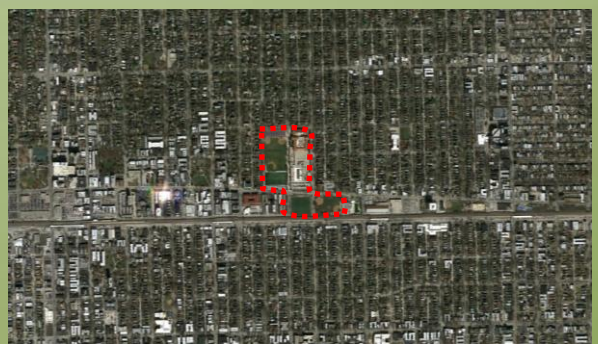


School Siting in North Central Texas

Strategies for Effective School Facilities
Planning in McKinney, Texas

Prepared by the North Central Texas
Council of Governments
with cooperation from the City of
McKinney and McKinney Independent
School District



What is NCTCOG?

The North Central Texas Council of Governments is a voluntary association of cities, counties, school districts, and special districts which was established in January 1966 to assist local governments in **planning** for common needs, **cooperating** for mutual benefit, and **coordinating** for sound regional development.

It serves a 16-county metropolitan region centered around the two urban centers of Dallas and Fort Worth. Currently the Council has **238 members**, including 16 counties, 169 cities, 22 independent school districts, and 31 special districts. The area of the region is approximately **12,800 square miles**, which is larger than nine states, and the population of the region is over **6.5 million**, which is larger than 38 states.

NCTCOG's structure is relatively simple; each member government appoints a voting representative from the governing body. These voting representatives make up the **General Assembly** which annually elects a 15-member Executive Board. The **Executive Board** is supported by policy development, technical advisory, and study committees, as well as a professional staff of 295.



NCTCOG's offices are located in Arlington in the Centerpoint Two Building at 616 Six Flags Drive (approximately one-half mile south of the main entrance to Six Flags Over Texas).

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NCTCOG's Department of Transportation

Since 1974 NCTCOG has served as the Metropolitan Planning Organization (MPO) for transportation for the Dallas-Fort Worth area. NCTCOG's Department of Transportation is responsible for the regional planning process for all modes of transportation. The department provides technical support and staff assistance to the Regional Transportation Council and its technical committees, which compose the MPO policy-making structure. In addition, the department provides technical assistance to the local governments of North Central Texas in planning, coordinating, and implementing transportation decisions.

Prepared in cooperation with the Texas Department of Transportation and the U. S. Department of Transportation, Federal Highway Administration, and Federal Transit Administration.

"The contents of this report reflect the views of the authors who are responsible for the opinions, findings, and conclusions presented herein. The contents do not necessarily reflect the views or policies of the Federal Highway Administration, the Federal Transit Administration, or the Texas Department of Transportation."

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December 2012



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EXECUTIVE SUMMARY

Over the past several decades, the North Central Texas region has experienced considerable population growth and development, and it is a trend that is likely to continue. It is also a trend that has made evident the challenges to accommodate the basic needs of a growing region and the ability of public agencies to fund the necessary investments in infrastructure to meet those needs.

Challenges

The City of McKinney, where population has grown from approximately 21,000 residents in 1990 to over 130,000 in 2010, has identified many needs, and the coordination between the municipality and supported independent school districts (ISDs) is a priority. McKinney Independent School District (MISD), which serves nearly 70 percent of the City, projects school enrollment to increase by 16 percent (from 23,106 to 26,781) by 2017.

The focus of this report is on the challenges of school siting and the overlapping impacts of cost, health and safety, transportation, environment, and sense of community inherent to communities that are trying to balance these issues during periods of high growth. The report incorporates topical research on general school siting issues with input from local City and school district staff to explore the nature of school siting in the City of McKinney, Texas.

Recommendations

In addition to the challenges identified in the research, this report also includes recommendations for the City and MISD staff to better collaborate on effective school siting planning and implementation. General strategies for supporting effective school siting in this study include:

- Promote intergovernmental coordination
- Remove minimum acreage requirements and enrollment thresholds
- Require a full cost analysis for school construction
- Streamline the permitting process
- Remove bias in funding for new construction
- Adopt an “adequate public facilities ordinance”
- Land banking and developer set asides
- Authorize joint use/intergovernmental agreements
- Encourage school district participation in local Land Use Planning/Thoroughfare Planning/Capital Improvements Programming
- Utilize Safe Routes to School effectively
- Offer financial incentives for schools that achieve community-centered principles
- Identify funding sources and how to connect funding with school siting goals
- Develop a shared vision

The list above represents a series of recommendations formulated from a general literature review as well as discussions at the local level and each item is intended to address one or several of the principal school siting issues identified in this report.

Additionally, specific recommendations for the City of McKinney and MISD are explored to address specific obstacles to effective school siting that exist for the two agencies. A brief summary of these recommendations is below, and a more detailed discussion is available in Section IV of this report.

1. Creation of an Institutional Structure to Outline the School Siting Process. Establishing a clear and coordinated process for addressing school siting issues at the local level is absolutely critical to getting ahead of potential conflicts related to school siting. The primary aim is to establish an *institutionalized* process that is *ongoing*. Regular meetings, clear goals, and mutually agreed upon protocol are essential to fostering effective coordination among City and ISD staff.

2. Land Banking. The land banking recommendation is intended to help the City and MISD overcome one of the primary challenges to new school siting in a rapidly growing area like McKinney. That challenge is finding suitable (and affordable) land for schools. This report recommends a *proactive* form of land banking where the City and MISD can work together to determine suitable sites ahead of private development.

3. Safe Routes to School. The federal Safe Routes to School (SRTS) program administered by the Texas Department of Transportation (TxDOT) is intended to remove obstacles for students to walk and bike to schools and promote a culture of activity among children. The SRTS program offers local governments and ISD officials the opportunity to collaborate with regard to some of the specific issues mentioned in this report, namely the health and safety of local students, traffic congestion in school areas, and coordination on infrastructure spending.

The City of McKinney has already completed some work toward developing SRTS plans in coordination with MISD. This report includes references to groups like the Safe Routes to School National Partnership that have a variety of resources available to assist cities and schools interested in taking advantage of the opportunities of the SRTS program.

Funding Sources

Despite the continued growth in McKinney, the City and MISD must deal with fiscal realities that constrain their abilities to provide a high level of service to the populations they are intended to serve. The overall intent of this report is to highlight how school siting decisions can impact a variety of issues including cost and to offer strategies to reduce the negative impacts on these issues. Nevertheless, seeking out and successfully implementing multiple funding sources are vital elements to achieving the mutual goals of these agencies.

A handful of tools, programs, and funding sources exist that cities and ISDs can tap into to help coordinate on school siting and transportation projects. A brief summary of some of the funding

options is below. Further discussion of funding opportunities, including links to specific resources is available in Section IV of this report.

Congestion Mitigation and Air Quality Improvement Program (CMAQ). CMAQ funding from the Federal Highway Administration (FHWA) assists areas designated as nonattainment or maintenance under the Clean Air Act Amendments of 1990 to achieve and maintain healthful levels of air quality by funding transportation projects and programs. Eligible activities include the construction of bicycle and pedestrian facilities, non-construction projects related to safe bicycle use, and many other projects and programs related to the implementation of bicycle and pedestrian transportation.

Surface Transportation Program – Metropolitan Mobility (STP-MM). STP-MM funding (also from FHWA) provides States with flexible funds which may be used for a wide variety of projects on any Federal-aid Highway. This covers a wide variety of projects such as on-road facilities, off-road trails, sidewalks, crosswalks, bicycle and pedestrian signals, parking, and other ancillary facilities. In addition, bicycle-related non-construction projects, such as maps, coordinator positions, and encouragement programs, are eligible for STP-MM funds.

Regional Toll Revenue (RTR). Funds offered through this initiative include allocations to regional trail and other sustainable development projects. Projects selected for funding through the RTR initiative are decided through County Task Force and public meetings, before seeking approval by the Regional Transportation Council (RTC).

NCTCOG's Sustainable Development Call for Projects. NCTCOG's Sustainable Development Funding Program was created by its policy body, the Regional Transportation Council (RTC), to encourage public/private partnerships that positively enhance existing transportation system capacity, rail access, air quality concerns, and/or mixed land uses. Projects selected through these funding initiatives must demonstrate an air quality benefit, and include bicycle and pedestrian components.

Clean School Bus Program. The North Central Texas (NCT) Clean School Bus Program administered by NCTCOG aims to reduce emissions from school bus fleets by encouraging and assisting in the expedited purchase of clean school buses as well as adoption and enforcement of anti-idling policies.

I. INTRODUCTION

Project Background

In early 2010, the Regional Transportation Council (RTC) requested that North Central Texas Council of Governments (NCTCOG) staff bring together local elected officials and members of the independent school districts (ISDs) to engage in conversations on ways to coordinate on school siting issues related to transportation, land use, and air quality.

On April 21, 2010, the RTC and NCTCOG hosted a school siting workshop. Several local government elected officials and ISD superintendents and facility planners were invited to come together to discuss various issues. Topics at the workshop included current conditions related to school siting issues, an overview of the Safe Routes to School Program, and policies related to the Air Quality Clean School Bus Program. As a result of this workshop, some general next steps were identified including: identifying common concerns and goals, combining funding and other financial incentives, and coordinated planning.

A second workshop was hosted by NCTCOG on February 21, 2011, and included City of McKinney and McKinney ISD (MISD) staff members. Discussion topics included: traffic congestion, health and safety concerns, Safe Routes to School, and potential community benefits to be realized from coordination on school siting issues. Following this workshop, NCTCOG conducted separate interviews with City and MISD staff to learn their specific concerns and challenges related to school facility planning. NCTCOG agreed to draft a white paper aimed at addressing these issues and formulating recommendations as a pilot project for the City of McKinney.

This white paper represents a tool and resource to identify and address the obstacles associated with school siting not only in the City of McKinney, but in other areas throughout the North Central Texas region as well. It combines a literature review of current studies and other policy documents that highlight the importance of effective school siting throughout the country. The paper further discusses some of the school siting challenges faced by the City of McKinney and the MISD and offers recommendations for coordinated planning and implementation which can provide mutual benefits.

