos of the road and accompanying descriptions of examples of specific interventions students would apply to the area.

Bicycle & Pedestrian Programs and Design Movements

Assignment 2: In-Field Observations & Recommendations

Assignment Description for Students:

In small groups or individually, visit street segments of nearby roads. You should evaluate the road segment and make recommendations to improve the roadway for pedestrians and cyclists. Recommendations should be based on current needs of the area.

Things to consider

- What does the community need?
- What are the current barriers to pedestrians? Cyclists?
- How would the improvements affect traffic patterns in the neighborhood?
- How would you let neighbors know about the interventions?
- Which movement would your interventions fall under? (New Urbanist, Complete Streets, etc)

Time Required:

Out of class:

- 30 minute observations
- 1-2 hour write up

In class:

- 5 minutes for presentations

Assignment:

Students will write a report with photos of the road and accompanying descriptions of examples of specific interventions students would apply to the area.

Bicycle & Pedestrian Programs and Design Movements

Assignment 1: Discussion on Initiatives

Assignment Description for *Instructor*:

Break the class into small groups and assign one of the movements to each of the groups. Have students discuss how this movement or initiative supports (or does not) walking and biking. At the end of the discussion have each group present their case to have the initiative increase walking or biking within the community.

Instructor Prep Work:

Give the presentation to the class. Assign each group a movement or initiative discussed in lecture.

Time Required:

- 20-30 minutes to discuss
- 5 minutes to present (each group)

Assignment:

Each group will present their assigned movement or initiative to the class for discussion.

Bicycle & Pedestrian Programs and Design Movements

Assignment 1: Discussion on Initiatives

Assignment Description for Students:

The class will break into small groups and each of the groups will be assigned one of the movements to discuss. Students will discuss how this movement or initiative supports (or does not) walking and biking. At the end of the discussion each group will present their case to have the initiative increase walking or biking within the community.

Things to consider

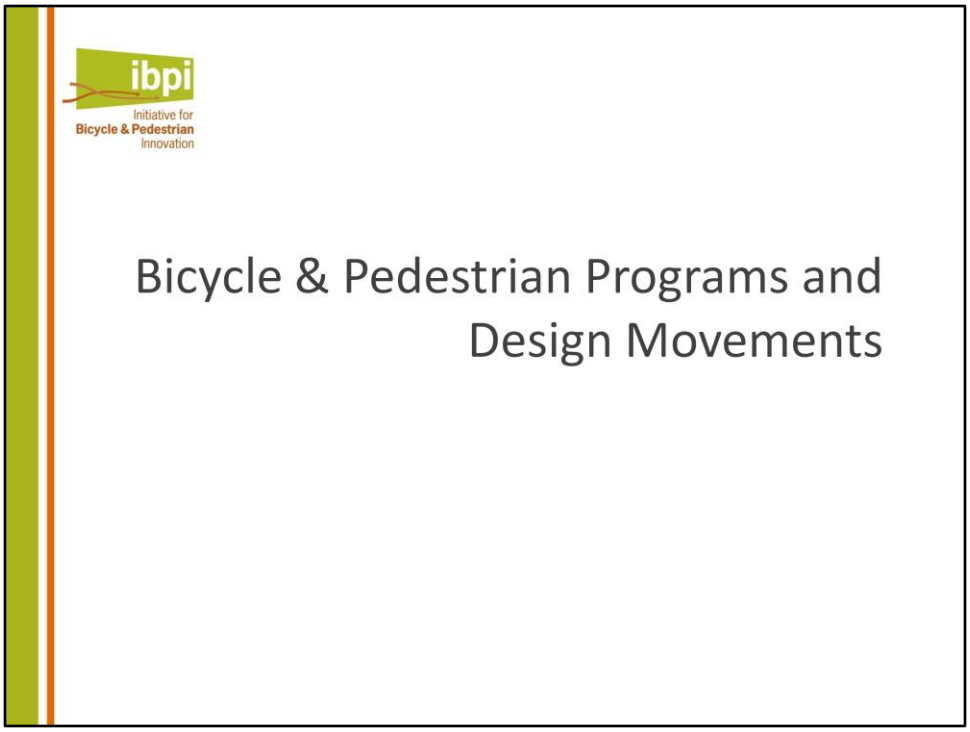
- Think critically about policy, planning, design, education, and encouragement
- Think critically about how your assigned movement or initiative could impact walking or cycling in your community.

Time Required:

- 20-30 minutes to discuss
- 5 minutes to present (each group)

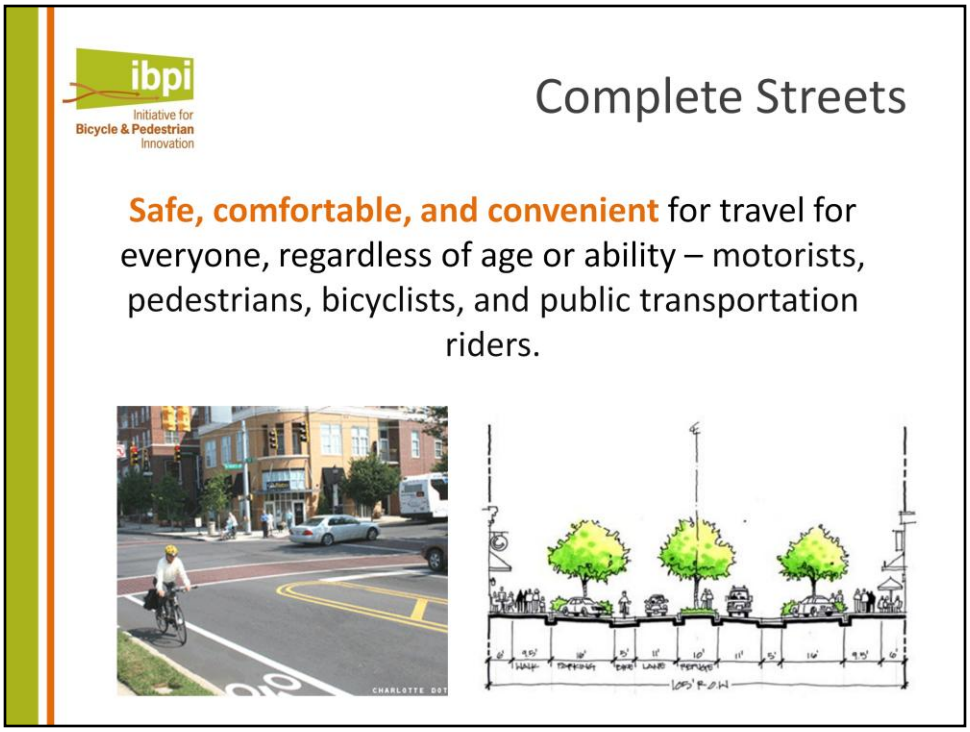
Assignment:

