

Safe Ways to School – The Role in Multimodal Planning

Executive Summary

DRAFT

Prepared by

Ruth L. Steiner, Ph.D.
University of Florida
Principal Investigator

Linda B. Crider, Ph.D.
University of Florida
Co-Principal Investigator

Matthew Betancourt, MAURP
University of Florida
Graduate Research Assistant

With assistance from

Amanda K. Hall, MHSE
Tina Perrotta

For The Florida Department of Transportation Systems Planning Office
Contract Number #BD545
Project Work Order #32

May 2006

Executive Summary



Every day, Florida parents wake up and follow a pattern of routine activity that could ultimately determine the safety of their neighborhood, the commute times of thousands of other people, and the health of their own children. For many parents, distance or hazardous walking conditions will limit this decision to driving their children to school or sending their children on a school bus or in a carpool. For parents living near a school in a neighborhood with a complete sidewalk network, direct access to the school, and safe walking conditions, their decision will be based upon a variety of factors including their perception of safety, their child's knowledge of traffic conditions, and the relationship between their child's travel and other activities in the household. Nationally, the number of children walking or bicycling to school has declined steadily over the last four decades; in 1969, 48% of students walked or bicycled to school, but by 2001, that percentage had declined to 15 percent (BTS 2003; USEPA 2003). In Florida in 1992, only one in six children walked to school daily (Starnes, Stein, Crider, Audirac, Pither *et al.*, 1992).

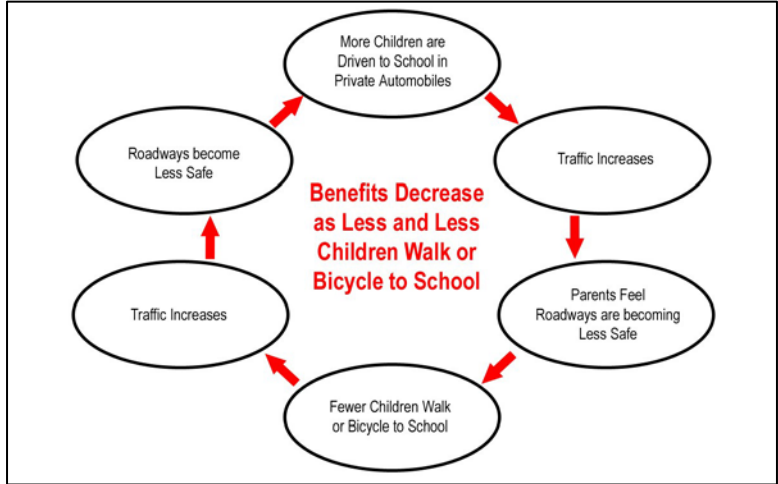
Escalating Costs to Communities and Children

Each parent's decision to drive their child to school or send their child on the bus can be costly to the community in many ways. The decrease in children walking and bicycling to school has contributed to traffic congestion, air pollution (EPA 2003), the increased rate of childhood obesity (Ogden, Flegal, Carroll, and Johnson, 2002; Strauss and Pollack 2001), increased rates of adult-onset, or Type II diabetes (Flegal, 1999; Huang and Goran, 2003; Odgen *et al.* 2002; Sallis and Owens, 1999), and a decrease in children's independence (David and Weinstein, 1987; O'Brien, 2003; Proshansky and Fabian, 1987; Siegel, Kirasic, and Kail, 1978).

A major portion of traffic results from the accumulation of decisions of individual parents to drive their child to and/or from school, creating congestion in the community during the morning and afternoon peak commute times. This pattern, termed the "traffic threat multiplier effect," produces a vicious cycle of parents creating additional traffic congestion in cars in order to protect their children from traffic (Appleyard, 2003). The greater the traffic congestion near schools, the more likely parents are to feel that the roadways near the school are unsafe, and the more likely they are to drive their child to school because they feel walking and bicycling are not safe for their child (see diagram below).

While a parent's decision to send his or her child on a school bus has less impact on other drivers, the costs to communities throughout Florida are significant. Each year the State of Florida and the school districts combined spend approximately \$750 million to bus children to school (FDOE, 2004).

The increases in childhood obesity and Type II diabetes can be attributed to several causes: (1) childhood nutrition; (2) lack of physical activity; and (3) longer periods of time in front of television and computer screens. The decrease in the number of children walking and bicycling to school and the reduction in the amount of time children spend in physical education classes both contribute to the reduction in physical activity of children.



Although parents make the final decision on how their children travel to school each day, their decision is often based on factors beyond their control.

Contributing decisions made by transportation, land development, and school planners have not always been coordinated to create a community in which parents are offered reasonable choices about how their children get to school.

Traditionally, school districts have been given a great deal of discretion about where schools are located. The changing requirements for school sites have made renovation of existing schools more difficult. The shortage of new school sites in already developed areas and the difficulty of renovating existing schools have led school districts to locate schools at the edge of the community. In response to these decisions, parents must drive their children to and from school, or the school district—and all taxpayers must pay to bus children to and from the school. Developers have responded to the location of schools by proposing residential developments around the new school, and local governments have responded to public demand by approving the development even if the schools contribute to sprawl in the community.

Legislative Solutions in Florida

To address school transportation concerns and the need to provide safety for children on their way to school, the Florida Legislature has passed several pieces of legislation in the last few years.¹ In 2002, the Legislature passed a bill entitled “Safe Paths to School” requesting the Florida Department of Transportation

¹ Other legislation has been passed to respond to the Federal No Child Left Behind legislation and the voter initiative on class size. These and other legislation are placing other pressures on School Boards and school planning staff. The focus of this study is on legislation that directly affects transportation to school.

(FDOT) to establish a “Safe Paths” program and consideration for planning, construction, and funding that program. It further indicates that the FDOT may adopt appropriate rules pursuant to §120.536 (1) F.S.A. and §120.54 F.S.A. for the administration of the “Safe Paths to Schools” Program.*

In 1999, the Legislature amended the Florida Statutes to allow local governments to establish Multimodal Transportation Districts (MMTDs) to promote development that favors pedestrian, bicycle, and transit modes over the automobile. The FDOT has developed tools for multimodal analysis and criteria for MMTDs (FDOT, 2003). A recent report on multimodal tradeoffs in traffic impact studies identified a need for defining the special needs of schools within MMTDs because of their significance as special trip generators (Steiner, Li, Shad, and Brown, 2003).

