



**Deerfield Beach, Florida**  
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## Yet many roads are built like this



Raleigh North Carolina  
Photo: Takaaki Iwabu, Raleigh News Observer

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## What is a Complete Street?



A Complete Street is safe, comfortable and convenient for travel via automobile, foot, bicycle, and transit.

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## Introductions 1: Who are you?

- Are you a planner? Engineer? Elected official? Interested citizen? Other?
- City? County? Public health? Advocacy? Other?



THE NATION'S NEWSPAPER  
**USA TODAY**  
NO. 1 IN THE USA  
Monday, July 30, 2007

### 'Complete streets' programs give more room for pedestrians, cyclists

Advocates say roads should be used for more than just autos.

**City Building Change**

As many as 10 million people are expected to live in the United States by 2020, and that population will be more diverse than ever before. The nation's cities and towns are being forced to rethink how they build roads and how they use them. One of the most significant changes is the move toward "complete streets" — roads that are designed to be safe and convenient for all users, including pedestrians, cyclists, transit users and motorists.

Complete streets programs are being implemented in cities and towns across the country. In Raleigh, North Carolina, the city has adopted a complete streets policy that requires all new roads to be designed to accommodate all modes of transportation. This includes providing sidewalks, crosswalks, bike lanes and transit stops.

Advocates say that complete streets programs are essential for creating more livable communities. They argue that roads should be designed to encourage walking and cycling, not just driving. By providing safe and convenient options for all modes of transportation, cities can reduce traffic congestion, improve air quality and promote public health.

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## Introductions 2: Who are we?

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## Outline of Today's Policy Development Workshop

1. Introduction: Why do we need Complete Streets?
  - What complete streets are and aren't
  - What an ideal Complete Streets policy looks like
2. Implementation:
  - Street classification – a new way to look at streets
  - Road diets – making room for Complete Streets
  - Performance measures – Getting what you want out of your streets
3. Current policies: What works, what doesn't
4. Creating **YOUR** Complete Street policy: What would work best for you





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# Everyone wins with Complete Streets

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### Complete Streets policies provide for all users

US Access Board

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### What is a Complete Streets policy?

Ensures that the **entire right-of-way** is designed for all users

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### What is a Complete Streets policy?

Ensures that the **entire right-of-way** is designed for all users

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### Why have a Complete Streets policy?

- To make the needs of all users the **default** for **everyday** transportation planning practices:
  - No need to **prove** pedestrian, bicycle, and transit facilities are **needed**
  - Rather, it's **assumed** they're needed **unless proven otherwise**

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### Why have a Complete Streets policy?

- To shift transportation investments so they create better streets **opportunistically**:
  - Take advantage of all planning, construction, operations and maintenance activities

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### Why have a Complete Streets policy?

- To ensure existing funds are used differently:
  - Every project creates better streets **now**.

### Why have a Complete Streets policy?

- To save **money**:
  - Retrofits cost more than getting it right initially




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### Why have a Complete Streets policy?

- To gradually create a complete **network** of roads that serve all users




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### Why have a Complete Streets policy?

- To give transportation professionals political and community support for innovative solutions that help make active living possible



NYC DOT



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### Why have a Complete Streets policy?

- Because it's the right thing to do:
  - "... a Complete Streets approach offers the perfect intersection of my twin guideposts: safety and livable communities."

Secretary Ray LaHood  
- November 17, 2009




### Who wants Complete Streets?

- Most Americans would rather **drive less & walk more**
- Transit is growing faster** than population or driving
- About **one-third** of Americans don't drive:
  - ✓ 21% of Americans over **65**
  - ✓ Children **under 16**
  - ✓ **Low income** Americans can't afford to drive

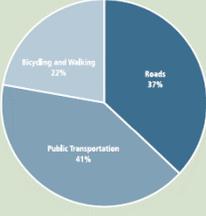




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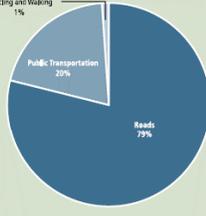
### Americans want Complete Streets

