

Virginia Concrete Conference 2008

PROVAL
Measuring & Analyzing

ProVAL
Profile Viewing and Analysis Software

Achieve Concrete Pavement Smoothness with ProVAL

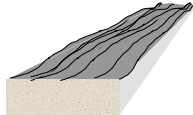
Presented By:
George Chang, PhD, P.E.
The Transtec Group

THE TRANSTEC GROUP

What is a Profile

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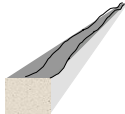
- A **profile** is a slice of the road surface following an imaginary line



What is a Profile

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Profiler Types

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High Speed Inertial Profiler



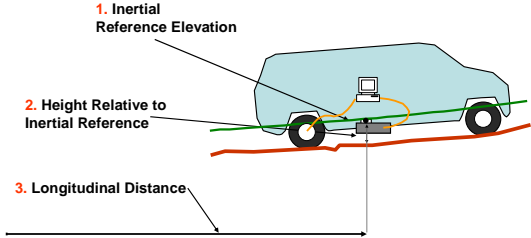
Profiler Types

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Inertial Profiler

Works by combining three ingredients:

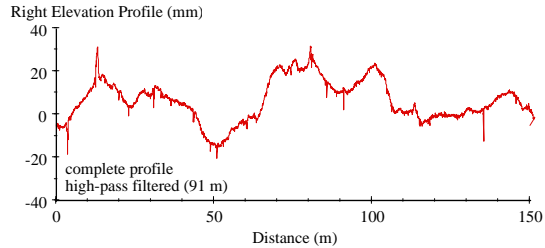
- Inertial Reference Elevation**
- Height Relative to Inertial Reference**
- Longitudinal Distance**



Profiling Analysis

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Complete Profile



Achieving Smoothness

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- Need a Transition Tool
- Reliable and yet Simple Tool
- The Tool Has to be Industrial Standard
- The Tool Has to be Continuously Improved to Fit Industry's Needs
- The Tool Has to Have Supports (website, workshops)

FHWA ProVAL

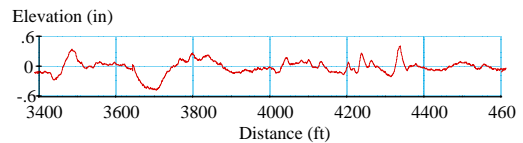
What Does ProVAL Do?

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- With ProVAL You Can...
- Create profile analysis projects
- Import profiles in various formats
- Display profiles graphically
- Add information to profile data
- Perform various profile analyses

Profiler Output

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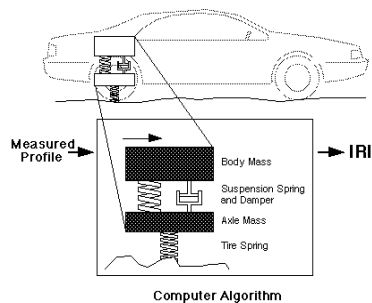


Profiler output can be used to:

1. Estimate ride quality.
2. Determine a grinding strategy.
3. Help improve construction practice for *ride*.

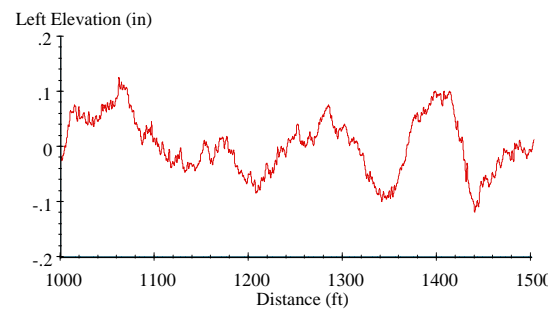
International Roughness Index

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Elevation Profile

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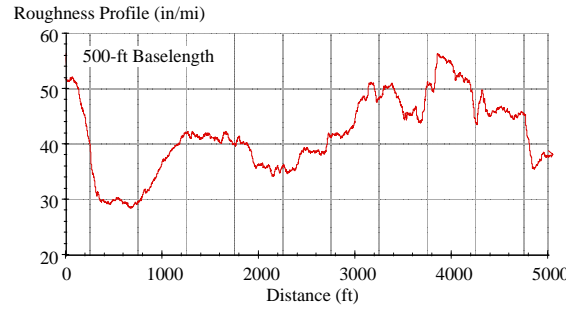


