



Acton-Boxborough Regional School District
Superintendent's Office
16 Charter Road
Acton, MA 01720
978-264-4700 www.abschools.org

William H. McAlduff, Jr.
Interim Superintendent of Schools

TO: Acton-Boxborough Regional School Committee

FROM: Bill McAlduff

RE: Response to Letter from Four Families Requesting:

- A formal safety assessment
- Reconsideration of cul-de-sac student pick-up practice

DATE: April 11, 2018

On February 15, 2018 the School Committee received, via email, a letter from four families that expressed their concerns related to school bus stop safety and the suspension of cul-de-sac service in areas where children have "nowhere to wait except for the road." That letter is attached to this memo.

On February 27th I replied to the email with a message that stated:

Thank you for your communication of February 15, 2018 requesting:

"A formal safety assessment and a reconsideration of the universal suspension of cul-de-sac service in areas where children have nowhere to wait except for in the road.

"The school administration will provide you with a response to this communication and share it with the School Committee at their April 12, 2018 regularly scheduled School Committee meeting."

During this past school year the Transportation Department has worked diligently in an effort to establish safe bus routes and stops as well as to respond to parental concerns and/or complaints in this case, specifically about the location of bus stops. You may recall that during the last school year the district commissioned Greenman-Pedersen, Inc. (GPI) to



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conduct a school bus routing analysis to assess ABRSD's current transportation practices and the potential impact on a two-tier bus routing system. This report was presented to the School Committee at their April 27, 2017 meeting.

One highlight of the report, as it pertains to this particular parental concern, was the recommendation that the district stop the practice of routing busses into cul-de-sacs. An excerpt from the report is found below.

Removal of Cul-de-Sac Service:

In order to cut down on overall travel time, cul-de-sac roadways will be removed from the routing analysis, meaning no bus routes will travel down cul-de-sac roads. The geometry of cul-de-sac roadways does not facilitate the maneuverability of school buses due to tight radii. As a result, buses are often required to back down cul-de-sac roadways which add inefficient travel time and poses a significant safety hazard. Students residing on cul-de-sac roadways will be serviced at the end of the roadway. Figure 2 illustrates all the cul-de-sac roadways in Acton and Boxborough. The roadway GIS layer was obtained from MassGIS.

Our Transportation Department staff has many years of experience developing and operating a school bus routing system. The development of bus routes and their associated bus stops requires an annual re-evaluation of all current bus routes to account for changes in the locations of where students will be living during the upcoming school year. Once accomplished and the new school year starts, it is not at all uncommon that during the first part of the new school year some bus routes need to be adjusted based on new information that was not available during the planning process.

In establishing bus stops, our experienced staff takes seriously any potentially unsafe circumstances and makes adjustments when necessary. In cases where our staff has their own questions about the safety of a particular bus stop the district works with our local public safety colleagues and requests the assistance of the police department's safety officer to assist in making a determination of whether a bus stop is safe or not.

In the case of the parental concerns related to this particular situation we did in fact consult with Detective Christopher Prehl, who acts as the Acton Police Department's Safety Officer, to seek his determination as to whether the stops being questioned were safe. I believe that



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Detective Prehl actually met with at least one set of these parents to reiterate our communication to them that the bus stop was deemed to be safe. Detective Prehl has consulted with our Transportation Staff on many occasions in the past.

At this time the administration does not see the need to conduct a "formal safety assessment" nor do we recommend that the district reconsider the "universal suspension of cul-de-sac services."

As you know, the district is in the midst of planning the transition from a double tier elementary school bus routing system to a single tier system. It is safe to assume that the bus routing that is currently in place will see considerably more changes than in previous years including additional bus stops to be established on many routes.

With that in mind I have been doing some research on School Bus Stop Safety guidelines. While it appears that our district is in line with generally acceptable school bus stop safety guidelines it seems to me that this is an opportune time to re-assess our practices by reviewing the National Center for Safe Routes to School (NCSRS) guide to "Selecting School Bus Stop Locations, as we plan and prepare for elementary level single tier bussing.

The NCSRS is supported by the National Highway Traffic Safety Administration and is regarded as a model for school districts across the country. Attached is a copy of their guide.

Selecting School Bus Stop Locations:

A Guide for School Transportation Professionals



July 2010



Pedestrian and Bicycle
Information Center

SafeRoutes

National Center for Safe Routes to School



www.nhtsa.gov

Prepared by the National Center for Safe Routes to School and the Pedestrian and Bicycle Information Center, both part of the University of North Carolina Highway Safety Research Center, with funding from the National Highway Traffic Safety Administration

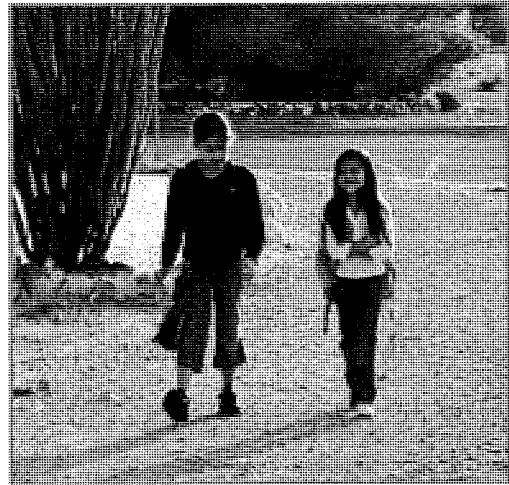
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Introduction

Transporting students to and from school safely is a foremost priority for school transportation directors, school bus drivers, crossing guards and others involved in getting students to school. School children travel to and from their schools by a variety of modes including school buses, private vehicles, carpools, public and private transportation providers, bicycles and on foot.