How Respondents Would Allocate Transportation Funding



Roads	37%
Public Trans	41%
Bike/walk	22%

How Transportation Funding is Currently Allocated



Roads	79%
Public Trans	20%
Bike/walk	1%

From Active Transportation for America: the case for increased federal investment in bicycling and walking, RTC 2008



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### Benefits: older Americans

- 21% over 65 do not drive
- Over 50% of non-drivers stay at home on a given day because they lack travel options
- 54% of older Americans living in inhospitable neighborhoods would walk and ride more if things improved




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### Benefits: health

- Now Americans move without moving
- 60% are at risk for diseases associated with inactivity:
  - Obesity
  - Diabetes
  - High blood pressure
  - Other chronic diseases




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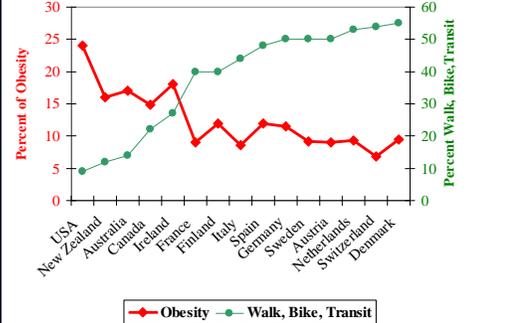
### Benefits: physical activity

- Residents more likely to walk in a neighborhood with sidewalks
- Cities with more bike lanes have more bicycling
- 1/3 of regular transit users meet min. daily physical activity requirement during their commute




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### Benefits: physical activity



Country	Percent of Obesity (Red Line)	Percent Walk, Bike, Transit (Green Line)
USA	25	10
New Zealand	15	15
Australia	18	20
Canada	15	25
Iceland	18	30
France	10	35
Finland	12	40
Italy	10	45
Spain	12	50
Germany	10	55
Sweden	10	55
Austria	10	55
Netherlands	10	55
Switzerland	10	55
Denmark	10	55

Source: Pucher, "Walking and Cycling: Path to Improved Public Health," Fit City Conference, NYC, June 2009



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### Benefits: safety

- Intersections designed for pedestrians can reduce pedestrian risk by 28%
- Sidewalks reduce pedestrian crash risk by 88%




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### Benefits: people with disabilities

- Improved mobility for people with disabilities and reduced need for expensive paratransit service




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### Benefits: better use of transit funds



A year of **paratransit service** for a daily commuter: \$38,500



Making a transit stop **accessible**: \$7,000-\$58,000

Source: Maryland Transit Administration



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### Benefits: the environment

- Fewer emissions
- Less noise pollution
- Less wear and tear on our roads
- Less need to widen roads



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### Benefits: Less need to widen roads

Trips in metro areas:

- 50% - less than 3 miles
- 28% - less than 1 mile:
  - 65% of trips under 1 mile are now taken by car



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### Benefits: the economy and your wallet

Multi-modal streets:

- Increase home values
- Revitalize retail
- People can leave their car at home



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### How Complete Streets change the built environment



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### Complete Streets change intersection design



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**Complete Streets change intersection design**



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**Complete Streets change bicycling**



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**Complete Streets change bicycling**



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**Complete Streets change transit**



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**Complete Streets change transit**



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**Complete Streets change accessibility**



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### Complete Streets change accessibility

A woman in an orange top and a man in a wheelchair are on a sidewalk. A yellow tactile paving strip is visible on the sidewalk.

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### Complete Streets and trails

- Streets provide **access** to trails
- Complete Streets + trails = **comprehensive** non-motorized network
- Complete Streets take pressure off **overcrowded** trails

A sign for 'END BIKE ROUTE' with a bicycle icon is shown. A person is riding a bicycle on a path in the background.

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### Complete Streets is NOT:

- A design **prescription**
- A mandate for **immediate** retrofit
- A **silver bullet**; other initiatives must be addressed:
  - Land use (*proximity, mixed-use*)
  - Environmental concerns
  - VMT reduction (*i.e. pricing, gas taxes*)

✓ (but complete streets will help!)

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### What does a Complete Street look like?

