Dealing with Texas-Sized Problems around Schools

2006 TexiTE Summer Meeting
June 25, 2006

Scott A. Cooner, P.E.
Associate Research Engineer
Texas Transportation Institute

School Traffic Concerns?

- Parents
- Children
- School officials
- Commuters
- Neighbors
- Advocacy groups
- Traffic engineers
- Media
Walk to school is a big worry for parents
It’s only a minute from Jane Smith’s home, but every morning she walks her son to his second-grade class. Smith and other parents who escort their children to the school say it’s too risky to let them walk on makeshift paths during rush-hour traffic.

Why kids don’t walk to school
The harmless adventure of walking to school has turned potentially treacherous, and in many places, walking to school is a thing of the past.

Walking to school is for the brave
Congested roads mean even short trips from school are best attempted in a bus or car.

Traffic jam at school
Cars have lined NC 58 during the school rush this week. Traffic flow problems are spilling out of the school driveway onto the entire area surrounding the school. Drivers - who gave up before making it onto the school grounds - parked on the side of the road and crossed over with their children.

Start of school snarls traffic
State transportation workers today will begin a study of traffic delays where classes started Tuesday.

School Traffic: ‘A hassle’
It’s 8:30 a.m., and the line of automobiles waiting to drop off children for the start of another school day.

Traffic concerns school principal
A lot of schools just don’t have adequate storage for parent drop-off.

Traffic problems won’t go away
Traffic problems in school zones have frustrated teachers. The rural setting of the school causes problems for traffic flowing through the area. The speed of those vehicles and the students trying to get to and from the school. Police - doing everything they can to help.

Traffic jams at schools get attention
Growing concern about traffic conditions near several local schools prompted the Council to seek answers from the North Carolina Department of Transportation. Staggered reporting times, hiring off-duty officers to direct traffic and taking the issue to the school board were some suggestions.

Traffic congestions plagues two schools
Major traffic jams occurred on the opening day of school Wednesday. Both are located in high traffic areas.

School officials looking for solutions to traffic problems
A recent traffic accident in front of the Elementary School in which a grandmother was injured after dropping off her grandchildren has underscored the potential dangers of rush-hour congestion in the area.

School Student Population
- 2000-2005
- 324,000 students
Texas School Construction

- 2000-2005
- 389 campuses
- $2 billion/year
- Texas leads

Texas School Location

- Rural/suburban
- High speed
- Frontage roads
- Available land
4286 Project Background

- Precious Cargo support

Precious Cargo establishes and maintains effective, ongoing communication among TxDOT, school districts, and communities – helping to ensure the school’s pedestrian traffic environment for schools located along or adjacent to state highways.

The mission of TxDOT is to provide safe, effective and efficient movement of people and goods. Precious Cargo is a true application of this mission.

Research Components

- Review of existing guidelines
- Observational studies
- Field studies
- Recommended Guidelines

SAFE ROUTES TO SCHOOL

The School Building Association
Research Focus

• Transportation elements within school sites

Field Studies

• AM drop-off
• PM pick-up
• Ridership
• Conflicts
Product 1: 4286-2 Report
http://tti.tamu.edu/documents/4286-2.pdf

Guidelines Categories

- Site selection
- General site requirements and design
- Bus-related design and operations
- Parent zone design and operations
- Pedestrian and bicycle
- Access driveways
- Turning lanes
- Traffic control, markings and signing
- Parking
School buildings should be setback on the site a sufficient distance from adjacent roadways to ensure safe & adequate site storage for stacking of loading & unloading vehicles.

Example to avoid
Good example

School on right has approximately 350 feet of additional stacking space by being pushed back towards the back of the site.

Building Setback - Queue Storage
(Prototype School Design)

Front: 275 ft of storage
Back: 1100 ft of storage
Front: 630 ft of storage
Back: 1300 ft of storage
The physical routes provided for the basic modes (buses, cars, pedestrians/bicycles) of the traffic pattern should be separated as much as possible from each other.

**Example to avoid**

**Good example**

**Aerial Photos Illustrating Separation of Modes**

- Bus + Parent
- Shared exit

- Bus
- Parent
Bus Operations: Staging Method

Single file right wheel to the curb is the preferred staging method for buses.

Example to avoid

Good example

Parent Zone: Loading Method

Single lane queues minimize pedestrian/vehicle conflicts.

Example to avoid

Good example
### Parent Zone: On-Site Stacking Lengths

<table>
<thead>
<tr>
<th>School Type</th>
<th>Student Population</th>
<th>Loop Drive Stacking Length (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>Less than 500</td>
<td>400 – 750</td>
</tr>
<tr>
<td></td>
<td>500 or more</td>
<td>750 – 1500</td>
</tr>
<tr>
<td>Middle</td>
<td>Less than 600</td>
<td>500 – 800</td>
</tr>
<tr>
<td></td>
<td>600 or more</td>
<td>800 – 1600</td>
</tr>
<tr>
<td><strong>High</strong></td>
<td>400 – 800</td>
<td>800 – 1200</td>
</tr>
<tr>
<td></td>
<td>800 – 2500</td>
<td>1200 – 1500</td>
</tr>
</tbody>
</table>

*Note:* For high school populations greater than 2500, consider two separate student drop-off/pick-up loops.

### School Access Driveways (Spacing)

The spacing between school access driveways should be a minimum of 300 feet with 600 feet being desirable for left-turn lane development.

**Example to avoid**
School Access Driveways (Number - 4)

School Access Driveways (Number - 1)
### Product 2: Site Plan Review Checklist

<table>
<thead>
<tr>
<th>Guideline #</th>
<th>Review Question</th>
<th>Answer</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Is the building setback a sufficient distance to provide adequate site storage?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Is the school located on a high-speed roadway? (If yes, please comment)</td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td>Is access provided from more than one direction to the site (i.e., from 2 streets)?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Is the school site situated where the road alignment provides good visibility?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Are the physical routes provided for the basic modes separated from each other?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Is there adequate driveway stacking length for lining up vehicles on site?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Questions**

[http://tti.tamu.edu/product/](http://tti.tamu.edu/product/)

Scott A. Cooner, P.E.  
TTI  
Arlington Office  
(817) 261-1661  
s-cooner@tamu.edu