

ROADWAY DATA COLLECTION



The Roadway Data Collector

USES HIGH-ACCURACY GPS TO COLLECT DISTANCE INFORMATION

→ Custom configuration available for each user mode (road inventory, Highway Performance Monitoring System, road characteristics inventory)

The OnSafety™ Roadway Data Collector application is a low-cost vehicle data collection system. It is designed to assist State Departments of Transportation and Local Public Works Agencies with roadway-related data for Federal reporting and inventory requirements. It is specifically tailored to include Highway Performance Monitoring System reporting, gas tax roadway inventory, and roadway assets inventories. The Roadway Data Collector makes once cumbersome tasks easy to accomplish; it can:

- Connect to online systems and pass data directly to/from the application
- Work in “connected” or “disconnected” mode for Google Maps Access/Services
- Provide ability to audit previous surveys to improve reporting results
- Easily import and export shapefiles

The Roadway Data Collector is specifically designed to work with GPS devices rather than with Distance Measurement Instruments (DMI); the use of GPS makes data collection more accurate than the capabilities offered by previous systems. A low-cost configuration of the Roadway Data Collector can be operated with a simple laptop or netbook and an inexpensive USB GPS device; The Roadway Data Collector can also be configured to work with highly accurate GPS units. Roadway Data Collector makes use of the NMEA standard and works with differentially corrected GPS for up to 1-meter level accuracy collection.

The screenshot displays the Roadway Data Collector application interface. It features a map view on the left and a data table on the right. The data table lists roadway segments with columns for Route ID, Route Name, Interchange No., Route MP, Description, Roadway Type, Surface Type, Length, Width, Area, and various attributes.

Route ID	Route Name	Interchange No.	Route MP	Description	Roadway Type	Surface Type	Length	Width	Area					
route 1	10451/2010.21.2	000001		Road Public Line	Paved	119.42.230000W	36.50.247000N	102.40m	50.07m	001				
route 1	10451/2010.21.2	000002		Road Surface Grading	Not Rated	119.43.510000W	36.50.301000N	103.40m	51.30m	013				
route 1	10451/2010.21.2	000003		Road Surface Grading	Not Rated	119.43.510000W	36.50.370000N	103.30m	51.30m	013				
route 1	10451/2010.21.2	000004		Sign	Paved	119.43.520000W	36.50.370000N	103.00m	11.20m	009				
route 1	10451/2010.21.2	000005		R/R Covering	R/R Covering	119.43.540000W	36.50.384000N	102.20m	11.47m	006				
route 1	10451/2010.21.2	000006		R/R Covering	R/R Covering	119.43.390000W	36.50.380000N	102.30m	11.43m	006				

Roadway Data Collector Interface

The Distance Control

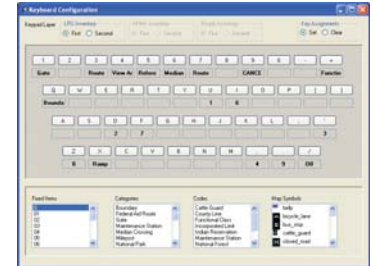
The distance control tool enables users to accurately measure the distance between points or features by stopping/starting the GPS device; it includes the ability to measure slope distance and curve distance to provide highly accurate distance measures. The distance tool works well for both measurement and/or for layout, enabling the user to easily “dial-in” milepost measures. The distance tool provides “sub-second” updates in between GPS readings, in order to provide continuous readouts.

The Keypad Control

The OnSafety™ Roadway Data Collector includes the ability to collect data with a minimal number of keystrokes. A keypad controller allows configuration of a virtual keypad (screen), a physical external keypad, or computer keyboard. The keypad controller is designed to enter most feature/attribute combinations with just two (2) keystrokes.



Keypad Configuration Tool



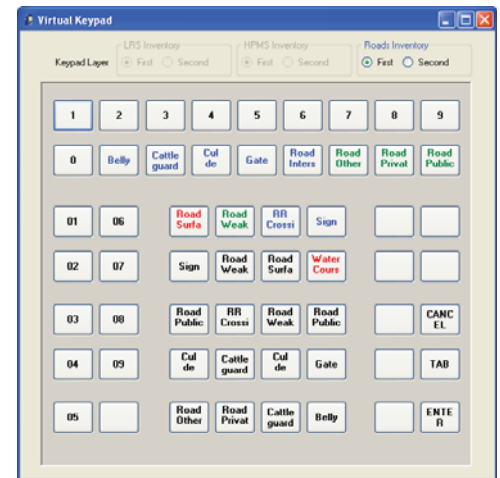
Keyboard Configuration Tool

Adding and Editing Routes and Features

Roadway Data Collector offers many benefits to Departments of Transportation, Safety, and Public Works; perhaps one of the more valuable features is the ability of users to deploy a single software framework to complete all required roadway collection activities.

The OnSafety™ Roadway Data Collector application provides users with the ability to audit, add, edit, or delete roadway data on the fly; the user interface has been optimized to minimize button clicking for efficient operation within a vehicular operating environment.

The Roadway Data Collector can also be configured to pass information to / from enterprise data management systems. Additionally, it allows for field collection of maintenance work orders and planning-level data.



The Virtual Keypad

The OnSafety™ Roadway Data Collector makes HPMS collection more efficient than previously possible by allowing for the collection of specific sample section items and locations. Because the Roadway Data Collector uses GPS instead of DMI, it can perform additional calculations for vertical and horizontal curve data.

Route ID	Begin MP	Roadway Type	Length
Route Name	End MP	Surface Type	Width
Interchange No	Direction	Ramp No	Area
route 1	10/01/2010 21:2...	000001	Road Public Line
route 1	10/01/2010 21:2...	000002	Road Surface Grading
route 1	10/01/2010 21:2...	000003	Road Surface Grading
route 1	10/01/2010 21:2...	000004	Sign
route 1	10/01/2010 21:2...	000005	RR Crossing
route 1	10/01/2010 21:2...	000006	RR Crossing

route_id	survey_time	survey_no	lms_category_name	lms_code_name	gps_x	gps_y	gps_z	milepoint	lms_category_id
route 1	10/01/2010 21:2...	000001	Road Public Line	Paved	-119.42.239000W	36:50.247000N	102.40m	50.077mi	001
route 1	10/01/2010 21:2...	000002	Road Surface Grading	Not Rated	-119.43.510000W	36:50.381000N	103.40m	51.380mi	013
route 1	10/01/2010 21:2...	000003	Road Surface Grading	Not Rated	-119.43.518000W	36:50.378000N	103.30m	51.387mi	013
route 1	10/01/2010 21:2...	000004	Sign	Private	-119.43.528000W	36:50.378000N	103.60m	51.399mi	009
route 1	10/01/2010 21:2...	000005	RR Crossing	RR Crossing	-119.43.542000W	36:50.384000N	103.20m	51.410mi	006
route 1	10/01/2010 21:2...	000006	RR Crossing	RR Crossing	-119.43.559000W	36:50.389000N	102.90m	51.428mi	006

Viewing 40 of 40 records Last survey_no = 40

Adding & Editing Features Sample Screen