In 2002, legislation was passed that required local governments to enter into interlocal agreements with school districts to formally establish a process in which school plans are coordinated with local comprehensive plans. The 2005 growth management legislation reinforces the direction of the earlier legislation through several provisions:

- (1) Enhancing the requirements for multimodal planning in Transportation Concurrency Exception Areas (TCEAs) and by extending concurrency to schools;
- (2) Increasing the importance of a “financially feasible” Capital Improvements Element (CIE) in the local Comprehensive Plan;
- (3) Requiring local governments to establish a “proportionate share” component in the CIE that allows developers to meet school and transportation concurrency if they execute a legally binding commitment to provide mitigation proportionate to the demand for public schools and transportation facilities; and
- (4) Providing incentives for regions to plan and fund a network of regional transportation facilities, called the Transportation Regional Incentive Program (TRIP), which provides connectivity to and support for the Strategic Intermodal System (SIS) and the Florida Intrastate Highway System (FIHS).

Most of these topics are addressed later in the Executive Summary.

In 2005, the U.S. Congress passed and the President signed the Safe, Accountable, Flexible, Efficient Transportation Equity Act-A Legacy for Users

* For the purposes of this report, “Safe Routes to School,” “Safe Paths to School,” and “Safe Ways to School” will all be used to refer to programs that have the shared goal of increasing the number of children who walk or bicycle to school. There are only a few distinctions. “Safe Routes to School” is the national title for such programs and will be used generically to refer to this type of program. “Safe Ways to School” is the local, Florida predecessor to the national Safe Routes to School initiative. “Safe Paths to School” refers to Florida legislation passed in 2002 that assigns the Safe Routes to School program to the FDOT.

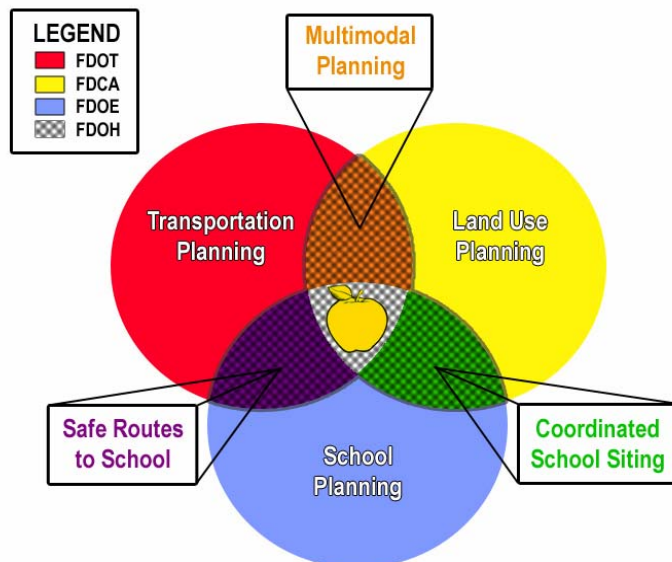
(SAFETEA-LU) legislation. This bill amends Titles 23 and 49 of the United States Code and authorizes the disbursement of \$286.5 billion dollars over a five-year span, 2005 through 2009. This legislation launches a new Safe Routes to School Program, and will aid existing programs to make it safer for American children to walk and bicycle to and from school. The program is focused on children in kindergarten through 8th grade.

SAFETEA-LU dedicates \$3 million at the federal level for administration of the program, with the remainder of the funds distributed to States based on their relative shares of total enrollment at the primary and middle school levels, with no state receiving less than \$1 million per year. Funds will then be administered at the State DOT level to assist other agencies to meet the requirements of the program. From 10% to 30% of the funds for each state must be used for non-infrastructure programs and the rest may be used for the planning, design, and construction of infrastructure improvements supporting the bicycle and pedestrian environment within two miles of a school.


OBJECTIVE OF THE RESEARCH


The objective of this report is to identify how the Florida DOT can best meet the requirements of Florida’s Safe Paths to School legislation and the requirement of SAFETEA-LU’s SR2S program. This report considers the existing practice of state agencies that affect transportation, land development, school planning, and best practices throughout Florida and the country to develop guidance for legislative and policy development in Florida. To understand the relationship between these three areas, the figure below was developed to characterize the relationships between these three types of planning in an ideal physical environment.

Figure 1: Conceptual Model of Influential Areas in School Transportation
Source: Authors



The initiatives of four state agencies – the FDOT, Department of Education (FDOE), the Department of Community Affairs (FDCA) and the Department of Health (FDOH) – are directed towards local governments and school districts. The first three state agencies (FDOT, FDOE, and FDCA) make policies that directly affect the decisions made about children’s transportation to school, while the Department of Health is involved less directly through programs in communities that encourage public health and physical activities. With limited control over school siting and transportation infrastructure, the activities of the FDOH are also constrained by decisions that do not support walking and bicycling. The “golden apple” in the middle of the diagram represents the area of greatest potential mode shift to walking and bicycling.

When school location is coordinated with land use planning, and land development planning is coordinated with transportation planning to create a continuous bicycle and pedestrian network with the most direct connections between residences and schools, there is a greater opportunity for the safe movement of children to and from school. When land use planning, school planning, and transportation planning are not coordinated, the opportunities for walking and bicycling are less available.

 **FRAMEWORK FOR COORDINATING TRANSPORTATION** 
LAND DEVELOPMENT AND SCHOOL LOCATION DECISIONS

As shown in the above figure, the respective overlaps between and among these three types of planning – transportation, land use, and school - represent three areas of coordinated planning: (1) multimodal planning, (2) coordinated school planning, and (3) Safe Ways/Routes to School. The first two of these are measures that set the stage to create the kind of physical environment that supports the education and encouragement activities of the local Safe Routes to School Program.

Multimodal planning reflects the inherent relationship between land use and transportation, with land uses representing destinations, and transportation routes representing the connection between destinations. Multimodal planning involves four guiding principles that create walkable and bikeable environments including (1) a complementary mix of land uses developed at (2) appropriate density and intensity (3) with network connectivity; and (4) good urban design connecting complementary land uses.

Coordinated school planning is directed at making the connection between school and the residences where students will live. McMillan, Day, Boarnet, Alfonzo, and Anderson (2004) found that students in California living within a mile of a school are three times more likely to walk or bicycle than those living further from the school. Coordinated school siting can be seen as an overlap between school planning and land use planning in that it seeks to locate schools near

residential land uses where students will live. If we do not change the location of schools to ensure that more students live within walking and bicycling distance of the schools then we will either pay increasing amounts to bus or drive our children to school or we will continually be retrofitting the neighborhoods to ensure that children can walk and bicycle to school. With the rapid growth in Florida, we can never catch up under the second scenario. Ultimately, Safe Routes to School programs can be the most effective if residences are located close to the school and a complete, safe, and predictable environment is provided for bicyclists and pedestrians.