Each group will present their assigned movement or initiative to the class for discussion.


ibpi
Initiative for
Bicycle & Pedestrian
Innovation
Bicycle & Pedestrian Programs and
Design Movements

There is an array of programs and initiatives within the fields of transportation, planning and public health that relate to or support pedestrian and bicycling policies and infrastructure, and education and encouragement programs.

This lecture will introduce you to some of these related initiatives.



Complete Streets are defined as streets that are safe, comfortable, and convenient for travel for everyone, regardless of age or ability – motorists, pedestrians, bicyclists, and public transportation riders.

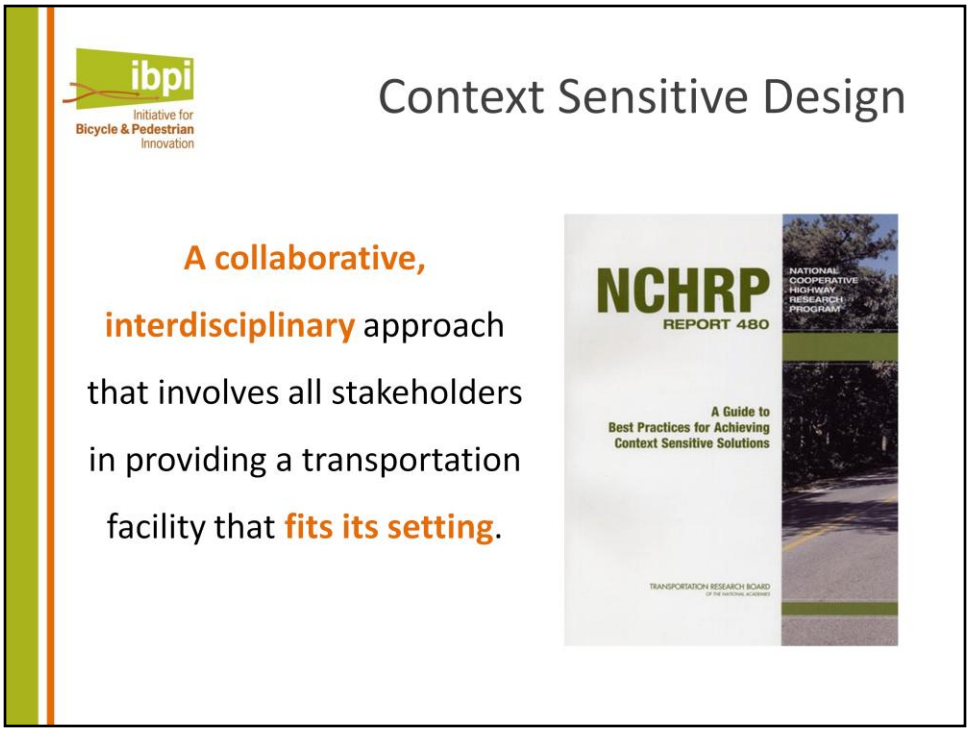
The National Complete Streets Coalition is an organization that seeks to fundamentally transform the look, feel, and function of the roads and streets in our community, by changing the way most roads are planned, designed, and constructed. Complete Streets policies direct transportation planners and engineers to consistently design with all users in mind. They help with the adoption and implementation of statewide, regional, and local complete streets policies and work for federal policies that support complete streets.

Why do we need Complete Streets policies?
Incomplete streets – those designed with only cars in mind – limit transportation choices by making walking, bicycling, and taking public transportation inconvenient, unattractive, and, too often, dangerous. Changing policy so that our transportation system routinely includes the needs of people on foot, public transportation, and bicycles means that walking, riding bikes, and riding buses and trains will be safer and easier. People of all ages and abilities will have more options when traveling to work, to school, to the grocery store, and to visit family.

Making these travel choices more convenient, attractive, and safe means people do not need to rely solely on automobiles. They can replace congestion-clogged trips in their cars with swift bus rides or heart-healthy bicycle trips. Complete Streets improves the efficiency and capacity of existing roads too, by moving people in the same amount of space – just think of all the people who can fit on a bus or streetcar versus the same amount of people each driving their own car. Getting more productivity out of the existing road and public transportation systems is vital to reducing congestion.

Complete Streets are particularly prudent when more communities are tightening their budgets and looking to ensure long-term benefits from investments. An existing transportation budget can incorporate Complete Streets projects with little to no additional funding, accomplished through re-prioritizing projects and allocating funds to projects that improve overall mobility. Many of the ways to create more complete roadways are low cost, fast to implement, and high impact.

