1.4.1   A Technique for Merging State and Non-State Linear Referencing Systems

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The Wisconsin Department of Transportation (WisDOT) has two separate linear referencing systems (LRS) for managing state roads and local roads. The State Trunk Network (STN) only represents statewide routes such as interstates, state highways, and county highways. The Wisconsin Information System for Local Roads (WISLR) system includes all roads, but focuses on local roads. These systems are not related; link IDs (road segments) and node IDs (intersections) are not the same between the systems and even the lengths of roads in the two systems are measured in different units. Therefore, the focus of this project was to develop a technique to relate the two systems.

Merging STN and WISLR is advantageous because it allows the transfer of transportation data between the two systems. To move this data, a table, called the link_link table, was created that relates the two systems based on link IDs and lengths of links. Point data in STN (in the form of link IDs and offset distances) can be programmatically moved using the link_link table to create an equivalent table of WISLR link IDs and offset distances. A pilot study was conducted to test and confirm the procedures for coding the link_link table. This paper presents the link_link table design and coding methodology, quality checks for the link_link table, the results of moving data from STN to WISLR, and recommendations for future work related to this project.