

Complete Streets

In the last decade transportation planners and urban designers have made a significant shift in their approach to the design and intended function of streets. Conventional transportation planning was concerned primarily with the safe and efficient movement of cars. Today many transportation planners are working with land-use experts and urban designers to create what have been termed "complete streets."

WHAT ARE COMPLETE STREETS?

A complete street is a safe, accessible, and convenient street for all users regardless of transportation mode, age, or physical ability. Complete streets adequately provide for bicyclists, pedestrians, transit riders, and motorists. Complete streets promote healthy communities and reductions in traffic congestion by offering viable alternatives to driving.

Democratizing the Streets. Because streets and roads are the largest component of public space in every city, they should benefit the entire community. Improved design, a redefinition of function, and physical reorganization are the ways to achieve these benefits. Jurisdictions that adopt complete streets policies aim to create a comprehensive and integrated local and regional transportation network for all travel modes—driving, walking, and cycling.

Policy Considerations. Creating complete streets may mean changing the policies and practices of transportation agencies. Advocates argue that it will take new training, new procedures, and design manual changes to accommodate bicycling, walking, and transit to an equal degree with motor vehicles.

Different Approaches. The principle behind complete streets policy is that multimodal corridors should become the default design mode for streets—and a formal exception process must be followed when they are not. Many existing policies are based on the U.S. Department of Transportation's

PAS

QuickNotes

PAS QuickNotes No. 5



American
Planning
Association

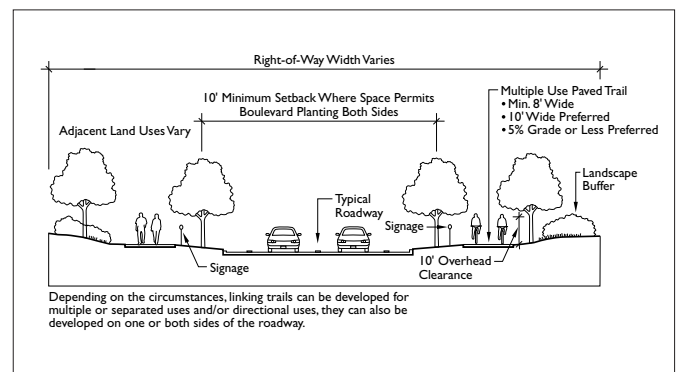
design guidance for Accommodating Bicycle and Pedestrian Travel: A Recommended Approach, which names only three exceptions where roads can lack facilities for all users: (1) excessive cost, (2) absence of need, and (3) roads where bicyclists and pedestrians are prohibited. More comprehensive policies include accommodation for people with disabilities and for transit vehicles and users.

COMPLETE STREETS DESIGN CONSIDERATIONS

Skinny Streets. Skinny, or narrow, streets complement complete streets policies. Narrower traffic lanes result in slower travel speeds that translate into safer, more accessible, and more pleasant thoroughfares for all users. A physical narrowing of the actual street may be unnecessary because on-street parking can also visually narrow the thoroughfare for drivers.

Street Connectivity. Street connectivity—meaning the directness and length of the street blocks and the density of connections within a street system— influences the accessibility of destinations in a community and holds important implications for modal choice. Complete streets in areas with higher levels of street connectivity will produce greater overall accessibility for all travelers, regardless of the mode they choose.

Context-Sensitive Streets. All streets are not alike. Streets in industrial areas have a much different character than streets in residential, commercial, and mixed use districts. Traffic engineers and urban designers are beginning to combine the functional classification of streets with their adjacent land uses to yield a more comprehensive array of street types. This approach takes into account land uses adjacent to the street and recommends five basic classes of street design: commercial streets,



Linking trails emphasize safe travel for pedestrians to and from parks and around the community.

From Planning and Urban Design Standards.
© 2006 by John Wiley & Sons, Inc.

(Continued on back.)

mixed use streets, main streets, residential streets, and industrial streets. Streets in each class can be designed as complete streets.

Complete Streetscape Design

Elements. Undertaking major construction projects to achieve complete streets is not always necessary. In fact, small projects can have a large impact. Examples include raised medians, pedestrian refuge islands within medians, bicycle lanes, bus pullouts, transit shelters, and street furniture.