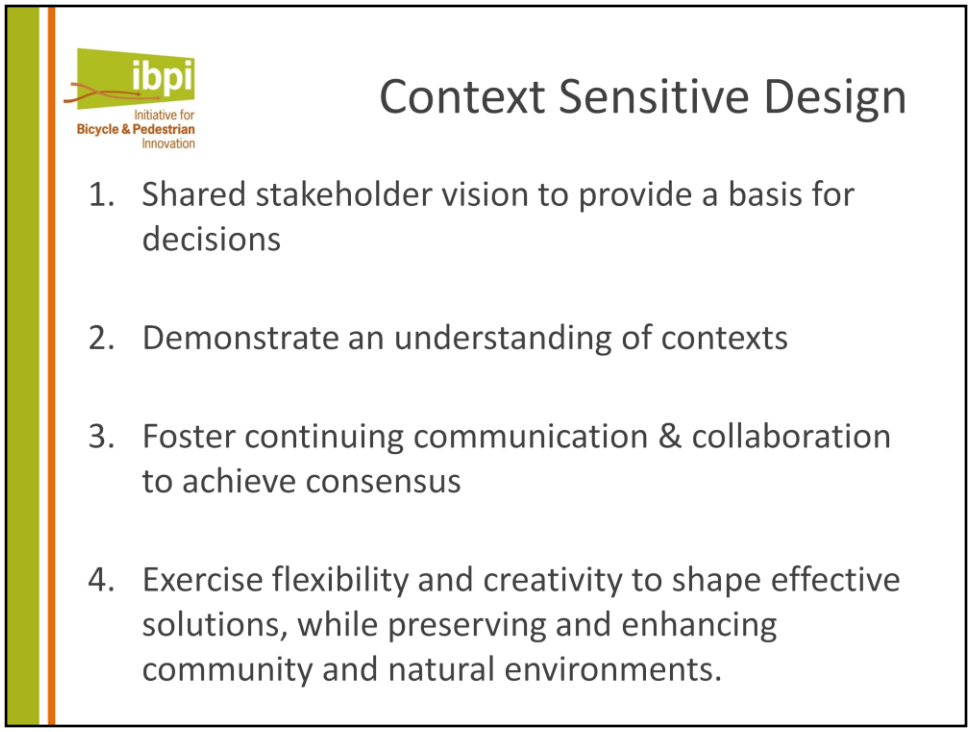
This Atlas notes places that have adopted some form of a Complete Streets policy. In many cases, full policy implementation takes several steps; for example, it could start with a resolution, then move to a more detailed ordinance or policy document. In 2011, 36 jurisdictions adopted a Complete Streets policy. **In total, 352 regional and local jurisdictions, 26 states, the Commonwealth of Puerto Rico, and the District of Columbia have adopted policies or have made written commitment to do so.**
-From www.completestreets.org



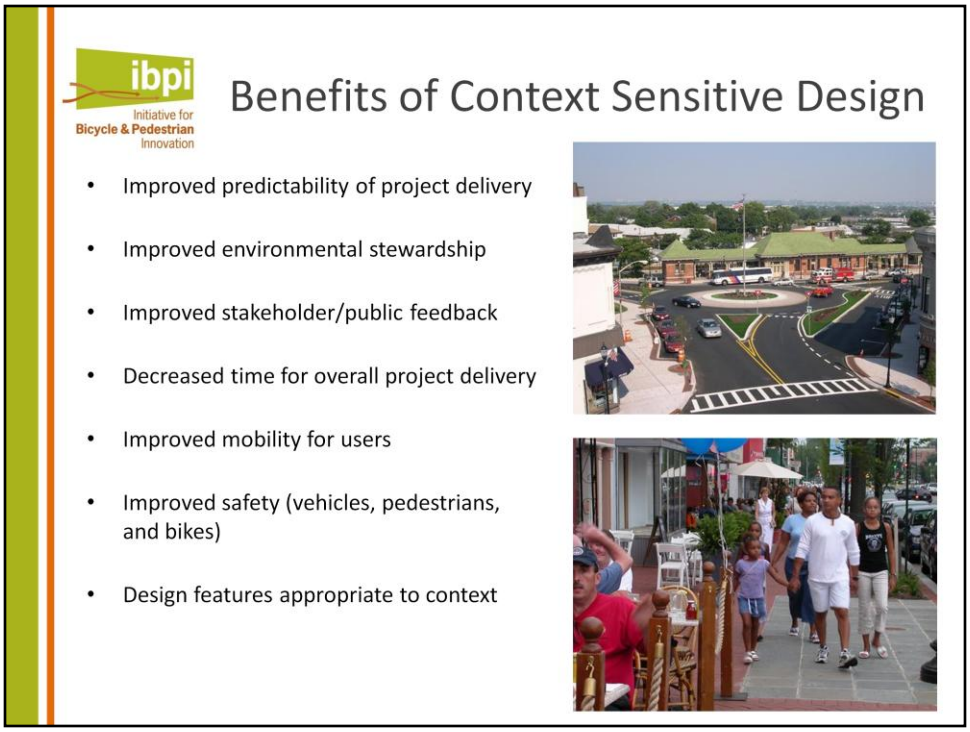
Also referred to as Context Sensitive Solutions, this is an approach that leads to preserving and enhancing scenic, aesthetic, historic, community, and environmental resources, while improving or maintaining safety, mobility, and infrastructure conditions.

