

For more information about Walk to School in the USA, please visit [www.walktoschool.org](http://www.walktoschool.org).

For information about international events, please visit [www.iwalktoschool.org](http://www.iwalktoschool.org).

For information about Safe Routes to School, please visit [www.saferoutesinfo.org](http://www.saferoutesinfo.org).



## **Why Walk or Bicycle to School? Talking Points** *International Walk to School Day (October 7, 2009)*

The following information can be helpful in communicating with the public and media during International Walk to School Day and Month. Topics include:

- Trends in school travel
- Reasons for walking: Safety, physical activity and concern for the environment
- Safe Routes to School
- Background on the event and a list of participating countries

### **Trends in school travel**

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#### **Fewer children walk or bicycle to school than did so a generation ago.**

- In 2001, 16 percent of students between the ages of 6 and 12 walked or bicycled to or from school. (The 2008 National Household Travel Survey results, which are currently being analyzed, will highlight the newest trends in school travel.)
- In 1969, 42 percent of students walked or bicycled to school.<sup>1</sup>
- This is an opportunity lost. Walking or bicycling to school gives children time for physical activity and a sense of responsibility and independence; allows them to enjoy being outside; and provides them with time to socialize with their parents and friends and to get to know their neighborhoods. The entire community benefits when there is less traffic congestion and improved air quality as a result of fewer vehicles on the road.

#### **Changes in school size and location have affected children's ability to walk or bicycle to school.**

- Over the past several decades schools have been moving out to the edges of towns where land is less expensive and more available.
- School consolidation and more distant school locations tend to go hand in hand - bigger schools require more land. Additionally, minimum school acreage policies may also require schools to acquire larger tracts of land.
- In 1969 about 45 percent of students lived less than a mile from school. By 2001 only 25 percent of students did. In 2001, students aged 6-12 live an average of 3.6 miles from school.<sup>2</sup>
- Distance to school can have a significant impact on how children travel to school.<sup>3</sup> In 2001, 80 percent of children living less than a quarter mile from school walked or bicycled to school. Just under half of students living between a quarter mile and a mile from school traveled to school by foot or bicycle.<sup>4</sup>
- Parents cite distance as one of the primary barriers to walking and bicycling to school.<sup>5,6</sup>
- In addition to creating more conducive conditions for walking and biking to school, smaller, neighborhood schools have other documented benefits for students and the community. Neighborhood schools encourage civic engagement and help strengthen sense of place in communities. Students at these schools perform better academically and have higher graduation rates.<sup>7,8</sup>

**Of course, distance is not the only factor affecting the decision to walk or bicycle to school. Many different considerations impact how students get to and from school.**

- Parents' work schedules, the perception of crime, and the presence of sidewalks, among others factors, all may play a role in whether or not students walk or bicycle to school.<sup>9,10,11</sup>
- Communities across the country have devised creative solutions to increase walking and bicycling to school in the face of many different challenges. Walking School Bus programs and trail building projects are just a few of the ways communities are working to create safer routes to school.

**Steady increases in gas prices as well as greater distances between school and home are straining school transportation budgets across the country.**

- Adjusting for inflation, the average cost per student transported using bus service in 1980-1981 was \$466. In 2005-2006 the average cost was \$765.<sup>12</sup>
- The state of Maine saw its school transportation costs increase six-fold between 1970 and 1995, despite decreases in enrollment. This increase has been attributed to school construction patterns and school locations.<sup>13</sup>
- Some school districts are reducing bus service or consolidating bus stops due to transportation costs.
- Walking and bicycling to school can be low-cost alternatives to bus service for some children, but the routes need to be safe enough for these activities.

