Public Health Benefits of Speed Reduction Policies

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My one message from this presentation…

Better ROAD DESIGNS, AUTOMATED ENFORCEMENT, and LOWER SPEED LIMITS can SLOW TRAFFIC and SAVE LIVES

Leading Causes of Death 2010

- Heart disease: 597,689
- Cancer: 574,743
- Chronic lower respiratory diseases: 138,080
- Stroke (cerebrovascular diseases): 129,476
- Accidents (unintentional injuries): 120,859
- Alzheimer's disease: 83,494
- Diabetes: 69,071

http://www.cdc.gov/nchs/fastats/lcod.htm

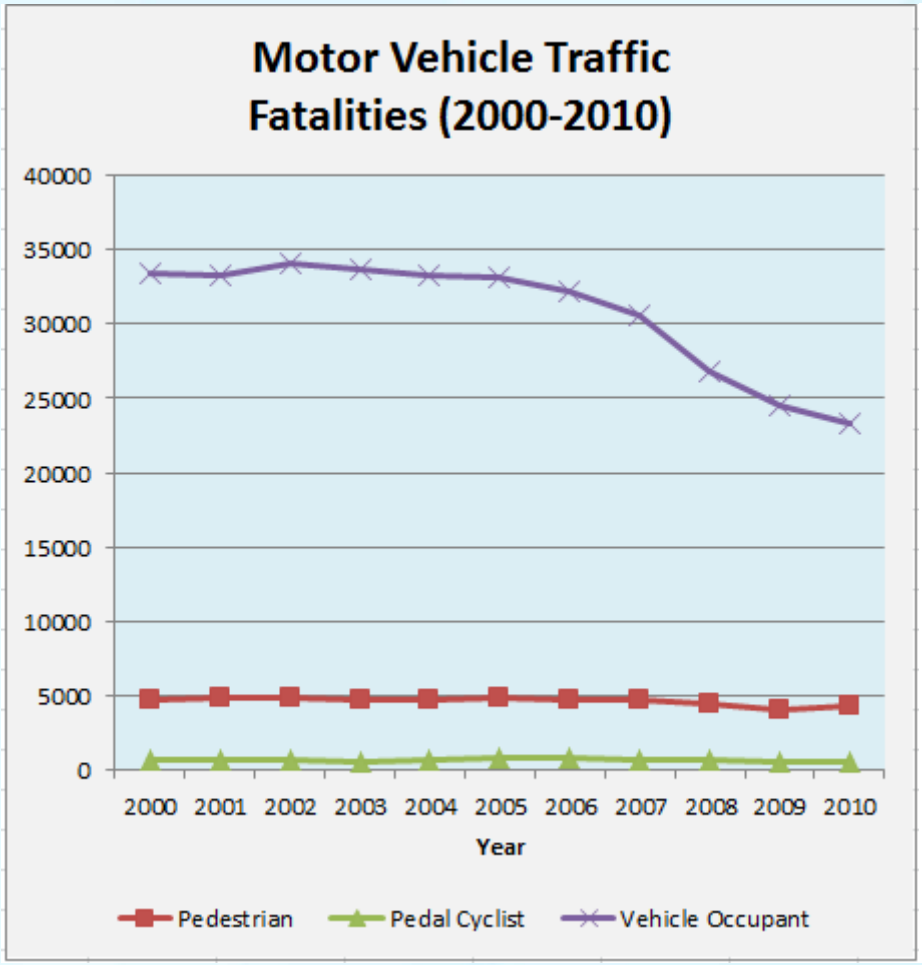
Injury / Fatality Burden

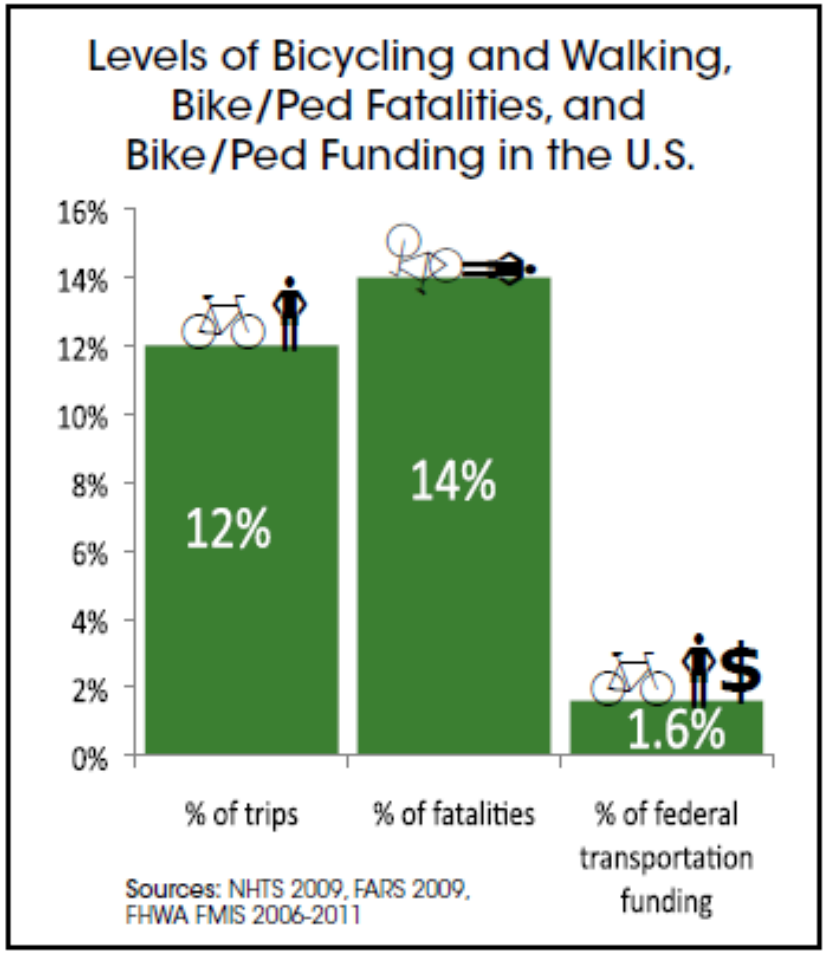
- **Motor Vehicle Deaths & Fatalities**
  - 32,367 deaths total (2011)[1]
    - 4,432 pedestrians (14%)
    - 677 pedal cyclists (2%)
  - 2.3 million non-fatal injuries (2008)[2]
  - $180 billion - medical, lost productivity, legal costs (2008)[3]
  - Leading cause of death for ages 5–34 in the country[4]

1. http://www-fars.nhtsa.dot.gov/Main/index.aspx
2. http://www-nrd.nhtsa.dot.gov/Pubs/811170.pdf
3. www.aaanewsroom.net/assets/files/200835919.crashesVscongestion fullreport2.28.08.pdf
4. http://www.cdc.gov/injury/overview/data.html

Photo Credit: http://www.texastownship.org/fire/Responses.aspx?ID=81

Fatality Burden





The perception and reality of danger inhibits physically active travel.

1. http://www.peoplepoweredmovement.org/site/index.php/site/memberservices/2012_benchmarking_report/

CDC Transportation and Health Policy Recommendations

1. **Reduce injuries associated with motor vehicle crashes**
2. Improve air quality
3. Expand public transportation
4. Promote active transportation
5. Encourage healthy community design

www.cdc.gov/transportation

