

Change Travel Patterns



Complete Streets are designed and operated so they work for all users— pedestrians, bicyclists, motorists and transit riders of all ages and abilities. Communities that adopt complete streets policies are asking transportation planners and engineers to consistently design and alter the right-of-way with all users in mind. Contact the National Complete Streets Coalition (www.completestreets.org) to learn about the diverse groups working together to enact complete streets policies across the country!

Boulder, CO has been completing its streets since the early 1990s, with over 380 miles of dedicated bike facilities, paved shoulders, and a comprehensive transit network. Between 1990 and 2006, fewer people in the city drove alone, more people walked or bicycled, and transit trips nearly doubled.¹

Incomplete Streets discourage getting out of the car

The 2001 National Household Transportation Survey found that 48% of all trips in metropolitan areas are three miles or less and 28% of all metropolitan trips are one mile or less – distances easily traversed by foot or bicycle. Yet 65% of trips under one mile are made by automobile, in part because of incomplete streets that make it dangerous or unpleasant to walk, bicycle, or take transit.²

Surveys have found that a lack of sidewalks and safe places to bike are a primary reason people give when asked why they don't walk or bicycle more.³ A national poll found 47% of Americans over 50 said they could not cross main roads near their home safely. Almost 40% said their neighborhoods do not have adequate sidewalks, while another 55% reported no bike lanes or paths, and 48% reported no comfortable place to wait for the bus. More than half said they would walk and bike more if conditions were improved.⁴

About one third of Americans live in communities without sidewalks; if they were to walk at the same rate as those in communities with sidewalks, an additional 2.8 million adults would be out walking.⁶

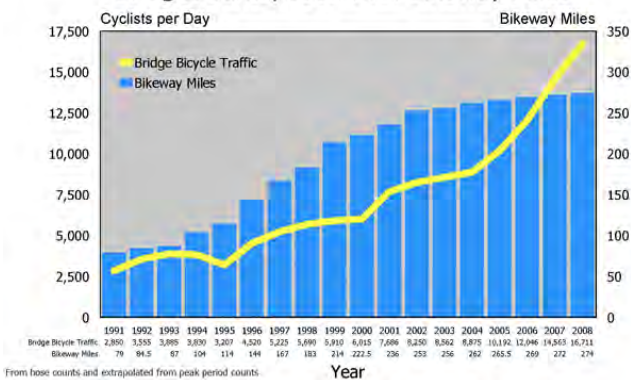
Similarly, a study conducted in King County, WA found that walking and public transportation use is less prevalent in the areas with low street connectivity and a limited variety of destinations. Residents in those areas drove 26% more miles than Washingtonians living in more walkable areas.⁵

Complete Streets increase use of public transportation, bicycling, and walking

Completing the streets for people who are walking, bicycling, and taking public transportation does more than make the roads safe for existing users – more people begin to choose to leave their cars in the driveway.

A recent review of studies comparing highly walkable and poorly walkable neighborhoods found that residents of the former reported approximately two times more walking trips per week than the latter.⁸ Furthermore, there is a synergistic relationship between transit use and neighborhood walkability. Residents of King County, WA living in walkable neighborhoods – with good street connectivity and a greater mix of land uses – use public transportation more than those who do not live in such walkable area.⁹

Combined Bicycle Traffic over Four Main Portland Bicycle Bridges Juxtaposed with Bikeway Miles



Between 1991 and 2008, Portland expanded its bicycle network 250%, increasing from roughly 75 to 275 total bikeway miles. During the same period, ridership increased 490% as measured by collecting daily counts over four main bridges. Ridership counts continue to increase even as the number of bikeway miles levels off.⁷



Complete Streets Steering Committee Organizations

AARP
Alliance for Biking and Walking
America Bikes
America Walks
American Council of the Blind
American Planning Association
American Public
Transportation Association
American Society of
Landscape Architects
Association of Pedestrian and
Bicycle Professionals
City of Boulder
HNTB
Institute of Transportation Engineers
League of American Bicyclists
McCann Consulting
National Association of Area Agencies
on Aging
National Center for Bicycling
and Walking
Safe Routes to School National
Partnership
Smart Growth America
SvR Design Company

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For typical U.S. cities with populations over 250,000, each additional mile of bike lanes per square mile is associated with a roughly one percent increase in the share of workers commuting by bicycle. Increasing the share of workers commuting by bicycle by one percentage point would double the average number of bicycle commuters in many cities.¹⁰

Rapid transit bus service that operates on streets improved to speed bus travel can increase ridership and shift trips from cars. Rapid bus service in Los Angeles, slashed travel times by 25 percent. Within one year, ridership soared by 30 percent.¹¹ The Orange Line in particular, outperformed its first year ridership projections by attracting roughly 22,000 weekday boardings after only seven months of service. The California Center for Innovative Transportation found a 7% increase in traffic flow during morning rush hour and a 14% decrease in total time spent in congestion since the Orange Line began operating.¹²



Boulder, CO, makes it easy for residents and visitors to choose different modes of travel with a well-connected bicycle network, lots of sidewalks, and frequent public transportation service.

