

County Road Survey for Transportation Managers



Issue brief: January 2011

North Dakota travel is dominated by rural roadways, as approximately 72% of the miles traveled are rural compared to just 33% nationwide. Rural roads are associated with a relatively high crash risk – over 80 percent of traffic fatalities occur on these rural roads (FHWA 2010a).

Local rural roads are the most dangerous network among road classes when considering fatality incidence. Fatalities are three times more likely on local roads than on principle arterials and four times more frequent than on interstates – considering travel exposure. Between 2002 and 2008, 87% of fatalities and 39% of the injuries in North Dakota occurred on rural roads (ND Crash Summary, 2008). Of these crashes, about one of three were on local roads.

A first step in contributing to local road safety is in understanding current priorities, practices, decision processes, and information needs. Here, local roads managers offer important insight in a statewide survey. Results show counties include safety elements in construction and maintenance, but few have any ongoing safety planning initiatives that institutionalize common road safety practices. For instance, none report regular use of the chevrons on curves—which has been proven highly effective in crash reduction. While almost half the counties reported using rumble strips or stripes, only one in four frequently apply this safety countermeasure. In another critical low-cost rural road safety feature, 80% have problems with right of way interference in trying to maintain an adequate clear zone. Additional findings are summarized below.

County Asset Scope

The initial series of questions established the county asset and spending profile. Roads managers were asked about county road miles, sign inventory, township road activities, and road safety budgets. The road system managed in individual counties ranges from 150 to 1,700 miles. County road miles are predominately gravel surface with managers reporting that over 80% of the roads they operate are gravel. The distribution ranged from a low of 83 miles in Renville to a high of 1,635 miles in McHenry – the median gravel miles was 339 miles. Counties reported total miles of pavement of 4,082. The median miles of paved road reportedly maintained by the counties are 100 miles.

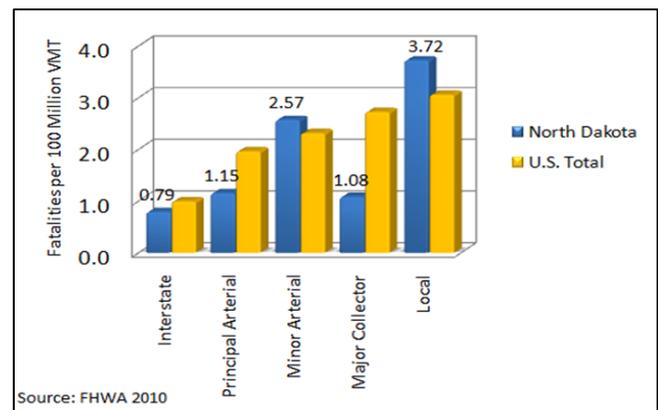
North Dakota counties vary in that some counties have organized townships that maintain their roads, other organized townships contract with others to maintain their roads and some county townships have no board or governing body. A majority, or 3 of 4 counties, report maintaining gravel township roads while 1 in 4 counties reported that they maintain some paved roads for townships.

The budget allocated to safety was derived as a part of total road spending based on recommendations from NDACE pre-test responses. The average share of the annual budget allocated to road safety improvements was 15%. However the median was only 6%. The share of the annual budget reportedly spent on other road safety improvements such as striping and signs was 5.6% but the median was only 3%.

Asset Management

Counties were queried in regards to their asset management, including sign replacement cycle, gravel replacement

Fatalities per 100 Million Vehicle Miles Traveled, Rural Roads



practices, and striping. A large majority – 89% – reported changing signs as needed. As with the road signs, pavement markings are an important safety asset in communicating information about road features and traffic operations on paved roads. Just over half of counties report a regular interval for centerline striping with 3 years being the most common interval at 29%. One in ten counties report centerline striping annually and 16% reported striping every other year.

A majority of counties, 62%, reported replacing gravel as needed. Almost 50% of counties reported using rumble strips or stripes with 26% using them always and 22% using them most of the time. A strategic plan for road safety can be a critical asset in engaging stakeholders and identifying priorities to improve community health and attract business investment through reduced crash risk. Five counties of the 35 responding

