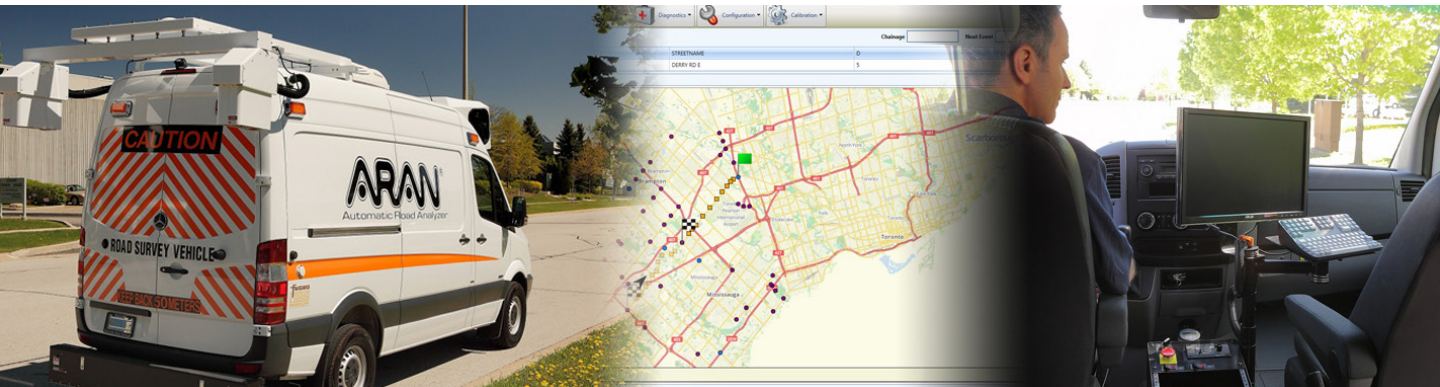


Automated Condition Survey



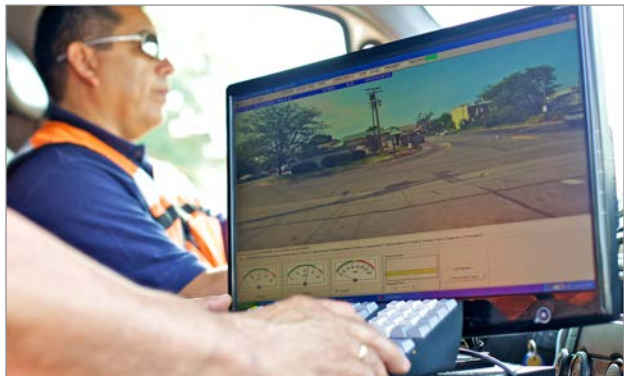
Automated condition survey is a crucial element of any well-developed asset management plan. The collected data is used to manage, maintain, value and predict the future performance of the tested road network. It is commonly carried out in the highest trafficked lane for each direction and sometimes in all lanes for both directions each year or every other year.

Planning: Proper planning is done to ensure the network is surveyed efficiently and completely to achieve consistent data collection year to year. Routing tools are made available to detail where data collection will occur.

Process: By using a range of sensors, the Automatic Road Analyzer (ARAN) measures a wide array of pavement characteristics including detailed surface imaging. The ARAN is a fully integrated data collection vehicle that is equipped with positioning sensors, cameras and laser-based measurements capable of collecting data while traveling at the posted speed limits.

Collection: ARAN operators review the results of the testing during the collection and daily result summaries are made available to the office for review. This ensures there have been no changes to the configuration and to review detailed ARAN progress for tracking purposes.

Data: The data is processed semi-automatically according to a protocol. It is then reviewed and processed by the office on a weekly basis for quality control purposes. The level of review selected can be adjusted based on available budget and timing.





Automated Condition Survey

Report: Customized reports can be run to summarize the data in order to meet data reporting requirements. The Report Generator tool can systematically roll up the data, regardless of collection intervals, to provide details for project level review or summary for a network level overview.

Results: These reports can be provided in a range of formats such as text files and spreadsheets along with a range of database outputs. Quick review of data, tables and some images are made available through a FTP site. All data can be made available in Fugro Roadware's web portal (iVision) to allow a detailed review of the images and locations.

Data Types

- **GPR:** geophysical technique used to provide construction and condition information from the ground and for pavements
- **Roughness:** a condition parameter to characterize deviations from the intended longitudinal profile of a road surface
- **Rutting:** a condition parameter to characterize the transverse profile of a road surface
- **Pavement distress/pavement images:** an accumulation of pavement defects and images taken to review those defects
- **Right-of-way/asset inventory:** a list of roadway images and assets considered worthy of identification, with information including location, history, configuration, and condition
- **Structural condition:** pavement structures can be analyzed using both distress surveying and deflection testing

Specifications

Vehicle Speed (Max):	62 mph (100 km/h)	50 mph (80 km/h)
• Sampling rate	5,600 profile/s	11,200 profile/s
• Profile spacing	5mm (0.2")	2.5mm (0.1")
• X-axis (transverse) resolution	1mm (0.04")	1mm (0.04")
• Z-axis (depth) resolution	0.5mm (0.02")	0.5mm (0.02")
• 3D points per profile	4,096 points	4,096 points
• Transverse field-of-view	4m (13 feet)	4m (13 feet)
• Depth range of operation	250mm (9.8")	250mm (9.8")

Features

- Laser-based measurement tools
- Customized analysis process
- Positioning sensors
- Cameras
- Web viewing software
- Routing tools
- Analysis software tools
- Report Generator tool

Support and Maintenance

Fugro is committed to ensuring that you get the support you need in order to utilize delivered asset inventory data. In choosing to have an asset inventory survey conducted by us, you are committing yourself and your organization to world class service.

Features of our support program include:

- Phone support (Mon to Fri, 6:00a.m.-6:00p.m. EST)
- Onsite technical support and training
- 24 hour online customer support web portal

Premier Services Group (PSG):

PSG provides services to enhance the project-specific knowledge of key clients and to help them innovate at the top of their industries, including:

- Installation and support services
- Managing plug-in development
- Writing productivity scripts and high-end work flows
- Optimizing hardware
- Customized training and documentation

Asset Management

Fugro has a team of specialized pavement engineers who can assist your agency in translating performance data into optimized asset maintenance strategies and work programs.

Fugro Roadware

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