Fixed Interval Report



Start (ft)	End (ft)	HRI (in/mi)
0	500	39.8
500	1000	29.7
1000	1500	42.0
1500	2000	40.1
2000	2500	36.2
2500	3000	41.6
3000	3500	48.5
3500	4000	51.0
4000	4500	44.0
4500	5000	45.5

Continuous Roughness Report

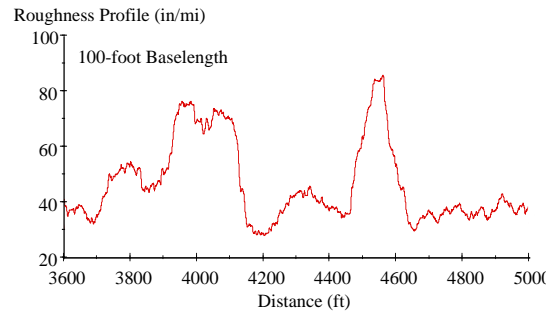


Job Summary

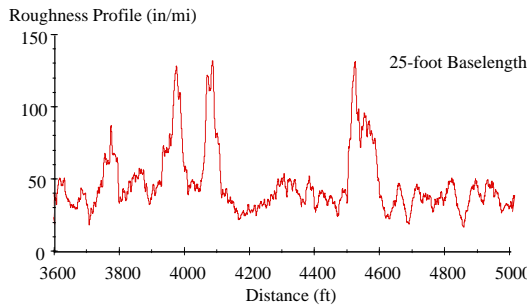


Low IRI (in/mi)	High IRI (in/mi)	Percentage
0	10	0.0
10	20	0.0
20	30	8.3
30	40	35.4
40	50	40.5
50	60	15.8
60	70	0.0
70	80	0.0
80	90	0.0
90	100	0.0

Short Interval Report



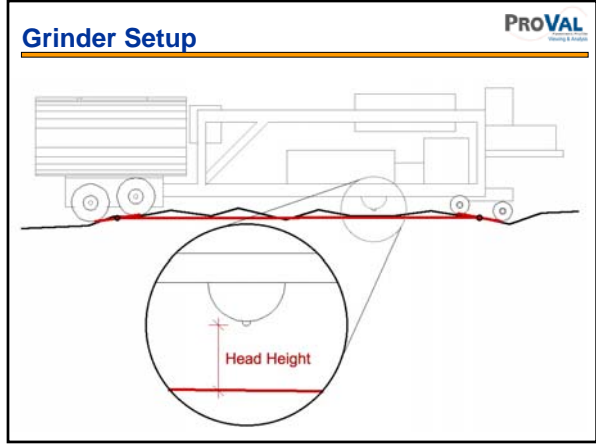
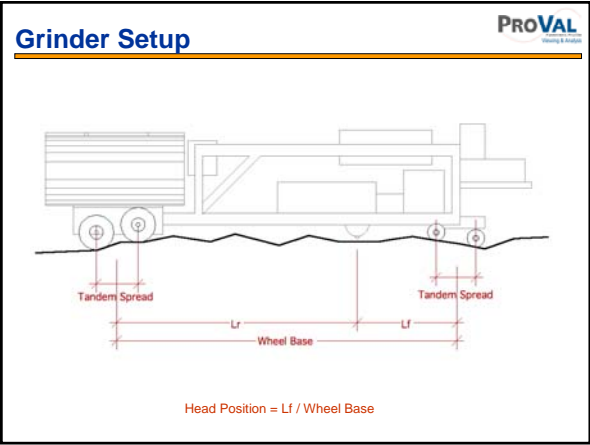
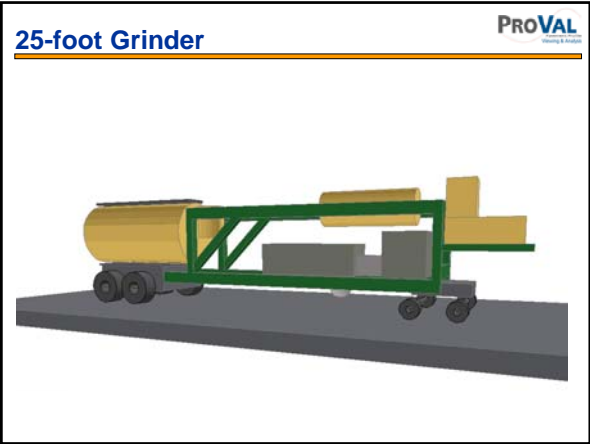
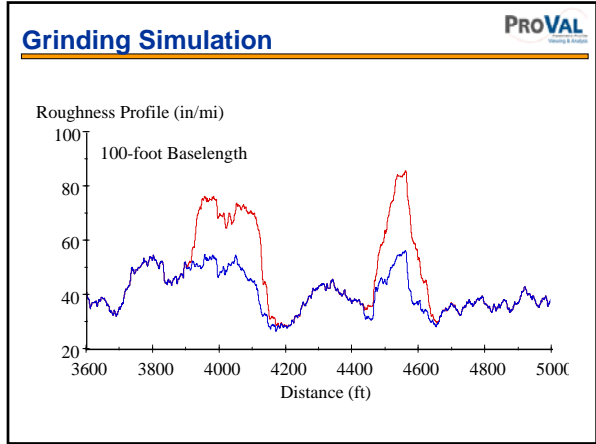
Short Interval Report