The report identifies best practices in each of these areas of coordination. Multimodal planning has been practiced in various forms since the 1920s when Clarence Stein and Clarence Wright, both members of the Regional Plan Association of America, recognized the benefits of multimodal planning, and in response, developed a new type of neighborhood design – the Radburn Plan – that would counteract the threat the automobile posed to the livability of America’s neighborhoods. Since that time communities have developed a variety of land use configurations to address the needs for multimodal planning.

One current design incorporates traditional neighborhood development (TND) into community practice. TND incorporates a connected street grid and mixed land uses with an overall higher density of development, especially near the town center. The State of Florida has been on the forefront of multimodal planning in the development of multimodal transportation planning tools. However, many existing communities in Florida were built in a pattern of low-density, segregated land use pattern with limited connectivity that will not easily support multimodal transportation.

Best practices in coordinated school siting and planning include: information sharing, strong regulatory review, objective approaches to selecting school sites, awareness of the impacts of school size and site selection, increasing participation by all parties affected by school siting, use of school maintenance standards to prevent the need for new school construction, incentives for smart growth strategies, and co-location and joint-use strategies. State regulations require sharing information as a part of interlocal agreements, but the most important aspect of this sharing is to adopt the same assumptions and ensure that planning decisions are coordinated.

Coordinating Land Use and School Siting Decisions

In Orange County, Florida (the Orlando area), strong regulatory review is used to say “no” to new development for which there is inadequate school capacity and to ensure that the school district can negotiate for additional funding to build new school capacity. The use of an objective school site selection process, which is

used in Martin County, Florida (southeastern Florida) helps avoid disputes between parties about the location of schools by involving all stakeholders in a decision-making process that is based upon pre-defined community's goals.

Through community education on the advantages of small school and the importance of school siting, the state of Maine was able to overcome public resistance and gain acceptance of smaller, neighborhood schools. This education also helped the community to understand the tradeoffs between higher initial costs for building smaller schools and higher ongoing expenses (like school busing) for larger schools. In Orange and Palm Beach Counties in Florida, local governments and developers actively participate in making decisions about where to locate schools, and developers and local school districts hold each other accountable for the consequences of decisions made in their respective areas of control.

One way to make schools the center of communities is to prevent the destruction of existing neighborhood schools. Older schools that the public sees as "falling apart" make it easier to decide to build a new school on a new site. By investing smaller amounts of money to maintain existing buildings, Maryland and Palm Beach County, Florida, have been able to avoid building expensive new school buildings.

North Carolina's incentives for schools that use Smart Growth strategies have allowed the state to provide positive regulation of school construction. By providing grants to schools that use these strategies. These strategies include compact building design, increasing school bus use over automobile use, reducing parking for students, providing ample sidewalks and bike paths that encourage pedestrian and bicycle modes. The state can get schools to look creatively at solving their own problems, and to take ownership of such innovations.

Co-location and joint use represent two money-saving strategies that also provide additional opportunities for multimodal planning. Co-location helps create the complementary mix of land uses proposed for MMTDs and other multimodal environments. When combined with joint use agreements, the two work together to maximize the cost-effectiveness of public facilities such as schools and libraries and save money while providing the maximum benefit to the public. Duval County, Florida's interlocal agreement successfully combine these two strategies.

The Five E's: Best Practices in Safe Routes to School

Best practices in Safe Routes to School include the use of all of the 5 E's – engineering, enforcement, education, encouragement and evaluation – to ensure that a comprehensive program is developed to address the specific needs of the community. Best practice in these programs includes the following components:

- (1) A variety of partners join together to form the local Safe Routes to School Team;
- (2) A map of the physical environment including the location of hazardous areas;
- (3) A commitment to make the infrastructure improvements, such as, sidewalks, pedestrian signals, raised crosswalks, and bike racks, to provide access to the school;
- (4) Education and enforcement programs that inform children and the public of the program and ensure that the safety rules are followed;
- (5) Media coverage and special events to ensure community awareness of the program; and
- (6) Evaluation of the program on an ongoing basis to ensure that the program builds on its successes and identifies and remedies problems (Appleyard, 2003; Twaddell, 2004).

Safe Routes to School programs are generally organized at each school and should involve a variety of actors who take a role in ensuring the success of Safe Routes to School programs. Bottom-up support for the program, through the participation of parents, children, teachers, school advisory committees, and advocates for children's safety, is necessary in ensuring participation in the program and being the champions for the program. Top-down support for the program – from principals, elected officials in the community, school administrators – ensures that the program remains a priority of the community and receives the funding and political support to needed to sustain the program. Top-down support ensures that the infrastructure projects are incorporated into priority lists for funding or are funded by other local sources of funding. Local governments can be included SR2S projects in a Metropolitan Planning Organization's (MPO's) Transportation Improvement Program (TIP) or a County's List of Priority Projects for inclusion in the District DOT Five-Year Work Program. Other sources of funding can include local sources ranging from sidewalk projects as a part of new development to specific projects of local governments. Finally, technical support needs to come from professionals in the community – law enforcement officials, Community Traffic Safety Teams, transportation planning professionals, school board planners, and land use planners – who ensure that the public agencies participate in the activities necessary to support the program.

Success Stories and Resources for Safe Routes to School Programs

Several examples of Safe Routes to School programs illustrate some of the components of successful programs. In Marin County, California the program is designed around education and encouragement components including an evaluation of the program, and identifying hazards in the area to develop a Safe Routes to School Improvement Plan and School Curriculum.

In Arlington and Boston, Massachusetts the program includes the town council in the planning process and the program encourages use of public transit, improvements to the public environment, and excitement through media coverage and special events to encourage participation. Parents, teachers and students in the Bronx, New York work together to identify and select schools for the program, make initial contact with schools, conduct outreach at school, distribute surveys to schools, tour school sites, make and install changes, and follow-up. They also work with professionals in the community to identify, locate and map crashes and their cause.

In Chicago, Operation Safe Passage was organized through a coordinated effort between the schools and law enforcement officials. Through the efforts of law enforcement officials and 3,000 volunteers, Walking School Busses have been established to ensure safe walking for children on their way to school. The Center for Disease Control and Prevention (CDC) has developed a program targeting interested parents and children to assist them in starting a local program and organizing it at the neighborhood level.

In Portland, OR, the program involves the police department and includes a variety of educational programs. In Santa Ana, California the program is promoted through a Family Literacy program and community education and enforcement program called Drive 25, which puts additional speed limit signs near schools. The City of Phoenix uses a school-based safety task force and involves the city council and the engineering staff as leadership in the program administration. In Great Britain, the programs involve the entire neighborhood in the creation of “home zones.” In Toronto, children map the location of hazards as a part of a program that focuses on health and the environment.



