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# Reducing Costs in Kansas through Transportation Efficient School Siting

**State Smart Transportation Initiative**

Transportation is a basic social and economic need. Providing affordable choices to meet transportation needs is an acknowledged responsibility of government. However, mobility solutions conceived a generation ago might not be economically or environmentally sustainable today.

The mission of the State Smart Transportation Initiative (SSTI) is to promote "smart transportation" practices that foster equitable economic development and environmental sustainability, while maintaining high standards of governmental efficiency and transparency.

SSTI operates in three ways:

1. As a community of practice, where participating agencies can learn together and share experiences as they implement innovative smart transportation policies.
2. As a source of direct technical assistance to these agencies on transformative and replicable smart transportation reform efforts.
3. As a resource to the wider transportation community, including local, state, and federal agencies, in its effort to reorient practice to changing social and financial demands.

SSTI is funded by the U.S. Department of Transportation and the Rockefeller Foundation. For more information, visit www.ssti.us.

**Abstract:**
**Reducing Costs in Kansas through Transportation Efficient School Siting**

This report was produced by SSTI at the request of the Kansas Department of Transportation (KDOT) in order to better understand the implications of school site selection, particularly transportation-related costs, and how to improve the site selection process in Kansas. SSTI assessed the impacts associated with school site selection in Kansas and gauged the applicability of potential policy solutions through a review of literature and policies in other states; an online survey of state, local, and school district officials; and interviews with national experts as well as state, local, and school district officials.

While striving to choose the best possible sites, school districts sometimes select locations that result in higher costs to other levels of government and greater overall costs to taxpayers. This report provides a series of recommendations for improving the school site selection process in Kansas, focused on increasing understanding and coordination between school districts and other levels of government that may be impacted by their decisions.

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# Reducing Costs in Kansas through Transportation Efficient School Siting

# Executive Summary

## Introduction

This report was prepared by the State Smart Transportation Initiative (SSTI) at the request of the Kansas Department of Transportation (KDOT). The purpose of the report was to define the transportation-related issues and costs associated with school site selection in Kansas and to provide recommendations to help the state and other stakeholders reduce these costs in the future. In order to develop an understanding of transportation-related school siting issues and develop recommendations for how Kansas could reduce their negative impacts, SSTI conducted a review of available literature and policies in other states; an online survey of state, local, and school district officials; and interviews with national experts as well as state, local, and school district officials. SSTI has also developed a cost estimation tool, described in Appendix E, that can be used by school districts and others to assess the transportation-related costs associated with potential school sites.

## Background

Since the mid-twentieth century, schools throughout the U.S. have grown larger and further from the students and communities that they serve. Factors driving this change include: rising land prices, low density residential development, widespread car ownership, changing guidelines governing school size and site selection, and school construction policies favoring new construction over renovation.

Because school site selection is largely disconnected from the transportation and land-use decisions made by other levels of government, decisions that appear cost effective from the perspective of the school district can result in greater overall costs to society due to greater student transportation costs, new pedestrian and vehicular infrastructure, traffic congestion, and residential sprawl, as well as health and safety impacts. In addition, because the boundaries of school districts are independent of county and municipal boundaries, costs to other levels of government resulting from school district decisions are not shared equitably.

## School Siting and Transportation in Kansas

School site selection in Kansas generally involves local school districts working in conjunction with private architects, engineers, and/or planning consultants. The level of city, county, and state involvement in school siting decisions varies greatly—some districts and local governments engage in substantial coordination during the site selection process, while in other areas, local governments may be unaware of school district plans until after a new school site has been acquired.

Student transportation in Kansas varies widely. In urban areas up to 25 percent of students may bike or walk to school, while in rural areas almost every student arrives by bus or car. Schools in Kansas provide free bus service to students living beyond 2.5 miles from school and many also provide bus service for students living closer, but the most common mode of student transportation is the personal automobile.

Although school districts generally pay close attention to the movement of vehicles and pedestrians on school property, the large number of pedestrians, bicyclists, personal vehicles, and school buses traveling to and from the school can create problems on surrounding roads that must be addressed by the local, county, or state government. New school buildings often necessitate new traffic lanes, stoplights, crosswalks, or other infrastructure to reduce congestion, improve safety, or provide pedestrian and bicycle accessibility. These costs range into the millions of dollars.

The direct costs of transporting students to and from school can also be significant. The cost of busing students to school has risen rapidly in recent years, with the state reimbursing districts an average of over $310,000 for transportation of students living more than 2.5 miles from school during the 2007-2008 academic year. School districts also bus many students living within 2.5 miles at district expense when their route to school is deemed hazardous. When students are driven to school by parents, families bear the costs of fuel and other costs related to vehicle ownership. Other costs of driving accrue to taxpayers and society at large, including: the cost of building, maintaining, and policing roads; drivers' contribution to congestion; emissions-related health costs; and reduced pedestrian safety and mobility.

## Improving School Site Selection

States have implemented a variety of policies to reduce the negative effects of school siting decisions on other levels of government and society. These policies generally fit into the following categories:

- Providing soft guidelines and encouraging school districts to consider the effect of new schools on residential sprawl, congestion, or other factors;
- Providing incentives for the renovation of existing buildings over new construction;
- Implementing requirements for collaboration between school districts and other levels of government;
- Setting maximum school site acreage limits;
- Banning the construction of public facilities on prime agricultural land;
- Requiring school districts to pay for required off-site improvements necessitated by the construction of new schools;
- Mandating that school district plans are in keeping with local comprehensive plans;
- Requiring pre-approval of potential school sites by the state education agency prior to acquisition;
- Instituting state programs to complement the existing federally funded Safe Routes to School program.

## Recommendations for Kansas

While some school districts in Kansas already work closely with other levels of government during the school site selection process, interviewees agreed that there is room for improvement. The following recommendations are divided into those which can be pursued immediately, to improve and extend the lives of existing schools or improve site selection in the near term, and potential future policy solutions, which may be appropriate if school site selection continues to present problems for the state and local governments.

### Immediate Actions

- **Use available funding sources to improve existing schools.** Use the existing Safe Routes to School (SRTS) program and, at historically significant schools, the State's Rehabilitation Tax Credit Program, to extend the life of existing schools and reduce transportation costs.

- **Improve coordination between school districts and other levels of government.** School districts and their hired consultants should make every effort to engage with local governments, and KDOT if potential sites might affect state roads. Communities can foster better communication with their school districts by explicitly including schools in their comprehensive plans.
- **Coordinate and share information between agencies.** Improved coordination between state agencies, particularly KDOT, the Kansas Department of Education (KSDE), and the Kansas Department of Health and Environment (KDHE), will better respond to the challenges posed by school siting issues. Specifically, these agencies should convene an ad hoc committee to discuss the challenges associated with school siting, and KSDE should leverage its current role in approving school construction bonds to improve coordination between school districts, KDOT, and local governments.
- **Orient KDOT to play a more active role in school site selection.** Improving intra-agency communication, providing technical assistance to school districts during the site selection process, and tracking school site selection outcomes would help KDOT engage with school districts and better understand the transportation impacts of schools.

## Potential Future Policy Solutions

- **Require that school districts provide written notice to their local governments and KDOT requesting comments on the potential school site prior to acquisition.** If KDOT or local governments oppose the potential site, school districts could proceed with the site acquisition after a waiting period of 30 days. This policy would maintain school districts' ultimate authority over site selection but would improve transparency and accountability in the site selection process.
- **Require school districts to fund infrastructure improvements necessitated by new schools.** This policy would lead to more efficient site selection and ensure that needed improvements are funded equitably.
- **Complement the existing SRTS program with State funds for pedestrian and bicycle improvement targeting high school students.** Improving pedestrian and bicycle access to schools can reduce the need for costly roadway improvements, lower busing costs, and improve health. However, projects to increase biking and walking among high school students are ineligible under the federally funded SRTS program.

# Chapter 1. Introduction

In recent decades, school districts throughout the U.S. have moved their schools further from the communities they serve, resulting in a variety of negative impacts on students, their families, and other levels of government. A number of factors have driven this change, including the rising price of land, increasing low-density residential development, widespread car ownership, changing guidelines governing school size and site selection, and in many cases, funding arrangements favoring new construction over the renovation of existing schools. Although the Safe Routes to School program (SRTS), which provides funding to encourage walking and biking, has been successful in some communities, the limited funding provided through SRTS cannot solve most of the issues associated with school site selection. Constructing sidewalks and crosswalks and educating students about walking and biking do little good if schools are located far from the neighborhoods they serve.[1]

In mid-2011 the Kansas Department of Transportation (KDOT) requested State Smart Transportation Initiative (SSTI) technical assistance in order to better understand the implications of school site selection, particularly transportation-related costs, and how to improve the site selection process. SSTI reviewed the available literature and solicited input from school districts, local governments, KDOT staff, and national experts through surveys and interviews. In developing recommendations for improving the site selection and site design processes in Kansas, SSTI relied on interviews with stakeholders and national experts, reviewed the legal landscape in Kansas impacting school siting decisions, and investigated state policies in use elsewhere to identify best practices.

In addition, in order to help districts better understand the implications of school site selection, SSTI has developed a school transportation cost estimation tool. The tool can help school districts compare potential school sites based on whether students can reach the school via non-motorized transportation, the costs of busing and driving students to and from school, and the costs associated with providing infrastructure and other services needed to support additional school-related traffic. Analysis by a trained professional is required to accurately estimate the transportation infrastructure costs associated with a particular site; however, even without professional assistance, the calculator can help school districts and their communities estimate many of the transportation costs associated with potential school sites. See Appendix E for more information on the cost estimation tool.

1 See Appendix A for more information on the Safe Routes to School program.


School site selection is a complex issue and involves far more than the transportation-related costs and impacts addressed here. However, the transportation-related impacts of schools on their students and their communities are some of the most visible and most costly results of school siting decisions. This report outlines the key transportation issues and impacts associated with school siting in Kansas and provides a series of recommendations, based on interviews with a range of experts and in-state stakeholders, for how school site selection in the state might be improved.

# Chapter 2. Problems and Costs Related to School Siting

## Background

### I. Changing Schools and Communities

Over the last 50 years school systems often have built facilities remote from the communities they serve, creating significant cost, health, and livability impacts for their communities. With encouragement from the Council of Educational Facility Planners International (CEFPI) and others, the size and footprint of new schools increased dramatically. School districts constructed many of these new schools in locations that appeared cost-effective but which often resulted in a greater overall cost to families, transportation agencies, and others due to a lack of coordination between school districts and other levels of government.

**FROM MINIMUMS TO MAXIMUMS**

In 1953, the Council for Educational Facility Planners International (CEFPI) issued guidelines governing the minimum acreage of school sites—10 acres for elementary schools, 20 acres for middle schools, and 30 acres for high schools, plus one additional acre for each 100 students. Many states adopted these or similar minimums as recommendations or requirements for state construction assistance. As of 2003, 27 states had some form of minimum acreage policy for schools.

In 2004 CEFPI revised its guidelines, removing minimum acreage recommendations after recognizing that they counter a variety of community goals and raise transportation costs. Since then a number of states have eliminated their minimum acreage requirements.

The average U.S. school in 2006 served just over 500 students, more than four times the size of the average school in 1950, which served less than 120 students.[2] At the same time, the number of schools has dropped, from more than 250,000 in the 1930s to less than 100,000 today.[3] The desire to cut costs and generate economies of scale in education has driven the movement toward fewer, larger schools. However, larger schools fare poorly across a range of social metrics, and recent studies have indicated that while increasing the size of schools normally reduces the average cost per student, the cost per graduate at these larger schools may actually be higher.[4]

Today's larger, dispersed schools also tend to be out of walking and biking range for most students. In 1969, 87 percent of students lived within one mile of their school; by 2001 only 21 percent of students were within a mile of school.[5] Remote locations for new schools contributed to the increase, as did lower-density residential development.

2 *Travel and Environmental Implications of School Siting,* United States Environmental Protection Agency, 2003.

3 *Ibid.*

4 Lawrence, Barbara Kent, et al. *Dollars and Sense: The Cost Effectiveness of Small Schools.* Knowledge Works Foundation (2002).

5 *Travel and Environmental Implications of School Siting,* United States Environmental Protection Agency, 2003.

Along with their more distant locations, many new schools lack bicycle and pedestrian infrastructure for students, are accessible exclusively by major roadways, or are separated from the communities they serve by busy streets or other impediments. All of these factors limit the ability of students to get to school by foot or by bike.In 1969, 48 percent of students in the U.S. walked or biked to and from school,[6] today the portion of students walking and biking to and from school has fallen to just 8 percent.[7] Currently among all students, 62 percent ride in a car to school and 26 percent take the bus.[8] Even among students (age 5 to 15) living within one mile of school, only 31 percent walk or ride a bicycle to school, while 13 percent ride the school bus, and 55 percent travel by car.[9]

The literature and interviews for this research identified a variety of problems that have reduced walking and biking to school: unsafe or non-existent sidewalks and crosswalks, highways and major arterial roads that separate students from schools, and long distances between students and their schools. In addition to these physical impediments, the fear of crime, inclement weather, unfamiliarity with safe walking and biking routes, and cultural norms also limit the number of students that walk and bike to school.

**EFFICIENCY BENEFITS OF LARGER SCHOOLS MAY BE ILLUSORY**

Because of the much higher dropout rate at large high schools, the cost per graduate is often equal or higher than the cost per graduate for smaller schools. According to a large-scale study of schools in New York City, although the annual cost per student was $1,410 higher at schools with fewer than 600 students than at schools with over 2,000 students, the cost per graduate was actually slightly lower at smaller schools. A similar study in Nebraksa reached the same conclusion. When compared based on the total cost per graduate, the economies of scale used to justify larger schools disappear.

*Source: Lawrence, Barbara Kent, et al. Dollars and Sense: The Cost Effectiveness of Small Schools. Knowledge Works Foundation (2002).*

## II. Community Costs and Impacts

### Congestion and safety

Traffic congestion problems facing schools and their communities are a relatively recent phenomenon, related to the changing characteristics of the American school and the increasing reliance on cars as the dominant mode of student transportation to and from school.