http://contextsensitivesolutions.org/

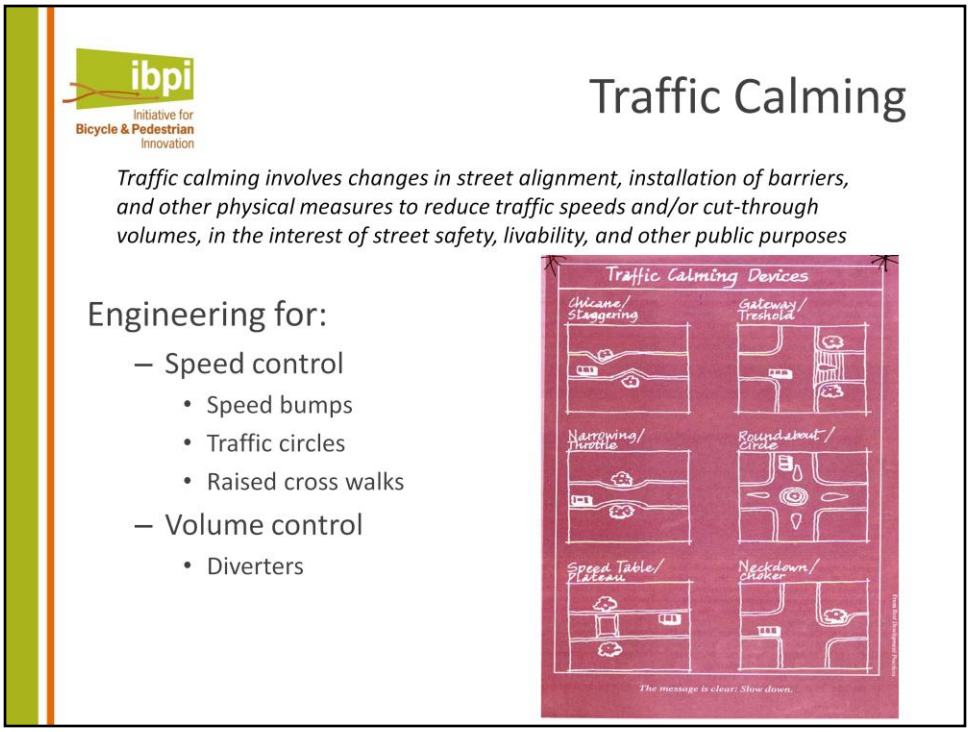
Congress, the Federal Highway Administration, governors, state legislatures, professional organizations, and state and local transportation agencies have all played an important part in the development of CSS, including addressing tort liability issues. Meanwhile, public interest groups have made developing better methods of road design a major part of their agendas



These core CSS principles apply to transportation processes, outcomes, and decision-making.



As an approach to transportation, CSS has spread rapidly since 1998. In large part this is because CSS practitioners and advocates understand and embrace its many important benefits. Benefits include things like: (see slide)



http://www.trafficcalming.org/definition.html
Definitions of traffic calming vary, but they all share the goal of reducing vehicle speeds, improving safety, and enhancing quality of life. Some include all three "Es," traffic **education**, **enforcement**, and **engineering**. Most definitions focus on engineering measures to change driver behavior. Some focus on engineering measures that compel drivers to slow down, excluding those that use barriers to divert traffic. The following are some example definitions.

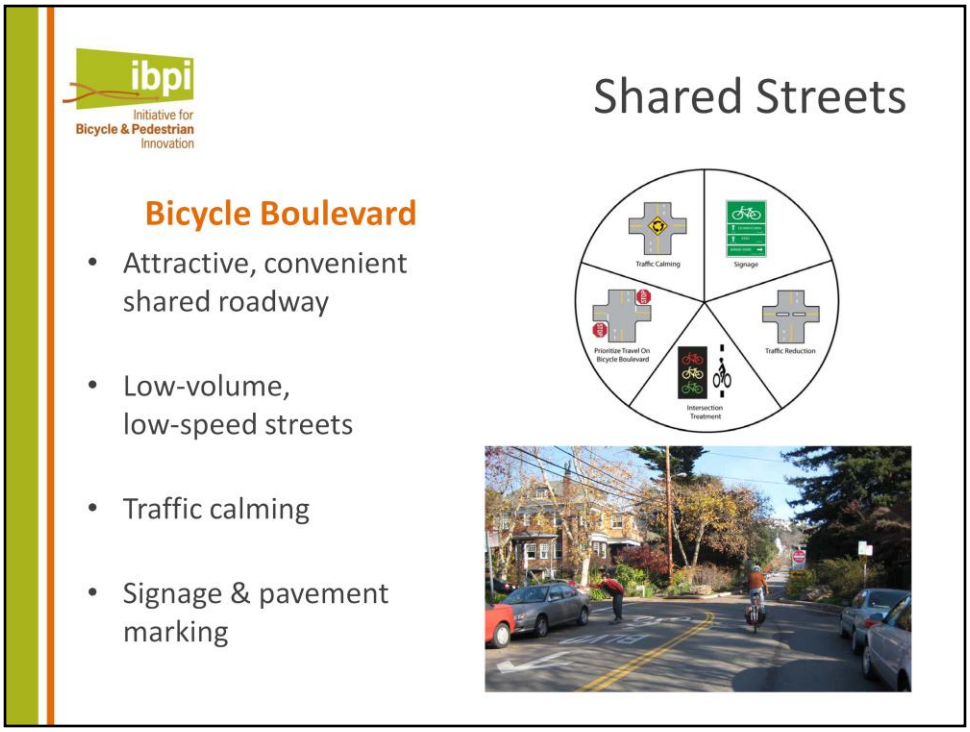
EUROPEAN BEGINNINGS
European traffic calming began as a grassroots movement in the late 1960s. Angry residents of the Dutch City of Delft fought cut-through traffic by turning their streets into woonerven, or "living yards." This was followed by the development of European slow streets (designed for 30 kph or 20 mph) in the late 1970s; the application of traffic calming principles to intercity highways through small Danish and German towns in the 1980s; and the treatment of urban arterials in areawide schemes, principally in Germany and France, also in the 1980s.

AN AMERICAN TAKE
In the U.S., a version of traffic calming was practiced as early as the late 1960s and early 1970s in such places as Berkeley, CA, Seattle, WA and Eugene, OR. The first national study of traffic calming was completed circa 1980. It explored residential preferences related to traffic, collected performance data on speed humps, and reviewed legal issues.

A BODY OF EXPERIENCE
Almost 20 years later, with a track record in place, the Federal Highway

The term "traffic calming" is often described as the combination of mainly physical measures that reduce the negative effects of motor vehicle use and improve conditions for nonmotorized street users. However, the term "traffic calming" also applies to a number of transportation techniques developed to educate the public and provide awareness to unsafe driver behavior.

As traffic calming techniques often differ, techniques include police **enforcement** and **education** only in some areas. In others, it means the employment of speed humps only, while in others it means the possible use of a wide array of techniques and devices. This web site (**www.trafficcalming.org)** is dedicated to all the known and/or electronically publicized transportation programs and studies that pertain to traffic calming.