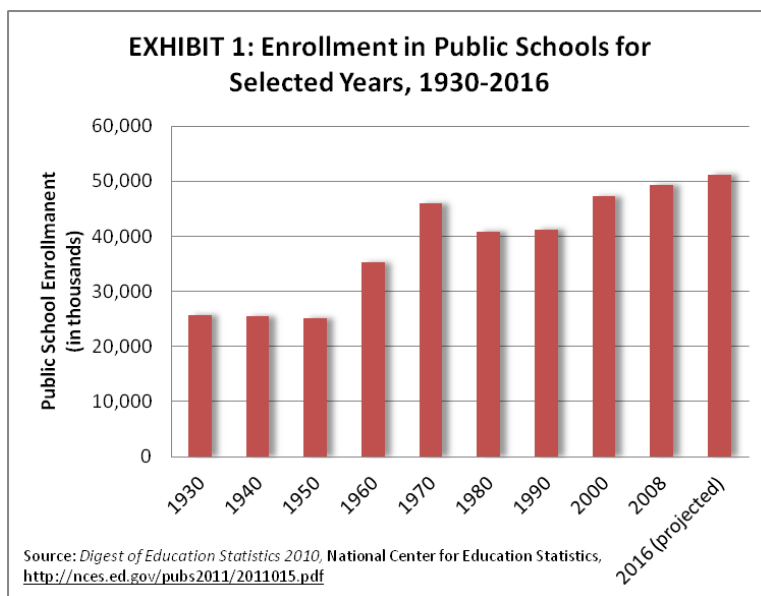
This report is intended for everyone involved in the school siting process, from school superintendents and school district members, to elected officials, city planners, private developers, and citizens. The purpose is threefold. First, the information is meant to educate all of these parties on the pressing issues relevant to school siting. Second, steps on how to coordinate on solutions are provided. Finally, it is important for decision makers to establish a regular dialogue based on the community challenges presented by school siting issues, and this paper seeks to address the common concerns among all of these people. School siting decisions can directly affect all of these stakeholders, and effective communication, collaboration, and decision making can benefit an entire community.

Purpose of the White Paper and Pilot Program

In December, 2011, the *Allen American* reported on a proposal to build a new elementary school in the Allen Independent School District (AISD) portion of the City of McKinney. Among the various safety and transportation issues raised by the proposal, the article noted that in order for school buses to properly serve the area, AISD is negotiating with the City of McKinney to get the neighborhood's five 20-foot intersections widened.¹ Despite the fact that bonds for the school were approved by AISD voters in 2008, the issue centers on who will pay to have the recently-constructed intersections widened to accommodate the buses.

This incident in McKinney calls attention to a problem that is evident throughout the nation and in North Central Texas in particular. Enrollment in public schools is rising, and communities are struggling to balance growth with fiscal, environmental, and quality of life issues. The policy decisions related to school facilities planning have far-reaching implications. These planning decisions not only affect the quality of the education for the students they serve, but also impact health, safety, transportation, and the environment in the communities in which they are located.

Nationwide, enrollment in public elementary and secondary schools is expected to exceed 53 million students by 2016, an increase of over nine percent from 2004 enrollment (Exhibit 1).² Likewise, in 2008, the MISD projected a 16 percent growth in student enrollment by 2017.³ Communities throughout the country are struggling to respond to this growth and the need to accommodate substantial increases in public school enrollment.



Despite this recent boom in school construction – or, rather, because of it – the practice of school siting has often been marked by insufficient collaboration among school districts and local planning officials. School siting can be simply defined as the decision-making process on whether to build new schools and where these schools should be located, or renovate existing facilities. The interdependent relationship between schools and the communities where they are located, however, necessarily complicates the school siting process and has led to challenges for planners. In addition, various local and statewide policies like minimum acreage requirements and enrollment thresholds have contributed to the development of new schools that often create a new set of problems for communities struggling to manage tremendous growth. These factors have coalesced into a trend of building large new schools in vast, low-density areas often located far from the populations they are intended to serve, as land values and acquisition cost are often the deciding criteria in the cost/benefit ratio of location choice.

Of course, every community will face unique challenges with regard to school siting, but effective strategies can promote livability, healthy lifestyles and social interaction, reduce traffic congestion and pollution, increase safety for students and other pedestrians near schools, and ensure efficient use of taxpayers' money.

Discussions at the local level have identified specific challenges and other barriers to effective school siting in the City of McKinney and elsewhere in North Central Texas. With these challenges in mind, this white paper has been developed with the following goals:

- Foster effective and continuous communication between the ISDs and local governments
- Identify barriers to more ideal school siting
- Improve vehicular access and traffic flow in and around school sites
- Provide sufficient bicycle and pedestrian access to schools and surrounding areas
- Create a safe environment for all modes of transportation accessing schools
- Develop specific strategies and programs for ISDs and local governments to implement in the school siting process

The development of school facilities and related infrastructure includes some of the most important – and costly – decisions local governments and school districts must make. The current boom in school construction presents numerous challenges, but it also offers a unique opportunity for coordinated planning and the chance to improve both the quality of schools and the communities they serve.

Over the past several years, a number of studies have been conducted throughout the nation investigating the relationship between school siting and community planning. Notable reports include policy papers from organizations such as the Council of Educational Facilities Planners International, the International City/County Management Association, the U.S. Environmental Protection Agency, and the National Trust for Historic Preservation. Additionally, a growing amount of technical research exists examining the impacts of school siting on issues ranging from public health and the environment, to traffic congestion and student performance. In areas across the country, a handful of common issues have surfaced regarding school siting decisions. These include:

•Cost The cost of building new schools and/or renovating existing schools is certainly the most apparent limiting factor for local officials in the school siting process. School siting and building is a remarkably expensive endeavor. Just like private developers, school districts are often forced to compete for land on the open market, and school districts and local governments depend on each other to coordinate their efforts and to identify and reduce unnecessary costs related to projected enrollment including real estate acquisition, transportation, infrastructure improvements, and a host of other factors.

•Health and Safety Studies have shown that the number of students who walk or bike to school has diminished significantly over the past several decades.⁴ At least part of this trend can be

explained by personal transportation preferences and tendencies. However, a principal factor in this shift has been the establishment of an increasing number of schools on undeveloped land at the edge of cities and towns. In a 2004 study, parents reported that the two primary barriers discouraging children from walking to school were distance – schools were located too far from where students lived – and safety concerns related to traffic.⁵

•Transportation and Traffic Congestion Schools contribute to local traffic congestion, particularly during peak hours, and this raises several concerns for school officials, local planners, and residents alike. As noted above, the practice of building new schools farther away from the populations they are intended to serve generates more daily automobile trips in communities with this development pattern. Increased traffic congestion near schools poses a threat to student, pedestrian and driver safety and has been shown to impact local economies.⁶ Additionally, as schools have become less community-centered, the rising cost of transporting students to school has compounded the overall cost restrictions imposed on school districts with regard to schools siting.

•Environmental Effectively locating schools close to the neighborhoods they serve not only promotes healthy activities, it can contribute to broader environmental health issues as well. If local governments and school officials are not coordinating on siting issues, they lose an opportunity to preserve open space and agricultural lands, improve storm water runoff, promote more efficient use of resources, and reduce air pollution associated with automobile trips.

•Sense of Community Traditionally, schools were central to a sense of community among cities and neighborhoods. Elementary schools were particularly so. For some time, however, the number of schools has declined, while the average school size (measured by enrollment capacity) has grown significantly. Community-centered schools promote interaction, civic engagement and local pride. Without partnerships between school districts and local officials with regard to public facilities, creative solutions like multipurpose developments cannot occur, and an opportunity to further reduce the cost burden to both the ISD and City is lost.

•Design (Site Design and Infrastructure) Schools cannot be successfully integrated into communities when they are not thoughtfully located in existing neighborhoods and connected to a range of transportation options. Considerations that are strictly economic or political often ignore the responsibility planners and school officials have with regard to planning for the pedestrian

School Siting

School Siting can be broadly defined as the decision-making process concerning where schools should be located and how much land they should occupy. The term “school siting” is often used interchangeably with “school facilities planning.” Like any large-scale project, the school siting process is multi-faceted and involves several stakeholders. The needs of school districts (i.e. funding from the community, land acquisition, transportation, etc.) must be balanced against the needs of the broader community (i.e. economic growth, environmental and public health, and quality of life). In many cases, these needs overlap, and it is critical for school districts and local governments to recognize each other’s decision-making processes and the barriers to effective school siting. With the cooperation of the City of McKinney and the McKinney Independent School District (MISD), this paper outlines some of the major issues associated with school siting and presents recommendations aimed at encouraging coordinated planning and improving the school siting process to achieve mutual benefits.

environment. This can also be a way to include additional stakeholders in the decision-making process.

•Future Growth Effective school siting ultimately depends on communication among all of the stakeholders. School districts and local governments depend on each other to make informed decisions about local development. It is important to recognize that school siting does not always follow growth. In some instances, the development of new schools can often attract future growth and lead to unanticipated infrastructure demands. In many cases, however, no institutional structure exists to effectively identify school siting challenges and prioritize investments, and both schools and communities have suffered as a result.

It is important to distinguish between the different types of schools. Elementary, middle, and high schools present different challenges in terms of facilities planning. For example, proximity to major arterial streets is a major barrier for elementary school siting, but can be desirable for high schools. Another important distinction is the type of community where these schools are located. For instance, inner-city planners concerned with school renovations and infill development face different land use problems than their counterparts in rapidly growing suburban areas, and these are both vastly different from the types of issues dealt with by rural communities. For the purpose of this report, the emphasis is on integrating schools – particularly elementary schools – into the social fabric of a suburban community experiencing rapid growth, like the City of McKinney.

II. ISSUES AND CURRENT POLICIES AFFECTING SCHOOL SITING

General Issues Associated with School Siting (*National and State*)

The primary guiding principle among all stakeholders involved in school siting is to provide a high quality education for the students each school is intended to serve. Among the strategies outlined in the MISD Strategic Plan is to “ensure a challenging, relevant, engaging and diverse learning experience for all students.”⁷ The City of McKinney Comprehensive Plan likewise recognizes that the well-being of the community is “closely tied to the quality of the school districts and the educational opportunities provided for the citizens.”⁸ However, this goal is necessarily constrained by the economic, political, and social realities surrounding the process of how school sites are actually developed.

The following issues, briefly highlighted earlier, are examined in more detail below and are intended to illustrate the obstacles and challenges associated with school siting decisions. Facilitating discussions around these issues at the local level can help communities and school districts identify common objectives and work toward mutual benefits.