**Perceptions about traffic can lead to even less walking or bicycling. As more children are driven, more parents become convinced that traffic conditions make it unsafe for walking or bicycling and they join the line of cars at school.**

- Traffic danger is frequently cited by parents as a barrier to walking and bicycling to school.<sup>14,15</sup>
- Travel to school accounts for 7 to 11 percent of non-commuting vehicle traffic. This figure does not include trips during which parents drop their children off on the way to work.<sup>16</sup>
- Studies in some cities show that 17 to 26 percent of morning rush hour traffic can be school-related.<sup>17,18</sup>
- If more children walked or bicycled to school, it would reduce the number of cars near the school at pick-up and drop-off times making it safer for walkers and bicyclists and reducing traffic congestion. Similarly, more walkers and bicyclists may lead to more driver attentiveness and fewer crashes.<sup>19</sup>

**It takes about five to ten minutes for children to walk a quarter of a mile or bicycle one mile.**

- Walking or bicycling to and from school is an easy way for children and families to get some physical activity each day, which everyone needs.<sup>20</sup>

## **Safety**

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Walking and bicycling need to be safe transportation options. This means creating safe environments and teaching safety skills to walkers, bicyclists and drivers.

**Safe walking and bicycling environments include:**

- Neighborhood schools that are within walking and bicycling distance from homes
- Sidewalks or bicycle-paths that connect homes with schools
- Child-friendly opportunities to cross streets (such as the presence of adult crossing guards, raised medians or traffic and pedestrian signals)
- Slow vehicle speeds accomplished through roadway safety measures (traffic calming) and/or law enforcement where needed

**Vehicle speed is a key element in safety. Driving slower saves lives.**

- A pedestrian hit by a vehicle traveling 20 mph has a 95 percent chance of survival.
- At 30 mph, those odds decrease to 60 percent and at 40 mph, odds of survival decrease to 20 percent. If struck by a vehicle traveling 50 mph, a pedestrian has almost no chance of survival.<sup>21</sup>

#### **Safety education includes working with:**

- Children - to provide them with basic safety skills, such as how to choose where to walk and cross streets, obey crossing guards and be visible to drivers.
- Parents - to create awareness of the need for pedestrian and bicyclist safety education and opportunities to walk and bicycle and the importance of practicing safety skills with their children.
- Drivers - to alert all drivers to the presence of walkers and bicyclists and the need to slow down.
- Law enforcement - to enhance pedestrian and bicyclist safety with school zone enforcement.
- Local officials - to identify changes needed to improve walking and bicycling conditions around schools.

#### **Teaching children walking and bicycling safety skills can help create lifelong traffic skills.**

- Short periods of skills-based training can significantly improve child pedestrian behavior.<sup>22</sup>

### **Physical activity**

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#### **Physical activity contributes to overall health.**

- Experts recommend that children get at least 60 minutes of age appropriate physical activity every day.<sup>23,24</sup>

#### **Many kids are not getting the exercise that they need.**

- As age or grade in school increases, physical activity participation drastically declines.<sup>25</sup>
- Less active children are more likely to be overweight.<sup>26</sup>
- Research shows that overweight children are at increased risk of cardiovascular disease and obesity in adulthood.<sup>27,28,29</sup>

#### **In 2006, over 17 percent of children aged 6 to 11 years old were overweight.**

- Between 1976 and 2004 the percentage of overweight children aged 6 to 11 years old almost tripled.
- The most recent nationwide health survey indicates that within the past few years the upward trends in childhood obesity may be leveling off. Data from the 2007-2008 survey will help to better understand the most recent trends in childhood obesity.<sup>30</sup>

#### **Walking and bicycling to school offers an opportunity for children to get physical activity as part of their daily routine.**

- The U.S. public health initiative *Healthy People 2010* recognizes walking and bicycling to school as opportunities to increase physical activity among children.<sup>31</sup>
- The Institute of Medicine of the National Academies identifies increasing the number of students walking and bicycling to school as a key action step in preventing childhood obesity.<sup>32</sup>
- The American Academy of Pediatricians recently emphasized walking and bicycling to school as an important strategy to increase physical activity in children.<sup>33</sup>
- Walking and bicycling to school is associated with higher levels of physical activity throughout the day and greater physical fitness.<sup>34,35</sup>

#### **Potential benefits of physical activity for youth include:<sup>36</sup>**

- Weight and blood pressure control
- Bone, muscle, and joint health and maintenance
- Reduction in the risk of diabetes
- Improved psychological welfare