- One size doesn't fit all:
  - Complete Streets doesn't mean **every** street has sidewalks, bike lanes and transit

**There is no magic formula**

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### The many types of Complete Streets

A street scene showing a cyclist, a car, and a bus. The street is wide and has a sidewalk.

**A slow-speed shared street**

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### The many types of Complete Streets

A street scene showing a crossing, a bus, and a person on a bicycle. The street is wide and has a sidewalk.

**One crossing completes a Safe Route to School**

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### The many types of Complete Streets



Shoulder bikeways on rural roads



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This image shows a two-lane asphalt road with a white center line and yellow edge lines. A paved shoulder on the right side is marked with a white line and a bicycle symbol, indicating a designated bike lane. A speed limit sign for 45 mph is visible on the right side of the road. The background shows trees and utility poles.

### The many types of Complete Streets



Busy multi-modal thoroughfares



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This image shows a busy urban intersection with multiple lanes. A cyclist is riding in a designated bike lane on the left. There are cars, a bus, and a building in the background. The road has clear lane markings and a speed limit sign.

### The many types of Complete Streets



Transit routes



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This image shows a transit stop on a city street. The stop is a small, covered structure with a bench. A sidewalk leads to the stop, and a road with trees and a utility pole is visible in the background.

### The many types of Complete Streets



Suburban thoroughfares



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This image shows a wide, multi-lane road in a suburban setting. There is a grassy median and a sidewalk on the left. The road has clear lane markings and a speed limit sign. The background shows houses and trees.

### The many types of Complete Streets



Residential skinny streets



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This image shows a narrow residential street with parked cars on the side. A sidewalk runs along the right side of the road. The background shows houses and trees.

### The many types of Complete Streets



Low traffic shared streets



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This image shows a wide, paved path or street with a sidewalk on the left. Two people are walking on the path. The background shows trees with autumn foliage and a utility pole.

## The many types of Complete Streets



**Historic Main Street**

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## Complete Streets and Context Sensitive Solutions

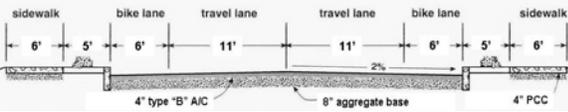
- Complete Streets doesn't mean **every street** has sidewalks, bike lanes, transit
- Context sensitivity:
  1. External context: land use
  2. Internal context: who is **likely to use** the street - bicyclists, pedestrians, transit users, drivers?




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## What do the design guides tells us?

The AASHTO "Green Book" states:  
 "Sidewalks are *integral parts* of city streets"  
 Not added to – a part of!



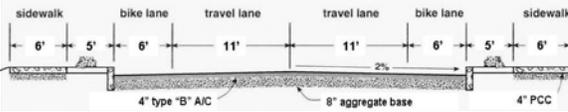
*"Shoulders are desirable on <...> urban arterials"*  
 Bike lanes are shoulders reserved for bicycle use!

AASHTO: American Association of State Highway and Transportation Officials  
 Green Book: A Policy on Geometric Design of Highways and Streets

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## Permission

Many transportation engineers and planners know how to build good streets; they're seeking permission to do so



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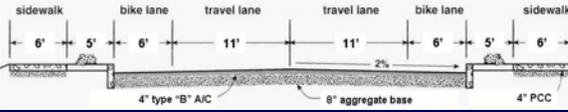
## What about funding?

- Complete Streets is about using **existing resources** differently:
  - STP, Equity Bonus, CMAQ, TE, State, Bond measures, gas tax, sales taxes, and now the stimulus \$... the usual suspects
- While retrofit funding is important, it is not necessary to get started
- **Additional** funding is not needed

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## Does it cost more?

1. Avoid costly retrofits
2. Minimal additional funding
3. Save money with better design



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### Sample low-cost improvements:

- Restripe for bike lanes without moving curbs/drainage
- Do not construct overly wide lanes (12' instead of 11')
- Sidewalks installed during drainage project add little cost
- Timing signals to control speeds and increase safety
- Countdown ped signals reduce crashes




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### Transformative moment

- Faltering national economy
- Increasing gas prices (Plan B)
- Obesity epidemic: CDC now recommends Complete Streets to prevent obesity
- Growing awareness: quality of life an economic engine
- Climate change and sustainability



### A Complete Streets policy...

... ensures that the entire right of way is planned, designed, and operated to provide safe access for all users."