Researchers estimate that schools typically generate a 30 percent increase in the number of cars on the road between 7:15 and 8:15 a.m. in many districts.[10] This additional congestion imposes time costs on drivers, generates calls for expensive roadway capacity, and increases fuel consumption and related emissions.

6 *Safe Routes to School Local Policy Guide,* Safe Routes to School National Partnership, 2011.

7 National Household Travel Survey, 2009. Accessed 3/26/12: http://nhts.ornl.gov

8 *Ibid.*

9 *Ibid.*

10 *Travel and Environmental Implications of School Siting,* United States Environmental Protection Agency, 2003

The more obvious issue is the localized congestion on streets and in parking areas by schools. Along with negatively impacting air quality on school grounds, this congestion greatly increases the likelihood of child pedestrian injuries, particularly in areas with on-street parking that limits drivers' ability to see children entering the roadway.[11] As congestion worsens, parents perceive bicycling and walking to be more dangerous, prompting more of them to drive their children to school, thereby exacerbating the problem.

The construction of new schools on undeveloped land often results in new expenses for the state, county, or local government that ends up paying for new traffic lights, turn lanes, intersections, or water and sewerage infrastructure not explicitly considered during the school site selection process.

## Residential Sprawl and Community Impacts

*Residential Sprawl*

Once the municipal service area is expanded to serve a new school, other development changes follow. In Michigan, school districts have built new schools on the urban fringe at a rapid rate in recent years, while existing schools in cities and inner ring suburbs, many of which could have been renovated, are closing. This has created problems for both the cities and older suburbs as well as the newly developed areas, because while the older areas face declining home values and property tax revenues, the new suburbs face decades of bond repayment for new school buildings and soon must pay the additional costs for expanded municipal services, via higher taxes and user fees, which often equal or exceed the costs of the new school.[12] As taxes and home prices rise near the new school, the next wave of young families—who had initially been drawn to the area by low taxes and land values—move further to the outskirts, leaving the new school with a declining student population and creating a balloon in enrollment at schools even further from the city.[13]

School closure can also drag down the values of nearby property. An analysis of property tax revenues in Jackson, Mich., for example, found that home prices within a half-mile of an open, stable elementary school rose at a 3 percent higher rate than they did in a similar neighborhood with a shuttered elementary school.[14] Had the school not closed, researchers estimated that the city, county, and school districts would have realized an additional $2 million in revenue between 1994 and 2003.[15]

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11 La Vigne, Nancy G. (2007), *Traffic Congestion Around Schools,* U.S. Department of Justice, Office of Community Oriented Policing Services. (http://www.cops.usdoj.gov/files/ric/Publications/e080724100.pdf)

12 *Hard Lessons: Causes and Consequences of Michigan's School Boom,* Michigan Land Use Institute (2004).

13 *Ibid.*

14 *Ibid.*

15 *Ibid.*

*Loss of the Community Benefits of Neighborhood Schools*
Properly sited, a neighborhood school adds value to the community by helping to define the character of the area, facilitating relationships between residents, fostering student participation in extracurricular activities, and providing a central location for community activities outside of school hours.[16]

Schools are one of the primary links that bind communities, and when they are moved outside of the community they serve, these links are weakened. Students who rely on buses often have less of an opportunity to participate in afterschool sports or other activities. Similarly, large schools set outside of the communities they serve are less accessible to parents for parent-teacher conferences, meetings, and other events.[17]

In addition, school facilities often provide a venue for non-school community activities on evenings and weekends. Community meetings as well as classes and sports provided by the YMCA or other organizations are often hosted at schools. However, schools located outside of the community they serve are less accessible and are less able to serve this purpose.

**Higher transportation costs**

When students cannot walk or bike to school, parents along with state and local governments pay the costs of busing and driving them. In many places, students living beyond a certain distance receive free bus transportation through the state (2.5 miles from the school in Kansas). The cost of busing students to school in the U.S. has doubled over the last three decades.[18]

Other costs arise from parents who drive students to school in private autos. These costs include the value of the parents' time, vehicle fuel and maintenance costs, and the cost of additional congestion imposed on other drivers. A school with 500 students may see personal driving costs in the range of $50,000 a year, assuming 55 percent of children come to school by car at an average of 3 miles for 200 school days per year. (See Appendix E for a full explanation of how these costs were calculated.)

School transportation also imposes significant costs due to pavement damage and required infrastructure upgrades. Due to their heavy weight, and the fact that they use only two axles, a single bus can inflict the same pavement damage as thousands of cars, making them one of the largest

16 Kuhlman, Renee. Helping Johnny Walk to School. National Trust for Historic Preservation. 2008. Accessed 11/20/11: http://www.preservationnation.org/information-center/saving-a-place/historic-schools/helping-johnny-walk-to-school

17 *Ibid.*

18 U.S. Department of Education. 2009. Digest of Education Statistics. Table 176. Accessed 3/20/12: http://nces.ed.gov/programs/digest/d09/tables/dt09_176.asp

factors in pavement wear on local roads.[19] Finally, a new school may require considerable transportation infrastructure investment in the form of sidewalks, car lanes, bike lanes, crosswalks, bus turn-out bays, traffic signals and signs. National experts interviewed during the course of this study most commonly cited these infrastructure costs as the most important negative impact of school siting decisions. These costs vary widely but are often high—$100,000 for one mile of sidewalk to over $5 million for larger projects such as widening a minor arterial.[20] They can eclipse the cost of land acquisition and school construction itself. While all of the experts interviewed agreed that school boards could reduce transportation-related costs through better site selection, they identified several obstacles, including:

- a lack of information about what impacts a potential school site is likely to generate;
- a lack of access to the best sites due to cost or availability; and
- changes in student travel patterns at existing schools, such as a trend towards more students traveling to school by car, that can create unanticipated impacts.

**Inequitable cost allocation**

Although property taxes generally provide revenue for schools as well as other levels of government that have responsibility for the streets and other infrastructure, school districts rarely contribute their fair share when the transportation impacts of a new or expanded school necessitate the construction of new off-site infrastructure. Because school districts often straddle multiple jurisdictions, new infrastructure generally gets paid for by a different set of taxpayers than will benefit from the school. In some cases, a city may pay for street and intersection improvements directly necessitated by a school, while taxpayers in the school district who live outside the city are, in effect, free riders. Similarly, when the state pays for improvements required due to transportation impacts generated by new schools, taxpayers across the state are effectively subsidizing school districts for their inefficient siting decisions. Because they are generally not required to pay for off-site infrastructure necessitated by school site selection, school districts do not fully consider these costs, which may result in inefficient decisions and higher overall costs.

19 Raymond, Richard E., et al. *Pavement Performance Considerations for Heavy Traffic Loads: Buses; Refuse Trucks; Concrete Trucks; Fire Trucks* (2004). City of Spokane, Division of Public Works and Utilities, Capital Programs/GIS Section. Accessed 3/26/12: http://www.inlandrail.org/documents/FactPaperForHeavyAxleLoads.pdf

20 Florida Department of Transportation, Generic Cost per Mile Models. Accessed 3/16/12: ftp://ftp.dot.state.fl.us/LTS/CO/Estimates/CPM/summary.pdf

## III. Health Impacts

There are a number of transportation-related health impacts associated with school siting decisions, which can be broadly divided into those related to a lack of exercise and those related to exposure to air pollution.

As the number of children walking and bicycling to school has declined, obesity rates among children have skyrocketed. Roughly nine million American children over age six are obese, and over the last 30 years, the obesity rate among children between six and 11 years old has tripled, from 6.5 percent to 19.6 percent.[21] During the same period, the rate of obesity among teenagers has also grown dramatically, climbing from 5 percent to 18.1 percent.[22] Obese children are at greater risk for bone and joint problems and sleep apnea as well as social and psychological problems than are their peers. In addition, they are much more likely than children of normal weight to be obese later in life and therefore face higher risks of obesity-related health problems, including heart disease, type 2 diabetes, stroke, cancer, and osteoarthritis.[23] Walking or biking to school helps reduce risk of obesity, while the sedentary nature of driving increases it.

Aside from their negative impact on quality of life, these increasing rates of obesity have a serious economic impact on society through elevated health care costs. The National Institutes of Health has estimated that the United States' obesity epidemic results in approximately $147 billion per year (in 2008 dollars) in health costs alone.[24] In 2006, annual per-person healthcare costs for obese people were over $1,400 greater than for people of normal weight.[25] While the decline in walking and biking to school is just one factor affecting obesity rates, developing a routine of biking and walking in childhood can set the stage for a more active, healthier lifestyle in adulthood.

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21 Ogden, Cynthia and Margaret Carroll. *Prevalence of Obesity Among Children and Adolescents: United States, Trends 1963–1965 Through 2007–2008* (2010). Centers for Disease Control and Prevention, National Center for Health Statistics. Accessed 4/18/12: http://www.cdc.gov/nchs/data/hestat/obesity_child_07_08/obesity_child_07_08.htm

22 *Ibid.*

23 *Childhood Obesity Facts.* Centers for Disease Control and Prevention. Accessed 4/18/12: http://www.cdc.gov/healthyyouth/obesity/facts.htm

24 Accessed 4/18/12: http://www.cdc.gov/media/pressrel/2009/r090727.htm

25 *Ibid.*

Air pollution can impede lung development, increase the risk of new-onset asthma, and exacerbate symptoms in those with asthma. Results from a major long-term study by California's Air Resources Board indicate that exposure to higher levels of traffic-related air pollution significantly impedes lung development during childhood.[26] Air pollution, particularly traffic-related air pollution, is also a risk factor for development of asthma in children.[27] In addition, ozone and particulate matter, both of which result from auto emissions, increase the risk of attacks among those already suffering from asthma.[28] The concentration of airborne particulate matter tends to be highest near high traffic roadways.[29] According to the Southern California Particulate Center and Supersite (SCPCS), concentrations of ultrafine particulate matter drop to normal levels at about 1000 feet from freeways.[30] As a result of the health risks of this pollution, California now requires that schools be built at least 500 feet from very busy roadways.[31]

26 The Children's Health Study, California Environmental Protection Agency, Air Resources Board. Accessed 4/10/12: http://www.arb.ca.gov/research/chs/chs.htm#new

27 Clark NA, Demers PA, Karr CJ, Koehoorn M, Lencar C, et al. 2009 Effect of Early Life Exposure to Air Pollution on Development of Childhood Asthma. Environ Health Perspect 118(2): doi:10.1289/ehp.0900916

28 Asthma Facts, United States Environmental Protection Agency. 2011. Accessed 4/10/12: http://www.epa.gov/asthma/pdfs asthma_fact_sheet_en.pdf

29 Vette, Alan. United States Environmental Protection Agency, Office of Research and Development. "Near Road Air Pollution." July 21, 2010. Accessed 4/10/12: http://www.epa.gov/ord/ca/seminars/Vette_July_21_Presentation.pdf

30 Accessed 4/10/12: http://www.scpcs.ucla.edu/news/Freeway.pdf

31 California Senate Bill 352. Accessed: 4/10/12: http://www.arb.ca.gov/ch/communities/sb352.htm

# Chapter 3. School Siting and Transportation in Kansas

## I. The School Siting Process

### Who is involved?

School site selection in Kansas generally involves local school districts evaluating sites in conjunction with private architects, engineers, and/or planning consultants. In many cases districts also work with developers to locate schools in areas of future residential growth. The level of city, county, and state involvement in school site selection varies greatly. While school districts may discuss potential sites with their city and/or county prior to acquisition, some local officials report being unaware of new school sites until after the site has been acquired.

### What governments are affected?

Cities and counties are the levels of government most often affected by school siting decisions. New schools often generate a great deal of vehicular and pedestrian traffic during peak travel times. The many cars and school buses create traffic safety and congestion issues for local governments, which may necessitate additional traffic lanes, new crosswalks, traffic lights, and other improvements. Near high schools, communities must also deal with traffic safety issues associated with large volumes of young, inexperienced drivers commuting to and from school. Local governments also face costs associated with providing water and sewerage services to schools. In addition, as schools tend to attract nearby residential development, local governments may be faced with additional infrastructure costs for utilities and transportation.

The state may also be affected by many of the same factors when new schools are located on or near state-owned highways. Because schools generate a great deal of vehicular and pedestrian traffic and have such a large impact on development patterns, their location within communities has important long-lasting effects.

## What regulations govern siting decisions?

School districts in Kansas are required to comply with local zoning and drainage ordinances as well as fire department requirements.[32] In places where schools are zoned as special uses, school districts must get approval prior to building a school and would generally seek approval prior to site acquisition.[33] However, when schools are permitted uses under the local zoning code or are located in an unzoned area, local governments may not be aware of the planned school until late in the process.

KDOT is often similarly unaware of new schools along state highways until they apply for an access permit to construct driveways. By this point, the bonds for the school have been issued, the site has been acquired, and plans have been largely completed. KDOT could withhold driveway permits but rarely or never does. At such a late point in the process, KDOT staff do not feel that they can deny an access permit, even when they believe that a school is sited poorly and may create traffic or pedestrian safety concerns. KDOT staff work with the school to develop the best possible alignment for access and egress from the site, but they do not use the threat of access permit denial in order to influence school site selection.[34]

## What do schools look for in a site?

Acreage and cost are key considerations in site selection. Location relative to other schools in the district and to the student population is important as well. Accessibility of sites is another key priority, with school boards seeking sites easily accessible for both pedestrians and vehicles. School districts generally prefer sites with street frontage on at least two sides to ease vehicle access and egress. Although high schools are often sited on busier arterials, districts generally prefer to site elementary and middle schools on lower-traffic roads in residential areas when possible. Proximity to water and sewerage infrastructure is another key concern.

Rarely do school districts find an ideal site—one that is affordable; of the desired size; close to the students it will serve; served by utilities; and easily accessible by car, by foot, and by bicycle. School districts generally need to compromise on some desired site attributes, and the price and availability of sites often limit districts to a handful of options. Potentially viable sites available in close proximity to students and served by pedestrian infrastructure are often ruled out for being too small, too expensive, or on roads that are congested. Thus, school districts often select sites at the urban periphery.

