PUBLIC WORKS

User
Los Angeles County Department of Public Works

Partner
Mapillary

Challenge
Build a sign asset inventory

Solution
Mapillary
Mapillary for ArcGIS Online
ArcGIS℠ Online

Results
Mapillary and Esri helped DPW build an asset inventory database derived from quickly collected imagery. Esri enables the database to be linked to a common web map that everyone in the department can access on the desktop and via mobile devices.

Los Angeles, California, Takes Quick Inventory of Its Traffic Signs

Los Angeles (LA) County Department of Public Works (DPW) consists of more than 5,500 employees and is responsible for the design, construction, renovation, and operation of public projects. Projects include bridges; wastewater treatment plants; libraries; curbside trash collection and graffiti removal; and maintenance of streets, sidewalks, sewers, streetlights, and street trees.

The Challenge

Having a sign asset inventory is a key part of public infrastructure maintenance and delivery of municipal services to protect the public and mitigate risk. LA County's extensive road network consists of hundreds of thousands of traffic signs, ranging from regulatory to warning and guidance signs.

The Partner

Mapillary develops solutions that integrate geographic information system (GIS) artificial intelligence into civic and business processes. By combining geography, automation, and advanced analysis techniques, Mapillary creates solutions that automatically connect images, recognize objects, and generate map data.

LA County traffic sign data displayed in ArcGIS Online.

The Solution

Mapillary provided a method for LA County DPW to quickly build a traffic sign inventory database with street-level imagery. Using county iPhones and Garmin action cameras mounted on vehicles, LA County DPW inspectors capture road imagery while driving every month. When uploaded, the images are stitched together to create a 3D reconstruction of the roads. Mapillary uses automated feature extraction to detect traffic signs within the imagery and estimate their positions based on the 3D reconstruction. LA County DPW then views the detected traffic signs on mapillary.com or by using the Mapillary for ArcGIS Online web app. DPW imports the data into its internal database to compare and reconcile the data.

The Results

Mapillary and Esri helped DPW build an asset inventory database derived from collected imagery. The use of automated feature extraction enabled the database to be expressed in a common web map that everyone in the department can access on the desktop and via mobile devices.

esri.com/publicworks