



Traffic Volume Impact



Addressing the Roadway Needs of Significant Changes in Traffic

Most roads are designed for a specific traffic volume. However, it can be difficult to project the use of a given road for its entire design life. For example, as oil and gas exploration explodes across the country, many county and rural roads are being affected. According to a Texas Department of Transportation study, the volume of truck traffic required to bring a single gas well into production is equivalent to the impact of approximately eight million cars. Actions and adjustments are required to help maintain the roads for these traffic demands. Current road conditions are not able to endure such heavy truck traffic and many roads were not built with the intention of such use.

Fugro is actively working to help preserve roadways experiencing such demands. Pavement evaluation, development of infrastructure impact plans, and roadway user and maintenance agreements can aid in the preservation process.

“Research and experience has shown that taking a proactive approach to addressing roadway impacts is a much more cost-effective approach to maintaining the infrastructure, reducing overall repair and maintenance costs by approximately 700%.”

–Phil Wilson, Executive Director, TxDOT, Testimony before House Committee on Energy Resources, June 26, 2012.

Potholes, shoulder loss, and rapid pavement deterioration are typical characteristics caused by heavy traffic loads. Whether a proactive or a reactive plan is needed for your current pavement condition, Fugro offers many services to ensure that an assessment and preservation program is tailored to your roadway needs.



Distress surveys with Automatic Road Analyzer (ARAN)



Pavement analysis using Falling Weight Deflectometer (FWD)



Ground Penetrating Radar (GPR)

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Pavement Evaluation Services

- The Falling Weight Deflectometer (FWD) is used to assess baseline and post-development pavement conditions. The FWD is a nondestructive test method that can be used to determine the response values of surface and sub-surface pavement layers to a range of loads. The remaining life of the pavement can also be determined with the use of an FWD.
- The ARAN (Automatic Road Analyzer) is the world's leading highway data collection system and the cornerstone of the Fugro product line. It is capable of measuring more than 15 different data streams continuously and at varying capture rates in a single pass at traffic speeds.
- Ground Penetrating Radar (GPR) determines layer thickness and pavement variability. It is also used to detect voids and stripping



Analyzing heavy load impact



ARAN 9000

Pavement Preservation Services

- Define threshold values. These values can be based on desired criteria by the agency or Fugro can assist in determining values based on budget needs.
- Identify maintenance treatment needs. The selected treatment should be tailored for the type and level of distress, climate, and expected level of service.
- Develop cost-effective analysis procedures. This can be simple or complex. Fugro professionals will work with clients to determine the best approach to fit their needs.

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