

Two of the Planning Factors that the Fixing America's Surface Transportation (FAST) Act legislation requires Metropolitan Planning Organizations (MPOs) to consider in the transportation planning process are safety and security. Specifically, MPOs should consider projects and strategies that:

- Increase the safety of the transportation system for motorized and non-motorized users
- Increase the security of the transportation system for motorized and non-motorized users

While safety and security are closely related, they are differentiated by the cause of the harm from which the transportation system and its users are being protected. Safety encompasses the prevention of unintentional harm to system users or their property. This includes vehicular crashes (whether of cars, trucks, buses, airplanes, or bicycles), train derailments, slope failures or other sudden destruction of roadways due to natural causes, and falls or injuries to pedestrians due to poorly constructed or absent facilities, among other issues. Security involves the prevention of intentional harm to the transportation system or its users, including theft or dismemberment of elements of transportation infrastructure, assault on users of the system, or large-scale attacks intended to completely disrupt the movement of people and goods.

While safety has long been a required planning factor for MPOs under federal transportation legislation, it was not until the terrorist attacks of September 11, 2001 that federal policy makers determined that transportation planners at all levels needed to consider security concerns more specifically.

Through proper engineering, education, enforcement and emergency management, a safe and secure transportation network can be provided to

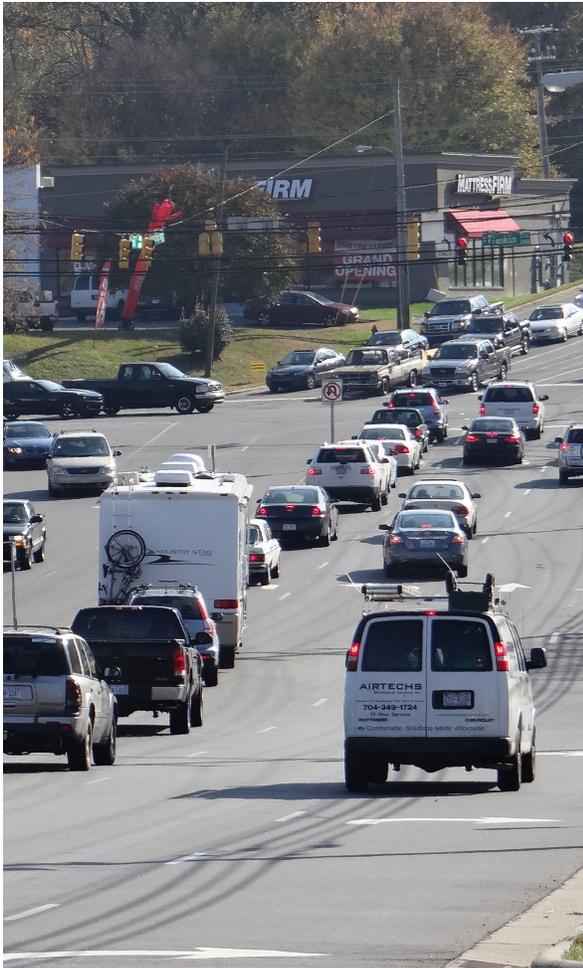
the region. Safety especially is a priority for the GCLMPO, as evidenced by the inclusion of safety metrics in the project prioritization process for roadway and bicycle/pedestrian projects.



Streets and Highways

Enhancing highway safety is critical to the health and well-being of the citizens of North Carolina and those who travel and conduct business on our streets and highways. Without the continued substantial improvement in highway safety, automobile crashes will continue to be a leading cause of death and injury for a large segment of the population, as well as a major socio-economic drain on the resources of government and the people of this State. Ways to incorporate safety in transportation are reflected in the American Association of State Highway and Transportation Officials Strategic Highway Safety Plan and the North Carolina Strategic Highway Safety Plan.