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32 Kansas Attorney General Opinions 79-28 and 80-14, as referenced in *Kansas Department of Education School Construction Project & Plan Submittal Guide* (2005). Accessed 2/23/12: http://www.ksde.org/Portals/0/LegalServices/submitreq.pdf

33 Personal Communication with Robert Schwartz, RSP & Associates. 2/27/12

34 KDOT staff interview.

School district officials interviewed as part of this study reported that, while their districts had considered renovation or expansion as an alternative to new construction, it had not been feasible. The primary reasons cited were lack of sufficient land to accommodate new construction, including athletic fields, and a desire to avoid increasing the student populations beyond a certain threshold.

### Collaboration

Collaboration between school districts, cities, counties, and KDOT prior to site selection is not mandated in Kansas and often fails to take place until after a site has been acquired. Collaboration after the selection of a site is beneficial and can help to reduce traffic congestion on nearby streets or improve pedestrian safety and access to the school, but the most important determinant of a new school's impact on its community is its location.

Many school districts do collaborate with their local governments during the site selection process. However, the quality of this collaboration varies. Sometimes collaboration between school districts and other levels of government occurs as a result of informal relationships between staff. Other times, private consulting firms working with districts to evaluate potential sites may lead collaboration efforts.

Many school district officials and consultants who work on school siting issues said they do engage with their local governments to some degree during site selection. One interviewee stated:

> *School districts are highly motivated to have their "bases covered," from a political standpoint. Elected school district officials don't want to look bad as a result of having chosen a poor school site.*

However, most local government officials had a different view. They stated that they did not coordinate with school districts during site selection and normally do not know about new schools until after the site has been selected. Interviewees reported that when coordination did occur during site selection, it was the result of serendipitous contacts, such as those generated by a member of city or KDOT staff who happens to serve on a school board.

## II. School Transportation

Kansas school district officials reported widely divergent student travel behavior, based largely on whether the schools were located in rural or urban communities. Interviewees reported that up to 25 percent of students may walk or bike to schools located in urban areas, while very few students bike or walk to schools located in more rural settings.

In Kansas, all students living beyond 2.5 miles from school have the option to receive free bus service. Some students living less than 2.5 miles from school may also receive bus service; however, the conditions under which they may ride the bus varies widely. Among the four school districts interviewed, one did not provide any bus service to students living less than 2.5 miles from school, one provided bus service to these students for a fee, and two districts provided free bus service to students living in areas where the walk to school was deemed hazardous. Of the two schools that provided "hazard" busing, both used simple metrics to determine eligibility, one providing service to all students living outside city limits and the other providing service to students living across a highway from the school.

Even when bus service is available, the most common way for students to reach school is by car. School districts reported that 40 to 80 percent of their students traveled to and from school by car. Even students living beyond 2.5 miles from school, who receive free bus service, may travel to and from school by car up to 50 percent of the time.

School district officials said the primary obstacles that prevent more students from walking or biking to school were distance, hazardous streets, and parental attitudes. School administrators speculated that parents wanted to drive their kids to school for a variety of reasons, including spending more time with them, making their children's lives easier, to ensure their safety, or because most other parents drive their kids to school. None of the interviewees reported that students used public transit to get to or from school and none considered public transit to be a viable school transportation option, primarily due to lack of service.

According to school district interviewees, efforts to increase bicycling and walking to school through programs and infrastructure improvements funded through the Safe Routes To School (SRTS) program have had limited success. Interviewees speculated that, even when SRTS projects made walking and biking to school more feasible, long distances between students' homes and their schools limit the number of students that could potentially walk or bike to school. The other primary factor cited by interviewees was parents' predisposition towards driving their children.

## III. What Are the Issues/Impacts in Kansas?

### New Schools

Schools are often among the largest generators of pedestrian and vehicular traffic in a community. Although school districts generally pay close attention to the movement of pedestrians and vehicles on their site and within their buildings, they pay much less attention to the movement of pedestrians and vehicles on the way to and from the school site. School

districts often feel that transportation issues occurring off of school grounds are the responsibility of other levels of government and that, because funding is limited, they should focus exclusively on their mission to educate students. The increasing size of schools over the last 50 years, along with a growing percentage of parents driving students, or students driving themselves, to school, has exacerbated the impacts of schools on local transportation networks. More congestion may overburden existing infrastructure, creating unsafe conditions for vehicles, pedestrians, or both. The placement of a new school also creates new travel patterns that may not have existed previously. One stakeholder described an instance where reduced speed limits on a county highway next to the school created a "speed trap situation" and caused traffic to divert onto lower traffic township roads.

A number of local and state government interviewees identified congestion and safety impacts resulting from school siting decisions. Several interviewees mentioned that as a result of school siting decisions, other levels of government had been forced to pay for new infrastructure. Required infrastructure most commonly included new turn lanes, but interviewees also mentioned new sidewalks, traffic signals, pedestrian crossings, and signage. Estimated costs for these improvements ranged from negligible, in cases where the improvements were previously planned, to several million dollars.

Schools located on the opposite side of a state-owned highway from the student population often create a particularly intractable problem because, while they attract pedestrians, there may be no safe way to cross the highway. Solving these issues is often very costly.

## Existing Schools

School-related impacts on communities and their transportation systems are not solely the result of siting new schools. New congestion and safety problems near existing schools, which may have existed for many decades, often come about as a result of changes in the way students travel to and from school. As the number of students traveling to school by car has risen in recent decades, congestion and safety issues have become more problematic in many communities. A number of factors have been responsibility for the increasing number of students traveling to and from school by car—students living in lower density suburban neighborhoods far from their schools, parents' concern about their children's safety on the walk to and from school, and school consolidation. Districts often make the decision to consolidate schools in response to declining populations in rural areas, where officials believe closing a school and sending its students to a more distant facility is economical.

## IV. Who Pays?

The transportation-related costs associated with school site selection include the direct costs of transporting students as well as costs associated with new school-related traffic, including the cost of new infrastructure. Experts interviewed as part of this study agreed that school districts rarely consider costs that accrue to parents or other levels of government as a result of their siting decisions. District officials generally consider these costs as outside the scope of school district responsibility.

### New Infrastructure

When traffic generated by the construction or expansion of a school creates the need for infrastructure off the school site, the local or state government normally covers the expense. Often the improvements are already planned by the local or state government and can be constructed earlier relatively easily, particularly when the affected government is aware of the planned school early on in the process. However, when school districts fail to give sufficient notice to other levels of government about a new school or when the improvements necessitated by the new school were not previously planned, the affected governments face hard decisions about whether and how to make the improvements. Several local and state government interviewees agreed that schools often make their siting decisions without seeking input from city, county, or state governments and discuss the need for infrastructure improvements with these other levels of government only after the school's district has secured financing and purchased the site. Once school districts have issued their construction bond, they often claim that there is no money left to cover the cost of needed off-site improvements or that they do not have authority to make such improvements.

In these situations the improvement is made wholly at local or state government expense. Occasionally, a local government may recover a portion of the improvement costs by defining a special assessment district, which in some cases may include only the school. However, according to Dale Dennis, Deputy Commissioner of the Kansas Department of Education (KSDE), while it may be acceptable for a city to use a special assessment district to recover costs for a sidewalk, gutter, or street improvements adjacent to the school, assessing schools for the cost of new traffic lights or signs, or other improvements not directly adjacent to the school site would not.

School districts face statutory limitations[35] on the types of infrastructure that they can fund. According to the State Attorney General's interpretation of the statute, schools may construct entrances and exits from their

35 Kansas Statute 72-8804: Capital Outlay Levy, Fund And Bonds. Accessed 3/26/12: http://kansasstatutes.lesterama.org Chapter_72/Article_88/72-8804.html

property onto public streets but lack authority to pay for improvements to any property other than property belonging to the district or in which the district has a property interest.[36]

However, there remains uncertainty among school districts regarding what transportation-related costs they are authorized to pay. At one end of the spectrum, a local government interviewee reported that during the school site design process about 10 years ago, a school district refused even to pay for a traffic study that the local government requested. Although conducting a traffic study is standard practice during the school site design process, the school district maintained at the time that regulations prohibited the expenditure of money on anything not directly education-related. As a result, the building was located too close to the street, leaving insufficient space for cars to drop students, creating major congestion. At the other end of the spectrum, school districts sometimes make substantial contributions toward improvements necessitated by a new school. One superintendent reported that the district had paid over $350,000 for a traffic light and deceleration lane near a new school.

Cities most often bear the roadway costs associated with schools because districts try to select sites near students that have access to water and sewer service, which are most commonly located in cities. Counties may also bear the costs of transportation infrastructure when schools are located near county-owned highways.

School siting decisions less frequently affect the state but often impacts on the state system are more difficult to remedy because of their higher speeds and heavier use. According to interviewees at KDOT, traffic and pedestrian safety improvements to serve new schools on state-owned highways are often too costly to justify unless there has been a serious traffic incident at the location.

At one school, located across a highway from most of the students it serves, there is no pedestrian access and none is planned. KDOT deemed an existing vehicular bridge over the highway unsuitable for retrofitting with a sidewalk because of visibility concerns, and ruled out a stop sign on the highway because of the high speed of traffic and the fact that a stop would be unexpected and could cause crashes. KDOT found the remaining option—an $800,000 pedestrian bridge—infeasible because of its cost, leaving no safe pedestrian access to the school for most students.

## Other Transportation Costs

When they are considering sites, school officials typically do not explicitly consider the costs of transporting students.[37] However, these costs

36 Kansas Attorney General Opinion No. 93-146. Accessed 3/27/12: http://ksag.washburnlaw.edu/opinions/1993/1993-146.htm

37 Based on interviews with school district officials and national experts.

are significant and accrue to all levels of government as well as to the families of students. Busing and driving students both impose costs, as do infrastructure expenses from higher traffic in the community, particularly in the vicinity of the new school.

Kansas provides free bus service to students living more than 2.5 miles from their school by the most commonly traveled route, and the state pays most of the cost. School districts generally contract with bus companies to provide this service and the district is reimbursed by the state for the majority of this cost. During the 2007-2008 school year, Kansas school districts spent an average of $365,000 to bus students living beyond 2.5 miles from school and received an average reimbursement of $311,000, or 85 percent of the cost.[38] In addition, many students living less than 2.5 miles from school receive bus service at school district expense because their route to school is deemed hazardous because of a lack of sidewalks, heavy traffic, railroad crossings, or other pedestrian unfriendly features. Nearly 93 percent of Kansas school districts provide free busing at district expense to some students living within 2.5 miles of their school at an annual average cost of $113,000.[39] Several districts also give parents the option of paying for bus service for students living less than 2.5 miles from school. As in the rest of the country, busing costs in Kansas has increased rapidly in recent years. The cost of busing Kansas students grew at more than twice the rate of inflation between the 2004-2005 and 2008-2009 academic years, from $447 per student to $561 per student just four years later.[40]

Although exact figures are difficult to determine, the number of Kansas students traveling to school by car is likely greater than 60 percent.[41] Students living between one and 2.5 miles from school often have few transportation options other than car, since most of these students cannot take the bus, and mile-plus walks or bike rides are difficult, especially for younger students.

Many costs associated with driving are borne by students' families, including fuel, insurance, drivers' value of time, and vehicle depreciation and maintenance costs. Other costs of driving, however, are borne by taxpayers, such as the costs of building, maintaining, and policing roads in the community. Some costs of driving, accruing to society at large, such as a school-bound drivers' contribution to congestion, emissions-related health costs, and reduced pedestrian safety and mobility are more difficult to quantify.

38 Based on KSDE school transportation data for the 2007-2008 academic year.

39 *Ibid.*

40 Kansas Department of Education, Transportation Reports for the 2004-2005 and 2008-2009 school years.

41 National Household Travel Survey, 2009.

# Chapter 4. Improving Site Selection

## What Are Other States Doing?

### I. Soft Guidelines and Encouragement

Some states suggest that districts consider certain factors when selecting sites for new schools, such as whether the proposed facility contributes to suburban sprawl, is accessible to pedestrians and bicyclists, and would require new off-site infrastructure. Schools may be required to explain how the proposed facility meets these guidelines or why not.

Rhode Island requires that school districts planning major renovation projects, new additions, or new facilities submit an application to the Rhode Island Department of Education (RIDE) in order to qualify for reimbursement from the state and to certify to the General Assembly the need for projects, in case enabling legislation is required for issuance of the bond. The application requires that districts summarize their project planning activities, including alternatives considered, historical implications of existing facilities, and whether energy efficient/smart growth concepts have been considered. Projects "should encourage revitalization of existing facilities and consideration should be given to locating facilities in areas that are already served by existing or planned water, sewer, and other public infrastructure."[42] In addition, districts must encourage their local school expansion planning committee to review school policy reform recommendations provided in *Historic Neighborhood Schools in the Age of Sprawl: Why Johnny Can't Walk to School.*[43]

### II. Incentives for Renovation

States that provide funding to districts for school construction or renovation can use financial incentives to influence decisions, such as the choice to renovate instead of build new. Renovation can help reduce direct transportation costs and externalized costs borne by other levels of government, such as the need for expanded or improved transportation and utility infrastructure.

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42 *Necessity of School Construction—Information and Instructions, Rhode Island Board of Regents Elementary and Secondary Education* (5/15/08). Accessed 2/14/12: http://www.ride.ri.gov/finance/funding/construction/Documents/Housing%20Aid%2 2009/Guidance/Necessity%20of%20Construction%20Revised%20January%2008.pdf

43 Beaumont, Constance E. and Elizabeth G. Pianca, National Trust for Historic Preservation. (2nd Edition, 2002) Accessed 2/14/12: http://www.preservationnation.org/issues/historic-schools/additional-resources/schools_why_johnny.pdf

### Massachusetts

Massachusetts uses its school building reimbursement formula[44] to incentivize school districts to renovate existing buildings rather than construct new facilities, build schools in dense walkable neighborhoods, or meet other desired conditions. Schools can increase their reimbursement rate from the state by up to a total of 18 percent[45] with incentive points, including up to 5 percent for the renovation or reuse of existing facilities and an additional 1 percent if the school is located in a community designated[46] "smart growth zoning district".[47]

### Maine

Similarly, in 1998, Maine began its School Revolving Renovation Fund (SRRF)[48] in an effort to incentivize school districts to repair their existing facilities instead of rebuilding. SRRF provides assistance to school districts to ensure that students have a "safe, healthy, and appropriate learning environment." The program has three stated goals: to provide for health and safety compliance issues like roof upgrades and indoor air quality improvements; to fund repairs and maintenance that are non-health related like improvements to school structure, windows, and doors; and to provide for small-scale capital improvements to learning spaces. In 2010, the SRRF was able to provide $10 million in loans to school districts around the state, with a maximum loan amount of $1 million to an individual school building.[49] Although the program doesn't specifically target school districts that are considering new construction, by making rehabilitation projects more feasible, it increases the likelihood that school districts will opt to improve existing schools rather than undertake new construction.