**Physical activity and physical fitness are associated with improved academic performance and mental development in children and adolescents.**<sup>37,38,39,40</sup>

## **Environment and air quality**

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**Private vehicle emissions contribute to air pollution and global climate change, both of which threaten human and environmental health.**

- Passenger cars, trucks, motorcycles, and SUVs together account for 62 percent of transportation-related greenhouse gas emissions.<sup>41</sup> The transportation sector is responsible for one third of all carbon dioxide emissions in the US.<sup>42</sup>

**Air pollutants can be especially harmful to children because their respiratory systems are still developing.**

- Air pollution has negative effects on lung development in children and can reduce lung function, increase respiratory infection, and aggravate asthma symptoms.<sup>43</sup>
- Childhood asthma rates more than doubled from 1980 to the mid-1990s and they remain at historically high rates today. Presently, asthma is one of the most prevalent chronic childhood diseases and is a major cause of childhood disability.<sup>44</sup>
- At least 14 million school days are missed annually due to asthma.<sup>45</sup>

**Walking and biking to school provide opportunities for children and families to reduce their carbon usage and contribute to the health of the environment.**

- If a family chooses to walk to school (rather than drive a personal vehicle) they can reduce their carbon use by .164 metric tons annually. If half of the students at an average size elementary school choose to walk to school their impact could be a savings of over 39 tons of greenhouse gas emissions a year.<sup>46</sup> This is equivalent to the carbon-removing abilities of over 900 trees over a ten-year period.<sup>47</sup>
- Leaving the car at home just two days a week will reduce greenhouse gas emissions by an average of 1,600 pounds per year.<sup>48</sup>

**Schools placed in neighborhoods with a good street and sidewalk network have more students arriving by bicycle and on foot. Air quality is measurably better at such locations.**<sup>49</sup>

**Exposure to nature and time for free outdoor play can have multiple health benefits including stress reduction, relief of ADHD symptoms in children, and increased cognitive and motor functioning.**<sup>50,51,52,53</sup>

**The daily walk to school offers children an opportunity to spend time in the natural environment. When appropriate and safe, walking and biking to school is an experience that can help children develop a sense of independence that is important for development.**

## **About Safe Routes to School**

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**Safe Routes to School (SRTS) programs are sustained efforts by parents, other community members, community leaders and local, state, and federal governments to enable and encourage children to safely walk or bicycle to school.**

- In July 2005, Congress passed federal legislation that established a national Safe Routes to School program. The program dedicates a total of \$612 million towards SRTS from 2005 to 2009.
- In May 2006, the National Center for Safe Routes to School was established to assist communities in enabling and encouraging children to safely walk and bicycle to school. The National Center for Safe Routes to School is maintained by the University of North Carolina Highway Safety Research Center with funding from the U.S. Department of Transportation Federal Highway Administration.

- Many communities launch SRTS programs as a result of Walk to School events.
- More than 50% of schools that hold registered Walk to School events conduct walking and/or bicycling promotional activities throughout the year.
- Nearly 50% of Walk to School events are part of SRTS programs.

## **About Walk to School**

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- In 2009, more than 6,500 schools in the United States are estimated to participate in International Walk to School Day. Approximately 4 million people from more than 40 countries will participate (see next section).
- Since 2006, the National Center for Safe Routes to School of the University of North Carolina Highway Safety Research Center (UNC HSRC) has been the National Coordinator for Walk to School events in the USA. The Pedestrian and Bicycle Information Center, also part of UNC HSRC, has filled this role since the event began in 1997.
- Walk to School events extend beyond the recognition of a single day. 75 percent of 2008 event organizers reported that their Walk to School events resulted in policy or engineering changes that would improve safety for walkers and bicyclists, such as increased traffic enforcement near the school or the addition of walkways.
- Organizations supporting International Walk to School Day in the U.S. include America Walks, the Centers for Disease Control and Prevention, the U.S. Environmental Protection Agency, the Federal Highway Administration, the Institute of Transportation Engineers, the National Center for Bicycling and Walking, the National Center for Safe Routes to School, the National Highway Traffic Safety Administration, Safe Kids Worldwide, and the Safe Routes to School National Partnership.
- The Partnership for a Walkable America founded Walk to School Day in the United States in 1997 and began with two events in two cities: Chicago and Los Angeles. Canada and Great Britain already had Walk to School events in place.
- Canada, the United Kingdom and the United States joined together in 2000 to create International Walk to School Day. Over 2.5 million walkers were estimated to have participated.
- International Walk to School Day received the Stockholm Partnership for Sustainable Cities Award in June 2003 from the King of Sweden.