Shared streets have been intentionally redesigned to remove exclusive boundaries for pedestrians, bicyclists, cars that works well within a special set of conditions. It is, in reality, just a new way of describing the original use of streets/The most promising candidates for shared streets are those where traffic volumes are low, the route is not a critical corridor for vehicular through-traffic, activities and attractions along the street are plentiful, short distance connectivity is viable, and a critical mass of pedestrians (perhaps enough to pack sidewalks at certain times) exists.

Whatever it is called, they share similar design elements and are used to create attractive, safe facilities for both cyclists and other non-auto travelers. They are designed to be on low traffic volume streets that have low speeds, a typical residential, neighborhood street is often thought of when describing Bicycle Boulevards. To create the boulevard, elements of traffic calming should be included to further reduce traffic speed and discourage heavy traffic along these routes.

Bicycle Boulevards should also be distinguishable from other streets for both cyclists and motorists through the usage of signs and pavement markings (seen in the above photo). Pavement markings can supplement wayfinding and will also help bicyclists position themselves properly to share the lane width motor vehicles.

Design Movements

- New Urbanism
- Traditional Neighborhood Design
- Smart Growth
- Active Living & Public Health

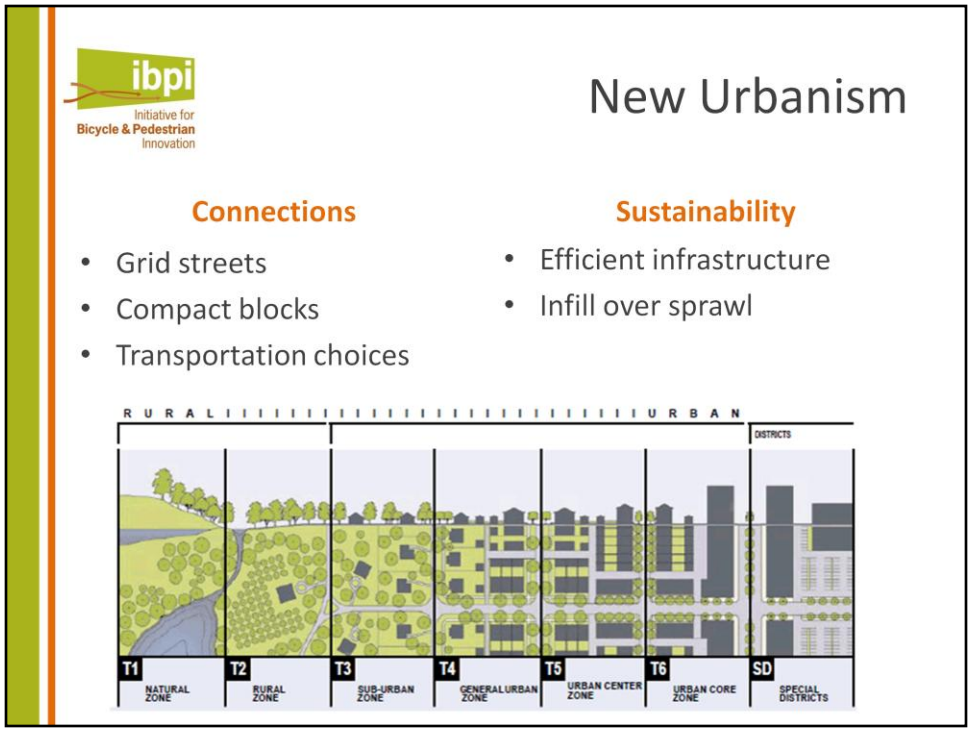
The Congress for the New Urbanism (CNU) is the leading organization promoting walkable, mixed-use neighborhood development, sustainable communities and healthier living conditions.

For nearly twenty years, CNU members have used the principles in CNU's Charter (http://www.cnu.org/charter) to promote the hallmarks of New Urbanism, including: Livable streets arranged in compact, walkable blocks.

A range of housing choices to serve people of diverse ages and income levels.

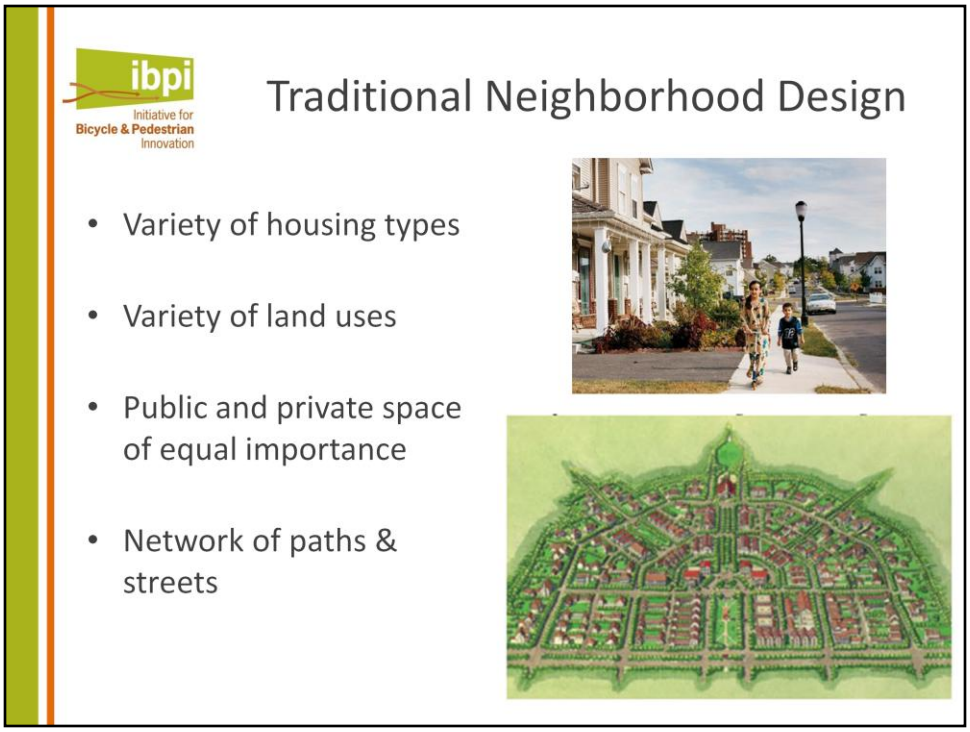
Schools, stores and other nearby destinations reachable by walking, bicycling or transit service.

