



# 5 Steps For Improving School Traffic Operations

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Student safety is paramount to cities and the schools they support. A key safety concern is student and vehicle interactions at school bus and passenger vehicle pick-up/drop-off areas. Students may ride a bus, drive themselves, get dropped-off/picked-up at school, or walk or bike to school. With all these modes of travel converging on the school during short windows of time before and after school, school operations can be frustrating. Traffic engineers are frequently called upon to help evaluate traffic circulation and make recommendations to help with traffic flow and student safety. We've worked with many cities and school districts to evaluate their school traffic circulation and provide recommendations on how to improve it. Here are the five things we do to analyze traffic circulation safety.

## 1. GATHER EXISTING DATA.

This includes traffic counts and observations. It's important to see firsthand the busy morning and afternoon peak periods to understand the current traffic flow. The key questions that you should answer are:

- How does the parking lot function for buses, parents, and students, both driving and walking?
- What routes are used when walking or bicycling to the school?
- What is the traffic control at the school accesses to the public road(s) and for any internal intersections?
- How are the sight lines for drivers at the access points, within the parking area, and through the drop-off/pick-up area?
- Are there any special circumstances (nearby railroad tracks, adjacent parking lots used by parents for drop-offs/pick-ups, lack of sidewalks or marked road crossings, etc.)?

## 2. UNDERSTAND THE ROOT CAUSE.

This is where the observations pay off in understanding the real concerns. Queuing may be a symptom of inefficient signal timing. Internal congestion may be the result of overlapping travel modes (i.e. lots of pedestrian crossings in front of the parent pick-up/dropoff area). After identifying the problem, determining the 'why' it's a problem can naturally lead to potential solutions.

## 3. DEVELOP POTENTIAL SOLUTIONS.

The following is a list of frequently used solutions to address traffic circulation at schools.

- Separate the modes of travel. Ideally, bus traffic is separate from staff parking areas is separate from parent drop-off/pick-up is separate from student walking/bicycling routes. The ideal is almost never possible, but look to minimize those conflict areas.
- Control drop-offs/pick-ups. These operations can occur smoothly with assistance from school staff and/or volunteers to help students quickly out of or into the cars and have the cars move in groups. This should also include physical barriers, such as one-way operations and raised curbing, to prevent queue jumping.
- Slow traffic. This could include having a route with turns to naturally slow traffic or using items like bump-outs (reducing crossing distances too) or speed humps. While speed humps or tables are effective, be sure to consider the other impacts like snow plowing in evaluating them.
- Use proper signing and pavement markings. Ensure signing and striping follows the latest information from the MUTCD.
- Increase student visibility. This includes ensuring good sightlines for drivers to see sidewalks, trails, and crossing areas. Drivers should have sufficient time to recognize a student, whether at a crossing or if they wander into the driving area from the sidewalk, and stop. Vegetation should be trimmed or relocated if presenting a sight distance issue.
- Set expectations. The school should have their arrival and departure procedures on their website at a minimum. Ideally, parents and students would be sent this information at the beginning of the year with a reminder in January after winter break.

#### 4. SEPARATE SHORT- AND LONG-TERM SOLUTIONS.

It's easy to reconstruct parking areas, revise traffic flow, and add trails on paper. But these things cost money, of which schools and school districts are usually in short supply. Try implementing the low-cost solutions first to improve the circulation operations now, while allowing the school and school district to plan for other upgrades.

#### 5. COORDINATE WITH SCHOOL OFFICIALS.

Don't wait to the end of the project to involve school officials. We recommend at least three meetings. The first after gathering existing data to discuss your observations and understanding of the situation. You also need to listen during this meeting as they will have information on operations as well as knowledge of things that may have been tried in the past.

A second meeting to discuss preliminary solutions you have developed. This is their time to provide input on the feasibility of the options (moving the front doors may be a great idea to help separate movements, but not practical). The third meeting should present the refined solutions and final report.