

GreenStep Cities Best Practice # 11

- final draft for comments through May 2010 -

❖ **Complete Green Streets:** Create a network of multimodal green streets.

Required for Category C cities

Category: Transportation

Summary

A well-designed green street network puts in place infrastructure that can deliver multiple benefits to a city: improved safety and mobility for cars, trucks, transit vehicles, bikes and pedestrians; increased walking and biking and community health; reduced emergency response times; a healthy tree canopy and reduced and cheaper stormwater management; more inviting public spaces and increased economic viability of businesses.

Best Practice Actions

- Category A and B cities must complete at least Action (1) if they choose to implement this best practice.
 - Category B cities must complete one additional Action if they choose to implement this best practice.
 - Category C cities must implement this best practice by completing Action (1) and two additional Actions.
- (1) Adopt a complete streets policy that addresses street trees and stormwater, and modify street standards accordingly.
 - (2) Adopt zoning language for a selected area/project that is substantially equivalent to the LEED for Neighborhood Development credits for Walkable Streets or Street Network.
 - (3) Document the installation of trees, and green stormwater infrastructure, and utility renovations as needed (sewer, water, electric, telecommunications) as part of at least one complete street reconstruction project.
 - (4) Identify and remedy non-complete street segments by, for example, adding a bike lane or sidewalk.
 - (5) Identify and remedy street-trail gaps (at least one) between city streets and trails/bike trails to better facilitate walking and biking.
 - (6) Implement traffic calming measures in at least one street redevelopment project.

See related best practices: *Efficient Stormwater Management* (for incorporating green stormwater infrastructure into streets); *Urban Forests* (for boulevard tree installation guidance); *Green Infrastructure* (for connecting roads and trails for bicycle and pedestrian transportation).

GreenStep Advisor

- Scott Bradley, landscape architecture chief, Minnesota Department of Transportation: 651/366-3302, scott.bradley@state.mn.us

Implementation Resources

(tied to the relevant Action by number)

- (1) MN Dept. of Transportation complete streets resources: <http://www.dot.state.mn.us/planning/completestreets>
- (1) MN Complete Streets Coalition: <http://www.mncompletestreets.org/>
- (1) *Best Practices Manual on Complete Streets* and other resources (American Planning Association: 2010): <http://www.planning.org/research/streets>
- (1) Emergency response and narrower street design: http://www.nextstep.state.mn.us/res_detail.cfm?id=4184
- (1) *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach* (Institute for Transportation Engineers, Congress for the New Urbanism: 2010): http://www.nextstep.state.mn.us/res_detail.cfm?id=2224
- (1) *GreenLITES* (Leadership In Transportation and Environmental Sustainability), a scorecard for transportation projects based on the extent to which they incorporate sustainable design choices: http://www.nextstep.state.mn.us/res_detail.cfm?id=4140
- (2) The Leadership in Energy and Environmental Design for Neighborhood Development performance standards are over 300 street intersections per square mile: <http://www.usgbc.org/leed/nd>

- (3) *Green Streets* (EPA: 2009), a well-illustrated guide to effective design of alleys and residential, commercial and arterial streets to reduce stormwater flow, improve water quality, reduce urban heating, enhance pedestrian safety, reduce carbon footprints, and beautify neighborhoods:
http://www.epa.gov/npdes/pubs/gi_arra_green_streets.pdf
- (3) Maplewood has budgeted rain gardens as part of all street reconstruction work since 1996:
<http://www.ci.maplewood.mn.us/index.aspx?NID=456>
- (4) & (5) MN Dept. of Transportation pedestrian, and bicycling resources: <http://www.dot.state.mn.us/peds> and <http://www.dot.state.mn.us/bike>
- (4) & (5) The Dakota County Office of Planning did a gap analysis for the county in 2009: for details contact Dan Patterson at daniel.patterson@co.dakota.mn.us
- (6) Traffic calming resources, including roundabouts, from the Minnesota Local Road Research Board and others:
http://www.nextstep.state.mn.us/res_detail.cfm?id=1964 and
http://www.nextstep.state.mn.us/res_detail.cfm?id=2057

Benefits

- Modest street and lane reconfigurations, attending to context sensitive street design principles and adding traffic-calming measures, can reduce speeding by 40%, accidents by more than 50% and increase the number of walkers and bikers.
- Benefit-cost analysis of bicycle facilities at <http://www.bicyclinginfo.org/bikecost/>
- Quantitative measures of the degree to which a neighborhood facilitates people to walk in it:
http://www.nextstep.state.mn.us/res_detail.cfm?id=2104
- Narrower vehicle lanes result in safer streets that carry more cars up to 40 m.p.h.:
http://www.nextstep.state.mn.us/res_detail.cfm?id=2057
- The energy savings from no signals and no/little idling at roundabouts, compared to signalized intersections, has been estimated to be about 9%. As for safety benefits of roundabouts, a comprehensive study by the Insurance Institute for Highway Safety (<http://www.highwaysafety.org>) documented a reduction of as much as 90% in fatal or incapacity injuries, a 75% decrease in injury-producing crashes, and a 39% decrease in all types of traffic accidents. Roundabouts also slow traffic, reducing the need for police patrols.

Connection to State Policy

- The MN Dept. of Transportation submitted a complete streets report to the 2010 Legislature, which is considering a complete streets policy.
 - The Statewide Health Improvement Program (SHIP: <http://www.health.state.mn.us/healthreform/ship/index.html>) distributes funding to Community Health Boards and tribal governments across Minnesota to create community action plans, assemble community leadership teams, and establish partnerships to improve the health of Minnesotans. Grantees utilize policy, systems, and environmental changes in four settings: schools, worksites, health care, and community. Two relevant SHIP interventions (details at http://www.health.state.mn.us/healthreform/ship/SHIPRFP_Section3.pdf) are:
 - #C-PA-S1: Implement policies and practices that create active schools by increasing opportunities for non-motorized transportation (walking and biking to-and from school) and access to school recreation facilities.
 - #C-PA-C1: Implement policies and practices that create active communities by increasing opportunities for non-motorized transportation (walking and biking) and access to community recreation facilities.
- www.MnGreenSteps.org