School buses are the safest mode of transportation to and from school in the United States.¹ According to the National Highway Traffic Safety Administration, approximately 450,000 public school buses travel approximately 4.3 billion miles to transport 23.5 million children to and from school and school-related activities.² On average, 20 school-age children die each year in school bus-related crashes or incidents. Of these 20, five of the children are injured inside the bus, five are struck by other vehicles, and 10 are struck by the school bus itself.¹ These statistics indicate that there's an opportunity for even this very safe form of travel to improve the safety of both the locations where students wait for the school bus and the routes students travel between home and the school bus stop.



School transportation planners are tasked with planning bus routes. However, only fragmented information regarding safety considerations for determining the location of school bus stops has been available to them. Generally, the placement of school bus stops dictates not only the routes that students will have to travel between home and the stop, but also the conditions in which the student will be waiting, and both impact student safety.

School transportation professionals, school administrators, and others who care about student transport to school could benefit from straightforward guidelines that present safety-related considerations for school bus stop siting. These guidelines offer steps for the designation of school bus stops and strategies to support safe pedestrian behavior by students between their homes and their bus stops. This guide is timely as school budgets and other pressures may lead to the consolidation of bus routes and/or expansions of areas designated as “no transport zones.” Both of these changes can lead to increased walking distances for students or shifts to travel modes other than buses. In addition, new schools are under construction, existing schools have changing attendance boundaries and other circumstances may also result in potential changes to bus routes. Such changes also present the opportunity to identify new school bus stops. Other documents that provide guidance on school bus route planning and the identification of potential safety concerns along the route are described in the Resources section.

Acknowledgments

The National Association for Pupil Transportation (NAPT) and National Association of State Directors of Pupil Transportation Services (NASDPTS) members provided insight into their school bus stop selection process. The leadership of NAPT and NASDPTS provided assistance in the development of this guide by soliciting member feedback on various topics and providing review and comment on drafts of this guide. This guide would not have been possible without the assistance of these organizations and the experience and insight of their members.

Determining School Bus Stop Locations

Making decisions about where school bus stops will be placed requires balancing conditions that would be ideal with the realities of a community's road system, weather and topography. In this discussion, ideal characteristics are described, but these characteristics will rarely all be met for every school bus stop. Transportation directors must seek to do everything possible for student safety with less than perfect conditions.

.....

There is no perfect school bus stop, because it is impossible to eliminate all potential hazards, but guidelines and training are still necessary to ensure that responsible parties are making the safest, most informed decisions when placing stops.

—State Director of Pupil Transportation

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A Note About Policy

Transportation directors usually have state and/or local policies that must be followed before considering a potential school bus stop site's specific characteristics. State and local policies can influence or dictate the process and ultimate placement of school bus stops. State-level policies, often mandated by the State Boards of Education or legislatures, tend to only address basic requirements, such as the minimum distance between school bus stops. Such basic policies may be presented as guidelines rather than requirements. The vast majority of decisions on routing and placement of stops are made at the local school district level.

Although some districts have no local level regulation and rely solely on existing state-level regulation for guidance, other districts utilize a wide range of policies. Some school districts have very formal, written policies while others have nothing "set in stone," and the decisions are made entirely at the discretion of the school transportation director.

District-level regulations related to school bus stops may address issues such as:

- Use of private roads and/or property
- Special guidelines for kindergarten students such as door-step pick-up
- Placement of stops at corners or mid-block locations
- Placement of stops on main arterials
- Provisions for providing transportation in hazard zones within a "no transport zone"
- Placement of stops in cul-de-sacs and
- Proximity of stops to railroad crossings

Districts face several delicate policy issues and must decide which responsibilities the school bears and which responsibilities fall to parents and other caregivers. In addition, those responsibilities must be further clarified to reflect policies when students are traveling between home and their school bus stops and while waiting for the bus. Most school transportation professionals agree that it is the parents' responsibility to supervise students at these times. However, many also recognize that this may be an unrealistic expectation due to work schedules, disabilities, or other circumstances. In some cases, accommodations may have to be made for these situations. Regardless of how these situations will be handled, clearly stating and communicating expectations about parents' responsibilities is vital.

Street-Side Characteristics

After following existing policy, the next step to consider is school bus stop location options. It is impractical to discuss school bus stops without discussing bus routes. Clearly they are closely related and the characteristics of one have implications for the other. For example, if a route involves travel along a busy road, and a stop is designated along that segment of the route, students who wait at that stop will have to contend with traffic on that road. Information here will be presented with the school bus stop as the central point of focus but with the recognition that there is a need to balance the desired characteristics of a bus stop with the realities of what the school bus route will allow.

Street-side characteristics include the conditions on the road where the school bus stops to load and unload students. To provide the safest environment for students to walk between home and the school bus stop and wait at the stop:

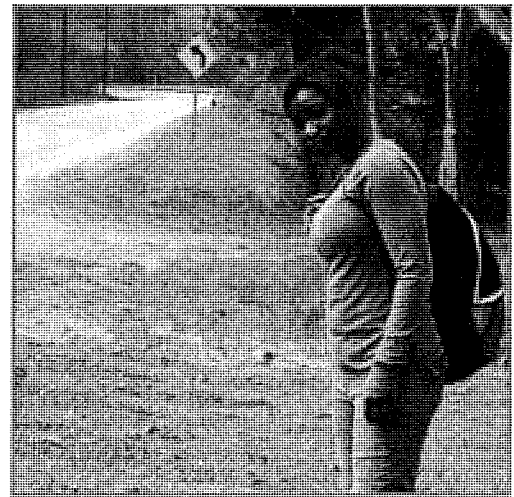
- Pick routes on streets with lower traffic volumes and lower speeds.
- Minimize or avoid multi-lane roads where pedestrians are most at risk of injury.³
- Pick roads with sidewalks or designated pedestrian paths separate from the roadway and traffic. If these are not available, pick roads with sufficient space to walk along the roadway to reach the stop.
- Avoid or limit stops that require the school bus to make a left turn anywhere along the route.
- Avoid stops that require backing up. If backing up is unavoidable, pick up students before backing. During the afternoon return trip, drop off the students only after backing up and being in position to drive forward.
- Avoid railroad crossings along the bus route. If it is impossible to avoid crossings, signage and railroad crossing arm protection should be present.
- Select stops that provide sufficient visibility for both pedestrians and drivers. There needs to be enough sight distance so drivers, bus drivers and students waiting at the stop all can see each other. There are no standardized distance measures that provide sufficient visibility nor are there formulas for computing an appropriate sight distance, but the following can impact sight distances:
 - o Sunrise/sunset times (Try to avoid placing stops where vehicles will be facing into the sun at pick-up or drop-off times.)
 - o Curves and hills
 - o Trees and other vegetation
 - o On-street parked cars and approaching vehicles
 - o Snow drifts from snowplows