An affirming, human-scaled public realm where appropriately designed buildings define and enliven streets and other public spaces



Making Connections a Priority
Through grids of streets, transportation choices, and the siting of buildings along the sidewalks of compact blocks, New Urbanism brings destinations within reach and allows for frequent encounters between citizens, in sharp contrast to sprawl. A key measure of connectivity is how accessible communities are to people with a range of physical abilities and financial resources.

Achieving Sustainability -- From Building to Region
By focusing development, New Urbanism promotes efficient use of infrastructure and preservation of habitats and farmland. With green building leaders, CNU is establishing new standards for green design at the neighborhood scale.
Transportation plays a pivotal role in sustainability and truly efficient transportation – walking, bicycling, and transit use – is only possible where there is compact, urban form.



Traditional Neighborhood Design (TND) is a planning concept that calls for residential neighborhoods to be designed in the format of small, early 20th century villages and neighborhoods. Those traditional formats were characterized by one-family and two-family homes on small lots, narrow front yards with front porches and gardens, detached garages in the backyard, walkable “Main Street” commercial areas with shops lining the sidewalk, and public parks, town greens, or village squares.

The acronym TND stands for Traditional Neighborhood Development, a comprehensive planning system that includes a variety of housing types and land uses in a defined area. The variety of uses permits educational facilities, civic buildings and commercial establishments to be located within walking distance of private homes. A TND is served by a network of paths, streets and lanes suitable for pedestrians as well as vehicles. This provides residents the option of walking, biking or driving to places within their neighborhood. Present and future modes of transit are also considered during the planning stages.

Public and private spaces have equal importance, creating a balanced community that serves a wide range of home and business owners. The inclusion of civic buildings and civic space -- in the form of plazas, greens, parks and squares -- enhances community identity and value.

Smart Growth is a term that is used by several organizations, including the Environmental Protection Agency (EPA) and Smart Growth America. Essentially, it defines a way to build and maintain towns and cities by building places with housing and transportation choices near jobs, shops and schools. This approach supports local economies and protects the environment.

Growth presents a tremendous opportunity for progress. Communities around the country are looking for ways to get the most out of new development and to maximize their investments. Frustrated by development that requires residents to drive long distances between jobs and homes, many communities are challenging rules that make it impossible to put workplaces, homes, and services closer together. Many communities are questioning the fiscal wisdom of neglecting existing infrastructure while expanding new sewers, roads, and services into the fringe. And in many communities where development has improved daily life, the economy, and the environment, smart growth principles have been key to that success.

Growth is "smart" when it gives us great communities, with more choices and personal freedom, good return on public investment, greater opportunity across the community, a thriving natural environment, and a legacy we can be proud to leave our children and grandchildren.

Adapted from the PDF "This is Smart Growth," published by ICMA and EPA in 2006.

Robert Woods Johnson Foundation has done a lot of work in this area. To stimulate and support research to identify environmental factors and policies that influence physical activity, especially among children and families in low-income communities.

“Active living” is a way of life that integrates physical activity into the daily routine, and is an important aspect of preventing obesity among children and families. The goal of active living is for youth to accumulate at least 60 minutes of physical activity each day, and for adults to get at least 30 minutes. People can do this in a variety of ways, such as walking or bicycling for transportation, exercise or pleasure; playing in the park; engaging in physical education classes or recess during school; working in the yard; taking the stairs; and using recreation facilities.

In order to facilitate and support opportunities for active living, a focus on the built environment—including neighborhoods, transportation systems, buildings, parks and open space—is essential.

ibpi
Initiative for
Bicycle & Pedestrian
Innovation

Discussion

ibpi
Initiative for
Bicycle & Pedestrian
Innovation

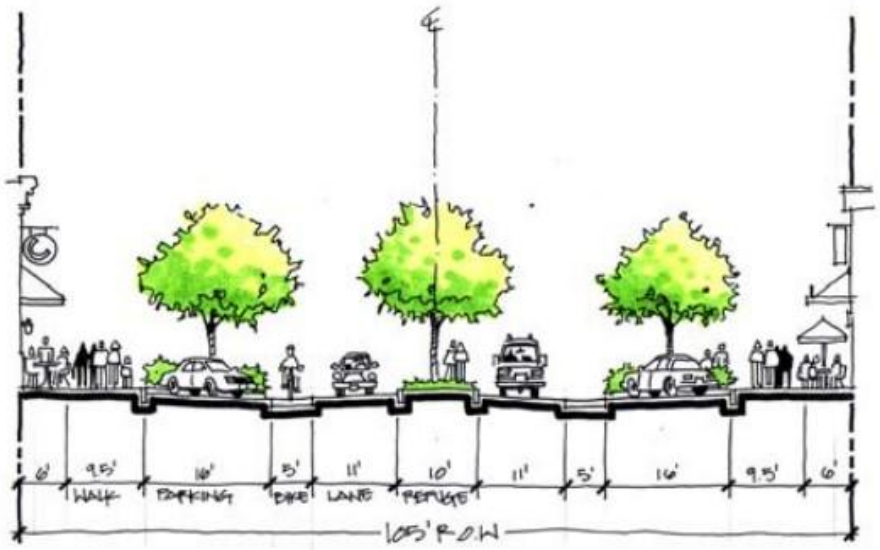
Bicycle & Pedestrian Programs and Design Movements

Overview

- Transportation
  - Complete Streets
  - Context Sensitive Design/Solutions
  - Traffic Calming
  - Shared Streets
- Design
  - New Urbanism
  - Traditional Neighborhood Design
  - Smart Growth
  - Active Living & Public Health

Complete Streets

Safe, comfortable, and convenient for travel for everyone, regardless of age or ability – motorists, pedestrians, bicyclists, and public transportation riders.



