

# School Walk Zone Study, 2002

## Executive Summary

### BACKGROUND

Forty years ago, half of all U.S. school children walked to school. Today, according to the Centers for Disease Control, an estimated 10 percent walk to school. In many communities, as much as 30 percent of morning commuter traffic is generated by parents driving their children to school. These travel habits and children's life style choices can have serious consequences. Traffic jams around our schools foul the air, waste fuel, and create safety problems for children. The Surgeon General recently reported that 13 percent of children aged six to eleven years and 14 percent of adolescents aged 12 to 19 years were overweight in 1999. This prevalence has nearly tripled in the past two decades for adolescents.

In recent years, a growing number of communities in the nation are promoting school children walking to school with groups from health professional, Smart Growth advocates, traffic safety group, local PTA, and elected officials supporting these initiatives. Some states have passed legislation instituting "Safe Routes to Schools" programs to encourage school children to walk or bike to school. The primary emphasis of these programs is to provide children with an opportunity to walk or bike to school in a safe, secure environment.

The North Carolina Department of Transportation, too, recognizes the need to improve the safety of students who walk or bike to school. In recent years, a number of initiatives to enhance bicycle and pedestrian safety around schools have been undertaken by the Department's Division of Bicycle and Pedestrian Transportation and the Municipal and School Transportation Assistance Program of the Traffic Engineering Unit. These efforts include facility improvements, training initiatives, technical assistance, and research.

### SCOPE OF WORK

The North Carolina Department of Transportation (NCDOT), Division of Bicycle and Pedestrian Transportation initiated a project to research the potential for development of standardized school walk zone policies for the state. The School Transportation Group of the Institute for Transportation Research and Education at North Carolina State University (ITRE) and the University of North Carolina Highway Safety Research Center (HSRC) were selected to undertake the study. The resulting effort included the following activities:

The compilation of the existing policies of North Carolina public schools for walk zones; descriptions of the school commute patterns through surveys of all North Carolina Local Education Agencies (LEAs); an analysis of North Carolina pedestrian/motor vehicle crash data; and, focus group meetings with parents and school officials who have local transportation policy and operations responsibilities; the review of school walk zone guidelines, policies, and practices developed by other states and municipalities, and the definition of focus areas and development of specific recommendations.

### Local Education Agencies (LEA) Surveys

In general, public schools in North Carolina do not have guidelines for establishing school walk zones. Furthermore, there is no established definition for walk zones. For most districts, "walk zone" refers to a "no transport" zone in which students do not receive public-funded pupil transportation, and as a result, students make the school commute by walking, bicycling, or riding in a private motor vehicle. A minority of districts define walk zone as being areas in which guidelines suggest walking routes for students that are based on proven safety and accessibility criteria.

Survey responses indicated that the 1.5 mile "no transportation required" zone around a given school, established by state law, has significant influence in the definition of a "walkable" distance by a school district. Only about 12 percent of the 74 districts that completed the surveys actually have established walk zone guidelines, and there is little consensus among and within the districts concerning the official(s) responsible for approving these guidelines. School districts identified factors related to the fundamental design of the transportation infrastructure, such as the existence of sidewalks, traffic volume, and number of roadway lanes, as the most important factors for establishing safe walk zones in their district.

### Focus Groups

The project team conducted a total of six focus groups in Fayetteville, Winston-Salem/Greensboro, and Greenville. Two sessions were held in each location with one consisting of parents and another made up of school officials with responsibility for the policies and operations of the local pupil transportation systems.

In general, the parents expressed belief that personal safety, dangerous vehicle traffic, and poor pedestrian street designs

are major barriers to walking. They however appeared skeptical that facility improvements alone will encourage more walkers without addressing the personal security concerns. The participants from the policy/technical group generally believed that dangerous vehicle traffic and poor pedestrian street designs are major barriers to walking. As public decision-makers, they also focused on potential policy problems with walk zones and were especially concerned that school officials could possibly be legally liable for student pedestrian and bicycle accidents that occur in a "walk zone." This group also identified factors that reduce the incidence of school-related walking and bicycling trips, including: tight time schedule of parents and students, linking of other automobile trips to the school trip, and students' heavy backpacks.

## **Crash Data Analysis**

The purpose of motor vehicle crash data analysis was to attempt to determine the number and severity of pedestrian and bicycle crashes that occur during the school commute. It is difficult to determine this number for several reasons: the North Carolina collision report form does not have a field to indicate whether a pedestrian or vehicle crash involved a school trip; a high number of crashes involving pedestrians and bicycles go unreported to law enforcement; and many pedestrians and bicyclists involved in crashes do not seek medical treatment (under circumstances in which the medical facility would report the crash incident).

This crash analysis effort used a two-step method to attempt to identify and analyze the school related pedestrian and bicycle crashes. Pedestrian crashes occurring between January 1, 1991 and December 31, 1999, and during likely "school commute" months, days, and times were identified. In addition, a spatial analysis was performed on 32 randomly selected crash records in Cumberland, Forsyth, and Guilford counties, the counties that participated in the project focus groups.

Analysis of the 2,147 crash records identified as being possibly school related did not reveal any unexpected trends or information. The analysis showed significantly fewer crashes occur during winter months; the distribution of crashes by day, e.g., Monday, Tuesday, etc., is fairly even; the majority of the pedestrian crashes occurred in the afternoon; and crashes are highest among middle school children.

The spatial analysis of the 32 selected crash records concluded that three crashes probably occurred during the school commute. The remaining crashes occurred at sites that were not likely along any school/home commute route. If this ratio is true for the larger school age population from 1991 through 1999, and the calculation takes into account the fact that only 68 percent of these crash types are reported, there are an estimated 33 crashes of this nature each year in North Carolina.

## **Review Of School Walk Zone Guidelines Developed By Other States**

A review of relevant literature and contacts with school transportation officials in other states revealed that majority of the states give Local Education Agencies the authority to establish walk zone and there are no state guidelines. Few states--including California, Washington, New York, and New Mexico--have established guidelines and/or recommendations relating to students walking to school.

The states of New York and New Mexico implement quantifiable guidelines for deciding which students live within the statutory distance from school can safely walk to school. State of New York's guidelines identify types of hazards with assigned point values. If the total points equal or exceed the prescribed point system, then the school district may choose to transport the student by school bus. State of New Mexico adopts a "Hazardous Walking Condition Survey" collecting detailed traffic information and comparing to regulation requirements such as "traffic volume, speed limit, width of the roadway, traffic lanes and type of traffic control, etc.

Washington State and California place emphasis on developing safe school walking routes instead of identifying hazard types. In Washington, school districts are required to develop and distribute school walking routes for all elementary schools. The guidebook is written to assist school transportation directors, in conjunction with parents, teachers and local public works officials, with developing safe walking routes.

California's Safe Routes to School Program went into effect in 1999 in response to the passage and signing of Assembly Bill 1475. The Safe Routes to School Program funds the construction of traffic calming devices, crosswalks, sidewalks, bike lanes and paths in and around California schools. The Safe Routes to School Program has funded improvement projects for pedestrian and bicycle safety at 186 school sites since 1999.