For areas where insufficient sight distance may be an unavoidable, contact the local transportation authority to post warning signs when needed. The Manual of Uniform Traffic Code Devices⁴ (MUTCD), used by traffic engineers, describes use of “Bus Stop Ahead” signs based on sight distance. According to the 2009 edition of the MUTCD, the sign should be installed in advance of locations where a stopped school bus—picking up or discharging passengers—is not visible to road users for an adequate distance. The transportation authority can help determine what is considered to be “an adequate distance.”

School Bus Stop Characteristics

In addition to the on-street characteristics, characteristics about the off-street location of the school bus stop are also critical to ensuring student safety during transport to school. This section addresses the school bus stop itself. For the safest areas for students to wait for, and load onto or off of the bus:

- Choose “near-side” stops whenever possible.
 - Minimize the need for students to cross a road from the stop to the bus regardless of the type of roadway.
 - Students **must not** cross multi-lane roads where all traffic is not controlled by the presence of a school bus stop arm and flashing lights.
- Pick locations that offer adequate lighting. If students will be waiting during low light hours, the stop should be positioned near a street light or other light source whenever possible.
- Choose locations with sufficient space for students and parents to wait at least 12 feet from the roadway. This distance is recommended based on the “12-foot rule” for students approaching and leaving the bus included in the National School Transportation Specifications and Procedures 2005 Revised Edition.⁵ However, some transportation professionals have suggested that the distance needs to reflect the bus class and the differing sight distance afforded by each. For example, Type C buses have a sight distance of 17 feet, so consider the appropriate distance for the type of school buses being used by your district.
- Consider the surrounding environment. Commercial businesses and parks offer benefits and drawbacks. While they can confer safety because drivers may be more likely to expect pedestrians in these areas, they also can distract children from being ready to load when the bus arrives.
- Choose locations that provide protection from weather. Depending on the geographical region:
 - Establish stops that offer shade without sacrificing visibility.
 - Avoid areas where snow drifts will reduce visibility or access to the bus.
- Determine policies for mid-block stops compared to corner stops. Whether a stop is located mid-block or on a corner does not have the same impact on safety as other factors described here, but this is a policy decision that must be taken into consideration. The Transit Cooperative Research Program’s “Guidelines for the Location and Design of Bus Stops”⁶ describes advantages and disadvantages of mid-block, near side and far side stops, but this report, focused on public transit, assumes pedestrians cross behind the bus whereas students are taught to cross in front of the bus. Both far-side corner (the corner past the intersection) and near-side corner (the corner located prior to the intersection) stops can impact sight distance.



State and local policies vary regarding corner or intersection stops. This variation is due to differing interpretations of safety issues and their priority, especially as they relate to visibility, traffic conditions, and control of oncoming traffic. Corner stops are considered preferable because they conform with drivers’ expectations to stop at intersections. They also provide a wide area to scan for traffic and students, minimize buses backing up and create more efficient routes. However, corner stops can be considered less preferable due to the inability to easily control all approaching drivers. Some states have noted that if a school bus stop

is at an intersection or corner, students should be loaded and unloaded on the far side of the intersection so that the school bus blocks the cross traffic and the stop arm controls the other directions. Although there are advantages and disadvantages for each, perhaps the most important consideration is to avoid locating school bus stops at busy intersections.

- Consider the number of students who will use a stop. While the presence of multiple students confers safety, too many students increases the likelihood of behavioral problems.

This guide focuses on the prevention of traffic-related injuries, however, students—like all community members—face other risks such as assault or other crimes. Many transportation policies address non-traffic issues—such as proximity to liquor stores, bars, adult entertainment, sex offenders, and other-crime related factors. See the Resources section for more information on these factors.

The Student’s Route Between Home And School Bus Stop

The majority of members of NAPT and NASDPTS who provided feedback which helped inform this guide indicated that their district level policies, guidelines, or recommendations for establishing school bus stops in some manner considered the safety of the route that students travel between their doorstep and the bus stop. The most commonly mentioned elements were:

- The presence of a “safe” path
- Quality and type of road crossings (more specifically, the number of lanes and the traffic controls present at these crossings)
- Proximity of railroad crossings
- Traffic speed limits
- Walking distance

There was a strong emphasis on the parents’ role in ensuring the safety of the student while in route to or from the stop and waiting at the stop.