## III. Requirements for Collaboration

There is always some level of collaboration between school districts and other levels of government following the acquisition of a school site, but collaboration between school districts and their local, county, and state governments and/or planning agencies during the site selection process

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44 Module 4 Schematic Design (Appendix 4E, MSBA Reimbursement Rate Calculations), Massachusetts School Building Authority (April 2011). Accessed 2/15/12: http://www.massschoolbuildings.org/sites/default/files/edit-contentfile/Build%20With%20Us/Schematic%20Design/Module%204%20-%20Schematic%20Design.pdf

45 Massachusetts General Law Chapter 70B section 10. Accessed 3/23/12: http://www.malegislature.gov/Laws/GeneralLaws/PartI/TitleXII/Chapter70b/Section10

46 Massachusetts General Law Chapter 40R section 6. Accessed 2/15/12: http://www.malegislature.gov/Laws/GeneralLaws/PartI/TitleVII/Chapter40R/Section6

47 Module 4 Schematic Design (Appendix 4E, MSBA Reimbursement Rate Calculations), Massachusetts School Building Authority (April 2011). Accessed 2/15/12: http://www.massschoolbuildings.org/sites/default/files/edit-contentfile/Build%20With%20Us/Schematic%20Design/Module%204%20-%20Schematic%20Design.pdf

48 Maine Department of Education: School Facilities/Transportation. Accessed 3/1/12: http://www.maine.gov/education/const/rrf/home.htm

49 School Revolving Renovation Fund, Informational Letter, Accessed 3/1/12: http://www.maine.gov/tools/whatsnew/index.php?topic=edu_letters&id=92578&v=article

is less common. By giving relevant agencies the chance to comment on planned schools, they can identify transportation issues before the site is finalized.

### California

California requires that, before buying school sites, districts must give written notice to the local planning agency, requesting that the agency review the proposed site and issue recommendations concerning conformity with the community's general plan.[50] School districts may not acquire a school site until the report is received. While approval from the planning agency is not required, if its report does not favor the acquisition, the school district may not purchase the site for at least 30 days after the report is received.[51] The waiting period required when potential sites are not approved by the planning agency ensures that there is time for districts to at least consider the recommendations.

In addition, districts must meet with appropriate local government, recreation, and park authorities to consider possible joint use of school grounds and buildings to coordinate the design to benefit intended users.[52] Joint use of school facilities can generate significant community benefits with little additional expense, and consideration of joint use prior to site acquisition increases the likelihood that benefits from school facility investments are maximized. Many schools are also able to generate revenues through fees on other users of school facilities.[53]

### Colorado

Colorado mandates that, prior to buying land, school boards notify and consult with their local planning commission, or governing body if no planning commission exists, in order that the proposed site conforms to the adopted plan of the community, insofar as is feasible.[54] Colorado also stipulates that, prior to construction of any building, the school board submit a site development plan to the local planning commission for review and comment. If the planning commission or local governing body requests a public hearing before the board relating to the proposed site or development plan, the board must schedule such hearing within 30 days, must publish at least one public notice in advance of the hearing, and provide written notice of the hearing to the requesting planning commission

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50 California Code of Regulations, Title 5, Division 1, Chapter 13, Subchapter 1, Article 2. *School Sites.* Accessed 2/15/12: http://www.cde.ca.gov/ls/fa/sf/title5regs.asp

51 California Public Resource Code Section 21151.2. Accessed 2/16/12: http://www.cde.ca.gov/ls/fa/sf/prccoderef.asp

52 California Code of Regulations, Title 5, Division 1, Chapter 13, Subchapter 1, Article 2. *School Sites.* Accessed 2/15/12: http://www.cde.ca.gov/ls/fa/sf/title5regs.asp

53 Joint Use Schools Initiative: Partnerships and Environments for Student Success, Center for Cities and Schools. Accessed 4/18/12: http://citiesandschools.berkeley.edu/joint-use.html

54 Section 22-32-124 of the Colorado Revised Statutes. Accessed 2/16/12: http://oil.cdle.state.co.us/Archive_Old%20Items/Public%20Safety/Public%20Schools%20Statute%2022-32-124.asp

or governing body.[55] However, as in California, local school boards have the final authority to determine the location of schools.

### Delaware

Delaware's Preliminary Land Use Service (PLUS)[56] provides for state agency review of major land-use change proposals, including proposed non-residential buildings over 50,000 square feet, prior to submission to local governments. Most new schools are large enough to require PLUS reviews. The office of State Planning Coordination identifies other state agencies to participate in the review on a case-by-case basis. State agencies are thus able to comment at the start of the process so that changes can be made more easily and costly delays can be avoided. The state review process is advisory and is intended to provide useful comments to jurisdictions and developers prior to formal local review. A recent PLUS review of a proposed high school identified both the necessity of conducting a traffic impact study and the likelihood that significant road improvements would be required as issues that should be considered early in the process to avoid unexpected delays. The responsibility for land-use decisions remains at the local level.

## IV. Acreage Maximums

Establishing school site acreage maximums reduces school districts' incentive to locate at the periphery of their communities where large amounts of land are most easily available. The fiscal impact of overly large schools is twofold; they both remove more land from the local property tax rolls and increase infrastructure capital and maintenance costs by reducing community density. In addition, smaller, more centrally located sites increase community walkability and the likelihood that students will be able to walk or bicycle to school, with the resulting health benefits.

### Connecticut

The school construction aid program in Connecticut creates a disincentive for districts to select very large school sites by limiting the acreage of school sites eligible for state aid. In order to be eligible for state assistance, school acreage must be no larger than the projected enrollment, divided by 100, plus an additional 10, 15, or 20 acres for elementary, middle, and high schools, respectively.[57] School districts may choose sites larger than these maximums; however, acreage beyond these maximums is not eligible for state aid.

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55 *Ibid.*

56 Preliminary Land Use Service. Accessed 2/20/12: http://stateplanning.delaware.gov/plus/plus.shtml

57 Ineligible and Limited Eligible Costs, Connecticut State Department of Education. Accessed 2/15/12: http://www.sde.ct.gov/sde/lib/sde/word_docs/dgm/sfu/guide02/InelgLmt.doc

### California

California also creates a disincentive for districts to select school sites that exceed recommended guidelines. The state recommends site sizes between 10 to 18 acres for elementary schools that range from 400 to 1,200 students; 18 to 23 acres for middle schools that range from 600 to 1,200 students; and 34 to 53 acres for high schools that range from 1,200 to 2,400 students.[58] Within these recommended ranges, the state will help fund costs of site acquisition, waste removal, and new construction costs. However, the actual amount funded by the state shall be reduced, on a prorated basis, by the percentage of acreage the site over the recommended guidelines.

### Illinois

Illinois' School Construction Program will not reimburse school districts for the costs associated with site acquisition and construction on school land that exceeds maximum recommended acreage. These maximums are: five acres plus one acre for every 100 students for an elementary school; 15 acres plus one acre for every 100 students for a middle school; and 20 acres plus one acre for every 100 students for a high school.[59]

## V. Banning Construction on Agricultural Land

### Pennsylvania

In Pennsylvania, Commonwealth funds may not be used to encourage the conversion of "prime agricultural land" to other uses when feasible alternatives are available.[60] In order to comply with this prohibition, school districts considering buying land in active agricultural use must consider and weigh alternatives, and must submit written documentation of the process in their application for reimbursement of the purchase cost from the Commonwealth.[61] In addition, if requested by the Pennsylvania Department of Agriculture, school districts must provide additional information regarding the presence or absence of agricultural resources within the project area.

Although preventing school construction on agricultural land is a narrow focus for a school siting-related policy, restricting public funding for school construction in undeveloped areas of value to the community can foster preservation and may provide the ancillary benefit of pushing school districts to build in more central infill locations.

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58 "Guide to School Site Analysis and Development," California Department of Education.

59 "State Policies for School Construction and Renovation: Seen Through a Community Preservation Lens," A Report to the National Trust for Historic Preservation, May 2003.

60 Pennsylvania Code Title 4 Section 7.302. Accessed 2/18/12: http://www.pacode.com/secure/data/004/chapter7/subchapWtoc.html

61 PLANCON Part C: Site Acquisition, Commonwealth of Pennsylvania, Department of Education, Bureau of Budget and Fiscal Management. Accessed 2/18/12: http://www.portal.state.pa.us/portal/http;//www.portal.state.pa.us;80/portal/server.pt/gateway/PTARGS_0_123706_1037159_0_0_18/SchoolFacilities%20PlanCon%20Part%20C%20Instructions%20FY2010-2012.pdf

## VI. Requirement that Schools Pay for Off-site Improvements

A requirement that school districts pay for transportation infrastructure improvements necessitated by new schools can help to increase the overall efficiency of site selection by forcing districts to consider the full cost of their decisions.

### South Carolina

In South Carolina, school districts are responsible for roadway improvements needed to support new or expanded schools. Districts must notify the South Carolina Department of Transportation (SCDOT) when they are modifying vehicular access to a school or planning a new school or school addition.[62] Before project bidding, districts must submit the site plan showing roadway improvements to SCDOT for approval.[63] The state Office of School Facilities recommends that preliminary cost estimates for roadway improvements be prepared by the district before site acquisition for inclusion in the project budget.[64]

SCDOT generally recommends construction of turning lanes at new school sites and may require widening adjacent intersections if school traffic is "projected to cause a failure in the safe and efficient traffic operation of the intersection."[65]

### California

In California, while school districts are required to give consideration to local ordinances governing the design and construction of offsite improvements, they are not required to comply with them. However, if a school district elects not to comply with local ordinances relating to offsite improvements, "including, but not limited to, drainage, road, and sidewalk improvements," the city or county is not liable for any injuries or damage to property resulting from the district's lack of compliance.[66]

While California's policy regarding school district responsibility for off-site improvements allows schools to avoid constructing off-site improvements required by local governments, cities and counties are not required to make these improvements themselves. Because local governments are freed from this liability, school districts cannot assume that needed offsite improvements will be funded by another level of government. Schools

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62 2012 South Carolina School Facilities Planning and Construction Guide, Office of School Facilities. Accessed 2/20/12: http://ed.sc.gov/agency/os/School-Facilities/documents/2012Guidebook.pdf

63 *Ibid.*

64 *Ibid.*

65 Access and Roadside Management Standards (ARMS), South Carolina DOT (2008). Accessed 2/20/12: http://www.scdot.org/doing/pdfs/ARMS_2008.pdf

66 California Government Code Section 53097. Accessed 2/20/12: http://e-lobbyist.com/gaits/text/9040

can thus avoid making offsite improvements they judge to be legitimately unnecessary, but maintain responsibility for their decisions.

## VII. Concurrency with Local Government Plans

Some states mandate the concurrency of school district and local government plans. Oregon requires that cities or counties containing large school districts must work together to ensure that school district and local government plans are compatible. Maryland and Maine, on the other hand, have a less collaborative process, requiring that schools comply with plans developed by local governments.

### Oregon

Oregon law requires collaboration between any local government and their respective school districts when drafting comprehensive plans. State statute[67] states that any city or county containing a large school district—those with an enrollment of 2,500 students or greater—must initiate planning activities with the district and shall include a school facilities plan in its comprehensive plan. This school facilities plan, adopted by both the large school district and local municipality, must include both a 10-year capital improvements plan as well as an analysis of the potential site lands required for the 10-year period. These sites, deemed suitable as permitted or as conditional use, must be within the municipality's local urban growth boundary.[68]

If there is an inadequate supply of land to fulfill the 10-year school siting needs, the city or county and the local school district shall work together to identify the necessary lands needed outside the urban growth boundary. They then must take the necessary actions for these sites to fit the comprehensive plans by adopting appropriate zoning or adding the new designated sites to the existing urban growth boundary.[69]

### Maryland

Under an Executive Order pertaining to the Smart Growth and Neighborhood Conservation Policy,[70] all state agencies—including the Department of Education—must "evaluate and coordinate programs, services, and activities in Priority Funding Areas (PFAs) to enhance and support community revitalization." When making funding decisions, the Department must consider whether the proposed school location is in a PFA, whether it supports existing neighborhoods and communities, and finally,

67 ORS 195.110 School facility plan for large school districts. Accessed 2/29/12: http://www.leg.state.or.us/ors/195.html

68 For more information on Oregon's Urban Growth Boundary law, see ORS 197: http://www.leg.state.or.us/ors/197.html

69 *Ibid.*

70 Maryland Executive Order No. 01.01.1998.04, 1998. Accessed 2/28/12: http://www.msa.md.gov/megafile/msa/speccol/sc5300/sc5339/000113/013000/013794/unrestricted/20110620e.pdf

whether the proposed site is consistent with any adjacent jurisdiction's Smart Growth plans.

Priority Funding Areas are State-defined growth areas designated by municipalities as potential sites for future infrastructure investment. PFAs were established to meet three goals: preserve existing communities, make the most efficient use of taxpayer money, and reduce development pressure on rural lands. As such, in Maryland a PFA must already have sewer infrastructure or must be included in approved 10-year water and sewer plans to be served by such infrastructure.[71] If a proposed school site lies outside a PFA, the local district must request a waiver for approval of planning and for construction funding. Without such a waiver, a proposed school site outside a PFA will not be eligible for state construction funding.[72]

**Maine**

Under Maine's school siting rule,[73] new school construction projects receiving state funding must be located within a locally designated growth area identified in the municipality's comprehensive plan. Where there is no growth plan, schools must be sited within an area served by a public sewer system with sufficient capacity to accommodate the proposed school, within an area identified by the latest Federal Decennial Census as a census-designated place, or in a compact area of urban municipality. If the requested school site does not meet these criteria, a written justification of the site—including all considerations that provide the basis for recommending the location—must be presented to the State Board of Education for approval. When considering a request for site approval, the State Board of Education will involve all appropriate federal, state, and local agencies.