1. Cost

School districts throughout the country typically finance projects through bond initiatives; and the costs can be extraordinary. Bond initiatives typically cover the cost of multiple projects, and expenses related to schools often include site acquisition, new construction, facility improvements, and technology upgrades intended to accommodate projected growth in enrollment. A recent bond initiative approved by McKinney voters in 2005 authorized \$197 million for similar projects.⁹ Because school districts must compete with private developers for available land – and often in areas exhibiting rapid growth and development – site acquisition represents a substantial portion of the cost of school facility planning. In developing communities where land is at a premium, identifying and purchasing suitable development sites can be particularly costly. For this reason in particular, there has been a trend toward developing larger schools that require remote sites where land is more available and relatively inexpensive. However, the supposed economies of scale presumed by this development model are not always realized – both in terms of the cost of building and operating larger schools as well as the quality of education provided therein.¹⁰

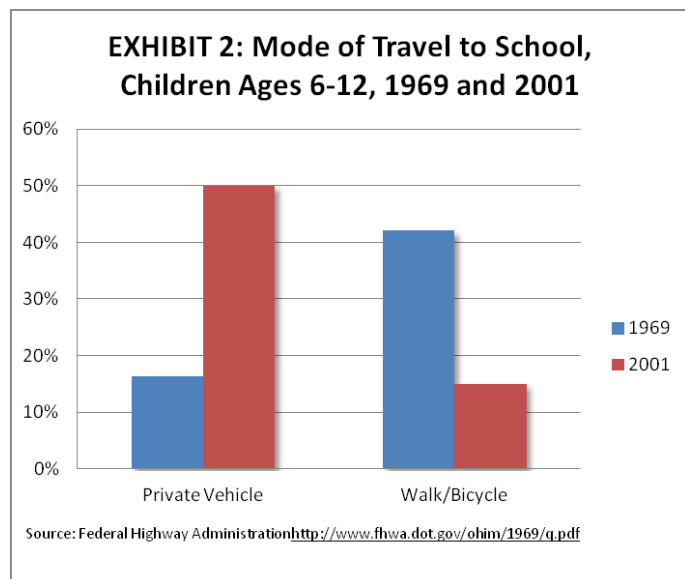
School siting decisions also impact transportation, infrastructure, maintenance costs, and even tax rates/revenues – financial burdens absorbed by both the school district and the community at large. When schools are located in previously undeveloped areas, the extension of services and infrastructure related to roads, water lines, sewers, etc. can impose considerable financial burdens to local governments and result in increased fees and taxes to local residents and property owners.¹¹ Transportation can be particularly costly in these situations too. A study conducted in 2000 concluded that school transportation costs had not only increased steadily since the 1930s, but that growth in transportation expenditures “consistently exceed[ed] the growth rates for overall enrollment and the number of students being bused.”¹²

2. Health and Safety

It makes sense that as larger schools have been built ever farther from the neighborhoods they serve, fewer students are able to walk or ride their bicycles to school. In fact, the number of students nationwide aged five to 12 years walking or biking to and from school between 1969 and 2001, decreased from 42 percent¹³ to less than 15 percent (Exhibit 2).¹⁴ Likewise, the distance children must travel to school has increased dramatically over that time period. In 1969, over a third of all students aged five to 12 years old lived within one mile of school,¹⁵ whereas in 2001, that number had decreased to a quarter of students.¹⁶ In a 2004 study conducted by the U.S. Centers for Disease Control and Prevention (CDC), parents reported that the two primary barriers to children walking to school were distance (62 percent) followed by traffic-related danger (30 percent).¹⁷

Apart from the financial burdens imposed on school districts and families with school age children, the decline in walking and biking to and from school has contributed to an overall decline in physical activity among children. Active modes of transportation like walking and biking are universally considered to be an important component of healthy lifestyles. Unfortunately, the fewer number of children walking and biking to school is regarded as a contributing factor to such harmful health factors as childhood obesity. The CDC reports that in the past 30 years the percent of overweight children aged six to 11 years has more than doubled.¹⁸ Some schools are attempting to address these health issues through expanded physical education courses and other opportunities for physical activity during the school day, but walking or biking to school can still be an integral part of healthy lifestyles among school age children and help combat these unnecessary outcomes.

A number of programs aimed at integrating walking and biking to school with healthy lifestyles already exist. For instance, the Safe Routes to School initiative focuses on creating an environment around schools that promotes these modes of transportation. But the Safe Routes to School program and others like it still do not address the underlying fact that the farther students live from schools, the less likely they are to walk or bike.¹⁹ In the context of travel choices, the decision to build new schools can have profound impacts on the health and safety of children.



3. Transportation and Traffic Congestion

The shift away from students walking and biking to school has also contributed to local traffic congestion, particularly during peak travel times. In 2007, the Federal Highway Administration noted that non-work travel constitutes 56 percent of trips during the AM peak and 69 percent of

trips during the PM peak during an average weekday. Moreover, the study determined that seven to 11 percent of these trips were school related, averaging nearly nine miles per trip.²⁰

Not only is traffic congestion around schools frustrating for parents, teachers, and nearby residents, it also creates safety challenges for students, motorists, and pedestrians. Congestion



Example of traffic congestion and unsafe street crossing conditions at a school site.

can be a source of traffic crashes and child pedestrian injuries and deaths. According to the National Highway Traffic Safety Administration, nearly one-fifth (19 percent) of the traffic fatalities in the 14-and-younger age group were pedestrians.²¹ Child pedestrian injuries due to traffic are more likely to occur during peak travel times and in settings with high traffic volume and on-street parking, precisely the environment created by large schools located on the periphery of neighborhoods. Traffic congestion has also been shown to

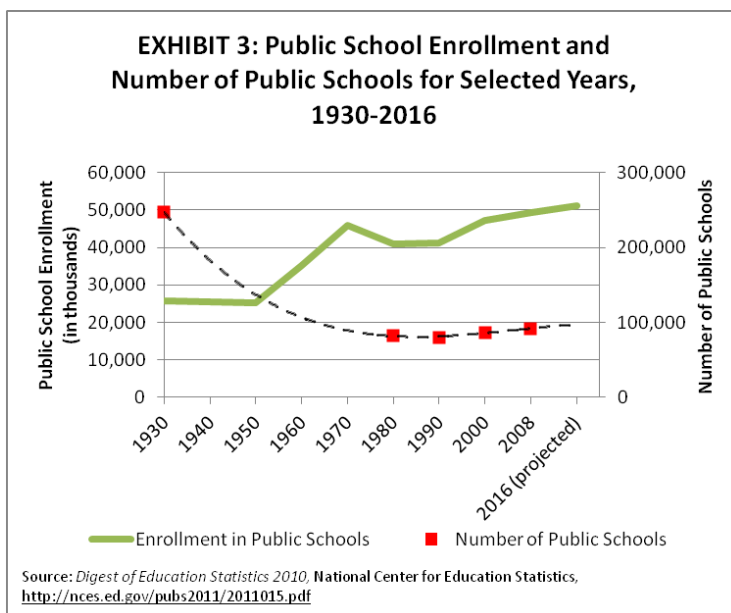
negatively impact local economies through longer commute times, lost productivity and wasted fuel.²² Increasing distances between residents and schools, combined with a lack of accessibility for alternative modes of transportation represent barriers to reducing congestion around schools and promoting a safe environment for children and other residents.

4. Environmental

Travel behavior has a significant impact on the environment, particularly with regard to air quality, and school-related travel is no different. A 2003 study by the Environmental Protection Agency (EPA) investigated the relationship between school locations, travel behavior, and air pollution and concluded that school location can have a direct impact on local air quality. The study found that “neighborhood schools” (schools built close to students, in walkable neighborhoods) achieved a 15 percent reduction in auto-related emissions.²³ The results of the EPA study suggest that actions that encourage active modes of transportation like walking and biking to school can help improve environmental quality.²⁴ Schools located far from the neighborhoods they serve not only discourage healthy activities like walking and biking, they can also contribute to broader environmental health issues as well.

5. Sense of Community

The notion of neighborhood schools mentioned in the EPA study above is not a new concept. The idea that local schools (particularly elementary schools) can be successfully integrated as centerpieces to the communities they serve is fairly indicative of the school development model prevalent for much of the twentieth century. This phenomenon can be partly explained by the fact that schools traditionally had much smaller enrollment levels than compared to today. In fact, even as total school enrollment has expanded considerably throughout the country, the number of schools nationwide has declined since the 1950s, and the average school size (as measured by enrollment capacity) has grown significantly (Exhibit 3). A number of factors have traditionally contributed to this shift in school facilities planning. Among these are school district consolidation, restrictive minimum acreage requirements for school sites issued at the State level, and presumed economies of scale to be realized in the realms of land acquisition, site planning, construction and maintenance, and quality of education. Lately, however, planners and school officials have begun to recognize that community-centered schools can impact the quality of education provided to students as well as provide benefits for the broader local community.



Community-centered schools have been shown to promote social interaction, civic engagement and local pride. A recent review summarizing research on the educational and social benefits of small schools noted that small schools graduate a higher percentage of students, and that students enrolled in small schools exhibit better attendance, higher grade point averages, higher outcomes on standardized tests, and are more likely to participate in extracurricular activities than their counterparts in large schools. In addition, there is greater teacher satisfaction at small schools, and parents are more involved in school matters.²⁵

6. Design (Site Design and Infrastructure)

Schools can be better integrated into communities when they are thoughtfully located in existing neighborhoods and are connected to a range of transportation options. Factors like school location, relation to arterial streets, bus loading areas, parking, pickup and drop off sites, and bicycle and pedestrian access influence how students will get to school. A school might be designed and built with abundant sidewalks, bicycle racks, or other on-site amenities, but if it is located too far from neighborhoods or is located on a major arterial, there will be little incentive for students to use those accessibility features. While the school district might be responsible

for determining the school location and other on-site improvements, they often lack control over the construction of sidewalks, street types, and general urban form in the areas immediately surrounding the school site. Additionally, surrounding land use decisions for development and redevelopment are often something a school district is less aware of. The city may see a larger picture of connecting residential or other associated adjacent properties that should be coordinated.

A number of factors can lead to this result. For instance, school districts often purchase land for new schools located at the periphery of existing communities based on cost considerations; a lack of coordination among school districts and local planners may result in the construction of arterial thoroughfares adjacent to sites that the district has purchased and intended for an elementary school; private developers who are required by cities to set aside land for public use like schools sometimes choose to set aside parcels that are prohibitively costly for schools to develop and thus lead to elevated infrastructure costs and further disassociation with the surrounding neighborhoods.



Example of an elementary school located adjacent to a major arterial street. Source: NCTCOG.

