

28th Annual RPUG Conference

San Diego, CA November 1-4



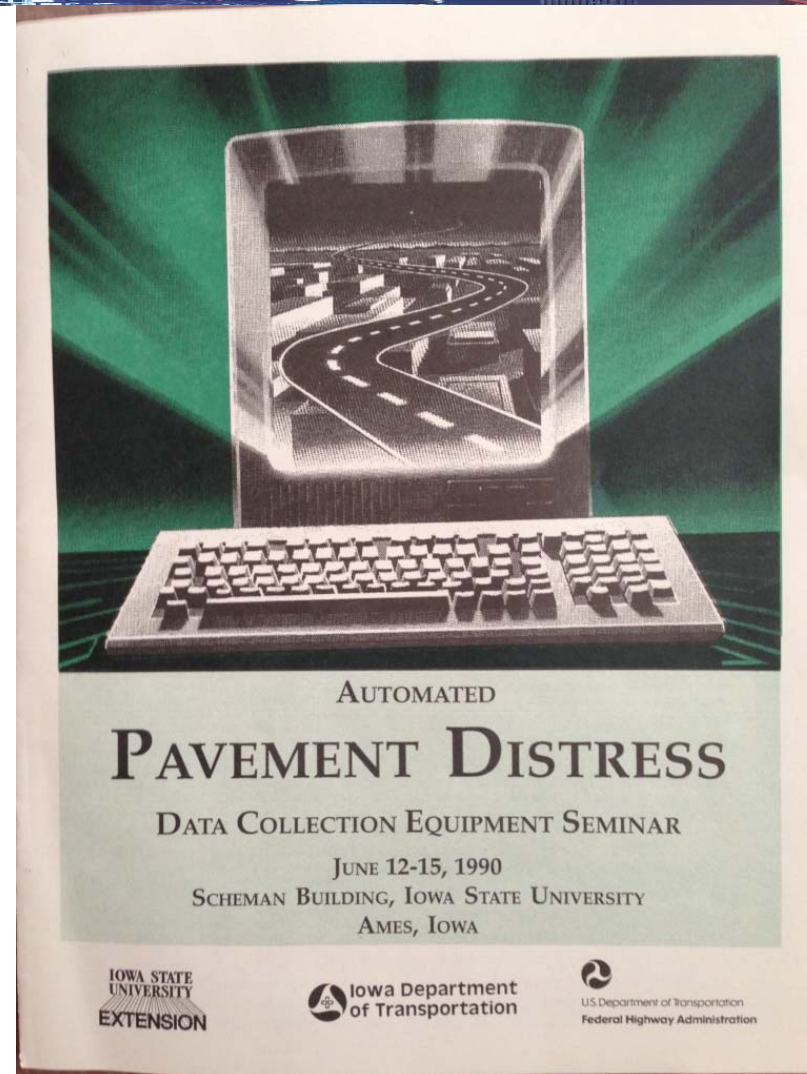
Update for TPF 5(063) “Improving the Quality of Pavement Profile Measurement”

By

Robert Orthmeyer, Sr. Pavement Engineer, FHWA

Automated Pavement Distress

- Data Collection Equipment Seminar
– June 1990
- 275 participants
- 30 vendors
- Sponsored by FHWA & Iowa DOT



RPUG 2016 San Diego, CA November 1-4



FHWA ProVAL 1.0

- Pilot Workshop – December 2002
- Thirteen attendees
- Instructors: Dr. Rob Rasmussen & Dr. James Wilde – Transtec Group, Inc.



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

PAVEMENT PROFILE VIEWER AND ANALYZER SOFTWARE
Pilot Workshop
19 December 2002 – FHWA HQ (Nassif Building) Room 4326

Agenda

OBJECTIVES

- To familiarize attendees with the *Profile Viewer and Analyzer* software.
- To refresh some of the key fundamentals of pavement profiling and analysis methods.
- To inform attendees of the advantages, limitations, and pitfalls related to analyzing and interpreting pavement profiles.
- To provide an interactive and hands-on approach throughout the workshop.