## VIII. Site Pre-approval

Some states require school districts to receive state agency approval of school sites prior to acquisition. When pre-approval is contingent on school districts communicating with other levels of government and considering the implications of their proposed school site, it can be a powerful tool. Even a pre-approval requirement that lacks a strong emphasis on coordination with other levels of government provides notification to surrounding governments that a school district is purchasing a site, which is beneficial even in the absence of direct collaboration.

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71 "Priority Funding Areas: How to Revise and Update," Maryland Department of Planning, Accessed 2/28/12: http://www.mdpstate.md.us/PDF/OurProducts/Publications/OtherPublications/PFA_Update_Revise_09.pdf

72 "Maryland Passes Smart Growth Policies that Support Kids Walking to School," Friends of Frederick County, October 28, 2011.

73 05-071 CMR Chapter 60. Accessed 2/21/12: http://www.maine.gov/sos/cec/rules/05/071/071c060.doc

### California

California requires local school districts that will use state funding for a project to receive approval from the California Department of Education (CDE) prior to site acquisition.[74] Among other requirements, districts must:

- Hold a preliminary conference with a consultant from the CDE School Facilities Planning Division (SFPD) to review sites under final consideration;
- Prepare a statement of policies as delineated on the "School Facilities Planning Division School Site Report,"[75] identifying the number and type of roads adjacent to the school site, student transportation modes and routes to and from school, concurrency with local and regional plans, and other issues;
- Prepare maps identifying present and proposed school sites, roads, highways, hazardous areas, and student attendance area;
- Notify and request comments from the local planning agency on the proposed school site and its conformity with the adopted general plan;
- Conduct required studies, including population trends, transportation, and traffic hazards; and
- Prepare required environmental reports.

While some of these requirements are only mandated for school districts that will be using state funds to purchase the proposed site, school districts using entirely local funding must still meet many of the same requirements, including soliciting comments from their local planning agency.

### South Carolina

South Carolina requires site inspection and approval by the Office of School Facilities (OSF) prior to acquisition by local school districts.[76] In order to receive approval from OSF, districts must conduct an on-site inspection of the property with OSF and the South Carolina Department of Transportation (SCDOT) and provide each agency with a boundary map of the property, basic site information and predicted enrollment and other pertinent site information. While coordination with local governments is not mandated as a condition for approval, South Carolina has jurisdiction over 64 percent of total lane-miles in the state, including 71 percent of urban lane-miles, giving SCDOT a stake in roads that in other states would be under local jurisdiction.

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74 California Code of Regulations, Title 5, § 14011 Accessed: 2/20/2012: http://www.cde.ca.gov/ls/fa/sf/title5regs.asp

75 Form SFPD 4.02. Accessed 2/22/12: http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CCIQFjAA&url=http%3A%2F%2Fwww.cde.ca.gov%2Fls%2Ffa%2Fsf%2Fdocuments%2Fsfpd402.doc&ei=UERFT7SII8zaiQLspc3EDg&usg=AFQjCNEFMdhP7epjgZ8NJR_tfSJ9LWOFoQ&sig2=jqqdsTLoLnaGGoTfmpoLZQ

76 South Carolina Office of School Facilities 2012 Guidebook. Accessed 2.27.12: http://ed.sc.gov/agency/os/School-Facilities/documents/2012Guidebook.pdf

## IX. State Funding to Complement the Federally-funded Safe Routes to School Program

While the SRTS program does not affect school site selection, projects that make bicycling and walking easier and safer for students can reduce the number of students traveling to and from school by car and bus and lower costs associated with school transportation. A number of states supplement their federally-funded SRTS programs with similar state-funded programs. These programs vary in their sources of revenue and the types of projects which they fund.

### California

California enacted its own Safe Routes to School (SR2S) program in 1999, prior to the federally-funded SRTS program.[77] The SR2S program is currently funded at just over $24 million annually and operates in much the same way as the SRTS program within California with a few notable differences.[78] The primary differences between the programs is that California's state-funded program limits applicants to cities and counties, requires a minimum 10 percent local funding match, funds only infrastructure projects, and can be used for projects targeting high school students.[79] The expansion of eligibility to allow funding for projects benefitting high school students is a significant improvement.

Large numbers of inexperienced student drivers near high schools create safety issues for neighborhood residents as well as other students. Reducing the number of students driving to school could yield significant safety and cost benefits.

### Washington

Legislation enacted in Washington State in 1997,[80] doubled the fine for drivers speeding in school zones and directed half of the revenue to the Washington Traffic Safety Commission.[81] The Commission uses $1.5 million of these funds each biennium to enhance school zone safety with $1 million for law enforcement equipment and $0.5 million for public education.[82] Generating revenue to enhance school zone safety through increased school zone speeding fines may be a politically feasible option in other states where other funding sources may be unavailable.

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77 CalTrans Division of Local Assistance, State-legislated Safe Routes To School (SR2S) Program. Accessed 3/28/12: http:/www.dot.ca.gov/hq/LocalPrograms/saferoutes/sr2s.htm

78 CalTrans Division of Local Assistance, Safe Routes to School Programs. Accessed 3/28/12: http://www.dot.ca.gov/hq/LocalPrograms/saferoutes/saferoutes.htm

79 *Ibid.*

80 Revised Code of Washington 46.61.440. Maximum speed limit when passing school or playground crosswalks—Penalty, disposition of proceeds. Accessed 3/28/12: http://apps.leg.wa.gov/rcw/default.aspx?cite=46.61.440

81 Safe Routes to School National Partnership, Washington SRTS Program. Accessed 3/28/12: http://www.saferoutespartnership.org/state/srts-in-your-state/washington

82 *Ibid.*

# Chapter 5. Recommendations for Kansas

There is a growing awareness of the transportation-related issues associated with school site selection in Kansas, and some school districts are already taking a proactive role in working with their local governments and KDOT. However, there is room for improvement. National experts interviewed for this study, as well as interviewees from local and state governments and school districts all agreed that more intergovernmental collaboration during the site selection process would be beneficial.

All school districts in Kansas are bound by local zoning ordinances, where they exist, and work with their local governments on site design and access issues once they have acquired the site. The most challenging transportation impacts of schools, however, are a result of the school site location rather than its design. Little can be done to remedy problems associated with schools sited in places where major projects on adjacent streets or highways are required to provide safe pedestrian and vehicle access or where the distance between a school and its student population is too great.

When schools are located close to their students, pedestrian infrastructure improvements and education projects that could be funded through the SRTS program can effectively reduce school-related impacts on the community by increasing the proportion of students that are walking and biking to school. More proximate schools can also reduce congestion, busing costs, and costs associated with students being driven to and from school.

The goal of this report has been to develop recommendations for the State of Kansas to reduce transportation-related costs and impacts associated with school site selection. Although the U.S. Environmental Protection Agency's recent report, School Siting Guidelines,[83] was broader in scope than the current study, its recommendations—that states should encourage school districts to engage in ongoing planning and coordination with their communities and to consider the full costs associated with potential sites, including transportation efficiency—are fully in keeping with those presented here.

Our recommendations for Kansas are organized into those that can be pursued immediately, to improve and extend the lives of existing schools or improve site selection in the near term, and potential future policy solutions, which may be appropriate if school site selection continues to present problems for the state and local governments.

83 US Environmental Protection Agency, School Siting Guidelines (2011). http://www.epa.gov/schools/siting/index.html

# Immediate Actions

## Use Current Funding Sources to Improve Existing Schools

Through the use of existing funding streams, school districts may be able to improve non-motorized access for students or reduce the costs of building maintenance and renovation, enabling them to continue using an existing school that they otherwise might replace with a new building. Both the Safe Routes to School (SRTS) program, discussed in Appendix A, and Kansas's State Historic Preservation Tax Credit program can benefit schools and their communities through lower transportation costs, improved student health, and reduced infrastructure expenditures.

### State Historical Preservation Tax Credits

Expansion or renovation of existing schools often produces better transportation outcomes than building on a new site. While the State of Kansas does not generally provide funding for school construction or renovation, some schools in Kansas have been able to generate funding for improvements through the State's Rehabilitation Tax Credit Program. The program allows schools designated as historically significant[84] to receive tax credits equal to up to 25 percent of qualified project expenses. Although schools are tax exempt, these tax credits are transferable, and some schools have had success selling their tax credits from the program to offset their spending on rehabilitation and maintenance. According to State Historical Preservation Office staff, some schools generate significant revenues through the program. Topeka High School receives approximately $100,000 per year for maintenance activities, and Independence Junior High School has undertaken a major renovation project for which it is expected to receive over $2 million.

## Improve Coordination Between School Districts and Other Levels of Government

Some school districts already coordinate informally with their local governments and sometimes KDOT before selecting school sites, but many do not. School districts and their hired consultants should make every effort to engage with local governments, and KDOT if potential sites might affect state roads.

All levels of government share a responsibility to operate as efficiently as possible. Constructing a school on a cheap parcel by a busy road at the edge of town may appear cost-effective from the perspective of the school district; however, it may be less efficient overall when costs to families and other levels of government are taken into account.

84 Specific program requirements are available on the Kansas State Historical Society website. Accessed 3/1/2012: http://www.kshs.org/p/state-historic-rehabilitation-tax-credit/14666

Cities, counties, school districts, and KDOT, where necessary, should discuss current plans and demographic projections and work to harmonize their activities before the selection of new school sites. One local government interviewee noted that cities may be able to offer publicly owned parcels for a new school site or rezone parcels to allow for school construction.

Expert interviewees also highlighted the potential efficiency benefits of school district partnerships with local governments to facilitate the joint-use of facilities. Allowing local government and community members to use school facilities when school is not in session is a simple way to maximize the community benefits of school infrastructure. In addition, school districts may also be able to recoup some infrastructure costs by allowing other organizations and government agencies to use school facilities for a fee.[85] And in a best case, schools and local governments might cooperatively develop park/recreational spaces, libraries and other facilities.

### Inclusion of Schools in Local Comprehensive Plans

Under existing law,[86] local planning commissions must approve the construction of public facilities, including schools, that have been embraced within the recommendations of the comprehensive plan. No public facility included in the local comprehensive plan may be constructed without first being submitted and approved by the planning commission as being in conformity with the plan. If the planning commission finds that the proposed public facility does not conform to the plan, the commission shall submit, in writing, a report to the governing body sponsoring the facility detailing the manner in which the project does not conform to the comprehensive plan. The governing body, after receiving a report detailing the proposed project's nonconformance, may override the report of the planning commission and the comprehensive plan for the area shall be deemed to have been amended.

While interviewees did not report that local governments are currently exercising this authority, local governments should consider developing comprehensive plans that explicitly reference school buildings to give local planning commissions the opportunity to review and comment on proposed school buildings that may create vehicular or pedestrian safety hazards or result in greater overall costs to taxpayers. Although school districts cannot be prohibited from proceeding with construction in cases where the proposed school was not in compliance with the local plan, the review process and written report would increase governmental transparency and ensure the consideration of local plans in school construction decisions.

85 The Center for Cities and Schools website has variety of resources for school districts and communities considering joint use of school facilities: http://citiesandschools.berkeley.edu/joint-use.html

86 KSA 12-748. Accessed 4/12/12: http://kansasstatutes.lesterama.org/Chapter_12/Article_7/12-748.html

## Coordinate and Share Information between Agencies

Improved coordination between state agencies is a critical first step to better assess and respond to the challenges related to school siting that cross jurisdictional boundaries.

### Ad Hoc School Siting Assessment Committee

Convening an ad hoc committee consisting of representatives from the Kansas Department of Education (KSDE), KDOT, and the Kansas Department of Health and Environment (KDHE) as well as the Kansas Association of Counties, League of Municipalities, and the State Historic Preservation Office, to discuss the issues associated with school site selection that affect each agency as well as local governments would be a good first step in dealing with school siting challenges. Too often, state agencies focused on their own concerns fail to communicate with one another about challenges affecting both. Similarly, local and state government, which often face the same issues, fail to coordinate effectively. Fostering dialogue between these agencies and groups is very important and the formation of an ad hoc school siting committee would be a good first step.

### Construction Bond Approval

School districts must seek approval from KSDE before issuing a school construction bond if the aggregate amount of outstanding bonds will exceed 14 percent of the assessed valuation of taxable property in the district.[87] Currently about two-thirds of school district bonds issued for school construction exceed this limit and require approval from KSDE.[88] KSDE could help to ensure coordination between school districts and other levels of government by withholding approval until school districts have notified and solicited comments on the proposed site from KDOT as well as the affected city and/or county.

## Orient KDOT to Play a More Active Role in School Site Selection

As the statewide transportation agency, KDOT has an important role to play in reducing the transportation-related costs associated with school site selection in Kansas. By improving intra-agency coordination, assisting schools in assessing potential sites, and tracking outcomes, KDOT can build institutional knowledge, become a resource for schools and communities, improve school siting decisions, and reduce costs for taxpayers.

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87 2009-2010 School Bond Guide, Kansas State Department of Education. Accessed 3/1/12: http://www.ksde.org/LinkClick.aspx?fileticket=heuaqiJ9ANg%3d&tabid=1877&mid=7853&forcedownload=true

88 Interview with Dale Dennis, Deputy Commissioner, KSDE (1/5/12).

### Intra-agency Communication

Improved communication about planned schools and school-related transportation issues within KDOT could help the organization better understand and respond to planned schools that may create transportation challenges. While KDOT is a statewide organization and many KDOT staff are aware of the transportation issues associated with school site selection, the KDOT area engineers located throughout the state often have limited experience dealing with school site selection and construction issues. If area engineers were encouraged to notify staff at KDOT headquarters about districts considering constructing new schools in their areas, KDOT staff could begin to engage with these school districts prior to site selection.