The following factors influence student safety around traffic between home and the school bus stop and should be considered during the bus stop placement process:

- Many school districts or states have policies that specify the maximum distance permitted between a student’s home and the school bus stop. The distance between home and the stop:
 - o Typically ranges from one to one and one-half miles
 - o Sometimes varies with the age of the rider
 - o Are increasing in some districts due to economic constraints that are impacting bus service
 - o Assumes that parents will ensure the child’s safety between the home and school bus stop
 - o May be determined from the center of the roadway outside of the residence to the bus stop, not from the front door of the residence to the stop
 - o Is usually approved by the school board and follows state guidelines
 - o May be determined by examining safety issues on a case-by-case basis instead of using a certain distance standard

- School bus stops should be located so that students and parents have adequate pathways to walk from home. Although it may not always be possible to provide all these features, desirable pedestrian routes:
 - o Minimize or avoid street crossings
 - o Have traffic controls (stop signs or traffic signals) to provide assistance to pedestrians if crossing streets cannot be avoided
 - o Have sufficient space to walk that is separated from traffic (ideally, a sidewalk or path separated from the roadway is available)
 - o Do not require walking on high-volume, high-speed roads
 - o Are passable in snowy weather

Several resources are available for transportation professionals and parents to use to assess how “walkable” a particular route is from one location to another. The “Walkability Checklist” available from the Pedestrian and Bicycle Information Center (see Resources section) gives insight into the walkability of a neighborhood by raising questions such as:

- Did you have room to walk? Potential problems include:
 - o Sidewalks or paths started and stopped
 - o Sidewalks were broken or cracked
 - o Sidewalks were blocked with poles, signs, shrubbery, dumpsters, etc.
 - o No sidewalks, paths, or shoulders
- Was it easy to cross streets? Potential problems include:
 - o Road was too wide
 - o Traffic signals made us wait too long or did not give us enough time to cross
 - o Street needed striped crosswalks or traffic signals
 - o Parked cars blocked our view of traffic
 - o Trees or plants blocked our view of traffic
 - o Sidewalks needed curb ramps or ramps needed repair
- Can a child:
 - o Cross at crosswalks or at a location where the child can see and be seen by drivers
 - o Stop and look left, right and then left again before crossing street
 - o Walk on sidewalks or shoulders facing traffic where there are no sidewalks
 - o Cross with the traffic signal

An additional benefit of using a walkability checklist is that it can serve to document and demonstrate the need for pedestrian facilities or improvements to existing facilities when approaching traffic engineers or planners about these issues.

Putting The Guidelines Into Practice

While school transportation directors and others involved in route planning need some flexibility in making decisions to evaluate local conditions and individual cases, standardizing the criteria used in decision-making helps create a transparent, explainable process. A systematic process may be easier to explain to school administration, the public and parents and does not rely on subjective “common sense” determinations, which can vary widely depending on the transportation director. However, processes and policies are only useful in improving student safety if they are implemented.

As previously discussed, most states do not have a state-level policy or recommendation related to school bus stop selection, but most districts do—at least to some degree. States vary in the degree of specificity in bus safety policies, including identifying the responsible party (i.e., school districts, individual schools, parents, or drivers) for establishing policies on various safety issues. Some of these variations may inadvertently cause safety gaps or gaps in policies on coverage and eligibility for school bus use. It is critical that local schools and school districts establish policies for school bus routing and the placement of school bus stops.

Some school districts contract pupil transportation services to a private school bus company. Ultimately the decisions of where to place a school bus stop should be made by the local school transportation director or school administration.

Engage Available Resources

School transportation planners should engage local law enforcement officers and transportation authorities that have jurisdiction over roads along, or adjacent to, school bus routes. Law enforcement officers can share data related to crashes and speeding prevalence that may indicate areas to avoid when possible. They will also know the traffic patterns on local roadways, such as the most common types of vehicles, traffic flow irregularities, or other particularly dangerous situations that should be avoided.

Transportation authorities, who may be the Department of Transportation or the local traffic engineer, can provide information about the relative traffic volume and condition of different roads. These agencies not only are responsible for signage that could indicate an upcoming school bus stop and speed limit designation, but they also can provide information on limits to possible engineering treatments and hazard mitigations based on the MUTCD.

If not already utilized, school transportation planners should consider technology-assisted route development. Many school districts use route-planning software or GIS mapping. While these systems often offer benefits like improved efficiency, they can be limited in their role in selection of school bus stops. Care must be taken not to place a higher priority on efficiency than safety. For example, locating a school bus stop on a secondary street may remove the bus from an arterial that offers a more direct route, but the location also allows students to stand on a lower speed street with less traffic. Refer to the Resources section, including “National School Transportation Specifications and Procedures 2005 Revised Edition” for more information.

Plan to Address Parent and Community Concerns

School administration and transportation planners need to plan ahead to address parent and community member concerns. A clearly described appeal process will allow for efficient handling of concerns. At the same time, adopting and documenting the use of a consistent set of criteria for school bus stop selection will make it easier to justify district decisions about stop locations.

While most states and school districts appear to have an appeal process in place for school bus stop relocation, addition, or elimination, the process varies tremendously. Some districts handle appeals with a phone call from parents; others require completion of a form. Some districts give the final authority for a decision to a school principal, while others give that role to the school district transportation director or the school board. Response time also varies and ranges from immediate removal of a stop if a property owner complains to a multi-step process if a parent complains.

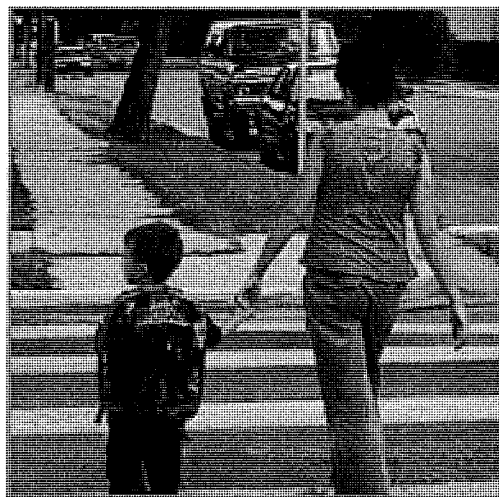
Safety is the primary consideration when evaluating a parent's complaint, not personal circumstances or convenience. Nevertheless, people involved in evaluating such situations usually recognize that all of these considerations may go hand-in-hand. Most districts recognize some issues and include specific language in their policies related to selecting school bus stops for children with special needs, homeless children and children who live along routes deemed hazardous, both within and outside of eligible transportation zones.


