Bulletin #3

"Not Another Accident!"
Improving roadway safety and enhancing emergency response.

March 2007
Morris County Division of Transportation

The Morris County Division of Transportation, in coordination with the Morris County Planning Board, is developing the Circulation Element of the Morris County Master Plan. A series of ten transportation bulletins, which will be released individually, are being developed to reflect major countywide and regional transportation issues that affect our daily lives. In addition to the bulletins a technical document is being developed. This document will reflect detailed county projects, demographics, issues, and projections. It is anticipated that these broad based bulletins, which will have a large distribution, will create an exchange of ideas, therefore becoming an important part of the plan's development.

PREVIOUSLY PUBLISHED

Bulletin #1: It's Not Cool to Drive to School-An Examination of School Related Congestion (June 2006)

Bulletin#2: Congestion (February 2007)

Bulletin #3 addresses the issue of automobile accidents. During the county's municipal outreach to elected officials, planners, engineers, and residents, the number of accidents was a concern. In parallel, U.S. Secretary of Transportation Norman Y. Mineta issued a challenge to the nation to reduce the death rate from 1.5 deaths per 100 million VMT (Vehicle Miles Traveled) to 1 death per 100 million VMT by 2008. The discussion in this bulletin focuses on strategies to reduce the number of accidents on streets and highways. This bulletin also presents approaches to improving emergency response capabilities.

This bulletin can also be found on the Morris County Division of Transportation's (MCDOT) website at www.mcdot.org. Questions may be directed to Deena Cybulski of the MCDOT at mcdot@co.morris.nj.us or by using the contact information provided below.

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Not Another Accident!

Improving roadway safety and enhancing emergency response

Morris County had the 10th highest number of accidents out of the 21 counties in New Jersey from 2003 to 2005, an improvement from 2002 when the county was ranked 9th. From 2002-2005, there were 67,114 accidents involving 150,049 vehicle occupants, 733 pedestrians, and 335 bicyclists in Morris County. Although the majority of people involved in accidents were vehicle occupants, the rates of injury and death were far higher for those traveling by foot or bicycle than by automobile. In accidents within Morris County, 12.4% (18,600) of vehicle occupants were injured and 0.06% (94) were killed. Comparatively, when hit by an automobile, 84.9% (907) of bicyclists and pedestrians were injured and 1.7% (18) were killed (NJDOT Crash Data). Therefore, it is imperative that the safety of all roadway users is improved.

Road safety improvements must address the cause of accidents in order to reduce their frequency and severity. The top five reasons drivers get into accidents in Morris County are: (1) driver inattention – i.e. sleeping, using electronic devices, personal grooming, eating, and reading; (2) backing unsafely – in parking lots, driveways, and on-street parking spaces; (3) failure to yield right of way to vehicle/pedestrian; (4) animal action
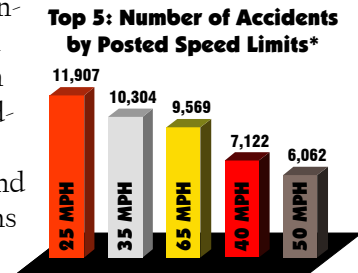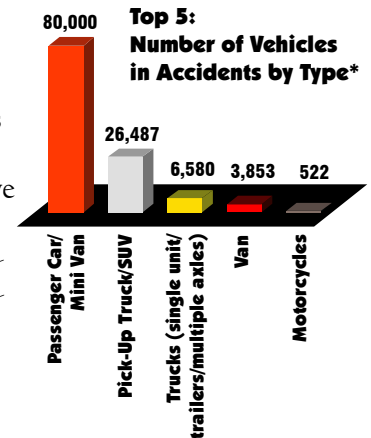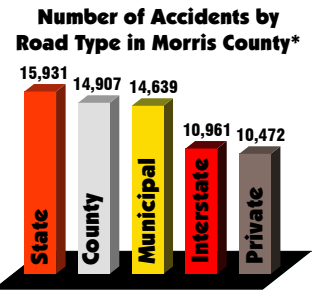
– for example, the driver either crashes into a deer, or swerves to avoid a deer that is on the road; (5) unsafe speed – driving above the posted speed limit (NJDOT Crash Data). This data indicates that driver behavior is a significant cause of a high number of accidents.

Changing driver behavior to reduce the amount of accidents will be difficult, particularly with ever longer commutes and increased distractions. Measures can be taken that involve planning, engineering, outreach, and coordination that will influence driver behavior and improve roadway safety. These measures include: analyzing high rate accident locations to improve roadway design and operation, providing better education for our drivers, supporting enforcement of motor vehicle laws, and exploring safety technologies.

Accidents cannot be entirely eliminated; therefore, emergency response management will continue to be crucial. An accident scene can be dangerous for victims, emergency responders, and passing vehicles. Damaged vehicles often block one or more travel lanes before and during accident cleanup. Additional collisions may occur if other drivers are not aware of stopped vehicles, people, or emergency responders on the roadway. Therefore, accident detection should be enhanced to allow faster emergency response and to quickly raise driver awareness. The county-wide Morris Interoperable Radio System (MIRS) has already been installed in every county and municipal emergency vehicle to improve inter-municipal com-

Daily Rec
Woman dies in Rt. 80 crash

Number of Accidents by Road Type in Morris County*

Road Type	Accidents
State	15,931
County	14,907
Municipal	14,639
Interstate	10,961
Private	10,472

Top 5: Number of Vehicles in Accidents by Type*

Type	Number
Passenger Car/Mini Van	80,000
Pick-Up Truck/SUV	26,487
Trucks (single unit/trailers/multiple axles)	6,580
Van	3,853
Motorcycles	522

Top 5: Number of Accidents by Posted Speed Limits*

Speed Limit	Accidents
25 MPH	11,907
35 MPH	10,304
65 MPH	9,569
40 MPH	7,122
50 MPH	6,062

*2002-2005 NJDOT Crash Data

munication in an emergency. Accident cleanup procedures should be improved to allow the injured to receive on-scene care in a safer environment, while maintaining the movement of traffic around the accident scene.