Individual area engineers encounter school construction on an infrequent basis and are unlikely to have much experience with the issue. However, if several staff at KDOT headquarters were tasked with engaging school districts during the site selection process, KDOT could build an institutional knowledge about school site selection. Better communication between levels within KDOT could help the agency become a statewide resource for school districts and communities interested in understanding the transportation impacts of schools and how site selection can be improved.

### Assistance to School Districts

Given KDOT's interest in working with school districts that are evaluating potential sites, it would be useful for KDOT to offer assistance to schools involved in site selection. While KDOT cannot distribute funds to school districts, with a relatively small investment of staff time it could provide useful information to schools and communities regarding how many students might be expected to walk and bike to potential sites and how each site compares in terms of estimated transportation costs.

For schools investigating potential sites, KDOT could perform a GIS[89] analysis to determine how many students would have to travel less than one mile, one to two miles, and so on to each potential site by the existing road network. According to KDOT staff, the agency does not currently have ArcGIS Network Analyst to enable this analysis, but the software is a relatively small expense. Once KDOT has completed the analysis, districts could calculate the rough transportation costs using the cost calculation tool developed as part of this study (described in Appendix D). While estimates provided by the tool do not include new infrastructure investments that may be required at or near the site, estimates of how many students might be expected to walk or bike, be driven, or ride the bus could be useful in assisting school district decision-making.

89 Geographical Information Systems

In addition, if KDOT were able to advise school districts regarding the type and cost of pedestrian and vehicle infrastructure improvements likely to be necessitated by the new school, this would add significant value to the analysis. By leveraging KDOT's GIS analysis capabilities and knowledge of transportation systems and infrastructure, the agency may be able to build a rapport with school districts early in the process, giving KDOT a chance to influence site selection decisions or, at least, to be aware of school district decisions early in the process.

### Tracking Outcomes

In order to better gauge the scope of issues related to school siting and measure improvement, KDOT should begin to record the location of new schools, community and KDOT feedback regarding school sites, and the cost and types of off-site improvements made by other levels of government to facilitate transportation to and from the school. This data will enable KDOT and others to better understand the severity of transportation challenges related to school siting and would be a solid foundation on which to base future changes in policy.

## Potential Future Policy Solutions

If collaboration between school districts, local governments, and KDOT does not improve sufficiently to produce better siting outcomes, it may be necessary to implement policies targeted at improving coordination. Two policies that may be particularly effective in this regard would be:

1. A requirement that school districts discuss proposed sites with their local government and KDOT prior to acquisition.
2. A requirement that school districts pay for infrastructure necessitated by new schools.

The creation of a state-funded Safe Routes to School program to complement the existing Federal program could be another effective way to increase travel options for students and reduce transportation-related costs at some schools.

Expanding Kansas's existing school zone safety program to make funding available for pedestrian and bicycle infrastructure projects at high schools, which are ineligible for funding from SRTS, could also help to reduce transportation costs.

## Required Collaboration

A requirement, similar to California's, that school districts provide written notice to KDOT as well as their local governments requesting comments on the potential site prior to acquisition could ensure that collaboration is taking place. Districts would be required to wait until comments had been received before purchasing the site. If other levels of government supported the site, the district could move ahead with the purchase immediately, and, if they were opposed, districts could be required to wait 30 days before purchasing the site. The final decision of whether to purchase the site would remain with the district, but this requirement would ensure that other levels of government affected by the decision would have a chance to register their comments at a time when alternatives might still be viable. The 30-day waiting period ensures that there is time for the issues raised to be discussed internally by the school district prior to their decision.

This requirement would also bring school site selection into the public sphere. Currently, voters have little understanding of how school sites are selected and the impacts these decisions can have on a community. If the public could see comments from other levels of government on the site chosen by the school district, as well as comments on sites that were not chosen, they would have a better understanding about whether their tax dollars were being spent efficiently and could make more informed decisions when voting in school board elections.

## Required Contribution to Off-site Improvements

A number of government interviewees expressed frustration that the impacts of school siting decisions were often borne by other levels of government and that those costs were inequitably distributed. A requirement that school districts fund improvements related to their siting decisions would alleviate this inequity and would push districts toward more transportation-efficient school site selection.

Currently, because existing statutes have been interpreted as a prohibition against school districts paying for off-site improvements, school districts have an incentive to discount the off-site infrastructure costs that new schools will produce. If districts were required to pay for these improvements, they would likely make more efficient siting decisions and, while school districts would have to shoulder larger costs when acquiring school sites, costs would be lower overall and more equitably distributed among taxpayers. Insisting that school districts pay to correct the traffic impacts that they create would simply be treating them like private developers, who are normally required to mitigate the traffic impacts of their developments.

## Enhancing the Kansas School Zone Program to Better Complement SRTS

Projects funded by Safe Routes to School, such as improved bicycle and pedestrian infrastructure or educational programs to encourage safe biking and walking among students, can improve traffic congestion, emissions, and student obesity, while reducing the need for roadway capacity expansion near schools. However, because SRTS funds must be targeted to benefit students in grades K-8, worthy projects aimed at increasing safety and encouraging walking and biking among high school students are not eligible.

Kansas's current School Zone Program provides funding for improvements such as pavement striping and school zone signs in towns of less than 20,000 people. Increasing the funding and widening the scope of this program to cover schools in larger towns, particularly high schools, could be an effective way of increasing the number of students walking and biking to school and reducing traffic-related impacts. Raising fines for traffic violations in school zones and dedicating this additional revenue to the School Zone Program would be one way to pay for this expansion.

# Appendix A. Safe Routes to School

The Federal Safe Routes to School Program (SRTS) was started in order to tackle the issues which have led to a steep decline in students walking or biking to school—from 50 percent in 1969 to less than 15 percent today.[90] [91] The program aims to combat safety concerns and changes in traffic and land use patterns which have largely contributed to this decline.[92] An increase in the number of students walking and biking to school has benefits such as reduced traffic congestion; better air quality; and reduced risk for a variety of health problems such as obesity, diabetes, and cardiovascular disease.[93]

The Safe Routes to School Program has its roots in an initiative in Denmark in the 1970s to reduce the number of children killed while walking and biking to school. Several similar programs were created in Europe, Australia, New Zealand and Canada. Two successful Congress-funded SRTS pilot projects in 1998 led to many similar grassroots programs being started across the United States. In July 2005, Congress passed federal legislation that established a National Safe Routes to School Program.[94]

The legislation described the purpose of the SRTS program as:

1. to enable and encourage children, including those with disabilities, to walk and bicycle to school;

2. to make bicycling and walking to school a safer and more appealing transportation alternative, thereby encouraging a healthy and active lifestyle from an early age; and

3. to facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools.[95]

The program aims to use a combination of engineering treatments, traffic enforcement, safety education, and encouragement programs to transport students to and from schools more safely and efficiently. The program focuses on "five Es"; namely engineering, education, enforcement, encouragement, and evaluation.[96]

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90 2009 National Household Travel Survey conducted by the Federal Highway Administration

91 "Transportation Characteristics of School Children," Report No. 4, Nationwide Personal Transportation Study, Federal Highway Administration, Washington, DC, July 1972.

92 "Barriers to Children Walking and Biking to School" CDC, 2005.

93 "Physical activity and the health of young people," U.S. Centers for Disease Control & Prevention, Fact Sheet, 2004.

94 "History of SRTS", National Center for Safe Routes to School (http://www.saferoutesinfo.org/about-us/mission-and-history)

95 Section 1404 of the *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users* (SAFETEA-LU), signed into Public Law (P.L. 109-59)

96 Safe Routes to School Guidance (http://safety.fhwa.dot.gov/saferoutes/guidance/)

The law dedicated a total of $612 million towards SRTS from 2005 to 2009. The funds are administered by the Federal Highway Administration, which provides guidance and regulations about SRTS programs. All 50 states and the District of Columbia have SRTS programs in various stages of implementation. Funds are provided to each state by a formula based on the state's percentage of the national total of school-aged children in grades K-8 with each state guaranteed a minimum amount of $1 million every year. Every SRTS project is fully funded by the federal government with no local funds required as a match. SRTS is not a typical "grant" program but rather functions as a federal reimbursement program where agencies are paid after they submit proof of work completed.[97]

SRTS funds two types of projects—infrastructural and non-infrastructural. Infrastructural projects include improvements to sidewalks, traffic calming, pedestrian and bicycle crossings, on- and off-street bicycle facilities, secure bicycle parking, and traffic diversions. Non-infrastructural activities include public awareness campaigns and outreach to press and community leaders, establishing walking school buses and bike trains, traffic education and enforcement, student training on bicycle and pedestrian safety, and funding for training volunteers and staff. Ten to 30 percent of each state's funds are required to be spent on non-infrastructural projects.[98]

State SRTS funds are administered by the departments of transportation in each state. Each state is required to hire a full-time coordinator of the State's SRTS program who then forms a steering committee to invite applications from interested stakeholders for SRTS funding. Applicants are selected based on multiple eligibility criteria including demonstrated need, identification of safety hazards, potential for reducing child injuries and fatalities, and the potential to encourage walking and biking among students. State applicants are usually sourced from three jurisdictional categories—at the school level, on school system or region-wide level, or on a statewide level. These projects usually coordinate infrastructure and non-infrastructure activities to encourage comprehensive walking and biking programs at the school and community level. Multi-school or school-district level projects include those that address school curriculum and training, walk-to-school day promotion, and media-oriented strategies. Statewide activities are those that include training, publication, and distribution of materials; providing a pool of engineering expertise and safety educators for schools to draw upon; or mounting a media campaign or state curriculum initiative.[99]

The Kansas Safe Routes to School Program was started in 2006 with $1 million in funding and distributed a total of $10,256,765 through the end of 2011. The Kansas program separates applicants into "Phase 1" or "Phase 2" programs. Phase 1 programs are those which aim to create a holistic

97 Safe Routes to School Guidance (http://safety.fhwa.dot.gov/saferoutes/guidance)

98 *Ibid.*

99 *Ibid.*

SRTS plan that includes the "five Es" mentioned earlier in this document. Phase 1 programs are eligible for a maximum of $15,000 in funding. Phase 2 programs are used for funding the implementation of all or portions of an SRTS plan. Applicants are eligible for Phase 2 funding only after they have developed a comprehensive SRTS plan. Phase 2 programs can receive a maximum of $250,000. Kansas SRTS tracks the progress of all SRTS programs and requires them to collect data on the travel and social behaviors of the community. For Phase 1 programs, these are in the form of "before" data collected through parent surveys and student tallies to help communities recognize their unique issues. Phase 2 programs collect their data using the same methods, focusing on the "after" data. Once all of the data are compiled, communities enter their data on the National Center for Safe Routes to School (NCSRTS) website or mail their data to the NCSRTS for entry. The data is then used to encourage lawmakers to craft policy aimed towards promoting walking and biking to school. SRTS programs have been implemented in Louisburg, Overland Park, and Wichita among other areas.[100]

Although SRTS is a useful tool to help tackle the issues involved with the transport of children to school, it cannot be entirely successful in isolation. SRTS funds are most often used to reconfigure schools and surrounding streets to be more pedestrian and bike friendly. SRTS funding is most effective when it can be targeted towards fixing specific issues such as a missing segment of sidewalk or a dangerous intersection. Larger scale walkability issues such as low intersection density of the street network or too great a distance between students and their schools cannot be fixed with the limited assistance available through SRTS. Dealing with these community-wide issues requires changes in the ways communities grow and develop, including school site selection, beyond the scope of the SRTS program.

100 "Kansas: The Kansas SRTS Program", National Center for Safe Routes to School (http://www.saferoutesinfo.org/data central/success-stories/kansas-kansas-srts-program)

# Appendix B. Stakeholder Outreach

In order to assess issues and challenges associated with school siting in Kansas and gauge the applicability of measures used in other states, SSTI conducted extensive stakeholder outreach using an online survey as well as one-on-one interviews.

## Survey

While the survey was not originally planned as a part of the study, it was initiated as a way to develop a basic understanding of the frequency and scale of problems associated with school siting in the state, gather names and contact information of potential interviewees, and to gauge whether any of the policy types identified during the initial literature search were particularly applicable or inapplicable in Kansas.

A link to the online survey, as well as reminder emails, were sent to roughly 30 stakeholders identified by KDOT staff. Eleven of these stakeholders responded to the survey, representing two counties, one city, the Kansas Association of Counties, the City Clerks and Municipal Finance Officers Association of Kansas, three school districts, the KDOT Bureau of Local Roads, and two architecture firms that work with schools during site selection and design. Respondents were first asked whether they were aware of transportation impacts resulting from school site selection, and if so, to describe the the types and severity of these impacts. The next section of the survey asked respondents to rate different types of school siting-related policies used in other states by how effective they thought such policies would be and whether their applicability in Kansas. Finally, respondents were asked to describe any other types of policies they thought would be effective and to provide additional comments and contact information if their organization was interested in participating in the interview process. Survey materials and a list of respondents can be found in Appendix C.

Six respondents (55 percent) were aware of negative or unanticipated transportation impacts that had occurred as a result of school site selection decisions. Four of these felt that the impacts were moderate, while one respondent each judged the impacts to be either minimal or significant. The primary issues identified by respondents were related to high speeds and heavy traffic on roads adjacent to schools and the challenges of mitigating these issues. One respondent described speed limits being lowered on a county highway next to the school, which created a "speed trap situation" and caused traffic to divert onto less appropriate township roads. Another

respondent cited the fact that cities and counties are sometimes forced to reappropriate funding away from planned projects in order to pay for utility work and street reconstruction necessitated by a new school in a suboptimal location.

Respondents were then asked to rate nine potential policy solutions, identified during the initial literature review, from "not helpful" to "significantly helpful" both generally and with regard to how appropriate each solution would be in Kansas. For the most part, respondents were relatively evenly split regarding how helpful various measures were likely to be. The only policy option that was generally agreed to be an ineffective solution was implementing a ban on school construction on agricultural land.[101] Among other comments received from respondents, one felt that schools should be required to follow city/county comprehensive plans and a second felt that the emphasis should be on a process of collaboration between KDOT, affected organizations, and the Kansas Chapter of the American Planning Association to educate decision-makers about potential impacts of school site selection.