Complete Streets

Why policy is needed:

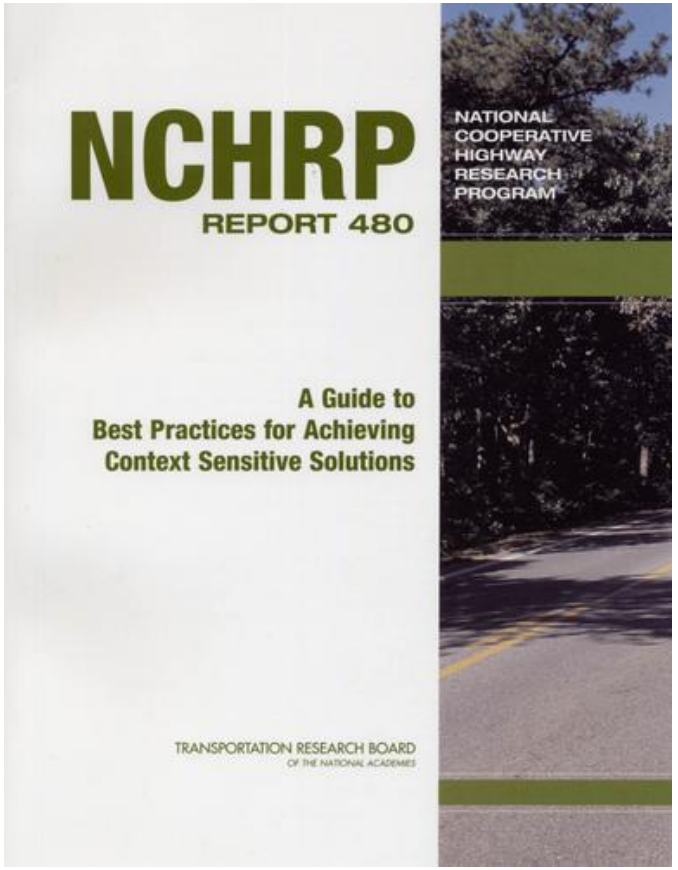
- Streets currently designed for cars
- Inconvenient & dangerous for other modes
- Improves efficiency & capacity of existing roads
- Long-term benefits

ibpi
Initiative for
Bicycle & Pedestrian
Innovation

Complete Streets

Context Sensitive Design

A collaborative, interdisciplinary approach that involves all stakeholders in providing a transportation facility that **fits its setting**.



Context Sensitive Design

1. Shared stakeholder vision to provide a basis for decisions

2. Demonstrate an understanding of contexts

3. Foster continuing communication & collaboration to achieve consensus

4. Exercise flexibility and creativity to shape effective solutions, while preserving and enhancing community and natural environments.

Benefits of Context Sensitive Design

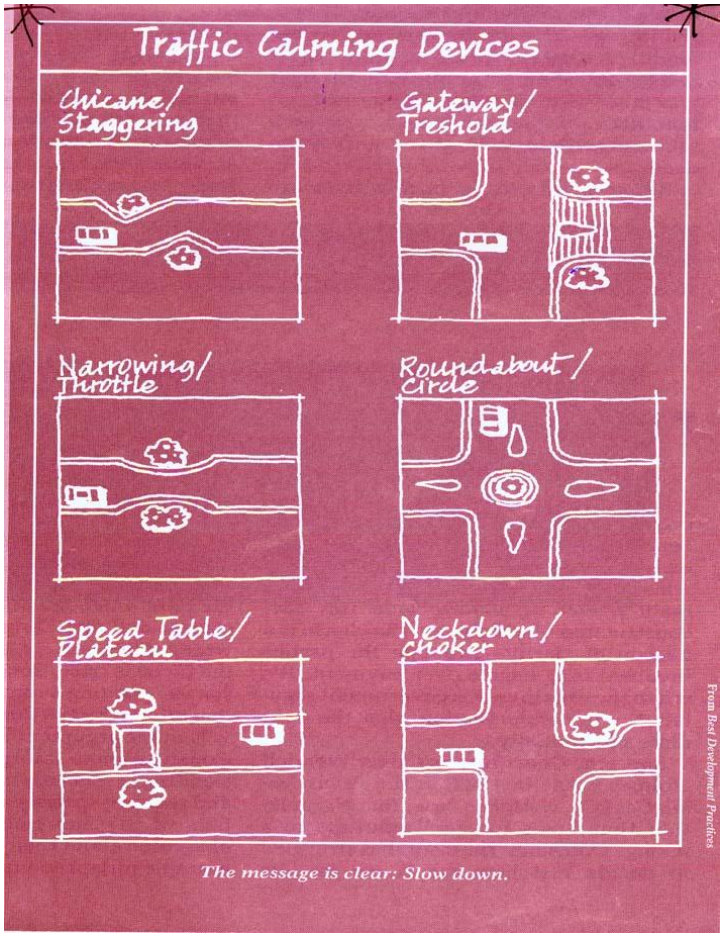
- Improved predictability of project delivery
- Improved environmental stewardship
- Improved stakeholder/public feedback
- Decreased time for overall project delivery
- Improved mobility for users
- Improved safety (vehicles, pedestrians, and bikes)
- Design features appropriate to context

Traffic Calming

Traffic calming involves changes in street alignment, installation of barriers, and other physical measures to reduce traffic speeds and/or cut-through volumes, in the interest of street safety, livability, and other public purposes

Engineering for:

- Speed control
  - Speed bumps
  - Traffic circles
  - Raised cross walks
- Volume control
  - Diverters