Reduce injuries associated with motor vehicle crashes

- **Provide incentives to states** that implement, strengthen, and/or continue to use effective interventions that improve road traffic safety. Speed related recommendations include:
  - **Lower speed limits and other efforts to reduce speeding** within communities.
  - **Community designs that promote reduced traffic speeds** in neighborhoods
- **Bring health, transportation and community planners** together to address roadway safety issues through community design.

Safety concerns pose a barrier to physical activity

One pedestrian is hit every day in DeKalb, report says

Editor's note: This is part one of a three-part series on the state of DeKalb's health.

By Christian Harris
DeKalb Neighbor Staff Writer

Marie-Jose Schwartz is fighting to stop what she considers needless death and injury on roads in DeKalb County.

Ms. Schwartz, a coordinator for Safe Communities, an organization backed by the DeKalb Board of Health and the Governors Office of Highway Safety, works to raise awareness of traffic problems in DeKalb.

According to the DeKalb Board of Health's "Status of Health in DeKalb Report," between January 1995 and December 1997, a pedestrian is hit by a car at least once a day. In Fulton County, a pedestrian is hit by a car twice a day.

In DeKalb, pedestrians struck by cars totaled 1,095 during that two-year period. All told, the 64 pedestrian fatalities caused by cars accounted for 27 percent of all motor-vehicle-related deaths in DeKalb.

Motor vehicle crashes totaled 91,625, with 249,443 people involved in the accident, riding in 184,814 automobiles.

Ms. Schwartz said that an important step in lowering the number of pedestrian injuries is by changing the perception of car "accidents."

