



Safe Routes
to School
National
Partnership

Safe Routes to School and Childhood Obesity: A Review of the Research

The rate of childhood obesity has increased four-fold over the past forty years, leading to serious health risks for children. Activity levels for children have declined because of a built environment that is unsafe for walking and bicycling, the low percentage of children who take physical education in school, and the popularity of sedentary leisure-time activities. Research studies demonstrate that Safe Routes to School approaches that create environmental, policy and behavioral changes are a proven way to increase physical activity and promote the health of both children and adults.

Physical activity is critical to obesity prevention

An examination of health data, comparing 1988 to 2010, found that Americans are eating about the same number of calories per day today as twenty years ago, while the percentages of people reporting no leisure-time physical activity doubled for women (to 51.7%) and quadrupled for men (43.2%). Researchers found that decreased physical activity levels, not the daily caloric intake, was correlated with increased BMI.¹

A study of Australian children found that the primary difference between lean and overweight children was that lean children were more physically active, and that children who changed their physical activity levels during the four-year study saw comparable changes in their body fat—leading the study author to recommend that physical activity be at the forefront of childhood obesity initiatives.²

An evaluation of the America on the Move initiative found that two small lifestyle changes—specifically eliminating 100kcal/day from the diet and walking an additional 2000 steps a day—can help address childhood obesity by preventing excess weight gain.³

Safe Routes to School increases physical activity and improves safety

A study of more than 800 schools in DC, FL, OR and TX found that Safe Routes to School interventions resulted in an average 31% increase in walking and bicycling to school over a five-year period, with up to 43% for comprehensive approaches with infrastructure and multi-year programs.⁴

A before and after examination of 53 schools in 4 states (FL, MS, WA and WI) found that schools with Safe Routes to School funded projects increased walking and bicycling to school by 37%.⁵

A survey of school administrators found that school participation in Safe Routes to School programs has grown by 54% between 2006 and 2012, and that rates of student active travel to school were 60% higher at schools participating in Safe Routes to School programs.⁶

A study in New York City found a 33 to 44% decline in pedestrian injury among school children in areas with Safe Routes to School projects, compared to no change in locations without.⁷ The costs savings associated with injury reduction would achieve an overall net societal benefit of \$230 million over a projected 50-year period.⁸

An analysis of 47 schools in California found that Safe Routes to School infrastructure improvements resulted in a 75% reduction in collisions involving bicyclists and pedestrians of all ages.⁹

Kids who walk and bicycle to and from school are healthier

Children who walk or bicycle to school have better cardiovascular fitness than do children who do not actively commute to school.^{10 11}

Children who walk to school get three times as much moderate to vigorous physical activity during their walk to school than during recess.¹²

A study among a large, nationally representative sample of US youth reported that active commuting to school was positively associated with moderate-to-vigorous physical activity and inversely associated with BMI z-score and skinfold thicknesses.¹³

Children who walk to school are significantly more physically active throughout the day.^{14 15}

In a study of adolescents, 100% of the students who walked both to and from school met the recommended levels of 60 or more minutes of moderate to vigorous physical activity on weekdays.¹⁶



End Notes

- ¹ Uri Ladabaum, A Mannalithara, P Myer, and G Singh (2014). "Obesity, Abdominal Obesity, Physical Activity and Caloric Intake in US Adults: 1988 to 2010." *American Journal of Medicine*, Vol 127, Iss 8, p 717-727, August 2014.
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- ³ Hill, James O., Ogden, Lorraine G., Rodearmel, Susan J., Stroebele, Nanette, and Wyatt, Holly R. "Small Changes in Dietary Sugar and Physical Activity as an Approach to Preventing Excessive Weight Gain: The America on the Move Family Study." *Pediatrics*. 120 (2007): e869-e879.
- ⁴ Noreen McDonald, Ruth Steiner, Chanam Lee, Tori Rhoulac Smith, Xuemei Zhu and Yizhao Yang (2014). "Impact of the Safe Routes to School Program on Walking and Bicycling." *Journal of the American Planning Association*. Vol 80, Iss 2, p 153-167.
- ⁵ Orion Stewart, Anne Vernez Moudon, and Charlotte Claybrooke (2014) Multistate Evaluation of Safe Routes to School Programs. *American Journal of Health Promotion*: January/February 2014, Vol. 28, No. sp3, pp. S89-S96.
- ⁶ Turner L, Slater S, Chaloupka FJ. *Elementary School Participation in Safe Routes to School Programming is Associated with Higher Rates of Student Active Travel to School-A BTG Research Brief*. Chicago, IL: Bridging the Gap Program, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago; 2014.
- ⁷ Charles DiMaggio and Guohua Li, 'Effectiveness Of A Safe Routes To School Program In Preventing School-Aged Pedestrian Injury', *Pediatrics* 131, iss 2 (2013): 290-296.
- ⁸ Peter A Muennig et al., 'The Cost-Effectiveness Of New York City's Safe Routes To School Program', *American Journal Of Public Health*, iss 0 (2014): 1-6.
- ⁹ David Ragland, S Pande, J Bigham and FJ Cooper. (2014, January). *Ten years later: examining the long-term impact of the California Safe Routes to School program*. Presented at the Transportation Research Board 93rd Annual Meeting, Washington DC. Available at <http://docs.trb.org/prp/14-4226.pdf>.
- ¹⁰ Davison, Kirsten K., Werder, Jessica L. and Lawson, Catherine T. "Children's Active Commuting to School: Current Knowledge and Future Directions." *Preventing Chronic Disease*. 5.3 (2008): A100.
- ¹¹ Lubans, D. R., C. A. Boreham, et al. (2011). "The relationship between active travel to school and health-related fitness in children and adolescents: a systematic review." *International Journal of Behavioral Nutrition and Physical Activity* 8(1): 5.
- ¹² Cooper, Ashley R., Page, Angie S., Wheeler, Benedict W., Griew, Pippa, Davis, Laura, Hillsdon, Melvyn, and Jago, Russell. "Mapping the Walk to School Using Accelerometry Combined with a Global Positioning System." *American Journal of Preventive Medicine*. 38.2 (2010): 178-183.
- ¹³ Mendoza JA, Watson K, Nguyen N, Cerin E, Baranowski T, Nicklas TA. "Active Commuting to School and Association with Physical Activity and Adiposity among US Youth." *J. Phys Act Health*. 8.4 (2011): 488-495.
- ¹⁴ Cooper et al., "Commuting to school: Are children who walk more physically active?" *American Journal of Preventative Medicine* 2003: 25 (4)
- ¹⁵ Cooper AR, LB Andersen, N Wedderkopp, AS Page, and K Froberg. "Physical activity levels of children who walk, cycle or are driven to school." *American Journal of Preventive Medicine* 29 (2005): 3, 179-184.
- ¹⁶ Alexander, Leslie M., Inchley, Jo, Todd, Joanna, Currie, Dorothy, Cooper, Ashley R., and Currie, Candace. "The Broader Impact of Walking to School Among Adolescents: Seven Day Accelerometry Based Study". *British Medical Journal*. 331 (2005): 1061-1062.