ProVAL
Profile Viewing and Analysis Software

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Outline

• ProVAL description.
• Evolution of ProVAL.
• ProVAL functionality.
• What is next?
What is ProVAL?

• *ProVAL* is an engineering software application that allows users to view and analyze pavement profiles in many different ways.

• *ProVAL* is a FHWA product with continuous improvements.
What Does ProVAL Do?

- Create profile analysis projects
- Import profiles in various formats
- Display profiles graphically
- Allow adding information to profile data
- Perform various profile analyses
History of Releases

2001 2002 2003 2004 2005 2006 2007 2008 2009

1.0 2.5 2.7 3.0*

2.0 2.6 2.73

THE TRANSTEC GROUP
ProVAL 1.0

- Ride Statistics (IRI, RN, HRI, and MRI)
- Power Spectral Density (PSD)
- Profilograph Index (PI)
- Rolling Straightedge
- Butterworth Filter
- Cross Correlation
- ASTM E950 Precision and Bias
ProVAL 2.0

- Linear distance adjustments
- Start and end point reset
- Event markers
- Additional import file formats
- 4th order band-pass and 3rd order high- / low-pass Butterworth filtering
- Continuous IRI and RN reporting
- TxDOT localized roughness identification
ProVAL 2.5

- Smoothness Assurance Program (SAM)
  - A.K.A Bumpfinder and grinding simulation
  - Based on Steve Karamihas and Mike Swan’s patent and algorithm
  - Produce ride quality reports
  - Optimize grinding strategies
ProVAL 2.6

- Enhancement of SAM
  - More filters
  - More ride quality report option
  - Grinding strategy manager
- Enhancement of PSD
  - More filter and octave band average output
- Enhancement of Profilograph Simulation
  - Handle multiple traces
  - Graphical outputs of scallops
ProVAL 2.7

- Profile modifier and export facilities
- Simplified field interface
- User-defined setups
- Enhanced Butterworth filter set
ProVAL 2.73

- Enhanced Cross-correlation
- Profiler Certification Module (PCM)
Grinding Simulation
Grinder Setup

Head Position = Lf / Wheel Base
Smoothness Assurance Module (SAM)
Profiler Certification Module (PCM)
Profiler Certification Module (PCM)
# ProVAL Report 2021-2022

## ProVAL 27 Project

### 150-5280

#### Channels

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#### History

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#### Properties

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ProVAL Workshops

To schedule a workshop in your state

contact

Mr. Bob Orthmeyer, FHWA at (708) 283-3533 or by email at robert.orthmeyer@dot.gov.
Top 10 Reasons to Adopt ProVAL in Smoothness Spec

1. Reliability
2. Cost Savings
3. No More “Smoke and Mirrors”
4. Objectivity
5. Security
Top 10 Reasons to Adopt ProVAL in Smoothness Spec

6. Stability
7. Consistency
8. Timely Technical Support
9. Addressing Your Needs
10. ProVAL is Free
Agencies Adopt ProVAL

- **AASHTO PP 50-07** Standard Practice for Operating Inertial Profilers and Evaluating Pavement Profiles
- **AASHTO MP 17-07** Standard Practice for Pavement Ride Quality When Measured Using Inertial Profiling Systems
- **Western Federal Lands** HMA Smoothness Specification 401
Your Resource for Smoothness

**ProVAL**

ProVAL (Profile Viewing and Analysis) is an engineering software application that allows users to view and analyze pavement profiles in many different ways. It is easy to use and yet powerful to perform many kinds of profile analyses. ProVAL is a product developed by the Transtec Group through a contract with the US Federal Highway Administration (FHWA) and the Long Term Pavement Performance Program (LTPP).

**IT is coming!**

ProVAL 3.0 is in the work. ETA - October, 2002! Stay tuned!

**ProVAL 2.73 Makes Profiler Certification a Breeze**

Ever feel frustrated doing hundreds of cross correlations to produce reports for profiler repeatability tests and accuracy tests (as in the AASHTO PE43 Standard Practice for Certification of Inertial Profiling Systems)? The pain is no more ... when you have ProVAL 2.73! A new feature, Profiler Certification Module, will make this process a joy with simply a few mouse clicks! Also, the classic Cross Correlation module is now revamped and added with powerful features! Have a quick look at what's new in ProVAL 2.73!

With ProVAL 2.73, you can now easily evaluate whether a profiler can produce repeatable and accurate results. Download a copy of ProVAL 2.73 and start the fun now!
ProVAL 3.0

- Rewrite software to Microsoft .Net format
- Released October 2008
- More user friendly
  - Based on feedback and recommendations from agencies and industry
- ProVAL 4.0? – internet based software – you decide!!
Implementation Tools

- NHI 131100 – Pavement Smoothness
- TPF 5(063) Pooled Fund Study
- AASHTO Provisional Standards
  - MP11: Equipment Specification
  - MP17: Sample Specification
  - PP49: Inertial Profiler Verification
  - PP50: Operating Inertial Profilers
- FHWA support for implementing AASHTO standard