COMPLETE STREETS ARE FOR EVERYONE

Pedestrian Safety. Communities with complete streets policies protect travelers from cars. Walkways should provide secure footing, pedestrian pathways should be clearly indicated, and signaling must consider the rights of all users of the road. Designing the street with pedestrians in mind—sidewalks, raised medians, better bus stop placement, traffic-calming measures—all improve pedestrian safety. One study found that designing for pedestrian travel by installing raised medians and redesigning intersections and sidewalks reduced pedestrian risk by 28 percent.

Public Health. Public health officials are calling for Americans to increase their physical activity. Officials argue that increased walking and bicycling will help to combat the current obesity epidemic. A 2002 report issued by the National Conference of State Legislators noted that the most effective policy for encouraging bicycling and walking is complete streets.

Vulnerable Populations. Truly complete streets go beyond accommodating bicycling and walking to consider children, the elderly, and people with a disability. More often than not, the elderly and people with disabilities rely on the pedestrian and transit infrastructure for access and mobility. Complete streets policies make it possible for vulnerable populations to better use transportation systems by equipping streets with the necessary infrastructure, including curb ramps, textured and varied pavement, audible crossing signals, countdown signals, and high-visibility crosswalks.



Multimodal streets like this one improve access and safety for drivers, pedestrians and cyclists.



Multimodal streets like this one improve access and safety for drivers, pedestrians and cyclists.

DEVELOPING WITH COMPLETE STREETS

Economic Development. Streets create marketable value for abutting private property by providing access. Complete streets can increase the economic viability of a city district by improving access for more people, thus increasing the potential number of customers to businesses.

Transit-Oriented Development. Complete streets policies go hand in hand with transit-oriented development (TOD). Traffic-calming measures, streetscape improvements, and transit have successfully been combined to revitalize entire commercial districts. Both residential and commercial projects near transit typically appreciate in value more rapidly than other projects. In a TOD land uses and infrastructure are arranged to encourage and to facilitate the use of transit while accommodating a range of travel modes and purposes. Transition points where travelers transfer easily from one mode of transportation to another are key features of both complete streets and TODs.

Challenges. One challenge to complete streets implementation is a lack of right-of-way in cramped thoroughfares. Another is the misconception that complete streets cost more to build than "normal" streets when, in fact, complete streets most often cost no more and many times can cost less. Current methodologies for studying traffic pose another problem. Many contemporary traffic studies fail to consider how the presence of transit and decreases in automobile use associated with mixed use neighborhoods may lower trip generation rates. Communities should reevaluate traffic studies based on antiquated trip generation models. *Patrick C. Smith*

PAS QuickNotes is a publication of the American Planning Association's Planning Advisory Service (PAS). Copyright © 2006. Visit PAS online at www.planning.org/pas to find out how PAS can work you. PAS subscribers can log in for access to previous editions of PAS QuickNotes and the list of references for each topic. American Planning Association staff: W. Paul Farmer, FAICP, Executive Director; William R. Klein, AICP, Director of Research; Lynn M. Ross, AICP, Planning Advisory Service Manager; Jim Hecimovich, Senior Editor; Susan Deegan, Graphic Designer.



PAS

QuickNotes

PAS QuickNotes No. 5



American
Planning
Association

References

WHAT ARE COMPLETE STREETS?

1. Published by American Planning Association

Barnett, Jonathan. 2003. *Redesigning Cities: Principle, Practice, Implementation*. Chicago: American Planning Association Planners Press.

Bosselmann, Peter, Elizabeth Macdonald, and Thomas Kronmeyer. 1999. "Livable Streets Revisited." *Journal of the American Planning Association* 65, no. 2 (spring): 168–180.

Cervero, Robert. 1995. "Commuting in transit versus automobile neighborhoods." *Journal of the American Planning Association* 61, no. 2, (spring): 210–225.

McCann, Barbara. 2005. "Complete the Streets!" *Planning*, May, 18–23.

2. Other Resources

King, Michael, et al. 2003. "Pedestrian Safety Through a Raised Median and Redesigned Intersections," *Transportation Research Record*, no. 1828: 56–66.

McCann, Barbara. 2006. Email interview with author, June 15.

National Complete Streets Coalition. 2006. "Complete Streets" brochure. [Accessed June 12, 2006]. Available at www.completestreets.org/brochure.html.