AGENDA

9:00a	Welcome and Self-Introductions
9:10a	Overview and Outline of Workshop
9:15a	Preview of Pavement Profile Viewer and Analyzer Software
9:45a	Refresher on the Fundamentals of Pavement Profiling
11:00a	<i>Break</i>
11:10a	Basic Profile Analysis (Viewing and Ride Quality Statistics)
12:15p	<i>Lunch – on your own</i>
1:15p	Intermediate Profile Analysis (Profilograph and Straightedge Simulation)
2:00p	Intermediate Profile Analysis (ASTM E 950 and Cross Correlation)
2:30p	<i>Break</i>
2:40p	Advanced Profile Analysis (Power Spectral Density)
3:00p	General Discussion including the Future of Pavement Profiling
3:45p	Conclusion and Workshop Evaluations
4:00p	<i>Adjourn</i>

WORKSHOP MATERIALS

- CD-ROM Containing ProVAL Software
- Printed Version of Workshop Slides

CONTACT INFORMATION

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Pooled Fund Study TPF-5(063)

Improving the Quality of Pavement Profiler Measurement

Update for the
Kick Off Meeting Group Meeting
May 6 & 7, 2003

2003 Participating Agencies

FL – Nazef

NY - Corbett

OH - Schleppi

MS - Watkins

ND - Fuchs

KY – Shive

OK – Williams

IL – Rowden

NJ - Beke

TX - Meshkani

SD - Huft

GA - Santha

CO – Prieve

KS – Parcels

**WFLHD, EFLHD,
LTPP, RC, HQ**

Overview TPF 5(063)

- “Improving the Quality of Pavement Profiler Measurement”
- FHWA is lead agency with 22 participating State Highway Agencies (SHA’s) includes:
 - FHWA Office of Technical Services / Resource Center
 - FHWA Long Term Pavement Performance (LTPP)
 - FHWA Federal Lands

Participating State Agencies (22)

- Ohio
- Louisiana
- Kentucky
- California
- Colorado
- Florida
- Georgia
- Kansas
- Mississippi
- New Jersey
- Nevada
- New York
- North Dakota
- South Dakota
- Illinois
- North Carolina
- Maryland
- Oklahoma
- Connecticut
- Texas
- Wisconsin
- Pennsylvania

TPF 5(063) Priorities

1. Build Reference Profile Device
2. Critical Requirements – Became #1
3. Bumpfinder Software - ProVAL
4. Certification/Validation Sites
5. Evaluating Upper Limits of Single Accelerometer
6. Emerging Technology that Enhances Profile Measurement
7. Support RPUG