### An ideal Complete Streets policy

1. Sets a vision
2. Includes all modes
3. Emphasizes connectivity
4. Applies to all transportation projects and phases
5. Adoptable by all agencies to cover all roads
6. Specifies and limits exceptions, with management approval required
7. Uses latest design standards and is flexible
8. Is context-sensitive
9. Sets performance standards
10. Includes implementation steps



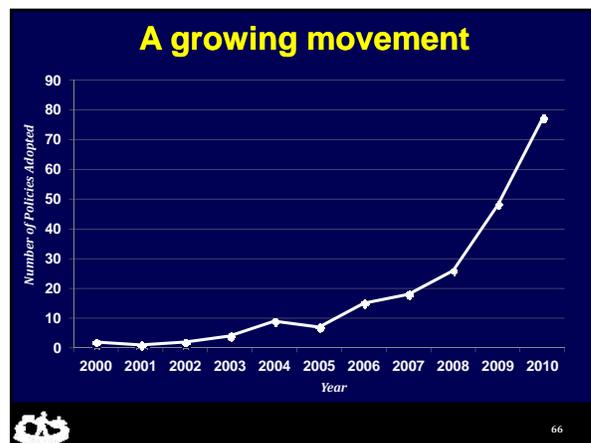
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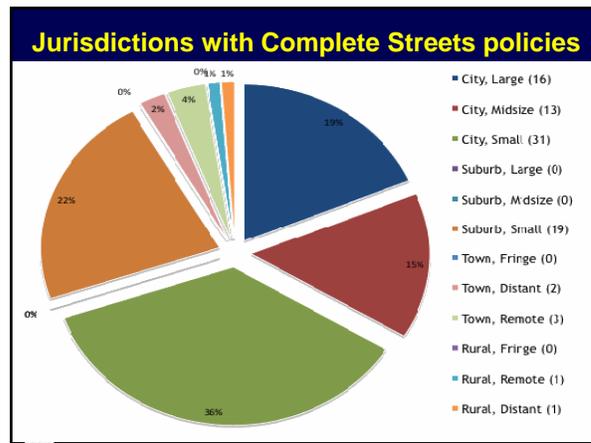
### Complete Streets

- Are sensitive to the community
- Serve adjacent land uses
- Serve all who potentially will use the street




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# EXERCISE

**How will your community benefit from a Complete Streets policy?**

**Each table brainstorm 3-5 ideas**

### Complete Streets benefits for our community: Deerfield Beach, Florida

1. Demographics of the City – many senior citizens plus a lot of tourists unfamiliar with the area – so more walking would be a plus
2. Try and tie eastern and western parts of the community together – I-95 is a major dividing line
3. Need to beautify corridors to encourage walking
4. Creates a vision to guide the community on future changes – land use, transport
5. Safety issues – 10th St/Powerline (2 recent pedestrians hit); landscaping needed
6. Resurfacing of 10th from Powerline to Military but design currently does not have bike lanes in the design – why not?
7. Two schools on Hillsboro – big road to cross; using adjacent shopping areas for drop offs, etc.
8. Economic benefits – CS can help manage traffic, increase pedestrian traffic, slow vehicular traffic – could have a positive impact for businesses
9. Demographics of Century Village; pedestrian and bicycle needs on 10th Street
10. Workshop upcoming in Century Village about the changing demographics of the community – e.g., children inheriting units from parents; single women like the security of the community; more snowbirds
11. Promotes general health of the City
12. Question – how do we educate motorists on how to drive better to be more aware of pedestrians; how do we improve the skills of drivers. How do we improve the skills of bicyclists including their compliance with traffic laws
13. Environmental benefits – reduce GHG (air quality)
14. Improving access to destinations – less car oriented, connectivity among land uses