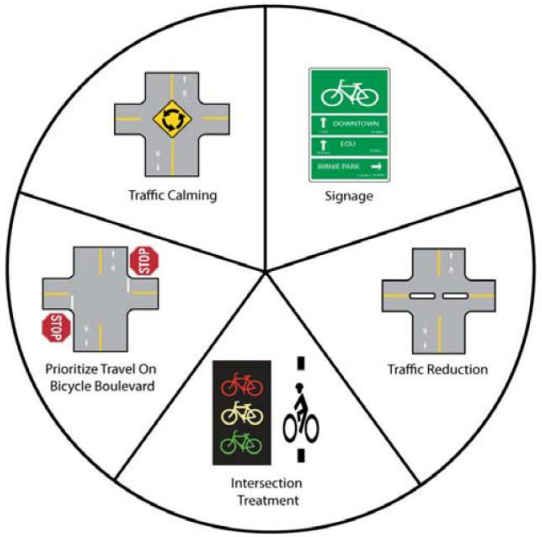
Traffic Calming

- Encourage citizen involvement
- Reduce vehicular speeds
- Promote safe and pleasant conditions for all users
- Improve the livability of neighborhood streets
- Improve real and perceived safety for nonmotorized users
- Discourage use of residential streets by cut through vehicular traffic

Shared Streets

Bicycle Boulevard

- Attractive, convenient shared roadway
- Low-volume, low-speed streets
- Traffic calming
- Signage & pavement marking



Design Movements

- New Urbanism
- Traditional Neighborhood Design
- Smart Growth
- Active Living & Public Health

New Urbanism

- **Livable streets** arranged in compact, walkable blocks.
- A range of **housing choices** to serve people of diverse ages and income levels.
- Schools, stores and other **nearby destinations** reachable by walking, bicycling or transit service.
- **Human-scaled** public realm where appropriately designed buildings define and enliven streets

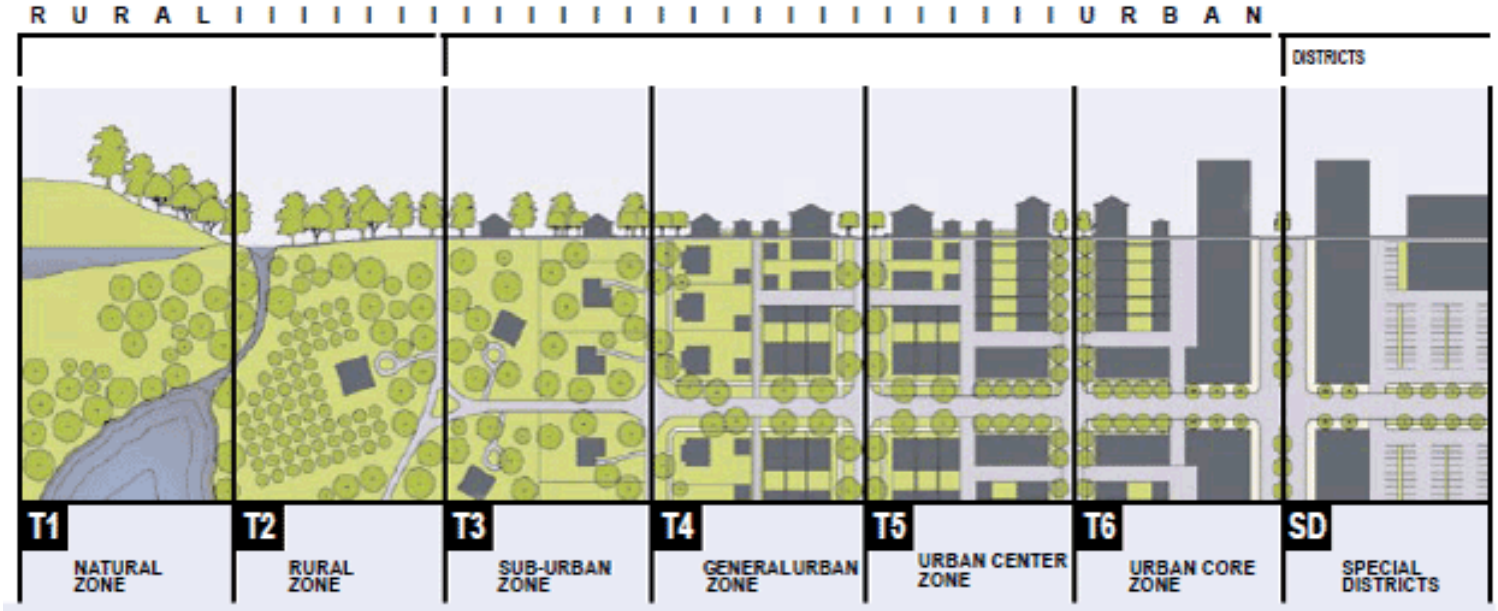
New Urbanism

Connections

- Grid streets
- Compact blocks
- Transportation choices

Sustainability

- Efficient infrastructure
- Infill over sprawl



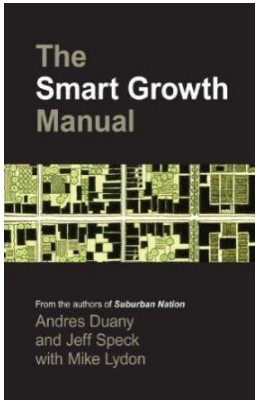
Traditional Neighborhood Design

- Variety of housing types
- Variety of land uses
- Public and private space of equal importance
- Network of paths & streets

Smart Growth

10 Principles of Smart Growth

1. Compact design
2. Range of housing choices
3. Walkable neighborhoods
4. Community collaboration
5. Distinctive, attractive communities
6. Predictable, fair, & cost effective development decisions
7. Mix land uses
8. Preserve open space, farmland, & critical environmental areas
9. Variety of transportation choices
10. Direct development to existing areas



Active Living

- Incorporate physical activity into daily life
- Built environment impacts
  - Neighborhoods
  - Transportation system
  - Buildings
  - Parks & public space
- Preventing obesity in youth and families

ibpi
Initiative for
Bicycle & Pedestrian
Innovation

Discussion