Several factors can reduce the number of appeals that school transportation planners may face. Some appeals can be avoided when districts have a clearly stated policy and policy rationale, a monitoring process in place, and an open atmosphere where school bus drivers feel comfortable reporting safety issues to supervisors at any time during the school year. A monitoring process could include a hazardous route checklist that drivers use at the beginning of the school year after routes are set but before school starts. Alternately, the transportation director could perform "ride-alongs" at different points during the school year to assess school bus route and stop conditions.

Some districts annually evaluate the student pedestrian population and their safety to and from school; some do not evaluate this population at all. While most school districts consider the safety of the route between home and the school bus stop, the specificity of what is meant by "safe route" between home and the school bus stop varies between school districts and even within topics (e.g., distance, identified hazards, traffic conditions). Again, developing consistent criteria and an assessment process (such as use of a walkability checklist) can help improve safety for students.

Work With the School to Educate Parents

Parents can benefit from a reminder to consider the safety of their child's route between the school bus stop and home and their role. Parents often overestimate their child's readiness to walk alone. Parents need to assess the route from home to the school bus stop so that they can determine if their child needs to be accompanied on the route.





School transportation planners should encourage parents to walk with young students or rotate duties with other parents. Walking to the school bus stop with their child is a chance for parents to assess and teach pedestrian safety skills. See Resources section for pedestrian safety education information to share with parents and students.

Schools that have expanded the zone where students are not eligible to ride the school bus might consider starting a Safe Routes to School program that focuses on making it safer for children to walk and bicycle to school. The Resources section contains more information.

Parents with disabilities are sometimes given special considerations, and their children's school bus stops may be placed at, or very near, their houses since they may not be able to accompany their child to a stop away from the house. Children with special needs who do not receive special transportation may need to be picked up at the curb closest to home. Though these may be desirable practices, and perhaps required under a student's Individualized Education Program (IEP), schools must be prepared to educate other parents about the reasons why some students are picked up at their doors and others are not. Explanations should be general in nature to avoid violation of confidentiality.

Provide Comprehensive Training

Schools and school districts should consider integrating school bus safety training and pedestrian safety training for students since virtually all bus riders are also pedestrians. The route between home and the school bus stop as well as safety at the stop are often considered the parents' responsibility, not the schools', and thus bus-stop-to-home safety may or may not be included in any state-mandated safety trainings. Although school bus drivers' and students' safety before and after a ride is just as important as during a ride, this association is not always reflected in policies, training material, and instructions.

The NHTSA "School Bus Driver In-Service Safety Series"⁷ includes a module on "Loading/Unloading" that addresses pedestrian safety and the Resources section details additional pedestrian safety education information to share with parents and students.

Examples

The examples below illustrate how specific states or school districts have addressed different points mentioned in this guide. These examples are not necessarily considered to be “model” policies, as there seems to be little criteria to support what would be considered “model.” Instead, the examples are intended to provide ways for readers to see how guidelines are put into practice. Please note that text within boxes in these examples are direct quotes from their guidelines and policies.

State Guidelines

Colorado

Colorado has produced guidelines for establishing a safe student school bus stop that provide points for transportation providers to consider when establishing locations for loading and unloading students. The Colorado guidelines address the following issues related to placement of school bus stops:

- Visibility
 - o Can the bus be seen by other motorists at a distance of 200 feet or four seconds at optimal speeds while the amber lights are activated in the corporate limits of a city or town? The distance is lengthened to 500 feet in rural areas.
 - o At what distance are the students and other motorists visible to the driver when approaching the stop?
 - o How do light conditions affect the visibility approaching the student stop? (sun rising and setting, background lighting — Christmas season, etc.)
 - o Is the school bus windshield free from cracks, pits and dirt?
- Terrain / Landscape:
 - o Hills and curves affect the location of a student stop. Locating a stop on a hill or curve is a dangerous option. Make every effort to locate stops in areas that afford the bus driver the greatest visibility when approaching the stop. Check that other motorists also have a clear view of the school bus at the stop.
 - o How do surrounding buildings affect what the driver can see when approaching the stop?
 - o Are there potential hazards from driveways (private or business)?
 - o Take into consideration any parked vehicles, especially recreational vehicles that may inhibit the drivers' view.
 - o Are construction zones affecting the stop in any way?

Alabama

The Alabama Department of Education Pupil Transportation Section provides school districts with a combination of autonomy and guidance in determining distances between school bus stops. The guidelines include the following recommendations:

There are no regulations regarding the location of school bus stops, the maximum or minimum distance between stops, or the distance a student might have to walk to get to a designated stop. Such requirements are the responsibility of local school systems. Even so, the following statements are offered as guidelines by the Alabama Department of Education, Pupil Transportation Section.

Advantages of Frequent Stops

- Parents like to be able to see their children at the stop.
- Getting to a bus stop can sometimes be difficult, given lack of sidewalks, no shoulders on roadway, and density of traffic, etc.
- Fewer students at stops can mean less behavior problems and less possible property damage.

Disadvantages of Frequent Stops

- Most school bus fatalities occur while school buses are stopped to load/unload children. More stops mean greater potential for school bus fatalities.
- Stopping and starting creates more traffic hazards and delays, and more vehicle maintenance.
- More side roads would have to be included on routes.
- Routes take longer because of additional bus stops and loading time. This can require additional buses and personnel to transport all students.