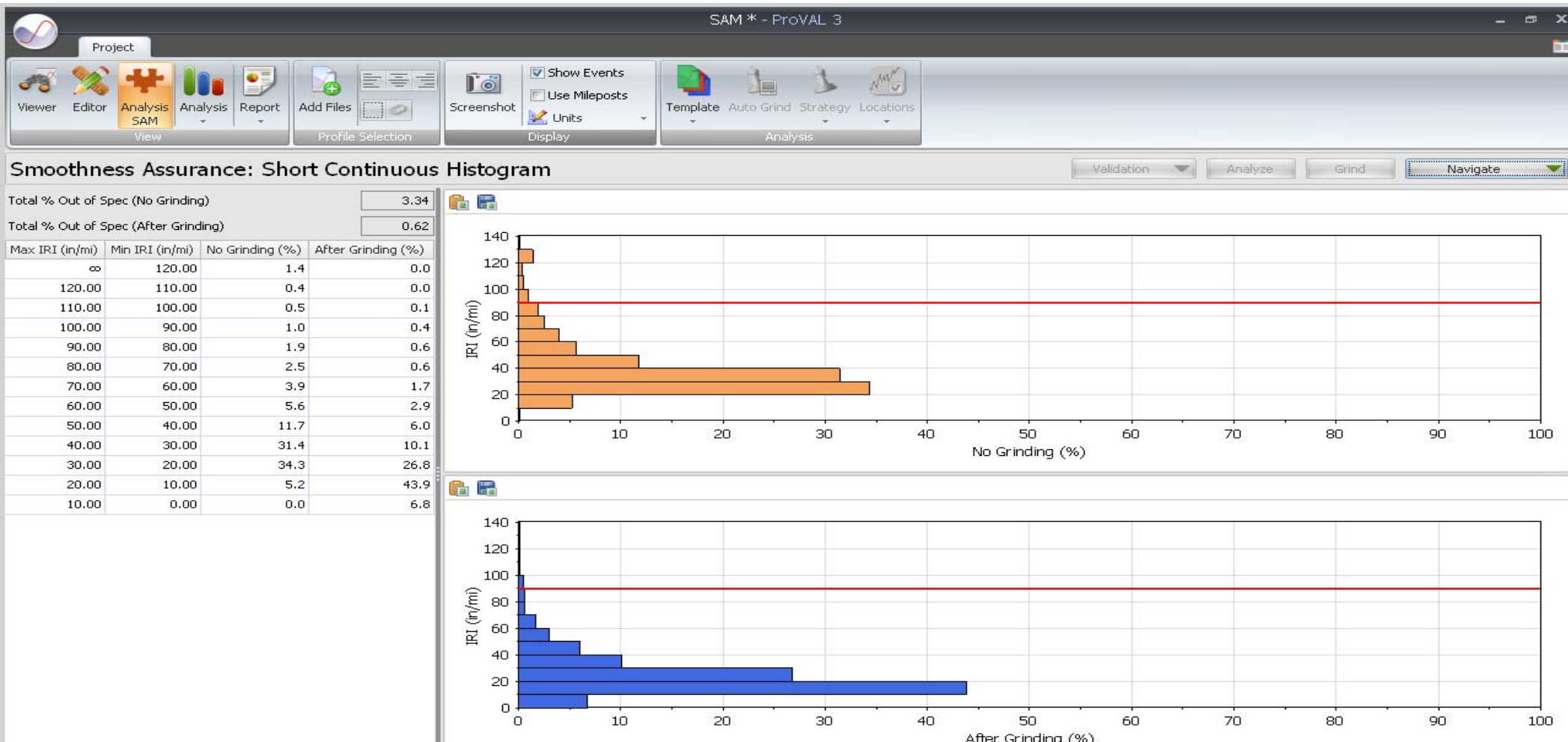
Progress on TPF 5(063) Priorities

1. Build a Reference Profile Device (ongoing): Two parts –
 - i. Benchmark Testing – UMTRI
 - ii. Reference Devices –Second round of evaluations
Oct. 2012
 - iii. Last round of evaluations: 2015
2. Critical Requirements (completed - 2005): UMTRI; final report on pooled fund study website – **“Critical Profile Accuracy Requirements”**