Over the last two decades, the state has passed legislation in each of our three related areas of planning: school siting, multimodal planning, and Safe Ways to School. The 1985 Local Government Comprehensive Planning and Land Development Act incorporated a requirement that local governments provide infrastructure, including transportation, concurrent with the impact of development. Since this incorporation, the legislation has been revised four times – in 1992, 1993, 1999, and 2005 – to enhance the concurrency system using TCEAs, transportation concurrency management areas (TCMAs), and MMTDs.

Each of these areawide exceptions is intended to support community goals such as redevelopment, infill, and downtown revitalization while enhancing the multimodal characteristics of the coordinated land use–transportation system. Multimodal planning has been encouraged by the FDCA since the mid-1990s with the publication of Pedestrian and Transit Friendly Design (Ewing, n.d.) and Best Development Practices: A Primer for Smart Growth (Ewing and Hodder,

n.d.). The requirement for true multimodal planning is relatively new with the publication of guidance on the development of MMTDs by the FDOT in 2003 and the incorporation of multimodal planning into TCEAs with the growth management legislation of 2005.

The Evolution of Coordinated School Planning

The legal requirements for coordinated school planning have developed gradually. Initially, concurrency was not required for schools. In 1992, legislation was passed that allowed school concurrency as an optional element of local comprehensive plans. In 1995, the Educational Facilities Act required school districts to share the information related to school facilities with local governments for the comprehensive planning process. Then in 1998, the Florida State legislature passed a law that led to the use of coordinated planning data and analysis among school districts and planning agencies to ensure that adequate school capacity is provided to accommodate new development. In 2002, school boards and local governments were required to negotiate interlocal agreements that allowed both agencies to review school siting comprehensively. Finally, in 2005 the Legislature required school boards and local governments to have concurrency for schools.

In order for small school sites to be successful in generating active home to school transportation, local governments and school boards will need to coordinate their activities to ensure that schools are located close to residential neighborhoods and that safe and continuous sidewalk and bicycle paths are provided to schools. School site sizes in Florida are already smaller than the national averages reported by the Council for Educational Facilities Planners (CEFPI) (Weihs, 2003). Reduced school site sizes ensure that school sites can be more easily located proximal to residential density, so that greater numbers of children can walk or bicycle to school.

Safe Ways in Florida

A Safe Ways to School program has been implemented on a voluntary basis in Florida since 1997 when the Florida Traffic and Bicycle Safety Education Program developed a toolkit and pilot tested the program in ten schools throughout the state. Since this program was developed other



similar programs have been implemented all over the country and the world. The importance of these programs was reinforced in 2005 when the federal SAFETEA-LU was passed providing funding for state Safe Routes to School programs through 2009.

Bringing These Three Programs Together – Multimodal Planning, Coordinated School Siting and Safe Routes to School

The FDOT, FDCA, and FDOE have taken a major role in multimodal planning, coordinated school planning and Safe Routes to School, and the FDOH could take a more significant role. However, the success of these programs will be measured by activities that have been completed in local communities throughout the state. Each of these programs is relatively new in the state so measuring their effectiveness can be difficult. For some local governments, the requirements of recent legislation reflect existing planning practice. For others, they represent a radical change in practices that will take some time to implement.

Current state legislation is generally adequate to support Safe Routes to School. The multimodal planning legislation provides local governments with the tools to coordinate transportation with land development and with the potential to provide environments that support children walking and bicycling to school. However, the key elements of multimodal planning need to be expanded beyond their application in MMTDs and TCEAs to ensure that today's development does not become tomorrow's traffic problem.

The FDOE operates under 2005 legislation that requires the coordination of planning between boards of education and local governing bodies to ensure that the construction and opening of public school facilities are coordinated with land development in the surrounding community. Local governments are just beginning to implement the requirements of this legislation and the results vary across the state. In many communities existing residential development is located at a low density and without direct access to the school. Retrofitting these schools will present a challenge for local governments and school districts. Until school siting is coordinated with land development, students will live too far from their schools to walk or bicycle. Unless sidewalks and bike paths are continuous, safe, and predictable along routes to school, children's active travel to school will be too dangerous for parents to allow. Children will not receive maximum opportunity to benefit from Safe Routes to School programs until their travel environment supports active travel.

There are many challenges and countervailing trends that will need to be addressed in order for Safe Routes to School programs to be successful. The issues that need to be addressed include the connection between the state agencies and the local implementation, and between the intent of the legislation and its implementation and the countervailing trends.

 **CHALLENGES TO OVERCOME FOR A SUCCESSFUL** 
IMPLEMENTATION OF SAFE ROUTES TO SCHOOL PROGRAMS

The State of Florida has been growing rapidly for four decades; in some school districts there is a significant backlog of school construction. This affords an opportunity to “do it right” and build schools in a manner that supports the building of schools in a healthy community. However, school districts sometimes face the challenge of competing with residential developers for the key sites for schools. The local land market may not offer the best location for a school site but it may represent the optimal choices for the school board. Even when a developer sets aside a school site, it may not represent the best location for the school.

Competing Planning and Funding Interests

Within the state agencies, there may be competing interests in how various aspects of the transportation system are developed. For example, the State has a legitimate interest in maintaining a throughput on the State Highway system and, in particular, on the Strategic Intermodal System (SIS) and the Florida Intrastate Highway System (FIHS). However, local governments may choose to build schools near these facilities because they lack available lands. Similarly, local governments may respond to the stated preferences of citizens and not build an interconnected transportation system that would accommodate all modes of transportation. The development pattern of our communities reflects a conflict between what we want individually and what is best for the community. As individuals we want security, privacy and large lots. These desires can result in a separation of land uses, low-density of development, and a lack of street network connectivity and the resultant concentration of traffic and congestion on major arterials, and lack of walkability between neighborhoods and along wide arterials. Local governments also face challenges in implementing local interconnected transportation systems because of limited right-of-way and inadequate local revenues to fund such systems.

Within the FDOT, the regulations to implement a Safe Routes to School Program are fragmented in a manner that may interfere with the success of the program. The federal legislation sends \$4 to \$9 million to the State of Florida each year until 2009. This money needs to be spent on both infrastructural and non-infrastructural programs with a minimum of 10% going to non-infrastructural programs, such as education, encouragement, and an information clearinghouse. However, if the non-infrastructural and infrastructural components of the program are not coordinated, they will likely not support the intended mode shift. While the FDOT is developing statewide guidelines and a statewide application process for FY '07-09, there will be differences in how each of the district DOTs establishes their priorities. The prioritization of the projects for the Safe Routes to School Program is a key element to its success. The Safe Routes to School

infrastructure projects must be prioritized separately from the usual Transportation Improvement Plan (TIP) process because the funds need to be spent before the final years of the current TIP, which is currently programming projects for FY 2010/11.