"Every crash that occurs could have been prevented," said Ms. Schwartz. "As long as we keep calling them 'accidents' people will keep thinking, 'Well, stuff happens.'"

Part of Safe Communities' plan is to alter ideas of why people are being hit by cars by pointing out easy ways that roads can be made safer.

Ms. Schwartz and her organization examined the county's roads to determine which were most hazardous for pedestrians. They found Buford Highway, which accounted for 25 percent of all pedestrian fatalities, to be the road where most incidents take place, followed by Flat Shoals Road, Candler Road, Glenwood Avenue and McAfee Road.

The next step was analyzing why these roads were dangerous. What they found were stretches of road that had crosswalks a half a mile apart forcing pedestrians to cross outside the crosswalk, poorly lit areas and a lack of sidewalks for those on foot.

Ms. Schwartz recounts the story of a woman in a wheelchair on a section of Buford Highway where there were no sidewalks.

"She was bookin' it in the right lane in her wheelchair with baby in her arms," she said, shaking her head.

Multi-use Transportation Coordinator Alan North said that building sidewalks is overdue for DeKalb.

"We should have sidewalks, we really need to step up the process of building sidewalks as part of DeKalb accepting urbanization," he said.

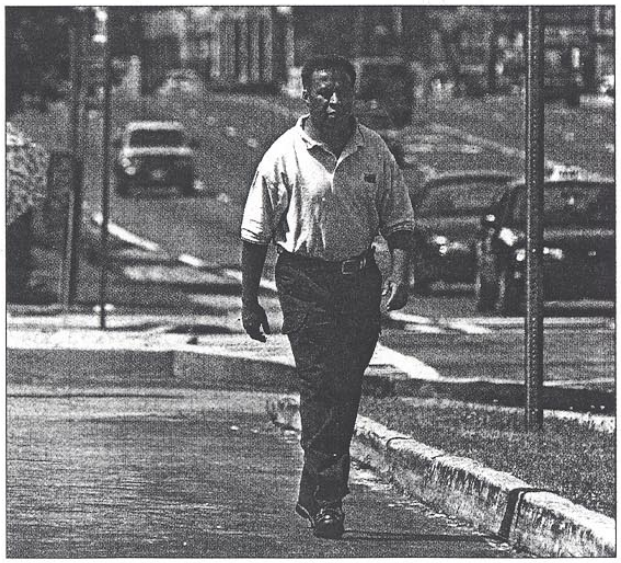
But, according to Ms. Schwartz, most accidents occur while crossing the street. She attributed this to a lack of awareness of pedestrian rights among motorists as one of the main problems.

"Pedestrians also need to be aware of the rules of traversing the street," said Ms. Schwartz.

According to Safe Communities, 48 percent of pedestrians struck in Chamblee were in the center lane while attempting to cross Buford Highway.

"We need to save pedestrian refuge islands," she said.

By creating stake holders groups in the Buford Highway area, the road is receiving the attention needed to correct the hazardous conditions. After a series of meetings, the Georgia Department of Transportation and DeKalb County Department of Public Works performed a $20,000 for a design study of the road. Construction on the sidewalks should begin by fall, Ms. Schwartz said.



Staff photo by Michael Wood

Alex Gomorez walks near the intersection of Chamblee-Dunwoody Road and Buford Highway in Chamblee.

"We do not stop exercising because we age, we age because we stop exercising … We are under-exercised as a nation. We look, instead of play. We ride, instead of walk. Our existence deprives us of the minimum of healthy activity essential for healthy living"

Health Benefits Associated With Regular Physical Activity

Children and Adolescents	Adults
• Improved cardiorespiratory fitness • Improved muscular fitness • Improved bone health • Favorable body composition • Improved cardiovascular and metabolic health biomarkers	• Lower risk of heart disease and stroke • Lower risk of high blood pressure • Lower risk of type 2 diabetes • Lower risk of colon and breast cancer • Prevention of weight gain • Improved cardiorespiratory and muscular fitness • Prevention of falls • Reduced depression • **Lower risk of early death**

Physical activity is a wonder drug.

But only about half the population gets recommended levels

US Department of Health and Human Services. 2008 Physical Activity Guidelines for Americans. Washington, DC: U.S. Department of Health and Human Services; 2008.