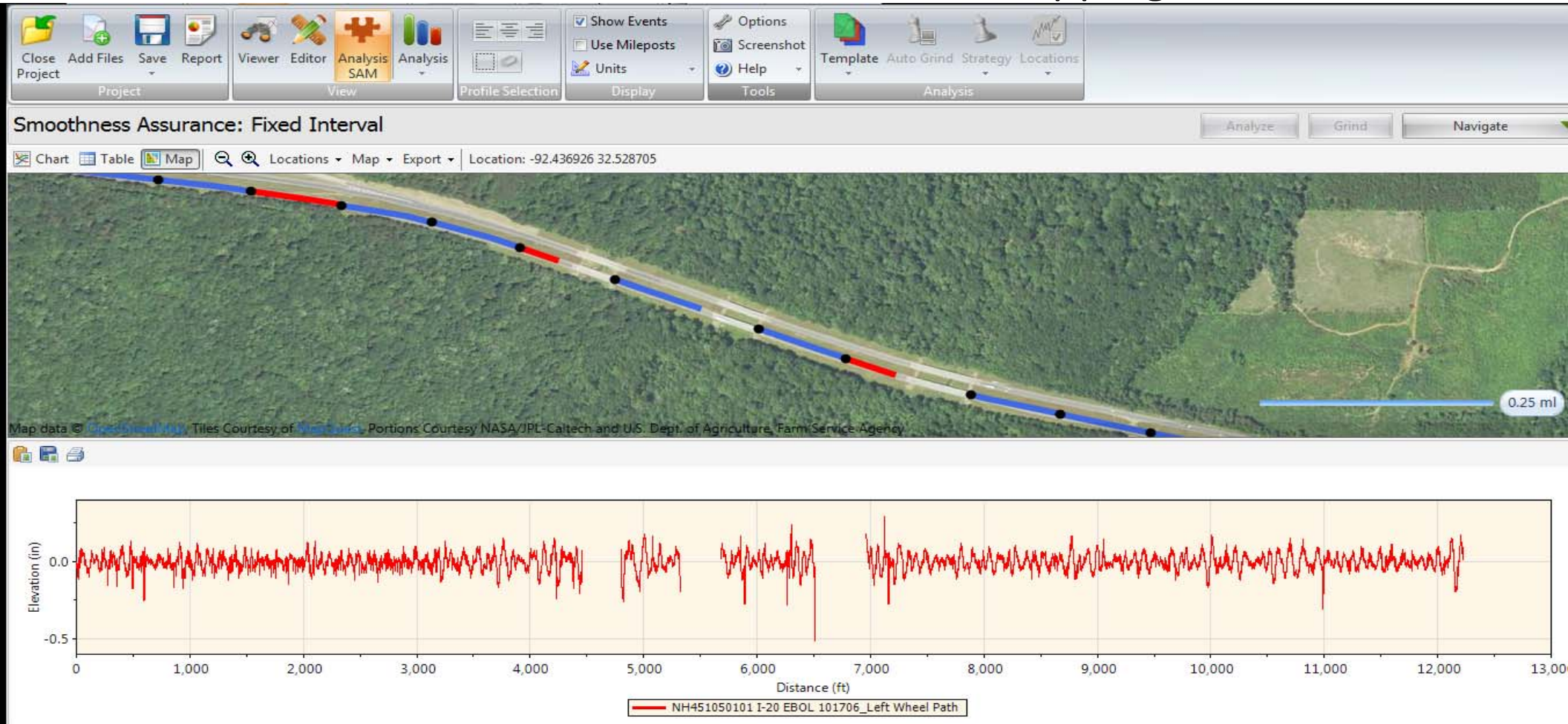
FHWA PARKING ProVAL – site to be determined

3. ProVAL Software: The Transtec Group, Inc. –
www.roadprofile.com
 - ProVAL 3.3 released in December 2011
Includes Automated Faulting Module (AFM)
 - ProVAL 3.4 released Dec. 2012
 - ProVAL 3.5 released Sept. 2014
 - ProVAL 3.6 released April 2016
 - Workshops completed.