District Guidelines

Anoka-Hennepin School District #11, Minnesota

The Anoka-Hennepin School District #11 in Minnesota developed a student transportation policy that includes policies and procedures for school bus stop locations and procedures for determining hazardous roadways. Excerpts from its Student Transportation Policy manual are included below:

General Information

- A. Transportation Area / Non-Transported Area.** Traffic safety factors and distance are the two primary criteria used to establish Non-Transported areas. The Non-Transported areas, less than 2 miles, are determined by measuring the distance, in the most direct route, from the home of the student to the nearest property line of the school of attendance. Distances are electronically calculated with the assistance of Edulog bus routing software that incorporates detailed mapping capabilities. The Edulog routing software is linked to AH Connect, with safeguards to protect this sensitive information. Parents/guardians can register on AH Connect, and receive a password that will enable them to access bus route information for their students. Bus routes are arranged according to geographic areas.
- B. Bus Stops.** Whenever possible, bus stops will be located at the nearest corner or intersection to the student's home. Stopping at corners or intersections is generally safer due to the expectations of traffic. When a bus stops mid-block it can confuse motorists, whereas traffic anticipates the bus will stop or yield at the intersection. Students, especially in primary grades, tend to forget about pedestrian safety when in the proximity of their homes. In recent years metro student fatalities have occurred when young students disembarked the bus at house stops and were struck by cars. Also house identification is much more difficult for substitute drivers, causing the bus to arrive late to school. The number of bus stops on the bus route impacts the length of time students are on the bus and the number of buses required to provide this service. Bus stops will be located to maximize bus route safety and efficiency.

Bus Stop Locations And Procedures

- A. The bus routes may change each year based on the student population. Students may walk two to three blocks to the bus stop depending on the route structure and time schedule. Transportation Department guidelines for walking to a bus stop are .1 mile for kindergarten, .2 mile elementary, and .3 mile for secondary students. However, if it is more economical when developing bus routes to increase the distance from the home to the bus stop, these guidelines will not apply and students may walk longer distances to bus stops.

State guidelines for walking distances from homes to bus stops do not exist. The State requires that the school district provide transportation for all students who reside more than 2 miles from school. Every other decision relating to bus stop location and routing is left to the local school board.

- B. Generally, buses will not travel down cul-de-sacs unless the vehicle is picking up students with disabilities, because backing a school bus to turn around can be a safety threat to small children and property. A full sized bus needs 115 feet to safely turn around and the average cul-de-sac is only 90 feet. Also, individual stops at all homes would add considerable time to a bus route.
- C. Visibility from the home to the bus stop is not part of District criteria for establishing bus stops. Bus stops are collector points in the neighborhood. If a parent/guardian is concerned about watching their child at the stop they need to walk with them to the stop. Topics such as the "Danger Zone" in the district bus safety curriculum explain the correct method for students to enter and exit the bus at the corner.
- Sections D. and E. were omitted here because they relate to optional uses of different light systems and are thus unrelated to the placement of bus stops.
- F. Bus stops should be located with clear visibility for 500 feet in both directions. Stops in residential areas where the speed limit is 35 mph or less may not be located within 100' of each other (State Law).
- G. Stops in or out of residential areas with speed limits exceeding 35 mph may not be located within 300 feet of each other (State Law).
- H. Most bus stop complaints received by the Transportation Department are requests to move the bus stop closer to the home or daycare, especially if the current stop is not within view of the residence. Some bus stops will not be located where the stop can be seen from the home. If this is a concern, the parent/guardian will need to make arrangements to supervise their child at the stop.
- I. The school district views the bus stop as an extension of the school grounds and will enforce all school district policies (i.e. bus discipline, bullying, harassment, weapons, tobacco, etc) at the bus stop.
- J. If a regular education bus stop is not active for a two-week period, the stop will be discontinued until the Transportation Department or the bus company is notified. If a student riding on special transportation does not ride for three days in a row (and does not call the bus company to cancel their ride for those three days), the stop will be cancelled until a parent/guardian has contacted the Transportation Department to reactivate the stop. Once notified of the need to reactivate a bus stop, it may take up to 3 school days to re-start the service at the stop, since the pickup times for other students might need to be changed.

Determining Hazardous Roadways

The Transportation Department and bus company staff meet monthly to discuss issues related to busing and the Edulog routing system. This group also does an annual review of roadways in the District that are deemed to be hazardous, where students are not assigned to a bus stop across the hazardous roadway.

The determining factor for designating a roadway as hazardous is a posted speed limit over 30 miles per hour. There may be exceptions allowed (where students are permitted to cross the road) if the traffic volume allows for safe crossing, regardless of the speed. These exceptions are presented to the Safety Committee for discussion and approved annually by the school board. A list of the designated hazardous roadways can be found in Appendix A, page 31, at the end of this [the Student Transportation Policy manual] document.

Brevard District Schools, Florida

The policies of the Brevard District Schools in Florida include a requirement that:

Bus stops shall be designated at the most reasonably safe location for the area being served. There shall be a minimum distance of 200 feet between bus stops unless an unusual circumstance dictates otherwise. Whenever possible, school bus stops shall not be designated where the visibility is obscured for a distance of 200 feet either way from the bus.

In order to help determine *the most reasonably safe location for the area being served*, the Brevard District Schools' Transportation Department developed a *Brevard School Bus Route Survey* form that includes a series of questions for their school bus drivers to answer about the school bus stops and road hazards. Questions on the survey form include the following:

Stops

- Are bus stops visible at least 200 feet in each direction?
- Are any of your bus stops too close/too far apart?
- Are areas available for students to wait at least 10 feet from the main roadway?
- If students must cross a roadway to board your bus, do they wait for your signal to cross?
- As you approach the bus stop are you able to see the waiting students?
- Do you have stops where motorists routinely run your stop signals?
- Do you have bus stops you believe are confusing to motorists regarding the Florida school bus stop laws?
- Do you have any bus stops you believe should be evaluated for safety deficiencies?
- Do you find students sitting right next to the road when you approach the stop?

Road Hazards

- Do you cross railroad tracks on your school bus route?
- Are railroad crossing signaling devices (lights, gates, bells) available?
- Are you able to see at least 1000 feet in both directions at the railroad crossing?
- Are there any serious road hazards along your bus route?
- Are all appropriate sign and hazard notifications erected along your route?
- If you must cross a dual highway, is there sufficient space for your bus to be stopped in the median without blocking a travel lane?
- Are you required to back your school bus anywhere along your route?