7. Future Growth

School districts often operate independent from local governments. After all, these entities have distinct priorities and responsibilities. It is important to recognize, however, that school siting decisions – whether on the part of the school district or local government – do not occur in a vacuum. It is clear from the issues outlined above that the actions of one group influence the other and investments in schools at once respond to and influence growth. Any disconnect among these mutually exclusive groups can have profound implications for communities, particularly those that are struggling to manage growth.

Given the school siting issues identified in this report and their profound impact on cost considerations, community safety and health, and quality of life, why does more coordination between the school districts and local governments not occur? To be sure, these two entities have distinct (though often overlapping) responsibilities to the communities they serve. The bottom line for school districts is providing the best schools and education possible, and they have not been likely to engage in broader community-wide activities beyond that primary mission, particularly given the fact that portions of multiple cities typically lie within the boundaries of a single ISD. Local governments for their part have taken a much less active role on school facilities planning, increasingly relinquishing that responsibility to school districts over the last several decades.²⁶

Problems, Challenges and Barriers to Effective School Siting (Local)

The issues introduced in the previous section are indicative of general trends in school siting policy and their associated consequences for local communities. They are intended to frame some of the larger problems surrounding the topic of school siting and emphasize the importance of bringing together local governments and school districts to address them. Of course, not all communities face the same challenges, and each city and school district must prioritize decisions and investments to maximize outcomes related to their own particular needs.

In the City of McKinney, a number of these issues are evident, and conversations at the local level have further identified specific challenges and other barriers to effective school siting. Among the specific problems identified by the City and MISD are:

- Elementary schools located on arterial streets
- Insufficient onsite queue space for pickups and drop offs, creating backups onto arterial streets
- Use of unauthorized pickup and drop off locations, impacting safety around the schools
- Lack of adequate bicycle and pedestrian access, and a desire to improve connections between the schools and the surrounding neighborhoods
- Land use and architectural standards imposed on the school district that increase cost
- Increasing school capacity to accommodate local population growth
- Traffic congestion around school locations
- Availability and cost of suitable land for school locations

As the example between the City of McKinney and the Allen ISD in the introduction illustrates, local school siting challenges have evolved from two separate, yet interdependent community-wide issues. First, the City of McKinney is experiencing tremendous growth, and managing that growth has created unique challenges both for local planners and MISD. Second, a lack of adequate coordination over planning has contributed to a school siting model that has profound implications in the realms of cost, health and safety, traffic congestion, and a lack of connection between schools and the communities they are intended to serve. The recommendations that follow are intended to address these issues by focusing on the following strategies to improve the decision-making process among local officials and MISD.

Overlapping Boundaries: A Challenge to Interagency Coordination

One of the principal barriers to effective school siting is the uncertainty and confusion stemming from the overlapping boundaries of local municipalities and independent school districts. Within the City of McKinney, for instance, there are eight independent school districts (ISDs): McKinney ISD, Allen ISD, Frisco ISD, Prosper ISD, Celina ISD, Melissa ISD, Princeton ISD, and Lovejoy ISD.

Cities must balance the individual needs of each of the districts within their boundaries as well as respond to the infrastructure demands created by new and existing schools. Likewise, overlapping boundaries require ISDs to understand the local planning processes in multiple cities. MISD, for instance, serves portions of eight communities: Allen, Fairview, Lowry Crossing, Lucas, McKinney, New Hope, Princeton, and Weston. Communication among these various parties is critical to understanding growth scenarios, infrastructure demands, and other common challenges.

III. BENEFITS OF COMMUNITY-CENTERED SCHOOLS

“In addition to providing a place to educate our children, schools are also important anchors that help define and sustain our neighborhoods.”²⁷ Over the last several decades, school siting policies have at once responded to and contributed to the issues previously outlined. A lack of coordination among local governments and school districts has resulted in too many schools that are increasingly distant from the communities they serve and contribute mightily to problems like increased traffic congestion, fewer children walking to school, poor air quality, and an overall disconnect between school facilities planning and local infrastructure investments.

Recently, however, local planners and school officials are returning to the notion of community-centered schools to address these issues. (The term “community-centered schools” is often interchanged with the terms “community-oriented schools” and “smart growth schools” in contemporary literature. Each of these terms include several similar and overlapping characteristics and are thus not exclusive of one another.) Community-centered schools typically incorporate the following principles:²⁸

- Small size and integrated into the neighborhoods they serve
- Broad community involvement in the school siting process
- Provide high-quality education
- Safely accessible by walking or bicycling
- Support community use of the school facility after school hours
- Exhibit similar scale to the surrounding neighborhood
- Use existing resources

Community-centered schools provide an atmosphere that nourishes the student experience during and after school hours and are integrated into the community fabric. For these reasons, the conventions of community-centered schools have been adopted by the Council of Educational Facilities Planners and the American Institute of Architects and have been promoted by other groups including the National Trust for Historic Preservation, the U.S. EPA, and the International City/County Management Association, among others.²⁹

IV. RECOMMENDATIONS

Strategies and Best Practices for Supporting Effective School Siting

Given the considerable challenges associated with school siting, what can local government officials and school districts do to facilitate better planning decisions? The strategies that follow are intended to address one or several of the issues outlined in this paper: cost, health and safety, traffic congestion, environmental, sense of community, design and infrastructure, and future growth. Some of these recommendations require action at the local level, while others compel coordination with State policies. No matter their scope, these strategies should reflect a community-based vision that is responsive to the educational, fiscal, environmental, transportation and social circumstances for a particular community.

The list below outlines a series of recommendations formulated from a general literature review as well as discussions at the local level. Each item is presented here with details for implementation and some include examples of how they have been effective in circumstances throughout the country. The recommendations are intended to address one or several of the seven principal school siting issues identified in the preceding sections of this paper:

1. Cost
2. Health and safety
3. Transportation and traffic congestion
4. Environmental
5. Sense of community
6. Design and infrastructure
7. Future growth

1. Promote Intergovernmental Coordination

Above all, success depends on regular communication between the local governments and the school district. An on-going, institutionalized process for collaboration and communication is an essential part of achieving mutual goals for both entities.³⁰ Regular meetings, frequent data sharing and a mutually understood decision-making process available in writing can all contribute to increasing trust and awareness over concerns and challenges. It is also important for communication to involve the right personnel; relationships between city managers and school superintendents and board members will be particularly effective to ensuring that each agency has a handle on how decisions are made. Additionally, cooperation and data sharing between these agencies can ultimately lead to broad, community-wide support for bond initiatives and other local decisions involving members of the community.

2. Remove Minimum Acreage Requirements and Enrollment Thresholds

One of the ways in which school siting policy has driven some of the negative outcomes outlined above is through the implementation of minimum acreage requirements and enrollment thresholds. These are obstacles to effective school siting and almost guarantee that old schools will not be renovated and new schools will be located on vast sites, far from the communities they are intended to serve (Exhibit 4).

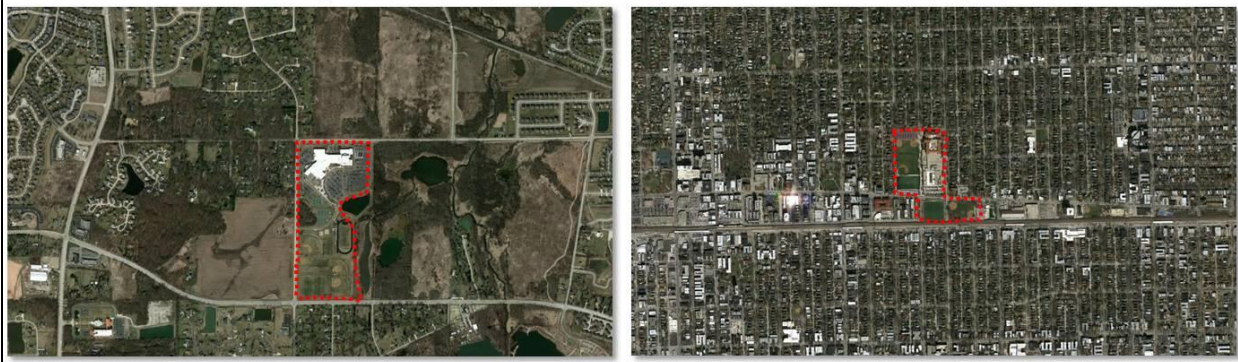
Both state and local departments of education have been responsible for adopting these types of restrictive formulas. In 2004, however, the Council of Educational Facilities Planners International (CEFPI) changed its recommendations, endorsing a community-centered approach to school siting. Some state governments have not stopped at eliminating these requirements and have even suggested *maximum* acreage thresholds.³¹

Requirements that mandate minimum site sizes and school enrollments not only sever the connection between the school and the community, they can burden the school district with unnecessary land acquisition costs as well. As previously discussed, school districts must compete for available land on the open market, and often the only affordable sites that satisfy acreage and enrollment requirements are located on the periphery of existing neighborhoods. Moreover, the development of schools will generate future development and shift the burden of unanticipated infrastructure demands to the local governments and taxpayers.

Currently, the State of Texas does not have a prescribed minimum acreage requirement for schools. Classroom space is defined, but variances are allowed depending on the particular circumstances of the facility.³² However, many local school districts adopt locational criteria depending on the type of school being proposed. The McKinney ISD, for instance, requires a minimum of 15 acres for elementary schools, 30 acres for middle schools, and 65 acres for high schools. (Local school districts and MISD also prescribe a “functional capacity” for each type of school as well. Both the acreage requirements and functional capacities prescribed by MISD are included in the City’s Comprehensive Plan.)

Determining the size of a school site and the potential enrollment can be a challenging balancing act. School officials need to consider the cost of land acquisition against the increased demands remote sites place on traffic, accessibility, safety, and infrastructure. Communicating these issues to local governments and other involved stakeholders is an important step for achieving mutual benefits for a school district and community.

EXHIBIT 4: Aerial images indicating a sprawling school site detached from surrounding neighborhoods (left) and an example of a school integrated into an existing community with good street connectivity (right).



3. Require a Full Cost Analysis for School Construction

Apart from the cost of land acquisition, local school siting decisions carry a number of other – sometimes unanticipated – financial considerations as well. Indirect costs associated with school siting can include equipment and furnishings, maintenance, supportive infrastructure (sewers, water lines, roads, and other utilities), and increased transportation expenses such as roadway and intersection improvements and traffic signal upgrades.