The FAST Act maintains the Highway Safety Improvement Program (HSIP). This program is structured and funded to make significant progress in reducing fatalities on highways as well as other modes that use highway, railroads, and other conduits within the transportation network. The HSIP increases the funds for infrastructure safety and requires strategic highway safety planning focused on measurable results. States are required to have a safety data system to perform problem identification and countermeasure analysis on all public roads, adopt strategic and performance-based goals, advance data collection, analysis, and integration capabilities, determine priorities for the correction of identified safety problems, and establish evaluation procedures.



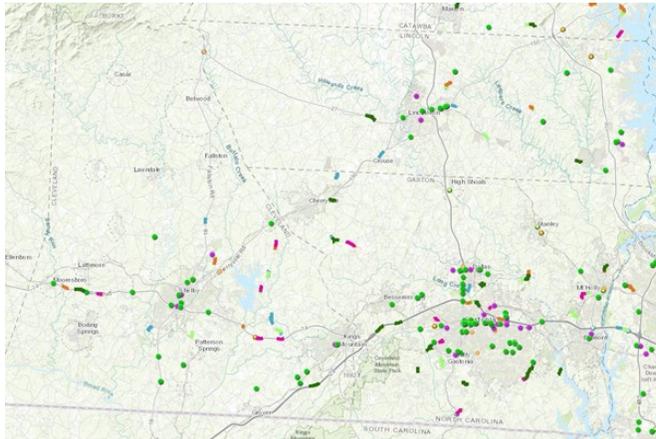
North Carolina's HSIP is structured into several distinct phases, including:

- System of safety warrants is developed to identify locations that are possibly deficient.
- Locations that meet warrant criteria are categorized as potentially hazardous (PH) locations.
- Detailed crash analyses are performed on the PH locations with the more severe and correctable crash patterns.
- The Regional Traffic Engineering staff performs engineering field investigations.
- The Regional Traffic Engineering staff utilizes Benefit: Cost studies and other tools to develop safety recommendations.
- Depending on the cost and nature of the countermeasures, the investigations may result in requesting Division maintenance forces to make adjustments or repairs, developing Spot Safety projects (typically under \$250,000), developing Hazard Elimination projects (typically \$400,000-\$1,000,000), making adjustments to current TIP project plans or utilizing other funding sources to initiate countermeasures.
- Selected projects are evaluated to determine the effectiveness of countermeasures.

The ultimate goal of the North Carolina HSIP is to reduce the number of traffic crashes, injuries and fatalities by reducing the potential for and the severity of these incidents on public roadways.

Figure 9-1 shows the North Carolina HSIP Locations for a five year duration (2013 – 2017).

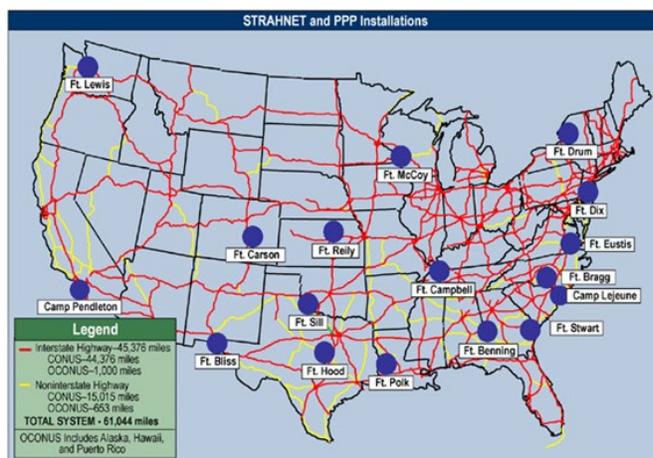
Figure 9-1. North Carolina HSIP Locations for 2013-2017



Education is generally handled by the Governor's Highway Safety Program (GHSP). "Click It or Ticket" and "Booze It or Lose It" are examples of these educational programs. Education can also be conveyed through driver's education courses. Enforcement is important to the success of programs as Safety laws are only effective if they are enforced.