Coordination of Government Agencies

The FDOT has several offices that are a part of Safe Routes to School but they are located in various offices throughout the agency. In the Central Office, the Office of Policy Planning develops policies that affect how FDOT districts conduct their local planning, while the Systems Planning Office addresses concerns about the capacity on the SIS and FIHS, works on multimodal planning and reviews development projects addressing multimodal planning. The Environmental Management Office is responsible for the Livable Communities Initiative and the Safety Office is responsible for managing the Florida Traffic and Bicycle Safety Education Program, the Florida School Crossing Guard Training Program and the Safe Routes to School Program. The DOT District Safety Engineer is responsible for programming the SR2S funding within their district. Coordination across the FDOT is necessary to ensure that the federal funding for the Safe Routes to School programs is spent on infrastructure and non-infrastructure initiatives that maximize the effective expenditure of scarce public resources.

Tables 1 and 2 below summarize the levels of responsibility that each state and local agency, respectively, have in each area of planning, with the letter “P” representing primary responsibility, and “I” representing agency interest. For example, in Table 1, the FDOT has primary responsibility in transportation planning. Within the FDOT, the Systems Planning Office has primary responsibility in multimodal planning, and an interest in transportation planning, land development planning, and coordinated school siting as these areas of planning are all closely related to the office’s primary responsibility of multimodal planning. Similarly, the Safe Routes to School program in the FDOT Safety Office has primary responsibility for that program and an interest in transportation planning, multimodal planning, and coordinated school siting as it relates to the Safe Routes to School program. The DOT District Offices will have responsibility for establishing priorities for programming the funding for SR2S projects and ensuring that the projects are implemented in a timely manner.

In Table 2, the responsibilities of various state, regional, and local agencies with respect to the organizational missions related to successful Safe Routes to School programs are identified. This chart represents the types of activities with respect to the Safe Routes to School program that each of the agencies would be involved in if they were to take a proactive role in ensuring that transportation, land development and school planning is coordinated as a part of the implementation of the Safe Routes to School program. For example, “Land Development” is primarily the organizational mission of three agencies: the

Florida Department of Community Affairs, regional planning councils, and local governments. While each of these agencies has primary responsibility for land development, the role they take in other areas related to Safe Routes to School varies. Local governments have primary responsibilities for all areas except school siting, which is the responsibility of school boards while regional planning councils have primary responsibility for the review of large scale land development projects, and an interest in transportation and multimodal planning, and the FDCA has primary responsibility for both land development planning and coordinated school siting and an interest in all other areas. Similarly, four organizations focus on the “education/schools:” the FDOE Office of Educational Facilities, FDOE Office of School Transportation, School Boards and Advocacy Groups for Children’s Safety. The first three organizations should focus on multimodal planning, coordinated school planning, school planning and Safe Routes to School especially as it relates to planning school sites. The Office of Educational Facilities should also have a primary focus on Land Development because of their role in providing guidance to local school districts regarding school site selection and design, which is a specialized form of land development. Similarly, if advocacy organizations for children’s safety wanted to take a proactive role in advocating for children’s safety and injury prevention they would focus their efforts on all areas in the diagram including multimodal planning, coordinated school siting and the Safe Routes to School programs.

Table 1: Current State Agency Responsibilities for Planning Activities Associated with Safe Routes to School Programs						
Agency and Program	Transportation Planning	Multimodal Planning	Land Development Planning	Coordinated School Siting	School Planning	Safe Routes to School
FDOT	P					
Systems/Policy Planning Offices	P	P	I	I		
Strategic Intermodal System	P	I				
Transportation Concurrency	P	P	I	I		I
Environmental Management Office	P	P	I	I		
Livable Communities Initiative	P	P	I	I	I	I
Safety Office	P	P				
Strategic Highway Safety Plan	P	P				
Florida School Crossing Guard Training Program (FSCGTP)						P
Florida Traffic and Bicycle Safety Education Program (FTBSEP)		I				P
Safe Routes to School Program	P	P		I	I	P
FDOT District Offices	P	P		I	I	P
Funding for Transportation	P	P				I
Regional Transportation Planning	P	P	I		I	I
SAFETEA-LU – Safe Routes to School Program	I	I	I			P
FDCA			P			
Growth Management Implementation	I	I	P	I		I
FDOE					P	
School Facilities Planning				P	P	
Funding for Schools	I	I	I	P	P	I
FDOH						I
Coordinated School Health Program				I		P
Governor's Obesity Task Force		I	I	I	I	I
FDEP		I				
Office of Greenways and Trails		P	I	I		I

P - Agency has primary responsibility in this program or policy; I - Agency has interest in this area of policy

Table 2: Organizational Mission and State, Regional and Local Agency Responsibilities for Planning Activities to Implement Safe Routes to School Programs						
Organizational Mission and Acting Agencies	Transportation Planning	Multimodal Planning	Land Development Planning	Coordinated School Siting	School Planning	Safe Routes To School
Transportation Planning						
Systems/Policy Planning Offices	P	P	I			I
Environmental Management Office	P	P				
Safety Office	P	P				P
FDOT District Offices	P	P	I	I	I	P
Metropolitan Planning Organizations	P	P	I			I
FDEP Office of Greenways and Trails	I	I				I
Local Governments	P	P	P	P	I	I
Local Transit Agencies	P	P	I			I
School Boards	I	I	I	P	P	
Land Development						
Department of Community Affairs	I	I	P	P	I	I
Regional Planning Councils	I	I	P			
Local Governments	P	P	P	P		P
Education/Schools						
FDOE Office of Educational Facilities	I	P	P	P	P	P
FDOE Office of School Transportation	I	P	I	P	P	P
School Boards	I	P	I	P	P	P
Advocacy Groups for Children's Safety	P	P	P	P	P	P
Health and Safety						
Department of Health	I	I	I	P		P
County Health Departments	I	P	I	P		P
CTSTs, Enforcement, Crossing guards	I			P	P	P
Office of Transit	P	P	I			I
P- Agency has primary responsibility for organizational mission; I - Agency has interest in this area of policy						

The FDOT also needs to work with other state agencies to ensure that the public investments to improve school safety can be leveraged with other expenditures by state and local agencies. For example, schools should not continue to be built using state and local criteria that does not account for the tradeoffs between lower land costs for sites located away from existing populations and the higher ongoing transportation and environmental costs to get children safely to the school. Thus, for example, the FDOE Office of Educational Facilities should begin to incorporate these tradeoffs between short-term location decisions with long-term ongoing costs of transportation. This can be accomplished by better coordination between local school boards and local governments, and at the state agency level for statewide policy decisions.