School districts and local governments should come together to fully evaluate the potential costs associated with developing large schools away from neighborhoods and existing infrastructure, versus investigating infill development or some other method of integrating a school into an existing neighborhood. Not only can schools relieve some of the development pressure and preserve open space and farmland, infill development can also save taxpayers from the high cost of building new infrastructure and keep schools located near existing neighborhoods.³³

4. Streamline the Permitting Process

Permitting, code compliance, and other siting approvals can sometimes delay development projects and produce unnecessary costs for school districts. School districts should be aware of land use plans, zoning codes and other regulations and requirements imposed on developers by cities. Recognizing these conditions ahead of time can help school districts select sites and designs that complement local standards.

On the other hand, local governments can be proactive in working with school districts on site approvals, particularly in communities where growth is occurring and the demand for new schools is evident. Developing a streamlined approval process for schools can help both the city and the school district respond to demand and accommodate growth as it occurs. The City might also consider waiving certain developer fees or fast-tracking residential development projects if suitable property is provided to the City for school sites at little or no cost. (For more information on developer set asides, refer to Recommendation 7, “Land Banking and Developer Set Asides” below.) In any event, proactive communication can ultimately lead to identifying challenges before they are problems and developing creative solutions that achieve mutual benefits.

5. Remove Bias in Funding for New Construction

Several states utilize funding formulas that promote new school construction over renovation of existing facilities. In Ohio, for instance, the “two-thirds” rule (changed in 2008) permitted the State to withhold funds for school renovations if the cost exceeded two-thirds of the cost of building a new

Texas School Funding Formula

Across the country, public schools receive funding from the federal government as well as the respective State and local governments; however, the proportion of funding from each level of government varies widely from state to state. Texas has a two-tiered program with regard to State funding. Tier I is a foundation program based on a basic allotment of \$4,765 that is indexed to the statewide property value per student in weighted average daily attendance. Local districts contribute revenue from their tax collections at their compressed tax rate to meet the local share requirements, also known as the local fund assignment (LFA), for Tier I. Tier II is a guaranteed yield program that provides enrichment for each cent of tax effort that exceeds a district’s compressed tax rate. For more information on public school funding, refer to the Texas Education Agency (TEA): http://www.tea.state.tx.us/index2.aspx?id=6957&menu_id=645&menu_id2=789

school.³⁴ In some instances, these formulas do not even consider costs like land acquisition or other indirect costs associated with new construction.³⁵

Because funding for developing, renovating and operating schools comes from a number of different sources, it is important for school districts, local government and state departments of education to communicate with one another to uncover the true costs associated with school siting. In the State of Maryland, for instance, the State created Priority Funding Areas (PFAs) to direct capital funding for public schools to designated areas in existing communities.³⁶

6. Adopt an “Adequate Public Facilities Ordinance”

An Adequate Public Facilities Ordinance (APFO) seeks to ensure that current or planned infrastructure and services are sufficient to support new development. APFOs provide local governments with an additional growth management tool by requiring developers to plan for infrastructure and service needs that will result from a development proposal prior to receiving approval. Often, the APFO is linked to the city’s Capital Improvement Program and identifies the types and levels of service that are needed to permit new development.

With regard to school siting, APFOs can be used to help fund an existing school, acquire land for a new school site, or accomplish other school siting goals that are in line with the shared vision of the local government and school district. An APFO was used in Florida in the early 2000s to help resolve school capacity issues in an area experiencing considerable growth. The model came to be known as “school concurrency” and has been expanded and bolstered by subsequent State legislation requiring interagency planning and coordination among local governments and school officials.³⁷

7. Land Banking and Developer Set Asides

Similar to an APFO, local governments can play a more active role in helping school districts acquire land for new schools. By instituting a land banking program, cities can acquire land before it is needed for schools, as demographics of projected residential growth are coordinated among the City and school district demographers. Whereas the school district benefits from an availability of land specifically programmed for school development, the city is also able to exercise some control of the location of schools, thus ensuring that community-wide objectives regarding school siting are more easily achieved. Local governments can endorse the use of regional or State funds toward land banking activities for initial investments in lieu of more costly transportation investments in the future.

Developer set asides likewise allow cities to make sure development supports broader community goals. Local governments and schools districts can work together to identify locations that meet school capacity requirements and local land use goals. The city should be vigilant, however, to ensure that any land that is donated or set aside by private developers is suitable for school development – coordination with the ISD is critical – and that development at the site will not burden local residents with unnecessary infrastructure, site preparation (grading, drainage, etc.), or transportation expenses.

8. Authorize Joint Use/Intergovernmental Agreements

One method for integrating schools into the community while minimizing costs and promoting interagency cooperation is through the use of joint use or intergovernmental agreements. Schools often provide the same type of facilities and services that local governments support. For instance, most schools include playgrounds and other outdoor facilities like athletic fields. Meanwhile, cities pay to construct, operate and maintain these same types of facilities. By developing intergovernmental agreements, schools and cities can leverage their resources to maintain shared facilities, thus avoiding a costly duplication of services. Intergovernmental agreements clarify roles regarding shared use or co-located facilities by defining responsibilities, encouraging information sharing, and including strategies for resolving disagreements.³⁸ These agreements further promote coordinated planning among entities while maximizing public investment and contributing to a greater sense of community centered on the school.

The City of McKinney Comprehensive Plan includes a goal of encouraging cooperation between the City and other agencies to provide cost-effective service and optimize community benefits (Section 9: Parks and Recreation Element). The goal seeks to build upon existing joint use agreements between the City and MISD for sharing recreation facilities and planning for neighborhoods parks to be built adjacent to new elementary schools. Among the objectives in the Plan are an intention to seek joint financing among the City and MISD for new recreational and athletic facilities and the redevelopment of existing elementary and middle schools into school/park sites.³⁹ Regular coordination among the City and MISD administration is critical to implementing the goals of the Plan and reducing the need for duplicate facilities and save money.

9. Encourage School District Participation in Local Land Use Planning/Thoroughfare Planning/Capital Improvements Programming

School transportation is an often overlooked item in local and regional transportation planning and capital improvements programming, yet it is a crucial component affecting the daily transportation choices of all residents in a community. Including school districts in these planning processes will help decision makers understand the needs of schools and connect

Property Tax Assessment and Collection – The Role of the School District

Property taxes provide more tax dollars for local services in Texas than any other funding source. School districts play a vital role throughout the process of appraising the taxable property, protesting the values, adopting the tax rates and collecting the taxes. In 2004, the Texas Comptroller's office produced A *Handbook for Texas Public School Districts: Property Tax Collection and Administration*. The handbook outlines 10 basic guidelines school districts need to know and use to effectively face the challenges before them in assessing and collecting property taxes in Texas. The handbook is available online at: <http://www.window.state.tx.us/taxinfo/proptax/handbook/96-1085.pdf>

them with broader transportation and infrastructure issues as well. An institutionalized method for including a school facilities component to any transportation plan or capital improvements program can have the effect of identifying potential school siting issues in the planning phase, before costly and unnecessary investments must be made to connect new schools to existing infrastructure and transit networks.

10. Utilize Safe Routes to School Effectively

The Safe Routes to School (SRTS) Program is a federally funded program administered by state departments of transportation. The program addresses health and safety issues associated with school-related transportation. SRTS programs use a combination of the 5 “E’s” to promote safe ways for children to get to and from school: education, encouragement, enforcement, engineering, and evaluation.

SRTS programs grow from a community's concerns about safety, health, and traffic. A successful SRTS initiative depends on the involvement of a range of partners, including parents and students, local government officials, transportation professionals, and school personnel.⁴⁰

11. Offer Financial Incentives for Schools that Achieve Community-Centered Principles

Public schools across the country receive financing from the federal, State, and local governments in varying proportions. In the State of Texas, local governments account for 44.9 percent of public school (K-12) revenues.⁴¹ This fact underscores the importance of local governments and school districts working together to meet common goals.

One tool local governments can employ to ensure that new school development (and renovation of existing schools) meets established land use goals or other smart growth principles is the provision of financial incentives to proposed school projects that satisfy locally established location and design standards.⁴² It is important to note, that in order for this strategy to be effective, the local government must establish clear site/design standards for public facilities. School districts that offer proposals meeting these requirements can be eligible for grants or other financial assistance. Meanwhile, the city can be certain that infrastructure and other public services are able to support the new school development.

12. Identify Funding Sources and How to Connect Funding with School Siting Goals

A handful of tools, programs, and funding sources exist that cities and ISDs can tap into to help coordinate on school siting and transportation projects. The list below represents selected funding opportunities that can be applied for the implementation of bicycle and pedestrian facilities.

Funding Source: Federal Highway Administration (FHWA) – administered by the State of Texas

- National Highway System (NHS)
- Surface Transportation Program-Metropolitan Mobility (STP-MM)
- Highway Safety Improvement Program (HSIP)
- Safe Routes to School Program (SRTS)
- Transportation Enhancement (TE), formerly referred to as the Statewide Transportation Enhancement Program (STEP)
- Congestion Mitigation and Air Quality Improvement Program (CMAQ)
- Recreational Trails Program (RTP)
- Highway Bridge Replacement and Rehabilitation Program (HBP or BRR)
- Federal Lands Highways Program (FLH)
- National Scenic Byways Program (BYW)

- Green Ribbon Landscape Improvement Program

Funding Source: National Highway Traffic Safety Administration (NHTSA)

- State and Community Highway Safety Grant Program (Section 402)

Funding Source: Additional Federal Funding

- Transportation and Community and System Preservation (TCSP)
- Interstate Maintenance (IM)
- High Priority Projects (HPP)
- Land and Water Conservation Fund (LWCF)
- Energy Efficiency and Conservation Block Grant (EECBG)
- National Recreation Trails (NRT)
- Rivers, Trails, and Conservation Assistance Program (RTCA)

A few of the funding options from the list above can be particularly applicable to supporting school siting initiatives that promote accessibility and active transportation. These selections include:

Congestion Mitigation and Air Quality Improvement Program (CMAQ). CMAQ funding from the Federal Highway Administration (FHWA) assists areas designated as nonattainment or maintenance under the Clean Air Act Amendments of 1990 to achieve and maintain healthful levels of air quality by funding transportation projects and programs. Projects must be likely to contribute to the attainment of national ambient air quality standards (or the maintenance of such standards where this status has been reached) based on an emissions analysis. A major source of funding for many bicycle-related construction and safety projects, CMAQ is administered locally by NCTCOG and its Transportation Improvement Program (TIP). Eligible activities include the construction of bicycle and pedestrian facilities, non-construction projects related to safe bicycle use, and many other projects and programs related to the implementation of bicycle and pedestrian transportation. *Matching funds: 80 percent Federal; 20 percent non-Federal.*