## Participating Countries

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### **Africa**

Ghana  
Kenya  
Nigeria  
South Africa  
Uganda

### **Asia**

China  
India  
Nepal  
Philippines  
South Korea  
Taiwan

### **Australasia**

Australia  
New Zealand  
Fiji

### **Europe**

Belgium  
Croatia  
Czech Republic  
France  
Germany  
Iceland  
Ireland  
Israel  
Italy  
Liechtenstein  
Malta  
Norway  
Portugal  
Spain  
Sweden  
Switzerland  
Turkey  
United Kingdom  
(Scotland, England, Wales)

### **South America**

Argentina  
Brazil  
Chile  
Colombia

### **North America**

Canada  
Mexico  
United States

### **Central America**

Cuba

New countries join International Walk to School throughout the year. See [www.iwalktoschool.org](http://www.iwalktoschool.org).

Please visit <http://www.walktoschool.org/resources> for additional resources.

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- <sup>1</sup> [Federal Highway Administration. \(2008\)](#). Travel to school: The distance factor. *NHTS Brief, National Household Travel Survey*. Washington, DC: U.S. Department of Transportation. Retrieved September 22, 2009 at [http://nhts.ornl.gov/briefs/Travel To School.pdf](http://nhts.ornl.gov/briefs/Travel%20To%20School.pdf).
- <sup>2</sup> Federal Highway Administration. (2008). Travel to school: The distance factor. *NHTS Brief, National Household Travel Survey*. Washington, DC: U.S. Department of Transportation. Retrieved September 22, 2009 at [http://nhts.ornl.gov/briefs/Travel To School.pdf](http://nhts.ornl.gov/briefs/Travel%20To%20School.pdf).
- <sup>3</sup> McDonald, N. (2008). Children's mode choice for the school trip: The Role of Distance and School Location in Walking to School. *Transportation*, 35, 23-35.
- <sup>4</sup> Federal Highway Administration. (2008). Travel to school: The distance factor. *NHTS Brief, National Household Travel Survey*. Washington, DC: U.S. Department of Transportation. Retrieved September 22, 2009 at [http://nhts.ornl.gov/briefs/Travel To School.pdf](http://nhts.ornl.gov/briefs/Travel%20To%20School.pdf).
- <sup>5</sup> U.S. Centers for Disease Control and Prevention. (2005). Barriers to children walking and bicycling to school: United States, 2004. *Morbidity and Mortality Weekly*, 54(38), 949-952.
- <sup>6</sup> Ahlport, K.N., Linnan, L., Vaughn, A., Evenson, K.R. & Ward, D.S. (2008). Barriers to and facilitators of walking and bicycling to school: Formative results from the non-motorized travel study. *Health Education Behavior*, 35(2), 221-244.