Citizen Preferences

The preferences of citizens of the State of Florida are also important. While it may be preferable from a planning standpoint to build schools inside a neighborhood, neighborhood residents may resist local school construction because they object to the congestion associated with schools. Similarly, the legitimate and perceptual concerns of parents about the safety and security of their children on their way to school may undermine the effectiveness of Safe Routes to School. But, as we learn from the successful “Walking School Bus” program in Chicago, the greater the number of children walking to school, the greater the safety of all children near the school.

School choice and school-based management may undermine the ability of communities to build schools that support the safe and healthy movement of children from their homes to school. School choice, which includes charter schools, private schools, and choices for parents in non-performing schools, can remove the connection between the location of the school and the location of residences. Since distance is one of the most important factors in the choice to walk or bicycle to and from school, any policy that allows children to go to schools outside of their neighborhood will reduce the number of participants in Safe Routes to School programs. School-based management, which provides a great deal of discretion at the individual school site level, may undermine the effectiveness of the Safe Routes to School Program if the leadership of the school does not support the goals of the program.

Ultimately, many of the necessary components are in place, but the bottom-up approach needs to be reinforced with better coordination of all actors involved in the activities that affect the location of schools and the management of schools once they have been built. Advocates for children need to address not only the risks associated with childhood inactivity and obesity and other health concerns, but also the risks associated with other safety factors that keep children from walking and bicycling to school.



The research team conducted three meetings of our statewide advisory panel to discuss and develop recommendations from the findings of this report at its various stages. The team used the first meeting to develop an understanding of the issues involved. At the second meeting, the team worked with the panel to develop preliminary recommendations, accept comments, and define areas in need of further research. At the final meeting, the team and the panel finalized and prioritized the recommendations. Based upon the review conducted as a part of this research and the State Advisory Panel meetings, 27 recommendations to improve the implementation of Florida's Safe Routes to School Program were developed and subsequently refined and ranked by the statewide advisory panel. The original 27 recommendations has been expanded to 28 to properly categorize these recommendations and to reflect some of the decisions that have been made regarding the Safe Routes to School program since the final meeting of the Advisory panel in December 2005. Additionally, the SR2S program was placed in the Safety Office and the programming and priority setting activities were delegated to the DOT District Offices. Despite the decisions on the organization of the Safe Routes to School program at district level, many of the recommendations can be adapted to fit into the current organizational structure of the Safe Routes to School program. The most critical aspect of the Safe Routes to School Program is the need for ongoing coordination between the state agencies, local governments, including cities, counties, school boards, and other private and public organizations. Recommendations were placed into four categories: (1) strategies and guiding principles (#1-4); (2) legislation (#5-11); (3) state agency action (#12-23); (4) actions by local governments and school boards (#24-28). In addition, recommendations for improvements to the Multimodal Transportation Districts and Areawide Quality of Service Handbook (FDOT, 2003) and the Florida Safe Ways to School Toolkit were made. The following actions are recommended to improve coordination between various actors in creating safe environments for children to walk and bicycle to schools:

Strategies and Guiding Principles

1. First and foremost, the State of Florida **Safe Routes to School Program should be administered by a single organization** connected with a research and training institution with an administrative center, staff, and statewide advisory board supported through FDOT and federal "Safe Routes to School" funds. This statewide advisory board should be responsible for awarding grants to schools according to criteria established by the board.
2. The State Safe Routes to School Center, with the advice and consent of the **State Safe Routes to School Advisory Board, should establish a statewide grant program** for infrastructural projects and educational

programs associated with school traffic safety, and the promotion of Safe Routes to School programs. Highest priority schools would be those able to demonstrate potential for mode shift or a high numbers of students walking or bicycling despite hazardous conditions. The criteria for grant awards should also include:

- Schools that demonstrate a high level of interest in supporting walking and bicycling and are willing to fully participate in the project (This item is the most critical element. Unless the school administration, parents, and students are willing to support a Safe Routes to School Program, lots of time and money can be spent with no increase in the number of kids walking and bicycling to school.)
 - Schools with high numbers of children living within two-mile walk distance, who are presently driven by private automobile
 - Schools with a high number of pedestrian and bicycle injuries/fatalities among children
 - Schools with a significant walking and bicycling population and poor pedestrian and bicycle facilities within 2 miles of the school (no or incomplete sidewalk or side path network or major barriers to direct access) and a need for safety
 - Schools requiring “courtesy busing” for hazardous walking conditions
 - Schools with a high number of students receiving “courtesy” bus transportation
 - Schools that need safety improvements
 - Schools that need financial assistance to complete feasible bikeway or pathway connections (via utility easements, Rails-to-Trails, greenways,) that connect to neighborhoods and parks
 - Schools that incorporate safe school access in their School Improvement Plan, the county comprehensive plan, or as part of an interlocal agreement between the county and school board
 - Schools with student populations exhibiting poor health indicators, such as elevated Body Mass Index levels.
3. The FDOT should continue to support the Safe Routes to School efforts in Florida through **partnerships** with the FDCA, FDOE, FDOH, Parent Teacher Associations, Department of Highway Safety and Motor Vehicles, FTBSEP, Metropolitan Planning Organizations, Rails to Trails Conservancy, Office of Greenways and Trails, local CTSTs, the state CTST coalition, and local planning staff and advisory boards, local county health departments, SAFE KIDS chapters, and others with the goal of ongoing coordination to ensure that the Safe Routes to School Program is successfully implemented.

4. The FDOT and FDCA should provide guidance to local governments and school districts for all new development and redevelopment, and based on **best practices in school siting** that reflects the multimodal planning concepts and ensures that walkable and bikeable roadways are available within residential areas proximal to elementary and middle schools.