## Interviews

A total of 26 interviews were conducted with a variety of stakeholders and outside experts to better understand the school siting process in Kansas, assess the transportation issues and challenges associated with school siting, and discuss potential collaboration opportunities and other solutions. Interviewees included two county officials, six city officials, five KDOT staff members, the Deputy Commissioner of the Kansas Department of Education, two private consultants involved in school site selection and site planning in Kansas, the executive director of the Kansas League of Municipalities, the executive director of the Kansas Pupil Transportation Association, four school district officials, and four experts in school siting issues from outside of Kansas.[102] Interview materials and a list of respondents can be found in Appendix C.

## City, County, and KDOT

Among interviewees from cities, counties, and the Kansas Department of Transportation (KDOT), over 70 percent were aware of situations where the construction of a new school had created or exacerbated challenges for local, county or state governments. Congestion and safety impacts were identified by a number of these interviewees and several mentioned that other levels of government were forced to pay for new infrastructure necessitated as a result of the school siting decision. Required infrastructure

101 Pennsylvania, which has a policy against spending state funds on projects that result in the irrevocable conversion of "prime agricultural land," was the inspiration for this option. See Pennsylvania Executive Order 2003-2, Agricultural Land Preservation Policy: http://www.dep.state.pa.us/hosting/growingsmarter/2003-2%5B1%5D.pdf

102 Interview guides and a list of interviewees are located in Appendix C.

most commonly included new turn lanes but other interviewees mentioned new sidewalks, traffic signals, pedestrian crossings, and signage. Estimated costs for these improvements ranged from negligible, in cases where the improvements were previously planned, up to several million dollars. In one case, if pedestrian access is to be provided to a new school situated across a highway from most of its students, a new bridge, estimated at $800,000 would have to be built. Asked to what degree these costs might have been reduced or avoided through the selection of an alternative site, opinions were mixed. While some interviewees said that the school had little choice or that the impact was minimal, others felt that millions of dollars could have been saved through the selection of a different site.

Asked whether their organizations had ever worked with a school district during the site selection process, only two responded that they had; one of whom said that their city's dialogue with the school was limited to answering questions about whether utilities could be provided to different sites because previous disagreements between the city and the school had hurt the relationship. Most interviewees reported that they generally do not know about new schools until after the site has been selected.

There was consensus among interviewees that school site selection could be improved with better coordination between school districts and whatever levels of government will be impacted by school siting decisions. While interviewees were divided over whether school districts should be required to coordinate with these other levels of government, all agreed that better coordination would be beneficial. One interviewee suggested that school districts could also be benefitted through communication prior to site selection because there may be parcels owned by the city that could be offered to the school district or parcels for which the zoning could be changed to accommodate a new school.

Interviewees were similarly divided over whether schools should be required to obtain approval from KDOT or their county or municipal governments prior to site acquisition. Among those opposed to such a requirement, some felt that a pre-approval requirement would be politically infeasible, while others expressed concern that if the process were public, the price of the site might rise when the seller becomes aware of school district interest.

Asked whether school districts should be required to pay for new off-site infrastructure improvements necessitated by new schools, most interviewees supported such a requirement, with most others suggesting that the district should at least have to share in the cost of these improvements.

All city, county, and KDOT employees indicated that their organizations would be interested in working more closely with school districts during the site selection process.

Overall, these interviewees were very positive about the prospects of better coordination with school districts. Two interviewees mentioned that their organizations have a history of working with local school districts, and that their ongoing relationships have resulted in mutually-agreeable school siting decisions.

## School Districts and KSDE

School district officials were interviewed to better understand student travel behavior, school construction and siting considerations, collaboration between school districts and other levels of government, and school districts' experiences with the Safe Routes to School (SRTS) program.

Officials reported widely divergent student travel behavior, based largely on whether the schools were located in rural or urban communities. One interviewee reported that at schools located in more urban locations, 25 percent of students biked or walked to school, while at schools in rural areas almost none biked or walked to school. Interviewees reported 40 to 80 percent of students arriving by car. Interestingly, students living beyond 2.5 miles from school, who receive free bus service, may travel to and from school by car up to 50 percent of the time. Asked about the primary obstacles preventing greater numbers of students from walking or biking to school, the most commonly cited factors were distance, hazardous streets, and parental attitudes. School administrators speculated that parents wanted to drive their kids to school for a variety of reasons, including spending more time with them, making their children's lives easier, to ensure their safety, or because most other parents drive their kids to school. Asked whether they were aware of congestion-related safety issues at their schools, interviewees noted that this tended to be more of a problem in more urban areas, particularly at elementary and middle schools.

In Kansas, all students living beyond 2.5 miles from school have the option to receive free bus service. However, the conditions under which students living less than 2.5 miles may ride the bus varies widely. Among the four school districts interviewed, one did not provide any bus service to students living less than 2.5 miles from school, one provided bus service to these students for a fee, and two districts provided free bus service to students living in areas where the walk to school was deemed hazardous. Of the two schools that provided "hazard" busing, both used simple metrics to determine eligibility, one providing service to all students living outside city limits and the other providing service to students living on the opposite side of a U.S. highway from the school.

Three out of the four school districts interviewed had taken actions to increase the percentage of students traveling to and from school by foot or by bicycle. School districts have added bicycle racks and crossing guards and two schools (or their cities) had used Safe Routes to School (SRTS)

funds for projects to increase walking and biking. SRTS funds were used in both districts for sidewalk improvements and one also used SRTS funding to pay a part-time coordinator to help organize walking school buses and other activities to increase walking and biking. In both cases where SRTS funds were used, school district officials felt that there was a minimal impact on bicycling and walking rates.

Officials reported that during site selection their main concerns are the availability of an affordable, adequately sized parcel that has access to necessary infrastructure. Two districts reported that transportation costs were considered minimally or not considered at all because they would be similar at available locations. Two districts reported paying for transportation infrastructure—one reported paying for sidewalks adjacent to school grounds but said that the district was prohibited by the State of Kansas from paying for offsite improvements, while the other district reported paying $350,000 for a deceleration lane and a traffic light that were needed due to the school's traffic impact.

While KSDE does not mandate minimum acreage requirements, one district reported that they seek elementary sites with 16 to 18 acres, middle school sites with 40 acres, and high schools with at least 100 acres.

All of the school districts that built a new school in recent years had considered renovating or expanding existing schools. However, all decided to build new, primarily because they needed more capacity and there either was not sufficient land available to accommodate the additional students or because they wanted to avoid growing the student populations of schools beyond a certain threshold. These school districts also reported consulting with their local governments prior to site selection and, in one case, the interviewee believed that his district had decided against a particular location due to consultation with KDOT staff.

All school district officials, as well as KSDE, felt that coordination could be improved between schools, local governments and KDOT during and prior to the site selection process. One interviewee mentioned that the school and local government had both benefitted by having a school district staff member on the city planning commission. While KSDE indicated that communication with local governments is usually handled by private consultants hired by school districts during the site selection and planning process, school district officials were open to more direct, possibly ongoing, communication with their local governments and with KDOT, where necessary.

## National Experts

All of the national experts interviewed were aware of instances where the construction of a school created challenges for their local governments.

Infrastructure costs accruing to other levels of government were the issue they mentioned most often, noting that even when needed infrastructure may already be planned and projects only need to be reordered, a local government's cash flow may be impeded and other projects delayed as a result. While all agreed that transportation-related costs could often be reduced through the selection of alternate sites, they identified several obstacles, including a lack of information about what impacts a potential school site is likely to generate, a lack of access to the best sites due to cost or availability, and the fact that changing travel modes can create new impacts long after a school is constructed.

There was general agreement among expert interviewees that schools rarely pay attention to costs accruing to other levels of government. Schools may consider busing costs for students if the school is paying for the service, but when schools are reimbursed for these costs, they have less incentive to do so. Because student transportation and infrastructure costs imposed on other levels of government are often seen as largely outside the scope of school district responsibility, districts usually do not focus on these issues.

All interviewees agreed that greater coordination between schools and the other levels of government that may be impacted by school decisions is generally beneficial for all parties. However, interviewees cautioned against any solution that would put schools in an unequal partnership with their communities. Interviewees emphasized the importance of open dialog and coordination that can provide benefits to schools and their communities, such as establishing joint-use facilities.

Experts generally agreed that one mile is generally accepted as about the maximum walking distance for elementary school students, but that older children may be comfortable walking or biking farther. The key factors determining whether students walk or bike to school identified by these interviewees were, along with distance, the perceived safety of the route and the prevalence of walking among other students.

# Appendix C. Survey Materials

1. Please enter your name and organization.

2. Are you or your organization aware of instances where school site selection decisions have resulted in unanticipated or negative transportation impacts, such as congestion, unsafe intersections, increased accidents, or increased busing expenses?

- Yes
- No

3. If you answered "Yes" to Question #2, what impacts are you aware of?

4. How would you classify the severity of the impacts you described in Question #3?

- No impacts
- Minimal impacts
- Moderate impacts
- Significant impacts

5. To what extent do you think each of the following policy options would help school districts make better school site selection decisions? Please refer to the table "School Site Selection Policy Options."

[Answers across top]

- Not helpful
- Minimally helpful
- Moderately helpful
- Significantly helpful

[Policy options along left side]

- Voluntary guidelines
- Incentives for school renovation
- Incentives for locating schools in the communities they serve
- Nonbinding collaboration requirements
- Site design guidelines
- Ban school construction on agricultural land
- Requirements for off-site improvements
- Concurrency with local government plans
- Site acquisition pre-approval by state

6. Which of the following policy options would be appropriate to be implemented in Kansas? Please refer to the table "School Site Selection Policy Options."

[Answers across top]

- Not helpful
- Minimally helpful
- Moderately helpful
- Significantly helpful

[Policy options along left side]

- Voluntary guidelines
- Incentives for school renovation
- Incentives for locating schools in the communities they serve
- Nonbinding collaboration requirements
- Site design guidelines
- Ban school construction on agricultural land
- Requirements for off-site improvements
- Concurrency with local government plans
- Site acquisition pre-approval by state

7. Is there another type of policy that was not on the list that you feel would be better suited to Kansas? Please explain.

8. We will be conducting a series of telephone interviews with stakeholders in Kansas to assess problems related to school site selection and potential solutions. If your organization would like to participate, please provide the name and contact information for the person we should contact.

9. Other comments? Thanks for your input!

## Respondents

Randall Allen, Kansas Association of Counties
Keith Browning, Douglas County Public Works
Chad Bunger, City of Manhattan, KS
David Contag, DLR Group
Eric Deitcher, KDOT, Bureau of Local Projects
Mike Mathes, Seaman USD 345
Randy Partington, Finney County, KS
Kerry Rozman, Kansas City Clerks and Municipal Finance Officers Association
Charles Smith, HTK Architects
Glenn J. Suppes, Smoky Valley USD 400
Sharon Zoellner, Louisburg USD 416

# Appendix D. Interview Materials

## Interview Questions

The following interview guides were used to guide discussions with during the interview process.

### School District Interview Guide

**Background**

1. About what percentage of your students travel to/from school by bike, foot, car, school bus, public transit?

2. What do you think are the primary obstacles that prevent more of your students from traveling to/from school by bike and by foot (distance, safety, weather, etc.)?

3. Are you aware of safety issues at your school related to auto congestion resulting from parents driving their children to and from school?

4. Does your school provide transportation to students living within 2.5 miles from school?

    a. If so, under what circumstances (hazardous route to school, payment for transportation, etc.)?

    b. What is the cost per student bused less than 2.5 miles?

5. Has your school taken measures to increase the number of students traveling to and from school by bike and by foot? If yes, please describe what measures you have taken.

6. Has your school district ever applied for funding from Safe Routes to School?

    a. If so, for what project(s)?

    b. How much, if any, funding did you receive?

    c. If you received funding, was there an increase in the number of students walking and/or biking to school following your Safe Routes to School project?

**Site Selection Process**

7. What are your key considerations when selecting a school site?

8. During the site selection process for new schools, do you consider transportation costs?

   a. If so, what transportation costs do you consider—school busing costs, the cost of parents driving their children to school, public transit costs, transportation infrastructure (sidewalks, turn lanes…), etc.?

   b. Do you estimate the school busing costs associated with potential school site locations? How?

9. Do have acreage guidelines for potential school sites?

   a. If so, what guidelines do you use?

10. During your last school site decision making process, did your district consider renovating an existing school as an alternative to new construction?

   a. If not, why not?

   b. If your district did consider renovation, did you ultimately decide to renovate or construct a new school? Why?

11. During your last school site decision-making process, did your district consult with municipalities, planning agencies, or the county government?

   a. If so, at what point in the process?

   b. Please describe your district's consultation with each of these agencies/governments.

12. During your last school site decision-making process, did you consult with KDOT or other state agencies?

   a. If so, at what point in the process?

   b. Please describe your district's consultation with each of these agencies.

13. What feedback, if any, have you received from your community regarding the location of your school(s)?

14. Kansas provides a 25 percent state funding bonus for two years to newly constructed schools. Did the prospect of this additional funding affect your decision to build or renovate your school?

**Improving Coordination**

15. Do you think greater coordination between school districts, county and municipal governments, local and/or regional planning agencies, KDOT, and/or other state agencies would be beneficial? Why?

16. What do you think would be the best way to ensure that this coordination occurs prior to the selection of a site?

## Local/State/County Government & Planning Agency Interview Guide

**Background**

1. Are you aware of any situations in your area where the construction of a new school has created or exacerbated challenges for local, county, or state governments, such as traffic congestion, safety issues, or creating the need for new infrastructure (traffic lights, turn lanes, water and sewerage)?

a. If so, what specific impacts are you aware of?

b. What has been the cost of these impacts?

c. To what degree do you think these costs could have been avoided or reduced through the selection of an alternative site?

2. Has your organization ever worked with a school district during the site selection process?

a. If so, at what point did you become involved?

b. What issues did you raise for consideration?

c. Did your organization approve of the site that was eventually selected?