- <sup>7</sup> ICMA Press. (2008). *Local Governments and Schools: A Community-Oriented Approach*. IQ Report, 40.
- <sup>8</sup> Nathan, J. & Thao, S. (2007). *Smaller, Safer, Saner, Successful Schools*. Washington, D.C.: The National Clearinghouse for Educational Facilities.
- <sup>9</sup> McDonald, N. (2008). Household Interactions and children's school travel: The effect of parental work patterns on walking and biking to school. *Journal of Transport Geography*, 16, 324-331.
- <sup>10</sup> U.S. Centers for Disease Control and Prevention. (2005). Barriers to children walking and bicycling to school: United States, 2004. *Morbidity and Mortality Weekly*, 54(38), 949-952.
- <sup>11</sup> Fulton, J.E., Shisler, J.L., Yore, M.M., & Casperson, C. (2005). Active transportation to school: Findings from a national survey. *Research Quarterly for Exercise & Sport*, 76(3), 352-357.
- <sup>12</sup> U.S. Department of Education, National Center for Education Statistics. (2009). *Digest of Education Statistics, 2007* (NCES 2009-020), [Chapter 2](#). Retrieved September 22, 2009 at <http://nces.ed.gov/fastfacts/display.asp?id=67>.
- <sup>13</sup> ICMA Press. (2008). *Local Governments and Schools: A Community-Oriented Approach*. IQ Report, 40.
- <sup>14</sup> Ahlport, K.N., Linnan, L., Vaughn, A., Evenson, K.R. & Ward, D.S. (2008). Barriers to and facilitators of walking and bicycling to school: Formative results from the non-motorized travel study. *Health Education Behavior*, 35(2), 221-244.
- <sup>15</sup> U.S. Centers for Disease Control and Prevention. (2005). Barriers to children walking and bicycling to school: United States, 2004. *Morbidity and Mortality Weekly*, 54(38), 949-952.
- <sup>16</sup> Federal Highway Administration. (2007). Congestion: Who is Traveling in the Peak? *NHTS Brief: National Household Travel Survey*. Washington, DC: U.S. Department of Transportation. Retrieved July 22, 2008 at <http://financecommission.dot.gov/Documents/NHTS%20Fact%20Sheet%20on%20Congestion%20and%20Peak%20Travelers.pdf>.
- <sup>17</sup> Parisi Associates. (2003). *Transportation Tools to Improve Children's Health and Mobility*. Retrieved July 22, 2008 at [http://www.lgc.org/freepub/PDF/Land\\_Use/fact\\_sheets/sr2s\\_transportation\\_tools.pdf](http://www.lgc.org/freepub/PDF/Land_Use/fact_sheets/sr2s_transportation_tools.pdf).
- <sup>18</sup> Peddie, B. & Somerville, C. *Travel Behavior Change Through School Travel Planning: Mode Shift and Community Engagement- Results from 33 Schools in Victoria*. Melbourne: Department of Infrastructure. Retrieved July 22, 2008 at

