

## **Louisiana Department of Transportation & Development (LaDOTD) Guardrail Inventory and Condition Assessment**

### Background/Problem

At the end of October 2014, the state of Louisiana joined a growing number of states that have banned any new installations of Trinity Industries' ET-Plus highway guardrail systems because of safety concerns. In response to these safety concerns and the overall need to assess the current inventory and condition of guardrails and other infrastructure assets, District 61 of LaDOTD pioneered an effort in 2015 to develop and perform the process of inventorying and assessing guardrail assets in the state of Louisiana. The initial process involved several inspectors that would drive the highway and manually record the necessary inventory and condition information for each guardrail and then bring it back to the office to then transfer the information into a digital spreadsheet. After assessment of this initial process, member of LaDOTD determined they needed a system that would standardize and streamline the data collection and storage process, a process and system that follows and complies with the American Association of State Highway and Transportation (AASHTO) and Federal Highway Administration (FHWA) recommendations and standards, a system that could track and report progress and results in real-time, and a system that could be easily configured to address other infrastructure assets such as culverts, signs, bridges, and more.

### Solution

After assessment of the solutions available in the market, LaDOTD teamed with Raxar Technology Corporation to utilize Raxar's services and technologically advanced, GRAiT™ System (Graphical Real-Time Asset Inspection and Tracking System) to satisfy their system needs.

In just the first month, members of LaDOTD and Raxar were able to accomplish the necessary tasks to enable field users to easily collect guardrail information and streamline the reporting process:

- Scoped out the project requirements
- Gathered necessary system requirements
- Developed the execution strategy
- Integrated legacy guardrail into the GRAiT™ System
- Configured the GRAiT™ System for the most efficient guardrail inventory and condition assessment workflow according to AASHTO and FHWA standards
- Created a Guardrail Inventory and Condition Assessment procedure that aligns with AASHTO and FHWA recommendations and standards
- Registered and trained project managers and field users on the GRAiT™ System
- Trained administrative users on how to configure the GRAiT™ System for other infrastructure assets such as culverts, signs, bridges, and more.

**The results were outstanding as now, in just one month, LaDOTD has a system that** standardizes and streamlines their data collection and storage process for guardrail assets, complies with AASHTO and FHWA recommendations and standards, tracks and reports progress and results of their Guardrail project in real-time, and is easily configurable to address other infrastructure assets such as culverts, signs, bridges, and more. As of July 2016, the GRAiT™ System contains inventory and condition

assessment data for over 1000 guardrails throughout the state of Louisiana, which continues to grow each day. In addition, Raxar is in the process of developing interfaces with other LaDOTD legacy systems to allow for the seamless exchange of valuable data and increase transparency within the organization.

In conclusion, the results of the LaDOTD project demonstrated the successful communication, teamwork, preparation and services provided by LaDOTD and Raxar in addition to the configurability, user interface, and value provided by Raxar's GRAiT™ System.