

Gravel Roads Rating Standards



Wyoming Technology Transfer Center



Local Technical Assistance Program



Gravel Roads Rating Standards



• Purpose

- This guide standardizes unsealed roads ratings for the following seven distresses, yielding numerical ratings [in brackets] for:
 - Potholes [1- 9]
 - Rutting [1- 9]
 - Washboards (Rhythmic Corrugations) [1- 9]
 - Loose Aggregate [1- 9]
 - Dust [1- 4]
 - Cross Section (Crown) [1- 3]
 - Roadside Drainage [1 – 3]
- It is designed to be used in conjunction with the Ride Quality Rating Guide developed by the Wyoming T²/LTAP Center.
- Multiple distresses are evaluated to both assess damage to the roadways and to recommend appropriate treatments based on the observed conditions.

• Origin

- Development of this guide was influenced by the following rating systems:
 - USACE's Unsurfaced Road Condition Index (URCI) method
 - Utah LTAP Center's Transportation Asset Management System (TAMS)
 - Wisconsin Transportation Information Center's Pavement Surface Evaluation and Rating (PASER) system
 - CSIR of South Africa's Standard Visual Assessment Method for Unsealed Roads
 - The Australian 'Unsealed roads manual: Guidelines to good practice' 3rd Edition by ARRB, March 2009.
 - The Wyoming T²/LTAP Center's Gravel Roads Management Report
- Development was also influenced by the Wyoming T²/LTAP Center's prior experiences evaluating unsealed roads.

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- Overall Procedure

- This guide describes visual ‘windshield’ evaluations of unsealed roads. Road segments should be identified. The raters should drive these at normal traffic speeds, noticing the condition of the seven described distresses. These conditions should be recorded, generally along with the ‘Ride Quality’ as described in the Wyoming T²/LTAP Center’s Ride Quality Rating Guide.
- The descriptions and photographs in this guide provide general guidelines and standards. They are designed to calibrate the rater’s eyes so that different raters evaluate roads on the same standards, providing repeatable results.
- Raters must come up with a single value for every distress on each segment, in spite of the fact that almost all sections will have considerable variability in most of the distresses. Generally, raters must come up with an overall value for each distress, using an internal, subjective ‘averaging’ system. The following rules of thumb provide some guidance for this ‘averaging’ process:
 - A segment can’t be more than 2 points better than its worst part.
 - A segment can’t be more than 1 point better than its worst 10%.
- Another problem arises when careful path selection can greatly improve the ride quality, such as driving on the ridges between very deep ruts. Raters should downgrade the road for the poorer parts while still giving it credit for the good parts.

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