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[http://www.travelsmart.vic.gov.au/doi/doiect.nsf/2a6bd98dee287482ca256915001cff0c/99f6c1c3c42769f5ca25709700032658/\\$FILE/School%20Travel%20Planning%20Pilot.pdf](http://www.travelsmart.vic.gov.au/doi/doiect.nsf/2a6bd98dee287482ca256915001cff0c/99f6c1c3c42769f5ca25709700032658/$FILE/School%20Travel%20Planning%20Pilot.pdf).

- <sup>19</sup> Jacobsen, P.L. (2003). Safety in numbers: More walkers and bicyclists, safer walking and bicycling. *Injury Prevention*, 9, 205-209.
- <sup>20</sup> U.S. Department of Health and Human Services and US Department of Agriculture. (2008). *Physical activity guidelines for Americans*. Retrieved September 21, 2009 at <http://www.health.gov/paguidelines/guidelines>.
- <sup>21</sup> Leaf, W.A. & Preusser, D.F. (1999). *Literature review on vehicle travel speeds and pedestrian injuries among selected racial/ethnic groups*. Washington, DC: National Highway Traffic Safety Administration. Retrieved September 21, 2009 at <http://www.nhtsa.dot.gov/people/injury/research/pub/hs809012.html>.
- <sup>22</sup> Barton, B.K., Schwebel, D.C., & Morrongiello, B.A. (2007). Brief Report: Increasing Children's Safe Pedestrian Behaviors through Simple Skills Training. *Journal of Pediatric Psychology* 32(4), 475-480.
- <sup>23</sup> U.S. Department of Health and Human Services and US Department of Agriculture. (2008). *Physical activity guidelines for Americans*. Retrieved September 21, 2009 at <http://www.health.gov/paguidelines/guidelines>.
- <sup>24</sup> Strong, W.B., Malina, R.M., Blimke, C.J.R., Daniels, S.R., Dishman, R.K., Gutin, B., Hergenroeder, A.C., Must, A., Nixon, P.A., Pivarnick, J.M., Rowland, T., Tost, S., & Trudeau, F. (2005). Evidence Based Physical Activity for School-Age Youth. *The Journal of Pediatrics*, 1(55), 732-737
- <sup>25</sup> Nader, P.R., Bradley, R.H., Houts, R.M., McRitchie, S.L., & O'Brien, M. (2008). Moderate-to-Vigorous Physical Activity From Ages 9 to 15 Years. *Journal of the American Medical Association*, 300(3), 295-305.
- <sup>26</sup> American Academy of Pediatrics (2003. Reaffirmed 2006.). Policy statement on the prevention of pediatric overweight and obesity. Retrieved July 21, 2008 at <http://aappolicy.aappublications.org/cgi/content/full/pediatrics;112/2/424>.
- <sup>27</sup> Centers for Disease Control and Prevention. The Importance of Regular Physical Activity for Children. Retrieved August 11, 2008 at [http://www.cdc.gov/nccdphp/dnpa/kidswalk/health\\_benefits.htm](http://www.cdc.gov/nccdphp/dnpa/kidswalk/health_benefits.htm).
- <sup>28</sup> Baker, J.L., Olsen, L.W., & Sorensen, T.I.A. (2007). Childhood Body-Mass Index and the Risk of Coronary Heart Disease in Adulthood. *The New England Journal of Medicine*, 357(23), 2329-2337.
- <sup>29</sup> Freedman, D.S., Khan, L.K., Serdula, M.K., Dietz, W.H., Srinivasan, S.R. & Berenson, G.S. (2005). The Relation of Childhood BMI to Adult Adiposity: The Bogalusa Heart Study. *Pediatrics*, 115(1), 22-27.
- <sup>30</sup> Ogdon, C. L., Carroll, M. D., & Flegal, K. M. High Body Mass Index for Age Among US Children and Adolescents, 2003-6. *Journal of the American Medical Association*, 299(20), 2401-2405. Overweight is measured as at or above the 95<sup>th</sup> percentile of the CDC BMI-for-age growth charts.
- <sup>31</sup> U.S. Department of Health and Human Services. (2000). *Healthy People 2010*. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 vols. Washington, DC: U.S. Government Printing Office.
- <sup>32</sup> Parker, L., Burns, A.C., & Sanchez, E. (Eds.) (2009). *Local government actions to prevent childhood obesity*. Washington, DC: The National Academies Press.
- <sup>33</sup> Tester, J.M. & the American Academy of Pediatrics Committee on Environmental Health.(2009). The built environment: Designing communities to promote physical activity in children. *Pediatrics*, 123(6), 1591-1598.
- <sup>34</sup> Cooper, A.R., Wedderkopp, N., Wang, H., Anderson, L.B., Froberg, K., Page, A.S. (2006). Active Travel to School and Cardiovascular Fitness in Danish Children and Adolescents. *Medicine and Science in Sports & Exercise*, 38(10), 1724-1731.
- <sup>35</sup> Cooper, A.R., Anderson, L.B., Wedderkopp, N., Page, A.S., Froberg, K. (2005). Physical Activity Levels of Children Who Walk, Cycle, or Are Driven to School. *American Journal of Preventive Medicine*, 29(3), 179-184.
- <sup>36</sup> American Heart Association. (2008). Exercise (Physical Activity) and Children. Retrieved August 15, 2008 at [www.americanheart.org/presenter.jhtml?identifier=4596](http://www.americanheart.org/presenter.jhtml?identifier=4596).