Innovations such as 'road diets' have had a clear impact on travel patterns. In 1999, Valencia Street in San Francisco was converted from a four-lane road to a three-lane road with a center turn lane and bicycle lanes. One year after the conversion, a study by the city found that bicycle volume increased 144% on Valencia Street during the afternoon peak period; collisions decreased.¹³ A similar road diet on Edgewater Drive in Orlando resulted in a 23% increase in pedestrian traffic, a 30% increase in bicycle traffic, and automobile travel delays increased by only 10 seconds during the morning peak.¹⁴

More children are likely to walk or bike to school when sidewalks or footpaths are present, when there are safe street crossings, and when reduced vehicle speed are enforced in school zones.¹⁵ Safe Routes to School programs, which include completing streets around schools, increased the number of children walking to school. The California program, initiated through legislation in 1999, was an immediate success, with more kids walking to school, reduced traffic speeds near schools, and more drivers yielding to pedestrians.¹⁶

Availability of and access to bike paths and footpaths are associated with greater levels of physical activity.¹⁷ A study spanning seven countries found five environmental factors significantly related to the amount of physical activity in which residents engaged. Three involved complete streets: sidewalks on most streets, public transportation stops nearby, and the presence of bicycle facilities. The more factors that were present, the higher the activity level of residents.¹⁸ Advocates who fought hard for inclusion of a bicycle-pedestrian path on the new Ravenel Bridge in South Carolina commissioned a study of the now wildly popular path. Two-thirds of the path's users are getting more exercise since the bridge path opened.



Footnotes on following page or online at www.completestreets.org/factsheets



¹ "Modal Shift in the Boulder Valley 1990 – 2006" National Research Center Inc., for the City of Boulder, 2006-7.

² 2001 National Household Transportation Survey.

³ "Public Attitude Survey of Bicycle and Pedestrian Planning." Wilbur Smith Associates, Bellevue, Washington, May 2007.

⁴ AARP Poll: Fighting Gas Prices, Nearly A Third of Americans Age 50+ Hang Up Their Keys To Walk But Find Streets Inhospitable, Public Transportation Inaccessible.

⁵ "A Study of Land Use, Transportation, Air Quality, and Health (LUTAQH) in King County, WA." Lawrence Frank and Company, Inc. September 27, 2005.

⁶ "Sidewalks Promote Walking." Bureau of Transportation Statistics, Issue Brief 12, December 2004

⁷ "Portland Bicycle Counts 2008." Portland Bureau of Transportation, October 2008.

⁸ Saelens B., Sallis, J., and Frank, L. "Environmental Correlates of Walking and Cycling: Findings From the Transportation, Urban Design, and Planning Literatures." *Annals of Behavioral Medicine*, 25(2), 2003, pp 80-91.

⁹ "A Study of Land Use, Transportation, Air Quality, and Health (LUTAQH) in King

¹⁰ Dill, Jennifer and Theresa Carr. "Bicycle Commuting and Facilities in Major US Cities: If You Build Them, Commuters Will Use Them." *Transportation Research Record: Journal of the Transportation Research Board*, No. 1828, TRB, 2003, pp 116-123.

¹¹ "Metro Rapid Demonstration Program, Final Report." Los Angeles County Metropolitan Transportation Authority, March 2002.

¹² Callaghan, Lisa and William Vincent. "A Preliminary Evaluation of the Metro Orange Line Bus Rapid Transit Project." *Transportation Research Record: Journal of the Transportation Research Board*, No. 2034, TRB, 2007, pp 37-44.

¹³ Sallaberry, Michael. "Valencia Street Bicycle Lanes: A One Year Evaluation." San Francisco Department of Parking and Traffic, December 14, 2000.

¹⁴ "Edgewater Drive Before & After Re-Striping Results." City of Orlando, Transportation Planning Bureau, November 1, 2002.

¹⁵ Ewing, Reid, Will Schroerer, William Greene. "School Location and Student Travel: Analysis of Factors Affecting Mode Choice." *Transportation Research Record: Journal of the Transportation Research Board*, No. 1895, TRB, 2004, pp 55-63.

¹⁶ Appleyard, B. *Planning Safe Routes to School*. Planning American Planning Association, May 2003.

¹⁷ Humpel N., Owen N., and Leslie E. "Environmental Factors Associated with Adults' Participation in Physical Activity." *American Journal of Preventative Medicine*, 22(3), 2002, pp 188-199.

¹⁸ Sallis, James F, Ph.D, Heather R. Bowles, Ph.D, Adrian Bauman MBBS, et al. *Neighborhood Environments and Physical Activity Among Adults in Eleven Countries*. *American Journal of Preventative Medicine* 36(6), 2009, pp 484-490.

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