Accident reduction and safety improvements will provide obvious benefits in terms of preventing death and injury, but there are secondary benefits as well. Fewer accidents will lessen roadway congestion caused by blocked lanes and accompanying post-accident "rubber necking," which exacerbate the already significant delay experienced by travelers, particularly during peak driving times. The delay caused by accident-related congestion can affect the economy through lost time at work and slowed goods movement. Accidents also have an economic effect through property damage,

medical, rehabilitation, emergency service, and insurance costs. According to the National Highway Traffic Safety Administration, the economic impact of motor vehicle accidents in New Jersey was $9.3 billion in 2000. There are other impacts caused by accidents that are not directly measurable through economic terms, such as lost time with family, stress, and road rage. Nevertheless, the cumulative impacts of accidents are significant.

The following proposals seek to reduce the number of collisions, improve emergency response procedures, and minimize the congestion that vehicle accidents generate.

Proposals

1. Accident Reduction

Identify high frequency accident locations and determine what infrastructure and design elements need to be addressed to increase safety for motor vehicles, bicyclists, and pedestrians at these locations. Use roadway and in-vehicle crash prevention technologies to reduce the number and severity of accidents. Provide education and enforcement to reinforce safe driving behavior.

COUNTY ACTIONS

The Morris County Division of Transportation (MCDOT) in coordination with the Morris County Division of Engineering should identify and analyze high accident locations on county and local roads:

▶ *Redesign high accident intersections and corridors to provide safety for all modes of transportation. Based on the frequency of crashes, the NJTPA identified the following locations as the highest priority sites in Morris County: Pequannock Avenue, Dover; County Route 510, Morristown; and Sylvan Way, Parsippany-Troy Hills Township. (NJTPA, 2005)*

▶ *Install devices, such as median barriers and road side rumble strips at locations where feasible to reduce the potential of drivers to swerve into oncoming traffic or off the road.*

▶ *Install deer-crossing countermeasures such as exclusionary fencing, wildlife underpass crossings, and roadside deer reflectors. Install wildlife-crossing signs to alert drivers to identified crossing areas on county roads.*

Endorse local, state and federal roadway safety efforts for all transportation modes:

▶ *Assist local municipalities in their efforts to make safety improvements and to obtain state and federal funding for these improvements.*

GENERAL ACTIONS

▶ *Support lifetime driver education and testing, and more intensive driver preparation/training in real traffic conditions.*

- ▶ *Support speed limit enforcement and other motor vehicle regulations.*

- ▶ *Identify locations where traffic calming and signage may be employed to reduce accidents between motor vehicles, pedestrians, and bicyclists.*

- ▶ *Standardize police collection of accident data and utilize Global Positioning System (GPS) technology to aid in tracking of accident locations through centralized electronic databases. This will improve the identification of high accident locations and their causes.*

- ▶ *Encourage the installation of Intelligent Transportation Systems (ITS) technologies that can be incorporated into the county's transportation network as well as into individual vehicles. Examples of ITS for crash reduction include dynamic message signs, roadway deicing systems, and internal vehicle backup sensing devices. ITS technologies can prevent crashes and reduce the severity of injuries by raising driver awareness of roadway conditions and immediate surroundings, encourage vehicle speed reduction, and provide safer road surfaces.*

- ▶ *Explore and install Deer Warning Dynamic Signs with sensors that detect deer approaching roadways and with a capability, such as message boards or lights, to alert drivers.*

2. Emergency Response

Improve accident detection and emergency response procedures to allow first responders to reach the injured faster and provide on-scene care in a safer environment. Maintain the movement of traffic around and directed away from accident scenes.
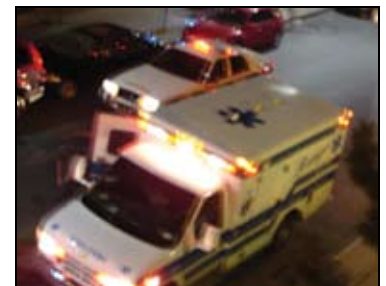
COUNTY ACTIONS

- ▶ *MCDOT, in coordination with the Morris County Division of Engineering, should evaluate the county road system to pinpoint where adequate emergency pull-off areas are deficient or nonexistent.*

- ▶ *Encourage local police departments to use crash site curtains to reduce rubbernecking.*

- ▶ *Encourage the design of pre-determined detour plans to provide quick setup of alternative routes and utilize ITS dynamic signs to direct drivers to these detours in case of an accident or emergency.*

GENERAL ACTIONS

- ▶ *Explore the creation of traffic monitoring centers that utilize incident management systems, including roadway cameras that transmit video to monitoring centers, to improve accident detection and emergency response coordination.*

- ▶ *Evaluate emergency response inter-departmental communication and coordination.*

- ▶ *Install uniform traffic signal preemption devices county-wide so that all municipal and county emergency responders can utilize this technology within their town and when called into neighboring towns for mutual aid. Preemption devices can give a green light or extend the green light for the approaching emergency vehicle.*

- ▶ *Educate motorists on proper driving behavior near accident scenes and emergency response vehicles. Reinforce the law on yielding to emergency vehicles and obeying temporary lane closures that are often created with traffic cones and road flares.*