Surface Transportation Program – Metropolitan Mobility (STP-MM). STP-MM funding (also from FHWA) provides States with flexible funds which may be used for a wide variety of projects on any Federal-aid Highway including the NHS, bridges on any public road, and transit facilities. Bicycle and pedestrian improvements are eligible activities under STP-MM. This covers a wide variety of projects such as on-road facilities, off-road trails, sidewalks, crosswalks, bicycle and pedestrian signals, parking, and other ancillary facilities. The modification of sidewalks to comply with the requirements of the Americans with Disabilities Act is an eligible activity. STP-MM-funded bicycle and pedestrian facilities may be located on local and collector roads which are not part of the Federal-aid Highway System. In addition, bicycle-related non-construction projects, such as maps, coordinator positions, and encouragement programs, are eligible for STP-MM funds. *Matching funds: 80 percent Federal; 20 percent non-Federal.*

Regional Toll Revenue (RTR). The Texas Legislature enabled the Texas Department of Transportation to consider public/private sector partnerships to finance roadways. As a result, in 2007, the DFW region completed a project with the North Texas Tollway Authority (NTTA) that included a toll component and revenue for transportation projects known as the Regional Toll Revenue (RTR) initiative administered by NCTCOG. Funds offered through this initiative include allocations to regional trail and other sustainable development projects. Projects selected for funding through the RTR initiative are decided through County Task Force and public meetings, before seeking approval by the Regional Transportation Council (RTC).

NCTCOG's Sustainable Development Call for Projects. NCTCOG's Sustainable Development Funding Program was created by its policy body, the Regional Transportation Council (RTC), to encourage public/private partnerships that positively enhance existing transportation system capacity, rail access, air quality concerns, and/or mixed land uses. The SD Funding Program has awarded a total of 102 projects in excess of \$125 million since 2001. Projects selected through both of these funding initiatives must demonstrate an air quality benefit, and include bicycle and pedestrian components. *Matching funds: 80 percent Local; 20 percent non-Local.*

NCTCOG hosted a workshop on February 14, 2012 to solicit input on future calls for projects. Staff is currently investigating methods to enhance the program and policy issues related to eligible project types, focus areas, and possible future funding options. The next call for projects is being planned for the 2014 timeframe.

Clean School Bus Program. The North Central Texas (NCT) Clean School Bus Program administered by NCTCOG aims to reduce emissions from school bus fleets by encouraging and assisting in the expedited purchase of clean school buses as well as adoption and enforcement of anti-idling policies. Funding is available to schools and ISDs as well as school bus operators through an annual call for projects. The goals of the NCT Clean School Bus Program are to:

- Administer grant funding for eligible projects that reduce emissions from older, high-emitting school buses.
- Provide education materials to schools, school districts, and school bus operators about various clean school bus options that can improve the fleet, benefit the environment, and protect the health of school aged children.

Promote implementation and enforcement of anti-idling policies for school buses and all other vehicles that operate within a school zone.

Additionally, federal grants are available for projects that link transportation to public health, livability, and other community issues. Funding at the private level offers additional opportunities for bicycle and pedestrian related facilities and advocacy that are not otherwise offered in the national, state and local funding initiatives. NCTCOG can be an important partner for local communities and ISDs looking to access different funding sources for school siting initiatives. The table on the following page highlights federal bicycle and pedestrian funding programs organized by eligible activities.

Funding Resources: How to Connect Funding with School Siting Goals

Several funding sources exist for local governments and ISDs to take advantage of for transportation and school siting purposes. However, the variety of sources and the particular requirements of each program can cause confusion for agencies searching to fund necessary infrastructure projects. NCTCOG has a helpful web page outlining the process for funding transportation projects: <http://www.nctcog.org/trans/tip/howfunded.asp>. Links to specific funding opportunities through NCTCOG's website are provided below.

Sustainable Development Funding Program—

<http://www.nctcog.org/trans/sustdev/landuse/funding/>

Sustainable Economic Development Tools—

<http://www.nctcog.org/trans/sustdev/landuse/econdev.asp>

Regional Toll Revenue Funding Initiative—

<http://www.nctcog.org/trans/rtr/>

North Central Texas Clean School Bus Program—

<http://www.nctcog.org/trans/air/programs/schoolbus/info.asp>

	NHS	STP	HSIP	SRTS	TE	CMAQ	RTP	HBR	PLA	FLH	BYW	402	FTA	TRE	JARC	TCSP
Bicycle and pedestrian planning		*				*			*							*
Bicycle lanes on roadway	*	*	*	*	*	*		*		*	*		*	*		
Paved Shoulders	*	*	*	*	*	*		*		*	*					
Signed bike route	*	*		*	*	*				*	*					
Shared use path/trail	*	*		*	*	*	*	*		*	*					
Single track hike/bike trail							*									
Spot improvement program		*	*	*	*	*										
Maps		*		*		*						*				
Bike racks on buses		*			*	*							*	*		
Bicycle parking facilities		*		*	*	*					*		*	*		
Trail/highway intersection	*	*	*	*	*	*	*			*	*					
Bicycle storage/service center		*		*	*	*							*	*	*	*
Sidewalks, new or retrofit	*	*	*	*	*	*		*		*	*		*	*		
Crosswalks, new or retrofit	*	*	*	*	*	*				*	*		*	*		
Signal improvements	*	*	*	*	*	*										
Curb cuts and ramps	*	*	*	*	*	*										
Traffic calming		*	*	*												*
Coordinator position		*		*		*										*
Safety/education position		*		*		*						*				
Police Patrol		*		*								*				
Helmet Promotion		*		*	*							*				
Safety brochure/book		*		*	*	*	*					*				
Training		*		*	*	*	*					*				

NHS National Highway System

STP Surface Transportation Program

HSIP Highway Safety Improvement Program

SRTS Safe Routes to School Program

TE Transportation Enhancement

CMAQ Congestion Mitigation/Air Quality Program

RTP Recreational Trails Program

HBR Bridge

PLA State/Metropolitan Planning Funds

FLH Federal Lands Highway Program

BYW Scenic Byways

402 State and Community Traffic Safety Program

FTA Federal Transit Capital, Urban & Rural Funds

TRE Transit Enhancements

JARC Access to Jobs/Reverse Commute Program

TCSP Transportation and Community and System Preservation Pilot Program

13. Develop a Shared Vision

Another important method for local governments and school districts to identify common challenges and establish a framework for overcoming obstacles is developing a shared vision. Establishing a common vision can clarify roles and ensure that the needs of the community are integrated with those of the school. This process of developing a shared vision – particularly when it is incorporated into a binding document like a comprehensive plan – can further institutionalize interagency coordination and add legitimacy to the process.

The Durham (North Carolina) City-County Planning Department produced a comprehensive plan in 2005 that included a Schools Element in an effort to better integrate long term growth with adequate public facilities. By providing a policy basis for the City to deny or accept rezoning proposals based on how they would impact school capacities, the Durham plan effectively combined the concerns of local school districts struggling to respond to growth with broader, community-wide land use goals.⁴³

The following chart provides a brief look at how each of the preceding recommendations addresses the seven principal school siting issues outlined above and includes examples of likely benefits to be realized by both the local government and ISD.

Recommendation	Issue Addressed							Benefit to City	Benefit to ISD
	Cost	Health and Safety	Traffic Congestion	Environmental	Sense of Community	Design and Infrastructure	Future Growth		
Promote Intergovernmental Coordination	X	X	X	X	X	X	X	Establishes a mutually understood decision-making process; Increase trust and awareness over concerns and challenges; Access to shared data.	Establishes a mutually understood decision-making process; Increase trust and awareness over concerns and challenges; Can promote broad, community-wide support for bond initiatives.
Remove Minimum Acreage Requirements and Enrollment Thresholds	X	X	X	X	X	X		Preserves existing open space and agricultural lands; The ability to locate schools near existing neighborhoods can reduce infrastructure demands/cost, reduce congestion, improve air quality, and increase safe access to school; Promotes a sense of community.	Reduces the costs associated with finding and acquiring large sites; Smaller schools can contribute to better student performance; Schools can be located near existing neighborhoods and are more accessible for students by walking/biking.

Recommendation	Issue Addressed							Benefit to City	Benefit to ISD
	Cost	Health and Safety	Traffic Congestion	Environmental	Sense of Community	Design and Infrastructure	Future Growth		
Require a Full Cost Analysis for School Construction	X		X			X	X	Infill development can also save taxpayers from the high cost of building new infrastructure and keep schools located near existing neighborhoods.	Infill development makes use of existing infrastructure; Avoids unanticipated costs related to transportation.
Streamline the Permitting Process	X					X		Establishing a process for school project review and approval can ensure that schools meet certain location and design objectives.	Reduces costs associated with lengthy approval processes; Incentivizes favorable lands reserved for school locations by developers.
Remove Bias in Funding for New Construction	X			X		X		Can promote infill development; Allows cities to target development in key designated areas.	Reveals the true costs associated with school siting.
Adopt an “Adequate Public Facilities Ordinance”						X	X	Ensure that current or planned infrastructure and services are sufficient to support new development; Provides an additional growth management tool; Linked to the city’s Capital Improvement Program.	Help fund an existing school, acquire land for a new school site, or accomplish other school siting goals; Resolve school capacity issues; Further integrate schools into the communities where they are located.
Land Banking and Developer Set Asides	X						X	Adds certainty to the development process; Integrates new school sites with the design of new developments.	Schools gain access to sites that are better suited to development; Reduce land acquisition costs; Schools can anticipate demand as new development occurs.
Authorize Joint Use/ Intergovernmental Agreements	X				X	X		City provides more services in better facilities; Reduces construction costs and preserves open space from unnecessary development.	School’s role as a community center is elevated; Students, Staff, and parents are more connected to their community through increased interaction with the school facility; Reduces construction costs.
Encourage School District Participation in Local Land Use Planning/ Thoroughfare Planning/Capital Improvements Programming		X	X			X	X	Cities can better coordinate growth from developments with demand for schools; Identify development proposals that better meet community needs.	Student modes of transit (bus, walking, biking) are integrated into broader transportation discussions; Ensure that the needs of schools are articulated in local land use plans.