Institute of Medicine: Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation (IOM, 2012)

- Goal 1: Make physical activity an integral and routine part of life.
- Recommendation 1: Communities, **transportation officials**, community planners, health professionals, and governments **should make promotion of physical activity a priority** by substantially **increasing access to places and opportunities for such activity**.
- Strategy 1-1: Enhance the physical and built environment. Communities, organizations, community planners, and public health professionals should encourage physical activity by enhancing the physical and built environment, rethinking community design, and ensuring access to places for such activity.

http://www.nap.edu/openbook.php?record_id=13275&page=R1

Integrating Physical Activity in Daily Lives

- Shortbouts of Physical Activity are important (>10min sessions)
- Integrating Physical Activity into daily life is essential to over come time constraints.
- Scaling these interventions requires a comprehensive approach.

Why is Speed a Public Health Problem?

- Motor vehicle **crashes are a leading cause of death**
- Vehicle **speed is a major factor** in these crashes
- **Higher speeds are** particularly **dangerous for** vulnerable road users (**bicyclists and pedestrians**)
- Unsafe environments with **high speed traffic cited as barrier to physical activity**

Photo courtesy of CDC/ Amanda Mills

In 2011, SPEEDING played a role in NEARLY 1 IN 3 crash deaths.

Better ROAD DESIGNS, AUTOMATED ENFORCEMENT, and LOWER SPEED LIMITS can SLOW TRAFFIC and SAVE LIVES

Community-wide Speed Reduction Policy Brief

- Winner of 2012 CDC Policy Innovation Award
- Produced by Health Resources in Action with close consultation CDC and other health and transportation experts
- Focused on community wide speed reduction efforts (enforcement and engineering) including:
  - Large areas, such as a neighborhood,
  - Networks of residential or high volume/high capacity arterial roads, and
  - Densely populated areas where pedestrians and cyclists are often present.

WHAT DO WE KNOW ABOUT THE PROBLEM?

- Higher speeds mean more crashes.
- Speeding presents a danger on all types of roads.
- Speeding is pervasive in the United States.
- Small increases in speed lead to high risks for pedestrians — especially older adult pedestrians.
- High traffic speed and other road hazards are especially problematic for populations who rely on walking, bicycling, and public
- High vehicle speed contributes to real and perceived road dangers that make people less likely to walk and bike.
- The economic cost to society of speeding-related crashes is enormous ($40.4 billion per year.)

SMALL INCREASES in vehicle speed put pedestrians at much GREATER RISK OF DEATH[3]

PEDESTRIAN DEATHS / 100 AUTOMOBILE-PEDESTRIAN COLLISIONS

20mph

AT 20 MPH, THE RISK OF DEATH IS 6%

30mph

THE RISK OF DEATH AT 30 MPH IS 19% 3 TIMES GREATER THAN 20 MPH

45mph

THE RISK OF DEATH AT 45 MPH IS 65% 11 TIMES GREATER THAN 20 MPH

Technical Advisors

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Myths about Speed

Lower speed limits cause traffic delays.

Lower speed limits may actually improve traffic flow and reduce delays at intersections, making journey time the same or quicker in some cases.

A few more miles per hour in speed doesn't make a difference in safety.

At slow speeds, risk of severe injury and fatality is low. But as speed increases above 20 mph, small changes in speed lead to dramatic increases in risk of death and injury upon impact.

Traffic calming measures slow down emergency vehicles.

Some traffic calming devices allow rapid passage for emergency responders.

Impact Brief: Evidence-based Interventions

Evidence-based interventions

Engineering

Design and retrofit road networks to ensure safe speeds for all road users (motorists, cyclists and pedestrians).

Enforcement

Use automated technologies to enforce speed limits

Set speed limits for the safety of all road users

Enforcement

Automated technologies to enforce speed limits: using speed cameras to document speed and to issue tickets to violators reduces crashes, injuries, and fatalities.

- In one county, in the first year of use, injury and fatality collisions were reduced by almost 40 percent.

Set speed limits for the safety of all road users.

Context based speed limits (as opposed to 85th percentile)