Proposed Legislation

5. The encouragement and education activities of the Safe Routes to School program should be **funded with an increase** of \$0.50 to \$1.00 **on every driver's license** issued in the state of Florida **for traffic safety education**. This money is collected by the FDHSMV and distributed to FDOE for district level traffic safety education and instruction.
6. **Formalize the funding process to receive federal funds.** The legislation should address the level of the required minimum percentage allocated for non-infrastructure program (not less than the federal recommended formula); the process for setting aside the money to ensure that each FDOT district programs and spends the money for school safety projects that remove hazards and improve multimodal conditions quickly enough for Safe Routes to School programs to see results in communities.; and other processes to ensure that the state expenditures are consistent with the process developed by the Federal Highway Administration.
7. Change the legislation regarding **Hazardous Walking Conditions**, such that the FDOE shall provide funding to districts under the current criteria for a limit of **5-years**, after which the local jurisdiction must show reason why the hazard has not been addressed.
8. Provide legislation such that **Land Development Regulations** for all new or redevelopment initiatives that are within two miles of an existing or planned school require complete sidewalks (minimum 5 feet in width) along the corridor that directly serves the school, and provide direct access from adjacent neighborhoods to the school site.
9. Encourage and enhance the **Florida School Crossing Guard Training Program** by improving administrative support, and providing adequate funding, training, and legal status to crossing guards.
10. Change the legislation regarding speed limits such that within multimodal transportation districts (MMTDs), **speed limits are reduced to 25 mph** along all designated safe walking routes and 15 mph in school zones designated by local governments. Local governments, in cooperation with

school boards, would designate school zones and school routes and their hours of operation.

11. Create a state requirement for all state accredited educational institutions K-12 to provide a minimum of **4 hours of traffic safety instruction** at each level (elementary, middle, high school) each year, with recommended curriculum units (pedestrian, bicycle, driver education) at each of the three levels.

State Agency Action

12. **Florida Department of Education** should require local school districts to conduct and maintain an annual **Student Travel Mode count** at all elementary and middle schools, which should be available to city/county planning agencies, CTSTs, and other local agencies dealing with school transportation issues. The DOT should research similar efforts by the FDOE and the FDOH that may substitute for these travel mode counts.
13. The **FDOE** should require local school districts to incorporate **long-range student transportation costs into their decisions** regarding the selection of school sites.
14. The **FDOT and FDCA** should work together to **provide guidance to local governments and FDOT districts** on the coordination between land development planning and transportation to support the Safe Routes to School program. This guidance should address school siting and the development of transportation networks that balance the need for regional mobility and community livability. School siting criteria and its connection to Safe Routes to School programs should be included in the DCA's *Best Practices Guide for Implementing School Concurrency*. In areas with SIS and TRIP facilities near schools, FDOT should work with Metropolitan Planning Organizations and local governments to develop a connected street grid that offers a safe and lower speed alternative to roadways designed for state and regional mobility.
15. The Safe Routes to School coordinator should establish a process whereby a wide range of participants in transportation, land development and school planning can recommend projects for funding for Safe Routes to School projects. For example, a subcommittee of the **Florida Metropolitan Planning Organization Advisory Council, CTST Coalition**, Advocacy Groups, or participants in the Coordinated School Health program could solicit and recommend project funding for Safe Routes to School.. The goal would be to involve a wide variety of organizations involved in children's health and safety in traffic in the process of identifying opportunities for improvements.

16. The **FDOT** should develop **guidance** for multimodal transportation planning that **encourages mode shift for school trips** from auto to bike and walk, through improved connectivity, the use of traffic calming methods for speed reduction, and bicycle and pedestrian level of service targets of (LOS) “B” or better on all designated safe walking routes. .
17. In MMTDs and TCEAs, **peak hour school trips must be minimized**, including trips to schools of choice, “charter” and private schools. I
18. **School Zones** should be re-evaluated by local governments to consider safe crossing of children across major roadways. FDOE guidelines should lengthen school zones around the school site to incorporate adjoining intersections and roadway segments to the next nearest major intersection.
19. FDOT and FDOE should establish guidance to encourage bicycling and walking strategies as a part of **multimodal planning for new schools**, including:
 - a. Sidewalks (complete, unobstructed, continuous, minimum 5 ft. width) within 1 mile of elementary schools and 2 miles of middle schools within the multimodal district;
 - b. Connectivity plan utilizing trails, various right-of-way easements off of the major road system, and established as walk/bike trails to destinations including schools and parks, from adjoining neighborhoods;
 - c. Mobility strategies, such as Travel Demand Management (TDM), transit-oriented design, parking restrictions, carpools and other applicable strategies.
20. The **FDOE, FDCA, and FDOT** should adopt an **objective school siting process**, such as the Martin County Matrix, which reflects a commitment to walkable and bikeable schools.
21. The **FDOE, FDCA, and FDOT** should research the **applicability of IPSAC (Integrated Planning for School and Community) in Florida** as an objective and comprehensive process for coordinating school siting decisions, land development patterns, transportation costs, and location efficiency.
22. The **FDCA, FDOT and FDOE** should expand their **research** efforts on the connection between **school siting and concurrency practice**. The data collected in the annual Travel Mode Survey will provide the basis for understanding what factors are associated with siting schools in locations that support multiple modes of travel.

23. **Public schools** chosen by parents as alternatives to those assigned by the local school district **should be located within the same neighborhood** as the student's residence if possible.

Actions of Local Governments and School Boards

24. All approved MPO **Long Range Transportation Plans (LRTP)** shall include provisions for safe school access, and include development of sidewalk inventory and list of projects coordinated with school board recommendations; Also in the LRTP, travel mode for school trips will target a mode share of less than 30% motor vehicle (private automobile or school bus).
25. **Speed limits in multimodal transportation districts (MMTDs)** along designated safe walking routes should be reduced to 25 mph, and to 15 mph in school zones. Some strategies to accomplish this include: local governments emphasizing crosswalks for pedestrian crossings with raised speed tables, overhead signs, and flashing lights, and other methods to notify the public that they are in a near a school. Special emphasis should also be given to improved signage and marking of school zones, including the hours of operation, on all streets functionally classified as a collector and above in the reduced speed areas.
26. Within **school zones**, an emphasis should be placed on enhanced crosswalks and other forms of traffic calming.
27. **The school siting process** should include better coordination in the preliminary stages of site planning.
28. Schools should be encouraged to incorporate a strategy to incorporate safe walking and bicycling to school and traffic safety education into every **School Improvement Plan (SIP)**.

Priorities of State Advisory Council

The State Advisory Council met in December 2005 to review and prioritize the 27 recommendations of the research team, which have been expanded to the 28 recommendations listed above. Each of the fifteen attendees received a total of eight votes to allocate to the recommendations they felt were most important. Of the 28 recommendations, recommendations number 28, 5, 1, and 2 received ten or more total votes from the group. These top three recommendations are listed below:

1. **Recommendations #28 and 5:** These two recommendations were placed as a combined recommendation that incorporated both the

planning document with the funding together in a package. Schools should be encouraged to incorporate a strategy to incorporate safe walking and bicycling to school and traffic safety education into every **School Improvement Plan (SIP)**, funded by driver's license fee increase distributed to the FDOE.