**Improving the School Site Selection Process**

3. What changes to the school site selection process do you think would be most helpful?

4. Do you feel that school site selection could be improved with more coordination between school districts and other levels of government, state agencies, and/or local or regional planning agencies?

a. If yes, which other agencies or levels of government should be consulted?

b. Do you feel that school districts should be required to coordinate with other agencies or levels of government?

c. Do you think that schools should be required to receive approval from their local or county government, planning agency, or the state prior to acquiring sites for new school construction and/or prior to finalizing school site plans?

d. Do you feel that school districts should be required to pay for off-site infrastructure improvements needed to support new school locations, i.e., new turn lanes, water and sewerage infrastructure, traffic lights, crosswalks, sidewalks, etc.?

5. Would your organization be interested in working with school districts during and/or prior to the school site selection process to assist them in assessing the costs and benefits associated with potential sites and/or renovating an existing school?

6. What type of arrangement do you feel would be most suitable to foster better coordination between your organization and school districts in your area before a new school site is chosen?

## Expert Interview Guide

1. Are you aware of situations where the construction of a new school has created or exacerbated challenges for local, county, or state governments, such as traffic congestion, safety issues, or created the need for new infrastructure (traffic lights, turn lanes, water and sewerage)?

a. If so, what specific impacts are you aware of? What are the most common negative impacts associated with school site selection/ construction?

b. What is the cost of these impacts?

c. To what degree do you think these costs could have been avoided or reduced through the selection of alternative sites?

2. What are the key factors normally considered during the school site selection process?

a. What transportation-related costs are normally taken into account during this process?

b. During the site selection process, do (most/some/few) school districts take into account costs to other levels of government or to students and their families? What costs are taken into account?

3. What are the key factors schools should consider when deciding whether to build a new school (versus renovating of an existing school) and selecting a location?

4. Do you feel that school site selection is generally improved through closer coordination between school districts and other levels of government, state agencies, and/or local or regional planning agencies?

   a. If yes, which agencies or levels of government should be consulted?

   b. Do you feel that school districts should be required to coordinate with other agencies or levels of government? Why?

   c. Do you think that schools should be required to receive approval from their local or county government, planning agency, or the state prior to acquiring sites for new school construction and/or prior to finalizing school site plans? Why?

   d. What type of arrangements do you feel are generally most effective at fostering better coordination between school districts and other levels of government?

5. Other than a 25 percent increase in state aid for two years following school construction, Kansas does not provide funding to districts for school construction. Given this relative lack of financial leverage, what strategies would you recommend to improve site selection in the state?

6. What state or states do you feel have the most effective policies governing school site selection?

   a. What factors make these policies particularly effective?

7. What factors most effect whether students walk or bike to school?

8. What distance can students be expected to walk/bike to school?

9. What do you think would be the best way to ensure that this coordination occurs prior to the selection of a site?

## Interviewees

**Local Government and Kansas Department of Transportation (KDOT)**

Hugh Bogle, District 1 Area 2 Engineer, KDOT
Doug Brown, Public Works Director, Overland Park, KS
Keith Browning, Director of Public Works, Douglas County, KS
Rod Compton, Director of Planning and Zoning, Butler County, KS
Karen Davis, Director of Community Development, Manhattan, KS
Eric Dietcher, Bureau of Local Projects, KDOT
Kyle Gonterwitz, GIS Unit Head, KDOT
Brian Gower, State Traffic Engineer, KDOT
David Hamby, (BG Consultants) City Engineer, Eudora, KS

Wyndee Lee, Director of Planning and Codes, Ottawa, KS
Scott McCullough, Director of Planning, Lawrence, KS
Don Moler, Executive Director, Kansas League of Municipalities
Mike Moriarty, Access Management Unit Administrator, KDOT
Howard Partington, City Manager, Great Bend, KS

**School Districts and Kansas Department of Education (KSDE)**

Richard Atha, Superintendent, USD 457 (Garden City)
Dale Dennis, Deputy Commissioner of Education, KSDE
Brian Harris, Superintendent, USD 109 (Republic County)
Dave Hill, Executive Director of Facilities and Operations, USD 229 (Blue Valley)
Darrel Kohlman, Superintendent, USD 115 (Nemaha Central)
Barbara Pringle, Executive Director, Kansas State Pupil Transportation Association

**Experts**

David Contag, DLR Architects
Renee Kuhlman, National Trust for Historic Preservation
John Schroer, Commissioner, Tennessee Department of Transportation
Rob Schwartz, RSP & Associates
Jeff Vincent, Center for Cities and Schools, University of California-Berkeley
Barbara Worth, Council of Educational Facility Planners International

# Appendix E. Calculating Transportation Costs

School transportation entails a variety of costs. These range from direct transportation costs—for bus transportation and driving students to and from school (vehicle ownership, fuel, and drivers' value of time)—to less direct and induced costs, such as those associated with improving transportation infrastructure to accommodate increased vehicular and pedestrian traffic near the school, health from sedentary travel modes, environmental impacts related to increased vehicular traffic, and long-term land-use and fiscal impacts of school siting decisions resulting from increased residential development near new schools. In order to assist schools in understanding these costs, SSTI developed a transportation cost estimation tool as part of this project.

## Costs

Although school site selection decisions affect student health, the environment, land use, and the fiscal well-being of their communities, these costs are difficult to estimate and are affected by many other outside factors. Because of the uncertainty around these costs, they have not been included in the model or in the detailed discussion of costs below.

Transportation costs resulting from school siting decisions, which can be reasonably estimated, fall into four primary categories:

1. Driving costs to students' families and school staff.
2. School busing costs to the school district and the state.
3. Infrastructure costs near the school site.
4. Community-wide costs from induced traffic.

## Driving Costs

- **Marginal Costs of Driving:** For the purpose of this siting tool, the marginal costs considered while driving to school will be the cost of fuel and vehicle maintenance costs per mile traveled, plus driver value of time.
- **Fuel Efficiency:** An average fuel efficiency value of 27.5 miles per gallon is used.[103]

103 RITA National Transportation Statistics, http://www.bts.gov/publications/national_transportation_statistics/html table_04_23.html

- **Cost of Fuel:** An average value of $2.94 per gallon was used based on gasoline price trends from 2007 to 2011.[104] However, users are able to change this cost in order to account for changes.
- **Maintenance Costs:** It costs an estimated 12.1 cents per mile in combined maintenance, repair, and depreciation costs to drive a passenger car on a moderate flow highway with smooth pavement.[105]
- **Value of Travel Time (VTT):** This refers to the cost of time spent on transport including waiting, as well as actual travel. Total travel time costs are the product of time spent traveling (measured as minutes or hours), multiplied by unit costs (measured as cents per minute or dollars per hour). For local personal travel, VTT is estimated at 50 percent of hourly median household income. The USDOT uses a value of $12 to estimate an hourly value of travel time saved for highway projects.[106]
- **Effective Speed:** Cars travel at an estimated average speed of 32 mph under average peak hour travel conditions on smooth roadways.[107]

The table below summarizes the costs involved in driving to school.

| | |
|---|---|
| Maintenance Costs | $0.12/mile |
| Fuel Cost (27.5 mpg, $2.94/gal) | $0.11/mile |
| Value of Time | $0.38/mile |
| Total Costs | $0.61/mile |

## School Busing Costs

Total and per student busing costs to each school district are published annually by the Kansas State Department of Education. Per student busing costs were wide ranging—from a low of $105 in the Abilene School District to a high of $3,775 in the Mullinsville School District. School districts and the state generally pay these costs, although in some cases families may pay for their children's bus service. The state reimburses school districts for transportation of students living over 2.5 miles from the school based on a funding formula.[108]

In recent years school districts have been reimbursed roughly 80 percent of the cost of busing students living more than 2.5 miles from school.[109]

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104 US Energy Information Administration, Data on Petroleum and Other Liquids, http://www.eia.gov/dnav/pet/hist/LeafHandler ashx?n=PET&s=EMM_EPM0U_PTE_NUS_DPG&f=W

105 Report 2003-19. The Per Mile Costs of Operating Automobiles and Trucks, Minnesota Department of Transportation, 2003, http://www.okladot.state.ok.us/tiger/tiger_2011_sayre/pdfs/tiger_2011_sayre_tech_per-mile-costs-autos-trucks.pdf

106 USDOT Memo, September 2011,"Revised Departmental Guidance on Valuation of Travel Time in Economic Analysis" http:// ostpxweb.dot.gov/policy/reports/vot_guidance_092811c.pdf

107 Transportation Cost and Benefit Analysis II, 2011, Victoria Transport Policy Institute http://www.vtpi.org/tca/tca0502.pdf

108 For more information on the reimbursement formula see: Kansas State Legislature, Session of 2011, Senate Bill No.22 http://www.kslegislature.org/li/b2011_12/measures/documents/sb22_00_0000.pdf

109 KSDE FY08 Transportation Aid Report

Although the state does not reimburse school districts for transporting students who live less than 2.5 miles away from the school, most districts bus some of these students with bus service at district expense. In several districts students living less than 2.5 miles from school may pay an annual fee for bus service.

## Infrastructure Costs Near the School Site

The Federal Highway Administration's "Highway Economic Requirements System"[110] provides per mile cost estimates for infrastructure upgrades such as adding a road lane. The Pedestrian Safety Guide and Countermeasure Selection System (PEDSAFE)[111] provides estimates for other types of infrastructure, such as traffic signals and other pedestrian specific treatments. School districts, local governments, or the state may bear these costs depending on factors such as the type of infrastructure required and location of the school site. A summary of the cost estimates for specific types of infrastructure are detailed in the table below.

**Estimated Infrastructure Costs**

| Infrastructure Treatment | Cost ($) |
|---|---|
| Additional Lane (per mile) | 3,116,000 |
| Bike Lane (per mile) | 27,500 |
| Bike Rack | 1,000 |
| Chicane | 20,000 |
| Pedestrian Bridge | 2,000,000 |
| Pedestrian Crosswalk | 1,650 |
| Pedestrian Refuge Island | 10,000 |
| Pedestrian Signal | 35,000 |
| Raised Median (per 100ft) | 20,000 |
| Roundabout | 52,500 |
| Sidewalk (per mile) | 100,000 |
| Speed Hump | 3,750 |
| Traffic Sign | 150 |
| Traffic Signal | 100,000 |
| Wheelchair Ramp | 3,000 |

Infrastructure costs are highly variable and context specific. Users should exercise care in the application of these costs to the site selection process.

110 HERS ST Highway Economic Requirements System – State Version: Technical Report, Chapter 6, "Cost of Improvements" http://www.fhwa.dot.gov/asset/hersst/pubs/tech/tech06.cfm#table61

111 Pedestrian Safety Guide and Countermeasure Selection System, http://www.walkinginfo.org/pedsafe/index.cfm

## Community-wide Costs of Driving

Although the cost of specific infrastructure improvements in the vicinity of a school are the most obvious examples of how school-related travel creates costs for local and state governments, these levels of government also face costs due to higher levels of traffic throughout the community. The cost of maintenance, construction, and other services required to support the state and local road system borne by the State of Kansas and various local governments was approximately $0.057 per vehicle mile traveled in 2007—the total expenditure for highways and roads by local governments and the state ($1.7 billion[112]) divided by total miles driven (30,048 million[113]).

**State and Local Highway and Road Expenditures per Vehicle-Mile Traveled, 2007**

| | |
|---|---|
| Total spending on state and local roads ($ billion) | 1.7 |
| Total vehicle miles traveled (millions) | 30,048 |
| Spending per vehicle mile traveled ($) | 0.057 |

## Transportation Cost Estimation Tool

Some potential impacts related to school site selection, such as health, environmental, and long-term land-use impacts, are not included in the model due to the multitude of other factors that influence the severity of these impacts and difficulty estimating their costs. The tool provides an estimate of the more concrete transportation-related costs accruing to various stakeholders—namely, school districts, parents, and other levels of government—as a result of a school's location. It is designed to be easy and convenient to use, so that school district officials, who have limited experience dealing with transportation planning issues can compare the transportation-related costs of potential school sites early in the planning process.

In the first section of the model, users select the district in which the new school will be located. The model assumes that the per-student cost of busing at a new school will be equal to the current average per-student cost of busing in the district, published annually by the Kansas State Department of Education. Users then choose whether the site is located in an urban, suburban, or rural area. This information is a factor in estimating how likely students are to travel to and from school by various modes.

112 "Kansas State and Local Government Spending: A Comparison with Other States for State Fiscal Year 2007," Office of Local Government, Department of Agricultural Economics, Kansas State University, http://www.ksu-olg.info/assets/docs/ExpenditureInterstateReport.pdf

113 RITA Bureau of Transportation Statistics, State Transportation Statistics 2008, Table 5-3 Highway Vehicle Miles Traveled: 2002, 2007, http://www.bts.gov/publications/state_transportation_statistics/state_transportation_statistics_2008/html/table_05_03.html

Next, users input distances of student home locations in pre-defined stratifications. These range from less than 0.5 miles from the school to greater than 50 miles away. A simple GIS network analysis would be the best way to obtain this data; however, users could also do this manually. The model then apportions students to different travel modes—walking, biking, public transit, school bus and driving—based on average values for specific home to school distance ranges from the 2009 National Household Travel Survey. Users then answer questions that evaluate the feasibility of students being able to walk or bike to school. In cases where a school does not allow students to walk or bike, or if it is not feasible to do so, the students who would otherwise be assumed to walk or bike to school are reassigned to the driving, transit, and school bus modes.

Finally, the user selects from a drop-down list of potential infrastructure upgrades which may be necessitated by building a new school in the potential site. These may include crosswalks, bus stop bays, left turn lanes, and bike racks among others. School district officials should consult with their KDOT area engineer or other transportation planning professional to gain an understanding of infrastructure upgrades that may be necessary at the potential school site. The model contains approximate costs for these infrastructure improvements sourced from published rates by the Federal Highway Administration.

Once this is completed, the model provides the following:

1. Estimated driving costs to parents.
2. Estimated school busing costs to the school district and the state.
3. Estimated infrastructure costs near the school.
4. Estimated infrastructure, maintenance, administration, and other costs due to higher traffic levels throughout the community.

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