SUCCESS STORIES

Burlington Co., New Jersey

Burlington County Engineers Work with Local Schools

Engineers with the County of Burlington in New Jersey are working to make County road crosswalks along designated routes to school more visible. Recognizing that many County roads have higher speed limits than local residential roads, Traffic Engineer Martin Livingston and Assistant Traffic Engineer Michael Nei developed new design solutions to address concerns raised by several municipalities in the County.

To address the issue of children's safety while walking to and from school in Pemberton Township, the Burlington County Engineers and Pemberton Schools worked together to identify feasible solutions. On County Route 616, a multilane rural roadway with a posted speed limit of 45 mph, there is a mid-block crosswalk that connects the Marcus Newcomb elementary school and the Helen Fort middle school. Students were having difficulty safely crossing the county road to access the ball fields and school buildings. Even though the crossing had a high visibility, striped crosswalk with advanced warning signs, and flashers that were activated during the times when young students would be arriving or leaving school, this crossing used to be a place of numerous "near miss" crashes. Through the cooperation of Burlington County and the schools, with funding from the NJ Division of Highway Traffic Safety, the once dangerous crossing was made safer for those who use it.

The solution to the crossing on County Route 616 was a new in-pavement lighting system. In-pavement warning lights are being used at crosswalks to alert motorists to the presence of a pedestrian crossing, or preparing to cross, the street. The amber lights are embedded in the pavement on both sides of the crosswalk and oriented to face oncoming traffic. When the pedestrian activates the system, either by using a push-button or through detection from an automated device, the lights begin to flash at a constant rate, warning the motorist that a pedestrian is in the vicinity of the crosswalk ahead. The new system included yellow-green signs with lights that flash simultaneously with the in-pavement lights that illuminate the crosswalk. This raises the awareness of both the motorist and the pedestrian using the crosswalk. Field observation has shown the treatment to be a success with a reduction of "near-misses."

Key Facts

- The County responded to concerns raised by parents and municipal officials regarding safety along routes to school that crossed county roads.
- Burlington County Engineers tested three new design solutions to address concerns:
  - In-pavement warning lights along a mid-block crosswalk
  - Fluorescent green striping along a crosswalk that serves a bus stop
  - Installation of permanent radar driver feedback signs in several school zones.
- Burlington County provided funding for installation.

Innovative Ideas

- Provided enhanced visible cross walk technology to connect a school with ball fields.
- Enhanced a crosswalk with fluorescent green color striping to coordinate with the color on the school crossing signs.
- Combined permanent radar driver speed feedback signs with flashing yellow beacons school speed limit signs in several school zones.

In Mount Laurel Township, County engineers became concerned about a crosswalk on County Route 616 at Academy Road that serves a school bus stop. In 2001 there were five right angle vehicular crashes near this location and in 2000 there was a pedestrian/vehicular crash that resulted in injury to the pedestrian. The existing crosswalk was 10 feet wide and was marked in a ladder bar fashion. To help increase the visibility of the crosswalk, the County decided to experiment with a new striping treatment. Fluorescent green striping with alternating white and fluorescent green stripes, 2-foot wide and 4-foot on center was installed along the crosswalk. Since the installation of the fluorescent green crosswalk and revisions to the traffic lane assignments in September 2002, were three right angle crashes during the latter part of 2002, and no crashes in 2003.

When parents at several schools complained to County officials about drivers speeding through school zones, Burlington County funded the installation of permanent radar driver feedback signs at five school zones in the County. These signs resemble standard speed limit signs. The legend reads 'YOUR SPEED' with a two digit, flip-disk, light emitting diode (LED) variable display. The display operates with an internal radar gun, and indicates the speed of approaching vehicles. LEDs embedded in the display flash when an approaching vehicle exceeds the school speed limit, and continue to flash until the driver slows down to the proper speed.

The school zones also have regulatory signs and flashing yellow beacons, which reduce the speed limit during the arrival and dismissal periods of each school day. The driver feedback signs are mounted approximately 100 feet downstream of the flashing beacons and operate in conjunction with existing flashing school zone beacons to improve the effectiveness of the school zone speed limit.

The installation of the driver feedback signs has shown excellent results reducing speeds in the five school zones. Results from one location indicated an approximate speed reduction of 20% during operation of the radar signs in conjunction with the flashing beacons, as opposed to the operation of flashing beacons alone. In 2003, the County plans to install radar driver feedback signs that enhance existing flashing yellow beacon signs in two additional school zones as part of a federally funded traffic signal upgrade project.

Burlington County

Burlington County is the largest county in New Jersey located between the Delaware River and the Great Bay on the Atlantic Ocean. The 40 municipalities in the County include more than 150 elementary and high schools, both private and public, two vocational training schools, two special education schools and a two-year community college.

Population (2000)	423,394
Area	827 square miles
Density	512 people/ sq. mile
County School Enrollment	
Estimated Population 3 years and over enrolled in school	114,030

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Burlington County, NJ
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http://www.walkinginfo.org/pedsmart/home.htm

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