Lowered speed limits on residential roads

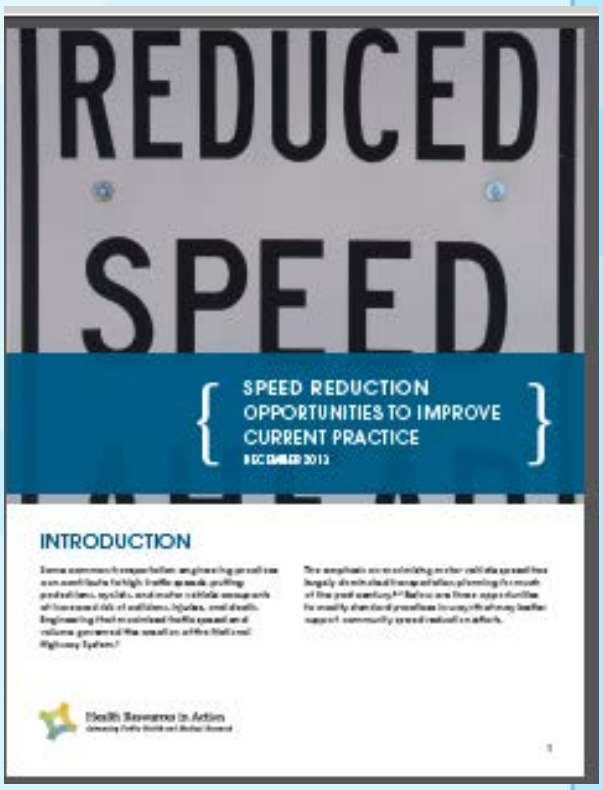
- Reducing speed limits is most effective when combined with engineering components

Engineering
Design and Retrofit Roads for All Users

- **Lower design speed** through Intersection design, lane width, curves along the street
  Complete Streets policies adopted across multiple agencies and departments.
- **Install traffic calming measures** like lane-narrowing, raised crosswalks, speed humps and road diets.
- **Slow zones:** networks of streets or locations designated for reduced speeds through signs, road markings, and traffic calming, engineering, and design measures.

Additional Opportunities for Reducing Speed Fact Sheet:

- **Additional Opportunities to reduce speeds by adjusting common traffic management practices, including:**
  - The manner in which speed limits are set;
  - How traffic lane widths are determined; and
  - The amount of data routinely collected about traffic speed and the impact of vehicle speed on and specific road users like cyclists and pedestrians.



Case Studies

- **Chicago, IL:** Child Safety Zone Initiative designates 'safe zones' around all 1,500 schools and parks across the city.
- **Columbia, MO:** The City of Columbia City Council reduced the speed limit on residential roads from 30 mph to 25 mph.
- **District of Columbia:** The Photo Enforcement Program uses automated enforcement technology to reduce speed-related crashes, injuries, and fatalities.
- **New York City, NY:** Neighborhood Slow Zone Program creates 20 mph slow zones in residential areas through signage, pavement markings, and traffic calming measures.
- **Portland, OR:** A network of 20 mph Neighborhood Greenways on low traffic volume residential streets are designed to prioritize bicycles and pedestrians over automobile traffic.
- **Seattle, WA:** Reducing Motor vehicle speeds through policy, education, environmental and enforcement strategies to help the city achieve its goal of zero traffic-related fatalities by 2030.

Thank You

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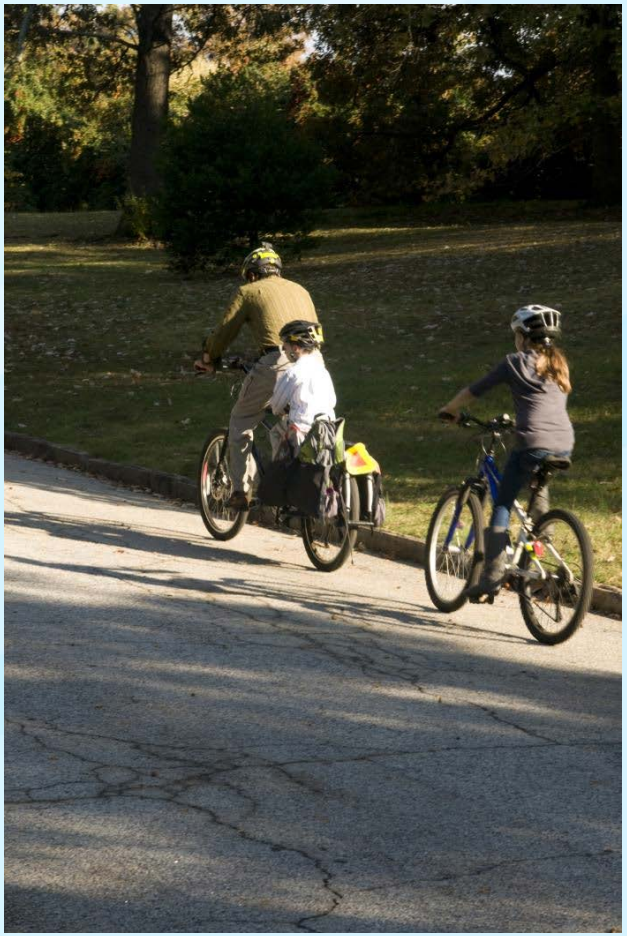

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the Agency for Toxic Substances and Disease Registry