

County vs. Township Road Infrastructure Investment Needs

This report responds to the request of the Budget Section for more detailed information regarding the distribution of road infrastructure investment needs. Specifically, the Budget Section has requested separate estimates of infrastructure investment needs for township and county roads.

Aside from County Major Collector (CMC) routes, existing databases do not distinguish between county and township roads. To estimate the number of miles in each category, numerous data sources were utilized including: the North Dakota road shapefile from the North Dakota GIS Hub, the Highway Performance Monitoring System data, and township road mileages obtained from the North Dakota Treasurer's office, specifically the township road funds distribution reports.

The analysis is complicated by the fact that a linear referencing system (such as the ones used for federal and state highways) does not exist for county and township roads. In the absence of definitive data, a number of assumptions must be made in order to estimate separate road infrastructure needs. First, it is assumed that all CMC routes are owned and maintained by county governments. Second, all graded and drained roads are assumed to be owned and maintained by townships. This leaves a subset of county and township roads classified as "Local" in the HPMS database, and "County" in the GIS Hub database. After comparisons were made to existing data sources such as the NDDOT Transportation Handbook and the township road fund distribution reports, it became apparent that this subset consists of both township and county owned roads.

Utilizing data from the township distribution reports, total organized and unorganized township road mileages were estimated for each county in North Dakota. These estimates were compared to the subset mentioned above to arrive at an estimated number of non-CMC county road miles in each county. This estimate was then compared to and deducted from the mileages in the ND GIS Hub shapefiles to produce estimates of county and township miles by county.

The results of this process are shown in Tables 1 and 2. It should be noted that these values represent an estimated distribution of the road investment needs, as data regarding the precise locations of township roads within the transportation network are unavailable. If more specific data becomes available in the future more specific needs can be attributed to individual county and township roads.

Table 1 separates the county and township road infrastructure needs by oil activity. This table presents the needs in oil producing regions and non-oil producing regions, as well as a total for counties and townships in the 2013-14 and 2015-16 biennia. Estimates for the 20 year analysis period are also presented.

Table 2 presents the same data, separated by roadway surface type. An assumption was made regarding the distribution of paved road miles between counties and townships. It was assumed that the number of paved township miles, if any, would be small. In absence of data to confirm or reject this assumption, all paved roads were assumed to be under the jurisdiction of the county

due to the fact that a county road department would likely be assuming the maintenance duties on a paved roadway. Again, this is a limitation of existing datasets.

Table 1: County and Township Road Needs - Oil Counties, Other Counties, and Total (in millions of dollars)

Region	2013-14	2015-16	2013-2032
<i>Oil Producing Counties</i>			
County	\$444	\$312	\$2,559
Township	\$78	\$78	\$925
Total	\$522	\$390	\$3,484
<i>Other Counties</i>			
County	\$213	\$283	\$2,628
Township	\$100	\$100	\$867
Total	\$313	\$383	\$3,495
<i>Statewide</i>			
County	\$657	\$595	\$5,187
Township	\$178	\$178	\$1,792
Total	\$835	\$773	\$6,979

Table 2: County and Township Road Needs, by Surface Type (in millions of dollars)

Road Category	2013-14	2015-16	2013-2032
<i>Unpaved</i>			
County	\$293	\$293	\$3,256
Township	\$178	\$178	\$1,777
Total	\$471	\$471	\$5,033
<i>Paved</i>			
County	\$363	\$301	\$1,946
Township	\$-	\$-	\$-
Total	\$363	\$301	\$1,946
<i>Statewide</i>			
County	\$656	\$594	\$5,187
Township	\$178	\$178	\$1,792
Total	\$834	\$772	\$6,979