Crash data collected in the field by emergency service workers are the basis on which safety programs are developed. The collection of accurate crash data help planners identify high-crash intersections and corridors and determine the type of crash and the contributing factors. The data are valuable in identifying and designing transportation improvements. The NCDOT Transportation Mobility and Safety Division currently provides the MPO with crash data from its Traffic Engineering Accident Analysis (TEAAS) data.

Figure 9-2. Strategic Highway Network



Congestion is a major contributor to crashes and also impedes the ability to effectively respond to and manage safety and security issues. Even with excellent enforcement and safety planning, accidents will happen. Quick emergency medical service can mean the difference between life and death and can reduce injury severity when crashes occur. Travel efficiency and level of service are directly related to congestion. Engineering new roads and improvements to reduce congestion on existing roads will effectively provide a safer transportation network. Intelligent Transportation Systems tools can also manage the safe flow of traffic if an accident occurs. The Metrolina and Western Region Regional Intelligent Transportation Systems (ITS) Strategic Deployment Plans identify and prioritize ITS transportation needs in Gaston, Cleveland, and Lincoln counties.

The Strategic Highway Network (STRAHNET) is an important element in the security of the region, state and nation. STRAHNET provides the military with access, continuity and emergency transportation of personnel and equipment. The system totals over 62,000 miles of public highways designated by the Federal Highway Administration in partnership with the Department of Defense. Approximately 45,400 miles of Interstate and defense highways and about 15,600 miles of other highways make up the STRAHNET system. Additional highway routes link more than 200 military installations and ports to the STRAHNET system. The roads in the STRAHNET system are designed to support large military convoys and rapid mobilization and deployment of armed forces. **Figure 9-2** shows the Strategic Highway Network.



Bicycle and Pedestrian

The National Highway Traffic Safety Administration has determined that pedestrian crashes are more likely to occur during peak travel periods in the morning and afternoon. Most crashes with pedestrians will occur in urban areas where the volume of pedestrian and vehicle traffic is high; however, rural areas can also be dangerous for pedestrians due to the lack of sidewalks, paths, wide shoulders and cross walks. Driver behavior is a factor as well; speed and alcohol involvement have an impact on many crashes with pedestrians.

The NCDOT Division of Bicycle and Pedestrian Transportation maintains and shares with the GCLMPO a database of bicycle and pedestrian crashes and relevant attributes for each crash. This data is useful for local agencies within the MPO and for NCDOT when identifying areas of safety concern for bicyclists and pedestrians. Safety countermeasures utilized within the GCLMPO include installation of buffers or planting strips, crosswalks, traffic calming devices, pedestrian refuge islands, etc.

Many municipalities within the GCLMPO have adopted bicycle and pedestrian plans that address the “Four-Es” (i.e. education, engineering, enforcement, and encouragement) of bicycle and pedestrian planning, with a strong emphasis on the importance of safety. Historically, the GCLMPO and NCDOT have promoted the Safe Routes to Schools (SRTS) program, a federal program that encourages and enables children to walk and bike to school by making these activities safe. This program supports the planning, development and implementation of projects that improve safety and reduce traffic, air pollution and fuel usage in the vicinity of schools.

Security and Emergency Management

The National Guard maintains a database of state and local emergency responders called the Regional and State Online Resource for Emergency Management. The National Guard has located every fire, police, hospital, and local EMS provider across the country and has created a searchable database and mapping system. The four National Guard bases in the region, located in Belmont, Gastonia, Kings Mountain, and Lincoln, serve to supplement the regular armed forces and assist during national emergencies and declared states of emergency.

In 2014, Gaston, Cleveland, and Lincoln counties updated the Regional Hazard Mitigation Plan, which provides guidelines for evacuations, containment and first responder actions for both natural and man-made hazards. This Plan was written through coordination with transportation, law enforcement, planning and operational agencies. All three counties also operate 9-1-1 systems to serve the communities and local government agencies with effective communication services and facilitate communications for public safety agencies.