



Smart Growth America
Making Neighborhoods Great Together



**National Complete
Streets Coalition**

BENEFITS OF COMPLETE STREETS

Complete Streets Improve Safety

Virginia Noll came home from grocery shopping in Wilkes-Barre, Pennsylvania on June 11, 2009. As she crossed South Washington Street around 5:30 pm from the bus stop to the senior housing apartments where she lived, she was fatally struck by an SUV. The area is particularly dangerous for older adults, despite the high number living in the area. Her neighbor had warned her not to go out, fearing the 88-year-old would be hit while crossing a street.¹



Complete streets create a safe environment for all users. *Photo: Dan Burden, Walkable and Livable Communities Institute*

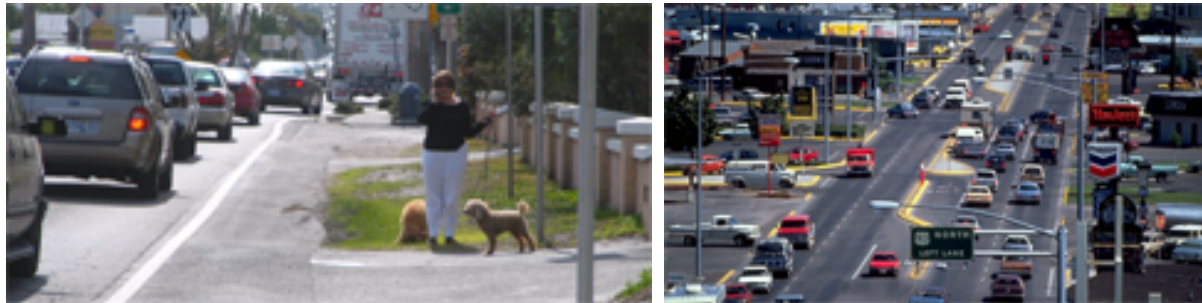
Incomplete streets put people at risk

Streets without safe places to walk, cross, catch a bus, or bicycle put people at risk. Over 5,000 pedestrians and bicyclists died on U.S. roads in 2008, and more than 120,000 were injured.² Pedestrian crashes are more than twice as likely to occur in places without sidewalks; streets with sidewalks on both sides have the fewest crashes.³ While the absolute numbers of bicyclists and pedestrians killed has been in decline for the decade, experts attribute this in part to a decline in the total number of people bicycling and walking.

Of pedestrians killed in 2007 and 2008, more than 50 percent died on arterial roadways, typically designed to be wide and fast.⁴ Roads like these are built to move cars and too often do not have meet the needs of pedestrian or bicyclist safety. More than 40 percent of pedestrian fatalities occurred where no crosswalk was available.⁵

A recent study comparing the United States with Germany and the Netherlands, where Complete Streets are common, found that when compared per kilometer traveled, bicyclist and pedestrian

death rates are two to six times higher in the United States. Complete Streets therefore improve safety indirectly, by encouraging non-motorized travel and increasing the number of people bicycling and walking. According to an international study, as the number and portion of people bicycling and walking increases, deaths and injuries decline.⁶ This is known as the safety in number hypothesis: more people walking and biking reduce the risk per trip.



Incomplete streets can create a dangerous environment for people outside of cars. Photos: Dan Burden, Walkable and Livable Communities Institute.

Complete Streets help reduce crashes

Complete Streets reduce crashes through comprehensive safety improvements. A Federal Highway Administration review of the effectiveness of a wide variety of measures to improve pedestrian safety found that simply painting crosswalks on wide high-speed roads does not reduce pedestrian crashes. But measures that design the street with pedestrians in mind – sidewalks, raised medians, better bus stop placement, traffic-calming measures, and treatments for disabled travelers – all improve pedestrian safety.⁷ Some features, such as medians, improve safety for all users: they enable pedestrians to cross busy roads in two stages, and reduce left-turning motorist crashes to zero, a type of crash that also endangers bicyclists.

One study found that designing for pedestrian travel by installing raised medians and redesigning intersections and sidewalks reduced pedestrian risk by 28 percent.⁸ Speed reduction has a dramatic impact on pedestrian fatalities. 80 percent of pedestrians struck by a car going 40 mph will die; at 30 mph the likelihood of death is 40 percent. At 20 mph, the fatality rate drops to just 5 percent.⁹ Roadway design and engineering approaches commonly found in Complete Streets create long-lasting speed reduction. Such methods include enlarging sidewalks, installing medians, and adding bike lanes. All road users – motorists, pedestrians and bicyclists – benefit from slower speeds

Complete Streets encourage safer bicycling behavior. Sidewalk bicycle riding, especially against the flow of adjacent traffic, is more dangerous than riding in the road due to unexpected conflicts at driveways and intersections. A recent review of bicyclist safety studies found that the addition of well-designed bicycle-specific infrastructure tends to reduce injury and crash risk. On-road bicycle lanes reduced these rates by about 50 percent.¹⁰

Learn more at www.smartgrowthamerica.org/completestreets.

- 1 Skraptis, E. (2009, June 12). "Pedestrian Killed on South Washington Street in Wilkes-Barre." *Wilkes-Barre Citizens Voice*.
- 2 National Highway Traffic Safety Administration. (2009). *Traffic Safety Facts: 2008 Data*. Retrieved from: <http://www-nrd.nhtsa.dot.gov/Cats/listpublications.aspx?Id=A&ShowBy=DocType>

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- 3 Campbell, B., et al. (2004). "A Review of Pedestrian Safety Research in the United States and Abroad." *Federal Highway Administration Publication # FHWA-RD-03-042*
 - 4 Transportation for America and the Surface Transportation Policy Partnership. (2009). *Dangerous by Design*. Ernst, M., & Shoup, L.
 - 5 Ibid.
 - 6 Jacobsen, P. (2003). "Safety in Numbers: More Walkers and Bicyclists, Safer Walking and Biking." *Injury Prevention* (2003): 205-209.
 - 7 Campbell, B., et al. (2004).
 - 8 King, M., Carnegie, J. & Ewing, R. (2003). "Pedestrian Safety Through a Raised Median and Redesigned Intersections." *Transportation Research Board* 1828 (2003): 56-66.
 - 9 US Department of Transportation, National Highway Traffic Safety Administration (1999). *Literature Review on Vehicle Travel Speeds and Pedestrian Injuries Among Selected Racial/Ethnic Groups*. Leaf, W., & Preusser, D.
 - 10 Reynolds, C., et al. (2009). "The Impact of Transportation Infrastructure on Bicycling Injuries and Crashes: A Review of the Literature." *Environmental Health*, Vol. 8, No. 47.