Oregon Greenhouse Gas Reduction Toolkit:

Strategy Report

OREGON SUSTAINABLE TRANSPORTATION INITIATIVE

School Placement & Programs

This report contains information about planning for school locations and safe routes to schools.

What is it?

School placement. This strategy involves making strategic decisions about where to build and preserve schools so they are integrated into a neighborhood. Often times, schools are located on the outskirts of a community where large tracts of land are more available and less expensive. However, this contributes to sprawling development patterns and reduces the ability of students to bike or walk to school.

> *"The more distant the school, the more students must drive or be driven or bused to school. Student travel modes, in turn, affect the school site design. The more students who arrive by motor vehicles, the more land is required for parking, bus staging areas, and retention zones to handle stormwater runoff from large, impermeable parking lots. The more driving to school, the more auto-centric and less pedestrian-friendly the school's site design" (Cool Planning Handbook).*

Safe routes to schools (SRTS). SRTS programs focus on providing safe and convenient access to schools so that students (and their parents) feel comfortable biking or walking to school. SRTS programs help identify gaps or barriers in the sidewalk and bike networks and strive to eliminate them in order to provide a well-connected network of sidewalks and paths near school zones. SRTS programs also emphasize education and typically include events and surveys to promote the program and encourage student and family participation.

How well does it work?

Measures of effectiveness for school placement and SRTS vary widely from study to study and, for SRTS programs, depend on rates of participation among students.

- The ODOT Toolkit database[1] estimates 0.2 - 2.1% greenhouse gas reduction by the year 2030 for integrated land use strategies, which include school placement policies. The database does not establish estimated reductions for SRTS programs.
- The Environmental Protection Agency (EPA) looked at two different schools in Gainesville, Florida and found a 14% reduction in carbon dioxide for the school placed in the center of a densely developed neighborhood versus the school placed on the edge of an urbanized area.
- A study done in 2006[2] indicates that a 5% increase in neighborhood walkability is associated with:
  - 6.5% fewer vehicle miles traveled (VMT) per capita
  - 5.6% fewer grams of nitrogen dioxide emitted per capita
  - 5.5% fewer grams of volatile organic compound (VOC) emitted per capita

1 *Transportation and Land Use Greenhouse Gas Reduction Toolkit Database, Oregon Department of Transportation, 2011. Website: http://www.oregon.gov/ODOT/TD/TP/pages/database.aspx*

2 *Frank, Lawrence D., et al. 2006. Many Pathways from Land Use to Health. Associations between Neighborhood Walkability and Active Transportation, Body Mass Index, and Air Quality. Journal of the American Planning Association. 72.1: 75-87.*

How can it benefit my community?

- Walking and biking to school provides health benefits to students and can help reduce risks of obesity, asthma and diabetes.
- Fewer vehicles can increase safety and reduce congestion around schools. According to some studies, school-related trips can increase morning rush-hour traffic by as much as 30 percent[3].
- Centrally located schools provide community amenities such as fields for neighborhood recreation and facilities for community events.
- Strategic placement of schools could promote transit use in cities where transit is available to high school students and school employees.

What does it cost?

Implementing school placement policies can be done relatively quickly and at little cost (about three years to adopt policies and update a school facility plan). However, it will likely be ten or more years before results are realized because planning and building new schools takes time.

In contrast, SRTS programs can be implemented fairly quickly and changes in travel behaviors (walking to school instead of driving) may begin to occur shortly after the program is initiated. Over time, as participation in the program increases, more greenhouse gas reductions are possible.

The cost of implementing a SRTS program can vary widely depending on the scope of the program and the quality of existing infrastructure (sidewalks, bike lanes, etc.). Funding ranges for Oregon SRTS grants that were awarded between 2005 and 2012 included $116,000 - $500,000 for infrastructure projects such as new sidewalks and traffic calming improvements. Grants for non-infrastructure projects such as marketing and promotional materials ranged from $1,300 to $100,000. It's important to note that the grant dollar totals described above may have been complemented by additional local funding. Under current MAP-21[4] transportation funding program language, SRTS is no longer a specific funding category. However the State of Oregon has elected to continue implementing SRTS programs.

Where has it been used?

- **NorthWest Crossing strategic school placement.** This master planned community in Bend, Oregon includes a high school and elementary school inside the 500-acre development. The well connected streets with sidewalks and off-street multi-use trails provide many opportunities for kids within the community to walk and bike to school.
- **Safe Routes to Schools Programs in Oregon.** Many Oregon school districts now have SRTS programs including: Klamath Falls, Eugene, Corvallis, Bend and many of the Portland Metro area school districts.

Where can I learn more?

- Oregon Safe Routes to Schools: http://www.oregonsaferoutes.org
- Oregon Mosaic: http://www.oregonmosaic.org/504/about.html
- Cool Planning: A Handbook on Local Strategies to Slow Climate Change: http://www.oregon.gov/energy/gblwrm/docs/cool_planning_handbook.pdf
- Safe Routes to Schools National Partnership: www.saferoutespartnership.org/
- NorthWest Crossing: http://www.northwestcrossing.com/
- Travel and Environmental Implications of School Siting, U.S. Environmental Protection Agency : http://www.epa.gov/smartgrowth/school_travel.htm
- Eugene Safe Routes to Schools: http://www.eugenesrts.org/about/

The Toolkit is a component of the Oregon Sustainable Transportation Initiative (OSTI), which was formed to address the requirements of Senate Bill 1059 (2010).

For more information, please visit:

http://cms.oregon.gov/ODOT/TD/TP/pages/ ghgtoolkit.aspx

Oregon Department of Transportation

3 *Cool Planning: A Handbook on Local Strategies to Slow Climate Change: http://www.oregon.gov/energy/gblwrm/docs/cool_planning_handbook.pdf*
4 *Moving Ahead for Progress in the 21st Century Act, July 2012. Website: http://www.fhwa.dot.gov/map21/summaryinfo.cfm*