Sacramento Transportation & Air Quality Collaborative. 2005. *Best Practices for Complete Streets*. Sacramento, Calif.: Sacramento Transportation & Air Quality Collaborative.

Thunderhead Alliance. 2006. *Guide to Complete Streets Campaigns*. Washington, D.C.: Thunderhead Alliance.

United States Department of Transportation. 2000. *Accommodating Bicycle and Pedestrian Travel: A Recommended Approach*. Washington, D.C.

COMPLETE STREETS DESIGN CONSIDERATIONS

1. Published by American Planning Association

American Planning Association(ed.). 2006. Planning and Urban Design Standards. Hoboken, N.J.: John Wiley & Sons.

Handy, Susan. 2002. "You Can Get There from Here." PAS Memo, November.

Handy, Susan, Robert G. Paterson, and Kent Butler. 2003. Planning for Street Connectivity: Getting from Here to There. Planning Advisory Service Report No. 515. Chicago: American Planning Association.

2. Other Resources

Institute of Transportation Engineers. 2006. Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities. Washington, D.C.: Institute of Transportation Engineers.

Jacobs, Alan. 1995. Great Streets. Cambridge, Mass.: MIT Press.

Transportation Research Board. 1998. Transit-Friendly Streets: Design and Traffic Management Strategies to Support Livable Communities. Transit Cooperative Research Program Report No. 33. Washington, D.C.: National Academy Press.

COMPLETE STREETS ARE FOR EVERYONE

1. Published by American Planning Association

Hoyle, Cynthia L. 1995. Traffic Calming. Planning Advisory Service Report No. 456. Chicago: American Planning Association.

Knack, Ruth E. 1998. "Drive Nicely." Planning, December, 12–19.

Markowitz, Frank and Michelle DeRobertis. 1998. "The Road to Safety." Planning, December, 4–8.

Svold, Terry S. 2002. "What Difference Has the ADA Made?" Planning, April, 10–15.

2. Other Resources

Appleyard, Donald, with M. Sue Gerson and Mark Lintell. 1981. Livable Streets. Berkeley, Calif.: University of California Press.

Campbell, B.J., Charles V. Zegeer, Herman H. Huang, and Michael J. Cynecki. 2004. A Review of Pedestrian Safety Research in the United States and Abroad. Washington, D.C.: Federal Highway Administration.

Ewing, Reid. 1999. Traffic Calming: State of the Practice. Washington, D.C.: Institute of Transportation Engineers.

Robbins, Leslie Teach and Larry Morandi. 2002. Promoting Walking and Biking: The Legislative Role. Washington, D.C.: National Conference of State Legislators.

DEVELOPING WITH COMPLETE STREETS

1. Published by American Planning Association

Boarnet, Marlon G. and Nicholas S. Compin. 1999. "Transit-Oriented Development in San Diego County: The Incremental Implementation of a Planning Idea." Journal of the American Planning Association 65, no. 1 (Winter): 80–95.

Dittmar, Hank. 2004. "Driving Growth Through Transit-Oriented Development." Zoning Practice, August.

Greenberg, Ellen. 2004. "Using Zoning to Reap the Benefits of TOD." Zoning Practice, August.

Pollock, Leslie. 1996. "A Framework for Transit-Oriented Development Planning." PAS Memo, February.

Thompson, Laura. 2002. "Integrated Transit-Oriented Development Mountain View." Planning, March, 10–11.

2. Other Resources

Belzer, Dana and Gerald Autler. 2002. "Transit-Oriented Development: Moving from Rhetoric to Reality." Discussion paper prepared for the Brookings Institution Center on Urban and Metropolitan Policy and the Great American Station Foundation, June.

Bernick, Michael. 1997. Transit Villages in the 21st Century. New York: McGraw-Hill.

Messenger, T and R. Ewing. 1996. "Transit-Oriented Development in the Sun Belt." Transportation Research Record 1552: 145–153.

Shelton, David S. and Anthony K. Lo. 2003. "Transit-Oriented Development in the Seattle, Washington, U.S., Area." ITE Journal 73, 8: 46–51.

Zykofsky, Paul. 2004. Why Build Near Transit? Sacramento, Calif.: Local Government Commission.