Implementing an asset and pavement management system in Alexandria, VA

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The City of Alexandria, VA is an APWA accredited agency, and is very motivated in maintaining this certification. One facet of this is their need to manage their roadway assets. These assets include right-of-way infrastructure, and the condition of their pavement. The inventory was conducted using state of the art mobile mapping technology. This technology uses a van that is equipped with high-resolution cameras and a survey grade GPS receiver. This project was split up into logical phases as is customary in this type of job.

The first phase of the project was driving every road that is maintained by the City of Alexandria. Each road is driven in both directions to give a 360 degree view of the roadway. While driving the road, 3 cameras simultaneously take pictures every 13 feet. The images are post-processed with the GPS data to produce geo-reference images that can now be used to conduct the infrastructure data collection.

The second part of phase one is the setup of a pavement management system for the city. This system was setup using a sampling method that was developed in MicroPAVER in conjunction with the APWA. The distresses for each sample were measured through the images and then loaded into a program that calculates a pavement condition index (PCI) rating for each road segment. The PCI score is a 0 - 100 scale that gives the city knowledge of the condition of their road network, and shows exactly where money needs to be allocated to maintain their roads.

The second phase of this project includes the extraction or right-of-way assets. Some of the features that the city is interested in are curb and lane counts. This information goes hand in hand with the pavement data to give the city a complete digital representation of their road network.