Hot Spot Locations

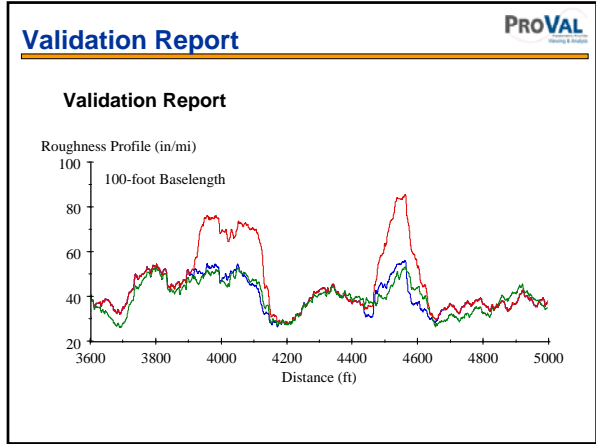


Segment Start (ft)	Segment End (ft)	Peak HRI (in/mi)
3201	3274	64.6
3276	3280	60.3
3925	4123	76.5
4495	4583	85.9

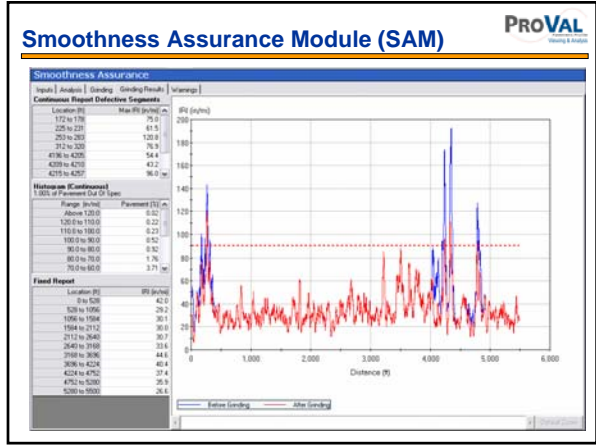


Optimal Grinding Strategy

Grind Start (ft)	Grind End (ft)	HRI Change (in/mi)	Max. Depth (in)
3945	3990	4.8	0.36
4058	4093	5.4	0.33
4473	4587	6.1	0.16



- ### Smoothness Assurance Module
- #### Essential Features
1. Uses Profilers rather than Profilographs
 2. Allows a Choice of an Index
 3. Make Continuous Reporting Possible
 4. Includes both Short and Long Interval Criteria
 5. Produces a Grinding Simulation



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Your Resource for Smoothness

Get ProVAL
Download Equiv. 2.2.1.0.03
Installation Guide

Testimony
It takes the trouble and cost out of...
Brian Schlegel of Ohio DOT,
Chairman of the Road and
Multi-Stage DOT Profiler
Roundtable Study

ProVAL 2.72 is Here
Many thanks to Mr. Brian Schlegel and Ohio DOT for their financial support to add these new features to the update and make them available to all users in the profiling community. Please contact us if you have any wish list for ProVAL.

Make Your Wish
What do you want? What are you waiting for... it may come true anytime soon. Please contact us for future ProVAL features and how we can be better to make your profile viewing and analysis an even more enjoyable experience.

ProVAL Data Spec is Now ASTM International Standard
The ASTM International Standard for profile data specification, based on the ProVAL RFP spec 1.02, is now official and will be published this summer. The ASTM spec will be designated as "E 2060-07 Standard Specification for Data Format for Pavement Profile". If you can't wait until summer, you may check out the almost identical EQUIV. RFP SPEC 1.02 first.

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Installation Guide

Testimony

www.RoadProfile.com

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