Gravel Road Condition Rating



PASER Evaluation, Simplified and Mobile

Rival offers a variety of solutions from its core RUBIX platform to conduct roadway condition surveys. The goal of this solution was to provide simple condition assessment capabilities with rapid data turnaround. PASER based or Customized forms are used to log condition data while keeping mobile. The tools used to accomplish this is Rival's **rInspector** application and processing workflow.

rInspector is an iPad tablet condition rating application that allows users to collect and map infrastructure attribute locations, images, sketch's and other information based user defined specifications, such as the PASER rating methodology. Data can be transferred in near real time to Rivals cloud services to aggregate and report the information on a customizable web based dashboard.

A sample of the form configured and used for data collection is shown above.

Application Overview

Gravel roadways continue to be a challenge when it comes to proactive management and maintenance. Typically, gravel roadways are managed in a reactive mode, either based on major weather events, or citizen complaints.

Conventional pavement management tactics are difficult to implement as gravel road structures are dramatically impacted by rain and snow events.

Rival has developed a simple, mobile, and effective method for gravel road rating. Based on the PASER rating criteria, the solution has been successfully deployed in Canada and the USA.

Facts and Stats:

- Proven production capabilities ~ 16 km/h (10 mph)
- Automated mapping, processing, and reporting through cloud services
- Images and data automatically linked to spatial locations and segment network definition
- Real time notification of critical issues

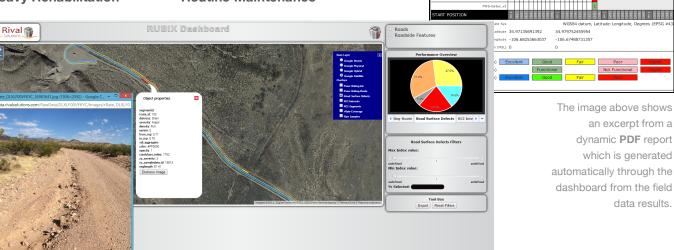


rInspector mobile data collection kit

Keeping it simple

The process implemented is simple. As defect events (drainage, washboarding, loose aggregate, etc.) are observed in the field during mobile capture, entries are made through the rRate form and updated when a change of severity is noticed, and cleared when the defect is not present. Once collected, data is transferred through cell or Wi-Fi coverage to cloud based servers for processing. All data is tracked by GPS positon, allowing for segmenting of the data to be done automatically by matching the collected data to a pre-loaded base GIS map. Data can be further reduced based on custom engineering models and each road segment is classified by the following:

Limited/Local Maintenance Heavy Rehabilitation Heavy Preventative Maintenance Routine Maintenance



The figure above shows individual failures logged from a mobile environment including drainage problems, inadequate crown, loose aggregate, potholes, and washboarding. The small **red** line in the above image presents the start and end of a critical drainage issue as shown in the image.



The map shows the final PASER recommendations. **Red** for example indicates that heavy rehab is recommended for those areas.



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