2. **Recommendation #1:** The State of Florida Safe Routes to School Program should be **administered by a single organization** connected with a research and training institution with an administrative center, staff, and statewide advisory board supported through FDOT or federal "Safe Routes to School" funds. This statewide advisory board should be responsible for awarding grants to schools according to criteria established by the board.

3. **Recommendation #2:** The State Safe Routes to School Center, with the advice and consent of the **State Safe Routes to School Advisory Board, should establish a statewide grant program** for infrastructural projects and educational programs associated with school traffic safety, and the promotion of Safe Routes to School programs. Highest priority schools would be those able to demonstrate potential for mode shift or a high numbers of students walking despite hazardous conditions.

While the Safe Routes to School Center has not been created, this project's State Advisory Council nonetheless endorsed the idea of a Safe Routes to School Advisory Board that would advise the FDOT on various aspects of the implementation of the Safe Routes to School program.

   **SUMMARY AND CONCLUSIONS**    

Parents' decisions about how to safely get their children to school are complex and dependent upon the travel options available. For some children who live a long distance from school, the choice will be limited to taking the school bus or being driven to school by their parents or in a carpool. For other children, the physical environment surrounding the school may be a determining factor in the choice of transportation mode to school. State agencies, including the FDOT, FDCA, and FDOE, local governments and school boards, and other private and public organizations, all have a role in improving the coordination between transportation, land use and school siting and the overlapping areas of coordination: multimodal planning, coordinated school planning and Safe Ways to School. Multimodal planning and coordinated school planning can create a safe and predictable built environment in which the 5 E's of the Safe Routes to School Program – education, encouragement, enforcement, engineering, and evaluation - can be implemented to increase the opportunities for children to engage in routine physical activity while walking to school.

The most critical aspect of the Safe Routes to School Program is the need for ongoing coordination between these diverse programs. The goal of this coordination should be the development of communities that balance the need for safe, continuous, and predictable environments for pedestrians, bicyclists, especially near schools, with the need for mobility within the community. Without attention to the creation of multimodal environments that encourage alternatives to the automobile throughout the community, the traffic near school zones is likely to remain an issue and our children are likely to continue to experience the negative consequences of a lack of physical activity. With improved attention to multimodal transportation planning, coordinated school planning and Safe Routes to School programs we may be able to halt the decline in the number of children walking and bicycling to school.

WORKS CITED

- Appleyard, Bruce S. (2003). Planning Safe Routes to School. *Planning Magazine*. May 2003.
- Bureau of Transportation Statistics (BTS). (2003). National Household Travel Survey, NHTS Version 1.0 CD (Preliminary Release) January 2003.
- David, T. G., and Weinstein, C. S. (1987). The built environment and children's development. In: Weinstein CS, David TG, (Eds.), *Spaces for Children: The Built Environment and Child Development*. York: Plenum, 1987, pp 3-20.
- Environmental Protection Agency. (2003). Travel and Environmental Implications of School Siting. EPA 231-R-03-004. Washington: USEPA, October, 2003. Available electronically at http://www.epa.gov/smartgrowth/pdf/school_travel.pdf.
- Ewing, R. (n.d.). Pedestrian and Transit Friendly Design: A Primer for Smart Growth. Smart Growth Network. Based on a manual prepared for the Florida Department of Transportation and Published by the American Planning Association.
- Ewing, R. and Hodder, R. (n.d.). Best Development Practices: A Primer for Smart Growth. Smart Growth Network. Based on a book prepared for the Florida Department of Community Affairs and published by the American Planning Association.
- Flegal, K. M. (1999). The obesity epidemic in children and adults: Current evidence and research issues. *Medicine & Science in Sports & Exercise*, 31(II), Supplement, S509-S514.
- Florida Department of Education (DOE). (2004). The Quality Link: Florida School District Transportation Profiles, School Year 2002-2003.
- Florida Department of Transportation. (2003). Multimodal Transportation Districts and Areawide Quality of Service Handbook. Systems Planning Office: November 2003.
- Huang T. T., and Goran, M. I. (2003). Prevention of Type 2 diabetes in young people: A theoretical perspective. *Pediatric Diabetes*, 4(1), 38-56.
- McMillan, T., Day, K. M., Boarnet, M. G., Alfonzo, M., and Anderson, C. (2004). Johnny can walk to school-why can't Sally? Examining gender difference in children's active travel to school.

- O'Brien, C. (2003). TRANSPORTATION...That's Actually Good for the Soul. NCBW Forum Article 12-03-03.
- Ogden, C. L., Flegal, K. M., Carroll M. D., and Johnson, C. L. (2002). Prevalence and trends in overweight among U.S. children and adolescents, 1999-2000. *JAMA*;288(14): 1728-1732.
- Proshansky, H.M., and Fabian, A.K. (1987). The development of place identity in the child. In: Weinstein CS, David TG, (Eds.) *Spaces for Children: The Built Environment and Child Development*. York: Plenum, pp. 21-40.
- Sallis, J., and Owen, N. (1999). Physical activity and behavioral medicine. Thousand Oaks, CA: Sage.
- Siegel, A.W., Kirasic, K.C., and Kail, R.V. Jr. (1978). Stalking the elusive cognitive map: The development of children's representations of geographic space. In: Altman I, Wohlwill JF, (Eds.) *Children and the Environment. Human Behavior and Environment, Volume 3*. New York, Plenum Press. 223-258.
- Starnes, E. M., Stein, J. M., Crider, L. B., Audirac, I., Pither, A. W. (1992). Home-To-School Transportation Study: Executive Summary. Department of Urban and Regional Planning, University of Florida.
- Steiner, R., Li, I., Shad, P., and Brown, M. (2003). Multimodal Tradeoff Analysis in Traffic Impact Studies. Prepared for FDOT May 2003. Available electronically at:
http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/multimodaltradeoff_061203.pdf on December 28, 2004.
- Strauss, R.S. and Pollack, H.A. (2001). Epidemic increase in childhood overweight, 1986-1998. *JAMA*, 286(22), 2845-2848.
- Twaddell, H. (2004). Safe Routes to School. *Planning Commissioners Journal* 56:14-15.
- U. S. Environmental Protection Agency. (2003). Travel and Environmental Implications of School Siting. EPA 231-R-03-004. Washington: USEPA, October, 2003. Available:
http://www.epa.gov/smartgrowth/pdf/school_travel.pdf.
- Weihs, J. (2003). ISSUETRAK: State Acreage Policies. Council for Educational Facilities Planners, International (CEFPI). Available electronically at
<http://www.cefpi.org/research.html>