Recommendation	Issue Addressed							Benefit to City	Benefit to ISD
	Cost	Health and Safety	Traffic Congestion	Environmental	Sense of Community	Design and Infrastructure	Future Growth		
Utilize Safe Routes to School Effectively		X	X	X		X		Increased safety for children traveling to and from school; promotes healthy activities; requires broad community participation.	Schools have access to funding for site improvements that promote safety and healthy activities.
Offer Financial Incentives for Schools that Achieve Community-Centered Principles	X	X				X	X	Leverage infrastructure and capital improvement funds to incentivize school proposals that meet locally established site/design criteria.	Grants or other financial incentives can absorb some of the development cost for qualifying projects; Ensures that public infrastructure and services will be able to meet the demand of school expansion.
Identify Funding Sources and How to Connect Funding with School Siting Goals	X		X			X	X	Absorb a portion of the cost associated with school siting planning and implementation; Encourages interagency planning and develops specific goals and objectives.	Absorb a portion of the cost associated with school siting planning and implementation; Encourages interagency planning and develops specific goals and objectives.
Develop a Shared Vision					X		X	Ensure that the needs of the community are integrated with those of the school; Integrate school siting issues with defined land use objectives; Add consistency to the coordinated planning process.	Ensure that school district needs are considered and can be incorporated into a broader binding document like a comprehensive plan; Adds stability and legitimacy to the coordinated planning process.

Proposed Pilot Programs for the City of McKinney and McKinney Independent School District

1. Creation of an Institutional Structure to Outline the School Siting Process

The first step to overcoming the barriers identified in this report is establishing a clear and coordinated process for addressing school siting issues at the local level. Some coordination between the City and MISD is already occurring. For instance, staff members from both agencies reported that monthly meetings are taking place and that updates to development plans are shared at these meetings. Additionally, City staff typically sends development applications to MISD electronically for coordination on the development of future schools, and MISD has contributed data to the City that has been included in the Educational Facilities and Services Element of the Comprehensive Plan.

These efforts represent encouraging signs that a foundation for coordinated planning is already in place at the local level, and the following recommendations are intended to build upon this foundation. The primary aim is to establish an *institutionalized* process that is *ongoing*. Regular meetings, clear goals, and mutually agreed upon protocol are essential to fostering effective coordination among City and ISD staff. To start, an institutionalized process for school siting collaboration should focus on the following elements:

- 1. Establish a process for sharing information and data.** Ensuring that accurate and up-to-date information is flowing both ways is an important first step to establishing an effective framework for collaboration. On the one hand, the ISD has specific questions related to growth and land use in the community: What are the future growth projections? Where will growth likely occur? Where are planned transportation and infrastructure projects going to occur? Likewise, the City needs to know: What sites does the ISD consider ideal for development? How will certain development proposals impact school capacity? What challenges does the ISD face when acquiring land? And more. Information like community growth patterns, land use and building regulations, population projections, facility inventories, etc. are examples of useful datasets for the decision-making process. Establishing a system for capturing and sharing data will help both agencies identify and understand the issues surrounding school siting, and emphasizing documentation of information and decision-making procedures is key.
- 2. Articulate a shared vision.** In addition to sharing information between agencies, developing a shared vision, including specific goals and objectives, will help the City and ISD proactively address transportation, land use, infrastructure, and capacity issues before they become major problems. This process should consider how the needs of the ISD intersect with those of the community and include a discussion of identifying any policy gaps that exist between the City and the ISD.⁴⁴ As part of the shared vision process, the City and ISD may engage in a more robust effort to enhance the schools element of the local Comprehensive Plan and show how school expansion and site selection will impact transportation and infrastructure in the community and how the City can better reconcile population growth with the demands placed on the ISD's capacity to absorb that growth. The ultimate goal of the shared vision is to generate objectivity in the school siting process.

3. Develop a mutually agreed upon decision-making process. Another important element to ensure objectivity and trust is to establish a mutually agreed upon decision-making process. An effective partnership between the City and ISD should be characterized by an understanding of how decisions are made. In addition to regular meetings and coordination during the comprehensive planning process, developing a common decision-making process ensures input from both parties when decisions must be made about local development, school capacity, co-location, as well as comprehensive and strategic planning. It is necessary for members of both groups to understand how the others make decisions. An additional recommendation is to have members from each group participate on committees or other boards that make decisions related to school siting. For instance, the City might be well served to have a

Understanding the Local School Siting Process

The International City/County Management Association published *Local Governments and Schools: A Community-Oriented Approach* in 2008. The guide provides a series of steps (paraphrased below) to help local governments familiarize themselves with the local school siting process:

- Obtain and review a copy of the school district's facility master plan to determine consistencies with the city's plan and whether the same data is being used.
- Understand how school investments are made by comparing school plans to the local capital improvements plan.
- Research what state and/or local policies affect school investment decisions and distinguish between rules and suggested guidelines.
- Find out how school districts allocate maintenance costs and figure out ways for the city to support maintenance at existing schools.
- Educate school board members and local planning officials on the challenges and shared benefits related to school siting. Help school officials understand the city's relationship with land developers.
- Collaborate with school districts on bond proposals that meet broader community needs. This collaboration can often lead to bond initiatives that have stronger support from local citizens.
- Encourage local planning officials to be proactive in reviewing school project proposals to ensure that the projects address community needs related to infrastructure, safety, and transportation.

Additionally, encourage local planning commissioners or city staff to seek membership on school district advisory boards. Local governments play a primary role in transportation issues, and this can be beneficial in the discussions related to school siting matters.

local planner participate in a school siting, advisory, or steering committee. This membership can benefit the City by giving them a voice in initial conversations on new school development issues. The ISD can also benefit if the City staff member can provide expertise related to city ordinances and regulations to the committee.⁴⁵ As the research highlighted in the preceding sections makes abundantly clear, broad community-oriented goals are best achieved when various agencies like ISDs and local planning staff work together.

4. Identify key personnel and engage community stakeholders. The success of the recommendations outlined above – sharing information and data, articulating a shared vision, and developing a common decision-making process – ultimately depends on including the proper

personnel and involving community stakeholders. As a process is outlined, specific positions within each agency should be identified to include at various levels of coordination so, as personnel come and go, continuity remains. While the preceding steps are intended to institutionalize a coordinated school siting process regardless of changes to local leadership, cultivating strong relationships among local government officials and school superintendents and other ISD board members is absolutely critical to getting a coordinated effort off the ground. These relationships might begin rather informally (i.e. conversations about common goals and obstacles), but they can lay the foundation for lasting associations and lead to an institutionalized forum for sharing issues and ideas. Additionally, engaging the community can lead to robust input about what issues are most important for students, parents, and teachers, and an established working relationship between the local government and ISD can give confidence to the community that these important issues are being met with a spirit of partnership.

2. Land Banking

One of the principal barriers school districts face in cities like McKinney where growth and development are evident is acquiring suitable land for school sites. At the local level, school sites must meet a handful of locational criteria. Specific requirements outlined in the City of McKinney Comprehensive Plan include:

- Elementary schools should not be located on major thoroughfares;
- Sites should be located in close proximity to storm drainage, water, and sanitary sewer connections;
- Sites should have topography that maximizes land utilization and safety, and minimizes development costs;
- Sites should be located at the intersection of two collector streets to enhance both pedestrian and vehicular traffic circulation;
- Sites should not be located next to alleys that would back to the sides of the school site.
- Each school site should have two points of public access.

In addition to the items above, the plan also identifies minimum acreage requirements for elementary schools (15 acres), middle schools (30 acres), and high schools (65 acres). On their own, the locational criteria set forth in the plan are well intentioned and make sense. However, their practical application necessarily limits the amount of suitable land available for school development, and in an environment of robust private development, this ultimately leads to elevated land acquisition costs for the ISD.

One tool that the City and MISD can investigate to ensure the availability of suitable land for school sites and avoid unnecessarily high land acquisition costs is land banking. Cities and other jurisdictions throughout the country have traditionally used land banking as a reactive strategy to address community concerns like urban blight and concentrations of abandoned buildings. This strategy has typically been employed in depressed sections of urban areas like Cleveland, OH, Flint, MI, and Kansas City. However, a more *proactive* approach to land

banking might be appropriate for communities seeking to manage growth and promote an adequate supply of public facilities and services.

The local government should investigate establishing funds and encouraging regional and State dollars to be set aside for such uses. If cities awarded funds or even provided revolving loan funds with good terms, they could use these dollars to acquire properties from developers of single-family or multi-family residential projects in areas of high population growth. The City would then be able to provide land to schools and, if agreeable, share in common use for recreational facilities constructed by the ISD like ball fields or tennis courts.

Regardless of any funding structure, the purpose of the land bank should be clearly outlined as a tool to acquire and manage uncommitted real property to benefit both current and future residents by facilitating orderly development and achieving the goals of the City's Comprehensive Plan.⁴⁶ An effective strategy of proactive land banking can provide mutual benefits to both the City and MISD by guaranteeing that dedicated land will be available for new schools and allowing better integration of new schools into neighborhoods. Whereas the school district benefits from an availability of land specifically programmed for school development, the City is also able to exercise some control over the location of schools, thus ensuring that community-wide objectives regarding school siting are more easily achieved.

3. Safe Routes to School

Another specific tool that the City of McKinney and MISD can pursue to improve safety and accessibility and reduce congestion near school sites is the federal Safe Routes to School (SRTS) program administered by the Texas Department of Transportation (TxDOT). In 2010, the Safe Routes to School National Partnership released *Getting Students Active through Safe Routes to School: Policies and Action Steps for Education Policymakers and Professionals*. The document includes helpful steps to a successful SRTS program and outlines important roles and responsibilities for participating agencies to play in the process.⁴⁷ SRTS programs use a combination of the five "E's" to promote safe ways for children to get to and from school: education, encouragement, enforcement, engineering and evaluation. The action steps for policy makers identified in the document combine elements of the five E's" and include:

1. Create a Safe Routes to School team and start planning
2. Document safety problems around the school and parental concerns
3. Make needed short-term safety improvements
4. Map "safer walking routes" or create "walking school buses"
5. Hold pedestrian and bicycle safety education workshops
6. Step up traffic safety enforcement
7. Build excitement through small promotional contests and activities
8. Apply for funding for longer-term, more costly improvements

Additionally, roles and responsibilities for local governments and ISDs are suggested as well. Local governments can contribute by establishing policies that support the goals of SRTS and providing the financial support and community-wide leadership necessary to implement the

program. Planning assistance and funding for infrastructure improvements like sidewalks, traffic signals, and other amenities are also ways in which the City staff can play a role. School districts can contribute by forming a district-wide SRTS committee composed of superintendents and board members as well as elected officials, planning staff, and members of the community. The role of the SRTS committee should be to provide leadership and oversight for policies that support active transportation and to regularly evaluate the implementation and results of SRTS projects.

