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Mile Marker Signs and the Linear Referencing System

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Massachusetts Department of Transportation (MassDOT) implemented a Mile Marker Sign installation program utilizing their Road Inventory Database's Linear Referencing System (LRS). It was determined that new signs would be essential for MassDOT's maintenance needs, State Police and the Enhanced 911 program. The existing mile marker signs were inaccurate, in disrepair, and not tied to the Road Inventory database. Rural areas are affected by these issues more than urban areas, as there are usually no significant landmarks to be found in the event a reference location is needed.

Using the Road Inventory database, initial mile marker points covering all numbered routes (Interstate, U.S. and State) in the primary and opposing direction were generated from the existing LRS measures. The complexity of the Massachusetts route system required additional processing. From here GPS coordinates were generated and sent to contractors who then went to the field to install the signs. Once the signs were installed, final GPS coordinates were sent back to the office to add to the database. A new LRS was generated using these mile marker points which have measures that correspond to the new signs.

Signs have been successfully installed, accurately, with a GPS coordinate assigned to them. Maintenance in the field can be recorded properly in the database. When an incident occurs in the field, it can be reported by using the mile marker sign. Assistance can be provided at the precise location of the incident using the coordinate assigned to the sign.