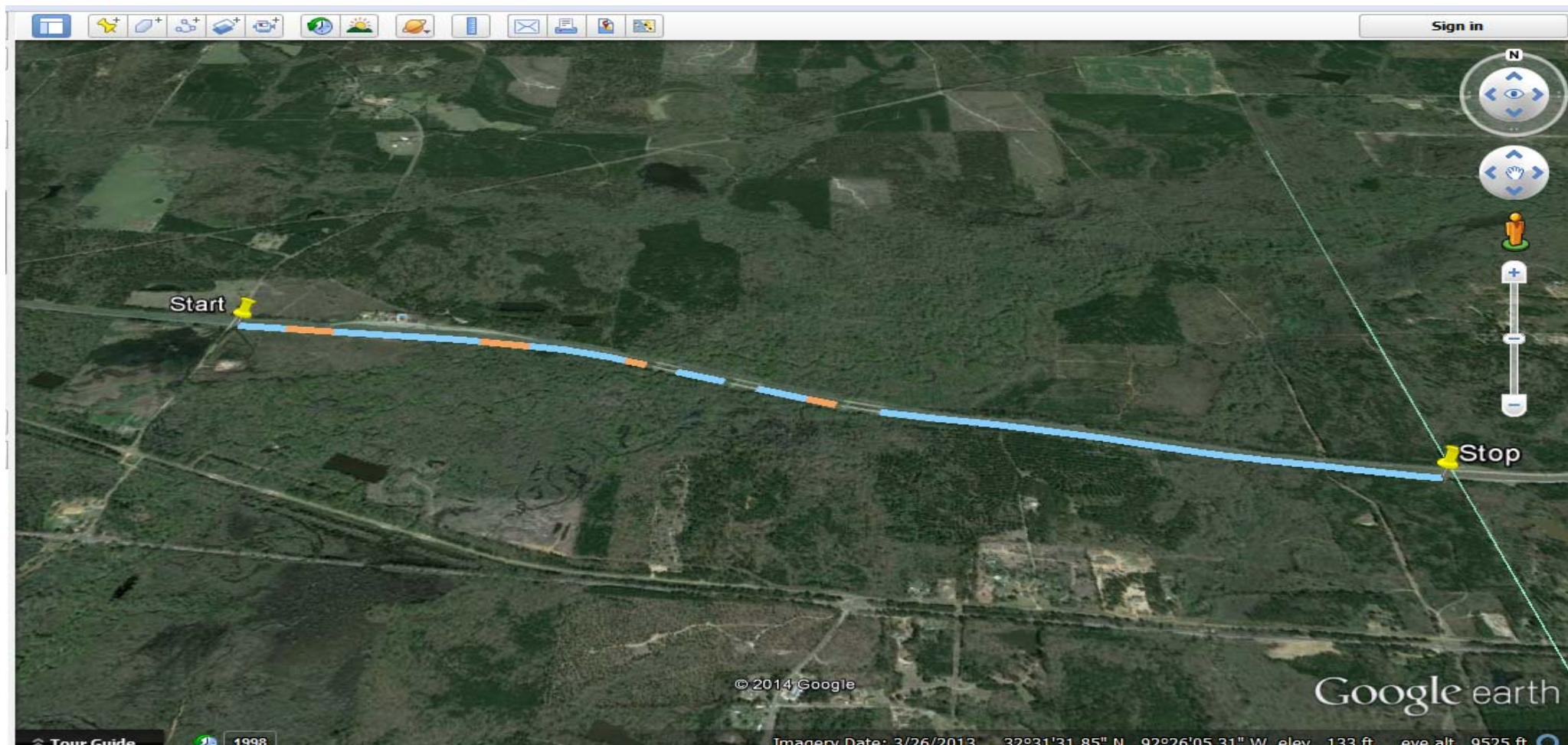
ProVAL 3.6 software



ProVAL Version 3.5 included mapping



Export files to Google Earth



ONE EQUATION NECESSARY

Collect a Quality
Pavement **Profile** = Any
Index

FHWA HPMS – Network level surveys

Field Manual references

AASHTO R43 – 6.2: **Data collection for ride \leq 2.0 inch longitudinal spacing.**

TOOLS FOR QUALITY PAVEMENT PROFILE

AASHTO STANDARDS

- **M328 “Standard Specification for Inertial Profiler”**
- **R54 “Standard Practice for Accepting Pavement Ride Quality When Measured Using Inertial Profiling Systems”**
- **R56 “Standard Practice for Certification of Inertial Profiling Systems”**
- **R57 “Standard Practice for Operating Inertial Profiling Systems”**

TRANSITION TO NEW STUDY LED BY SDDOT

TPF 5(354) “Improving the Quality of Highway Profile Measurement”

- Details at: <http://www.pooledfund.org/Details/Study/605>
- Transition session held Tuesday November 1, 2016
- 14 State Highway Agencies have joined as of October 31.
 - CT, FL, IL, KS, KY, LA, NC, NV, NY, OH, PA, SD, TX, WI.
- Room for additional agency support!!

TPF 5(063) “Improving the Quality of
Pavement Profiler Measurement”
terminates on December 31, 2016

QUESTIONS??

Call Dave Huft!!!