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- <sup>37</sup> California Department of Education. A study of the relationship between physical fitness and academic achievement in California using 2004 test results. Retrieved August 15, 2008 at <http://www.cde.ca.gov/ta/tg/pf/documents/2004pftresults.doc>.
- <sup>38</sup> Castelli, D.M., Hillman, C.H., Buck, S.M., & Erwin, H.E. (2007). Physical Fitness and Academic Achievement in Third- and Fifth-Grade Students. *Journal of Sport & Exercise Psychology*, 29, 239-252.
- <sup>39</sup> Hillman, C.H., Pontifex, M.B., Raine, L.B., Castelli, D.M., Hall, E.E., Kramer, A.F. (2009). The effect of acute treadmill walking on cognitive control and academic achievement in preadolescent children. *Neuroscience*, 159, 1044-1054.
- <sup>40</sup> Robert Wood Johnson Foundation. (2007). *Active education: Physical education, physical activity and academic performance*. San Diego, CA: Active Living Research. Retrieved September 22, 2009 at [http://www.activelivingresearch.org/alr/alr/files/Active\\_Ed.pdf](http://www.activelivingresearch.org/alr/alr/files/Active_Ed.pdf).
- <sup>41</sup> U.S. Environmental Protection Agency. (2006). *Greenhouse Gas Emissions from the U.S. Transportation Sector, 1990-2003*. Retrieved July 17, 2008 at <http://www.epa.gov/otaq/climate/420r06003.pdf>.
- <sup>42</sup> Greene, D.L. & Schafer, A. (2003). *Reducing Greenhouse Gas Emissions from U.S. Transportation*. Washington, D.C.: The Pew Center on Global Climate Change.
- <sup>43</sup> World Health Organization. (2004). *Health Aspects of Air Pollution: Results from the WHO project "Systematic Review of Health Aspects of Air Pollution in Europe."* Copenhagen: WHO Regional Office for Europe. Retrieved July 17, 2008 at <http://www.euro.who.int/document/E83080.pdf>.
- <sup>44</sup> Akinbami, L.J. (2006). The State of Childhood Asthma, United States, 1980-2005. *Advance Data from Vital and Health Statistics*, 381. Retrieved July 17, 2008 at <http://www.cdc.gov/nchs/data/ad/ad381.pdf>.
- <sup>45</sup> Asthma's Impacts on Children and Adolescents. Retrieved July 24, 2008 at <http://www.cdc.gov/asthma/children.htm>.
- <sup>46</sup> Calculations based on a round trip school journey of 2 miles and a 180 day school year. Greenhouse gas emissions are estimated using methods developed by the EPA and available at <http://www.epa.gov/otaq/climate/420f05004.htm>.
- <sup>47</sup> According to the EPA Greenhouse Gas Equivalencies Calculator. Retrieved September 22, 2009 at <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>.
- <sup>48</sup> US Environmental Protection Agency. (2008). Climate Change – What You Can Do. Retrieved August 15, 2008 at <http://www.epa.gov/climatechange/wycd/road.html>.
- <sup>49</sup> US Environmental Protection Agency. (2003). *Travel and Environmental Implications of School Siting*. Washington, D.C.: Environmental Protection Agency. Retrieved August 15, 2008 at [www.smartgrowth.umd.edu/pdf/SchoolLocationReport.pdf](http://www.smartgrowth.umd.edu/pdf/SchoolLocationReport.pdf).
- <sup>50</sup> Wells, N.M. (2000) At Home with Nature: Effects of "Greenness" on Children's Cognitive Functioning. *Environment and Behavior* 32, 775-795.
- <sup>51</sup> Wells, N.M. & Evans, G.W. (2003). Nearby Nature: A Buffer of Life Stress among Rural Children. *Environment and Behavior*, 35(3), 311-330.
- <sup>52</sup> Huttenmoser, M. (1995). Children and Their Living Surroundings: Empirical Investigations into the Significance of Living Surroundings for the Everyday Life and Development of Children. *Children's Environments* 12(4), 1-17.
- <sup>53</sup> Kuo, E.K. & Taylor, A.F. (2004). A Potential Natural Treatment for Attention-Deficit/Hyperactivity Disorder: Evidence From a National Study. *American Journal of Public Health* 94(9), 1580-1586.