The form also includes room for "General Bus Driver Comments." The completed survey forms can be used to help identify hazardous school bus stops as well as hazardous routes and rely on the bus drivers themselves to be able to identify problems with their routes and stops along the routes.

Fairfax County, Virginia

The Fairfax County Virginia School District developed a School Bus Stop Safety Evaluation Criteria rating system that is to be used to rate the desirability of an existing or potential school bus stop. With this detailed rating system, each stop is rated on each of 8 criteria, using a four-point scale that ranges in value from 3 to 0 and then a cumulative value is calculated for each stop based on those ratings.

An example of the manner in which this rating system is structured and used to rate the students' waiting area at a school bus stop follows:

Value = 3:

- The stop is in a residential neighborhood with a curbed street or a 10-foot buffer exists between the traveled portion of the road and waiting area when the speed limit is 30 mph or less. OR
- A deceleration lane and a curbed street or a deceleration lane and a 20-foot buffer exists between the traveled portion of the road and the waiting area when the speed limit is 35 mph AND the waiting area is on a sidewalk or asphalt path.

Value = 2:

- The street is curbed or a 5-foot buffer exists from the traveled portion of the road and waiting area when the speed limit is 30 mph or less. OR
- A deceleration lane and 10-foot buffer or deceleration lane and curbed street exist between the traveled portion of the road and waiting area when the speed limit is 35 mph. OR
- A deceleration lane and curbed street or a deceleration lane and a 20-foot buffer exist between the traveled portion of the road and waiting area. When the speed limit is greater than 35 mph. OR
- A physical barrier separates and protects students from traffic when the speed limit is greater than 35 mph AND the waiting area may not be on a sidewalk or asphalt path.

Value = 1:

- A 5-foot buffer exists between the traveled portion of the road and waiting area when the speed limit is 35 mph; the waiting area may or may not be a sidewalk or asphalt path. OR
- Students wait next to the road on a curbed street without a sidewalk or asphalt path when the speed limit is 35 mph or greater. OR
 - o A 5-foot buffer exists between the traveled portion of the road and the waiting area or the street has curbing.
 - o The waiting area is on a sidewalk or asphalt path.
 - o Posted speed is 40 mph

Value = 0:

- A buffer less than 5 feet exists between the traveled portion of the road and waiting area when the speed limit is 35 mph. OR
- A buffer less than 10 feet exists from the traveled portion of the road when the speed of motorists is 40 mph or more AND the waiting area may not be on a sidewalk or asphalt path

Conclusion

Although a few states have policies on routing and placement of school bus stops, the vast majority of these decisions are made at the local school district level. Though local school transportation professionals have been given the responsibility for planning school bus routes and designating school bus stops, little information regarding safety considerations for designating stops has been available to them.

The guidelines for selecting school bus stops presented here reflect a priority of safety for students getting to and from bus stops and while waiting for their buses. The guidelines have been developed with the recognition that, most of the time, school bus routes and stops must exist in less than ideal environments. School transportation professionals will always have to balance the designation of “ideal” school bus stops with the realities of what the bus route will allow as they are impacted by local roadway conditions, school budgets and other limitations.



The primary goal for providing these guidelines has been to provide school bus transportation professionals with information they will find useful in developing new policies or reviewing and revising existing policies and procedures for selecting school bus stops. Another goal has been to encourage districts to establish policies that provide the safest school bus stops possible, within existing constraints. For additional information on school bus safety and school bus driver education, child pedestrian injury data and pedestrian safety education, see the Resources section.

References

1. The Relative Risks of School Travel: A National Perspective and Guidance for Local Community Risk Assessment. TRB Special Report 269. Transportation Research Board. Washington, DC. 2002.
2. Seat Belts on School Buses. US Department of Transportation, National Highway Traffic Safety Administration. Washington, DC. May 2006.
3. Safety Effects of Marked and Unmarked Crosswalks at Uncontrolled Locations. US Department of Transportation, Federal Highway Administration. FHWA Publication HRT-04-100. McLean, VA. September, 2005.
4. Manual on Uniform Traffic Control Devices. US Department of Transportation, Federal Highway Administration, Washington DC, 2009.
5. National School Transportation Specifications and Procedures 2005 Revised Edition. Adopted by: The Fourteenth National Congress On School Transportation. Central Missouri State University. Warrensburg, Missouri, May, 2005.
6. Guidelines for the Location and Design of Bus Stops. Transit Cooperative Research Program Report 19. Federal Transit Administration. Transportation Research Board. Washington, DC. 1996.
7. School Bus Driver In-Service Safety Series. US Department of Transportation, National Highway Traffic Safety Administration. Washington, DC. 2001.

Resources

School Bus Safety and School Bus Driver Education

Identification and Evaluation of School Bus Route and Hazard Marking Systems

National Association of State Directors of Pupil Transportation.

In this report, the National Association of State Directors of Pupil Transportation describes findings from NHTSA-funded research regarding school bus route hazards. NASDPT defines school bus route hazards, recommends a model for identifying them, and describes how to train and inform school bus drivers and school transportation officials these hazards.

<http://www.nasdpts.org/hazard.pdf>

Illinois School Bus Safety Program for Pre-K and Grades K–8

Illinois State Board of Education.

This teacher's guide includes a ten-lesson program intended to teach children the basics of bus safety. These materials include age-appropriate lesson plans and activities that focus on safe skills and behavior as students in pre K through grade 8 walk to, wait for, ride on, board and exit the bus.

http://www.isbe.state.il.us/Funding/pdf/bus_safety_teach_guide.pdf

Kids, the School Bus and You

National Highway Traffic Safety Administration.

This handout presents tips and rules for children, parents, and drivers to help promote safety in and around school buses.

Search the NHTSA Web site (<http://www.nhtsa.dot.gov>)

National School Transportation Specification and Procedures

The Fourteenth National Congress on School Transportation.