City of McKinney staff has indicated coordination is already occurring with two local schools to develop SRTS plans. The SRTS program offers local governments and ISD officials the opportunity to collaborate with regard to some of the specific issues mentioned in this report, namely the health and safety of local students, traffic congestion in school areas, and coordination on infrastructure spending. NCTCOG staff is also available to provide expertise on SRTS coordination among local agencies.

While SRTS represents an important opportunity for coordination among the City of McKinney and MISD, it should be reiterated that to a certain degree, SRTS treats some of the *symptoms* of poor school siting decisions, and does not necessarily address the underlying reasons for why less children are able to walk or bike to and from school. As previously mentioned, programs like SRTS do not attend to the fundamental fact that students are not likely to walk or bike to schools that are located far from the neighborhoods they live in, regardless of surrounding infrastructure and amenities like sidewalks and bicycle racks. In the context of travel choices, the decision to site schools in neighborhoods and cultivate a sense of community that includes schools as a centerpiece of that notion is critically important to overcoming the school siting issues highlighted herein.



Example of a crossing guard stopping traffic for elementary students to cross at a designated crosswalk. Source: NCTCOG.

V. CONCLUSION

School siting decisions have the potential to impact local communities both positively and negatively. The topics introduced in this report are intended to assist local government officials and school districts in making informed decisions about school siting to help them achieve mutual benefits. Above all, their success depends on developing a framework of institutionalized coordination on the most pressing local issues.

The effects of school siting decisions not only impact how taxpayers' money is spent, but extend into the broader realms of public health and safety, transportation and traffic congestion, environmental concerns, and a city's sense of community. By recognizing these factors, local officials and school district personnel have a distinct opportunity to overcome barriers to institute meaningful partnerships among these influential agencies.

The challenges and recommendations presented in this paper are illustrative of important school siting topics from around the country as well as local issues specific to the City of McKinney and MISD. They are intended to emphasize the importance of effective coordination and introduce strategies for dealing with common concerns and achieving mutual benefits.

VI. REFERENCES

- ¹ Hammett, Conner. "Board Looks Toward District's 17th Elementary Campus." *Allen American* (online), December 15, 2011, News section, http://www.allenamerican.com/articles/2011/12/15/allen_american/news/220.txt (accessed December 21, 2011).
- ² Hussar, W.J., and Bailey, T.M. (2007). *Projections of Education Statistics to 2016* (NCES 2008-060). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC., http://nces.ed.gov/pubs2008/2008060_1.pdf.
- ³ City of McKinney, *McKinney Comprehensive Plan* (adopted March 2004, updated January 2010). HNTB Corporation, consultants. http://www.mckinneytexas.org/development_services.aspx?id=834.
- ⁴ U.S. Department of Transportation, *NHTS Brief: Travel to School: The Distance Factor* (Washington, DC: U.S. DOT, 2008), <http://nhts.ornl.gov/briefs/Travel%20To%20School.pdf>.
- ⁵ U.S. Centers for Disease Control and Prevention, "Barriers to Children Walking to or from School—United States 2004," *Morbidity and Mortality Weekly Report* (September 30, 2005), <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5438a2.htm>.
- ⁶ International City/Council Management Association, "Local Governments and Schools: A Community-Oriented Approach." *ICMA IQ Report* Volume 40/Special Edition (2008), (p.8).
- ⁷ McKinney Independent School District, *MISD Strategic Plan*, <http://planning.mckinneyisd.net/>.
- ⁸ City of McKinney, *McKinney Comprehensive Plan* (adopted March 2004, updated January 2010). HNTB Corporation, consultants. http://www.mckinneytexas.org/development_services.aspx?id=834.
- ⁹ "Construction," *McKinney independent school district*. (2012). Retrieved from <http://www.mckinneyisd.net/departments/facilities/construction/>.
- ¹⁰ Lawrence, Barbara K. *Dollars and Sense: The Cost Effectiveness of Small Schools*. Cincinnati, OH: Knowledge Works Foundation, 2002. <http://www.earlycolleges.org/Downloads/reslib79.pdf> (accessed December 16, 2011).
- ¹¹ ICMA.
- ¹² Killeen, K. & Sipple, J. *School consolidation and transportation policy: An empirical and institutional analysis* (a working paper for The Rural School and Community Trust Policy Program), The Rural School and Community Trust, Washington, DC., revised April 24, 2000. http://www.ruraledu.org/user_uploads/file/school_consolidation_and_transportation_policy.pdf.
- ¹³ U.S. Department of Transportation, Federal Highway Administration, 1969 Nationwide Personal Transportation Study: Transportation Characteristics of School Children, (Washington, DC, U.S. DOT, 1972), <http://www.fhwa.dot.gov/ohim/1969/q.pdf>.
- ¹⁴ U.S. Department of Transportation, *NHTS Brief: Travel to School: The Distance Factor* (Washington, DC: U.S. DOT, 2008), <http://nhts.ornl.gov/briefs/Travel%20To%20School.pdf>.
- ¹⁵ U.S. Department of Transportation, Federal Highway Administration, 1969 Nationwide Personal Transportation Study: Transportation Characteristics of School Children, (Washington, DC, U.S. DOT, 1972), <http://www.fhwa.dot.gov/ohim/1969/q.pdf>.
- ¹⁶ U.S. Department of Transportation, *NHTS Brief: Travel to School: The Distance Factor* (Washington, DC: U.S. DOT, 2008), <http://nhts.ornl.gov/briefs/Travel%20To%20School.pdf>.
- ¹⁷ U.S. Centers for Disease Control and Prevention, "Barriers to Children Walking to or from School—United States 2004," *Morbidity and Mortality Weekly Report* (September 30, 2005), <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5438a2.htm>.
- ¹⁸ "KidsWalk-to-School." Centers for Disease Control and Prevention. http://www.cdc.gov/nccdphp/dnpa/kidswalk/health_benefits.htm (accessed January 16, 2012).
- ¹⁹ McDonald, Noreen C., *Children's Travel: Patterns and Influences* (Berkeley, CA, 2005), <http://www.uctc.net/research/diss118.pdf> (accessed January 25, 2012).
- ²⁰ U.S. Department of Transportation, *NHTS Brief: Congestion: Who is Traveling in the Peak?* (Washington, DC: U.S. DOT, 2007), <http://nhts.ornl.gov/briefs/Congestion%20-%20Peak%20Travelers.pdf>.
- ²¹ National Highway Traffic Safety Administration (2011). "Traffic Safety Facts, 2009 Data: Children." <http://www-nrd.nhtsa.dot.gov/Pubs/811387.pdf> (accessed January 16, 2012).

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- ²² Texas Transportation Institute, *2011 Urban Mobility Report* (College Station, TX: Texas A&M University, 2011), <http://tti.tamu.edu/documents/mobility-report-2011.pdf> (accessed February 3, 2012).
- ²³ U.S. Environmental Protection Agency, *Travel and Environmental Implications of School Siting* (Washington DC: U.S. EPA, 2003).
- ²⁴ U.S. EPA.
- ²⁵ Lawrence.
- ²⁶ Norton, Richard K., Nina P. David and Peter Winch. "Planning for school facilities: School board decision making and local coordination in Michigan." *Smart Growth Tactics: Putting the MLULC Recommendations into Action - A How to Series for Local Leaders* (2007), http://www.planningmi.org/downloads/issue_32_planning_for_schools_part_i.pdf (accessed March 26, 2012).
- ²⁷ "Our Position on Community-Centered Schools." National Trust for Historic Preservation. <http://www.preservationnation.org/issues/historic-schools/our-position.html> (accessed February 17, 2012).
- ²⁸ McCann, Barbara and Constance Beaumont. "Build "Smart"." *American School Board Journal* (2003), accessed at: http://smartgrowthamerica.org/SGA_School_Sprawl.pdf (accessed February 17, 2012).
- ²⁹ ICMA.
- ³⁰ ICMA.
- ³¹ Victoria Hay, ed., *Schools for Successful Communities: An Element of Smart Growth* (Scottsdale, AZ: Council of Educational Facilities Planners International, 2004).
- ³² *Texas Administrative Code, Title 19 (Education), Part 2 (Texas Education Agency), Chapter 61 (School Districts), Subchapter CC (Commissioner's Rules Concerning School Facilities), Rule §61.1036 (School Facilities Standards for Construction on or after January 1, 2004).*
- ³³ Kuhlman, R. National Trust for Historic Preservation, (n.d.). *Helping Johnny Walk to School: Policy Recommendations for Removing Barriers to Community-Centered Schools.*
- ³⁴ Hay.
- ³⁵ Kuhlman.
- ³⁶ Maryland Department of Planning. "Smart Growth, Community Planning and Public." *Models and Guidelines* 27 (2008), <http://www.mdp.state.md.us/PDF/OurProducts/Publications/ModelsGuidelines/mg27.pdf> (accessed February 17, 2012).
- ³⁷ ICMA.
- ³⁸ University of Oregon Community Planning Workshop, (2005). *Planning for Schools and Liveable Communities: The Oregon School Siting Handbook.*
- ³⁹ City of McKinney, *McKinney Comprehensive Plan*
- ⁴⁰ Safe Routes to School National Partnership. *Getting Students Active through Safe Routes to School: Policies and Action Steps for Education Policymakers and Professionals.* (2010).
- ⁴¹ Versteegen, Deborah A. "A 50 State Survey of School Finance Policies: Volume II: Finance Formulae and Cost Differentials." (2011), <http://nced.info/schoolfinance/files/2011/07/A-Quick-Glance-at-School-Finance-Volume-II-2011.pdf> (accessed March 2, 2012).
- ⁴² ICMA.
- ⁴³ Durham City-County Planning Department, *Durham Comprehensive Plan* (adopted February 28, 2005, amended January 5, 2009). http://www.durhamnc.gov/departments/planning/comp_plan/.
- ⁴⁴ ICMA.
- ⁴⁵ University of Oregon Community Planning Workshop.
- ⁴⁶ Municipality of Anchorage, Heritage Land Bank: 2011 Annual Work Program and 2012-2016 Five-Year Management Plan (approved April 14, 2011, amended July 12, 2011). <http://www.muni.org/Departments/hlb/HLBDocument/AA.2011.WorkPlan.Chapt1.pdf>
- ⁴⁷ Safe Routes to School National Partnership.