The National School Transportation Specification and Procedures are intended to guide states as they establish their own rules and regulations for school bus equipment and school transportation operations. Based on recommendations from the delegates of the Fourteenth National Congress on School Transportation, these specifications focus on the safety, security, and general welfare of student bus riders.

<http://www.ncstonline.org/Documents/2005%20NSTSP-v4-4-7-08.pdf>

School Bus Driver In-Service Safety Series

National Highway Traffic Safety Administration.

This training program is designed for practicing bus drivers. Modules address: Driver Attitude, Student Management, Highway-Rail Grade Crossing Safety, Vehicle Training, Emergency Evacuation, Knowing Your Route, Loading and Unloading, Adverse Weather Conditions, and Transporting Students with Special Needs. Most modules require between one and one and one-half hours to complete.

Search the NHTSA Web site (<http://www.nhtsa.dot.gov>)

School Bus Stops: A Safety Guide For Transporters

Pupil Transportation Safety Institute.

This guide describes elements of bus stop safety, how to handle special situations, responsibilities of individuals involved and example forms.

http://www.pts.org/downloads/School_Bus_Stop_book.pdf

Web Site of the National Association for Pupil Transportation

This Web site provides information about the association, its committees, its annual conference, and National School Bus Safety Week, as well as relevant links for pupil transportation professionals. It includes professional development and certificate programs for transportation professionals seeking continuing education.

<http://www.napt.org>

Web Site of the National Association of State Directors of Pupil Transportation Services

This Web site features membership and contact information, as well as publications, reports, and position papers on topics regarding safety and best practices in student transportation. This site also contains information about councils within the organization, including the School Bus Manufacturers Technical Council, the Supplier Council, and the Council of State Associations.

<http://www.nasdpts.org>

Child Pedestrian Injury Data

Traffic Safety Facts: Children

National Highway Traffic Safety Administration.

This annual publication reports on traffic injuries and fatalities of children ages 14 and under. This report indicates trends in the types of traffic situations in which injuries occur and the age of children involved. It also details seatbelt use and effectiveness.

Search the NHTSA Web site (<http://www.nhtsa.dot.gov>) for the current edition.

Traffic Safety Facts: School Transportation-Related Crashes

National Highway Traffic Safety Administration.

This annual publication highlights characteristics of crashes that occur during transport to school. It includes the time and type of crashes and fatality statistics. Crashes that involve school buses or vehicles functioning as school buses are captured in this data.

Search the NHTSA Web site (<http://www.nhtsa.dot.gov>) for the current edition.

Pedestrian Safety Education

A Kid's Guide to Safe Walking

National Highway Traffic Safety Administration.

Geared towards middle school-age youth, this brochure introduces basic pedestrian safety skills, including several safety tips for crossing the street.

Search the NHTSA Web site (<http://www.nhtsa.dot.gov>)

Prevent Pedestrian Crashes

National Highway Traffic Safety Administration.

This three-page guide for parents and caregivers of pre-school and elementary school children offers basic information on child pedestrian crashes and safety behaviors for parents to teach to children.

Search the NHTSA Web site (<http://www.nhtsa.dot.gov>)

Teaching Children to Walk Safely as They Grow and Develop

National Center for Safe Routes to School.

This guide provides an overview of child development during the elementary and middle school years and how it relates to their pedestrian safety skills. Behaviors to assess and tips for how to strengthen a child's pedestrian abilities are included for three age groups.

http://www.saferoutesinfo.org/resources/education_teachingchildren.cfm

Tips for Parents and Other Adults for Teaching Pedestrian Safety to Children

National Center for Safe Routes to School.

This brief tip sheet describes how parents can be role models of safe pedestrian behavior. Other tips focus on choosing safe walking routes and the importance of considering child development patterns while teaching pedestrian safety skills.

http://www.saferoutesinfo.org/resources/collateral/tips_for_parents.pdf

Tips for Walking Safely to School

National Center for Safe Routes to School.

This handout offers tips for school-age children. These tips describe how to increase safety when walking to and from school.

http://www.saferoutesinfo.org/resources/collateral/tips_for_kids.pdf

Walkability Checklist

Pedestrian and Bicycle Information Center.

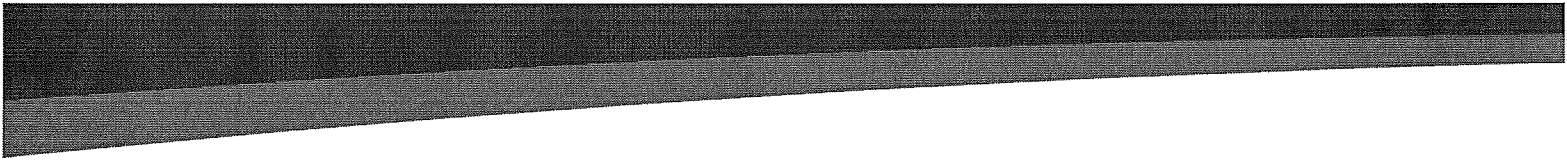
The Walkability Checklist helps give insight into the walkability of a neighborhood. It contains insightful questions, allowing the user to evaluate a neighborhood's walkability. In addition to the questions, the Checklist provides both immediate answers and long-term solutions to a neighborhood's potential problems.

<http://www.walkinginfo.org/checklist>

Web Site of the National Center for Safe Routes to School

The National Center for Safe Routes to School Web site features a variety of resources that focus on increasing child pedestrian and bicyclist safety, particularly during travel to school. Useful materials range from webinars to downloadable talking points to program development tips and toolkits. There are resources for parents, school staff, students, planners, Safe Routes to School coordinators, and marketing professionals.

<http://www.saferoutesinfo.org>



Prepared by the National Center for Safe Routes to School and the Pedestrian and Bicycle Information Center, both part of the University of North Carolina Highway Safety Research Center, with funding from the National Highway Traffic Safety Administration

