

2020

WEBINAR SERIES

RPUG
Road Profile Users' Group

FHWA DQMP Document of Successful Practices

By

Dr. George K. Chang, P.E. &

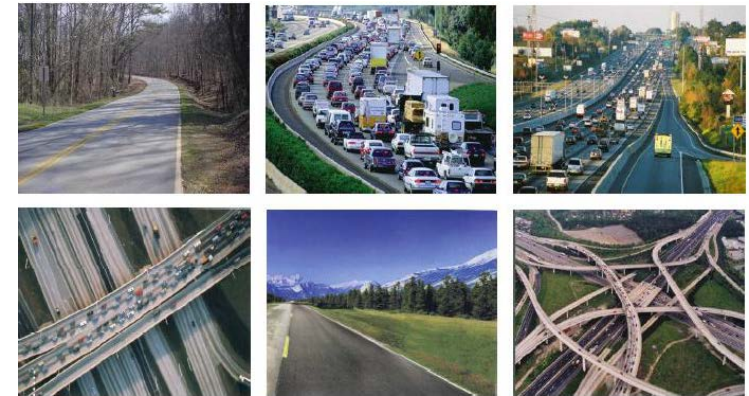
Ms. Amanda Gilliland, P.E.

The Transtec Group



Outlines

- FHWA DQMP Project Overview
- Document of Successful Practices
- Pilot Project Work Plan
- Next Steps



FHWA DQMP Project Overview

Dr. George K. Chang

Guidance for Quality Management of Pavement Surface Condition Data Collection and Analysis

- 42 Months: 3/2019 to 8/2022
- FHWA COR: Andy Mergenmeier
- Project Team: Transtec Group + Wood
- To produce **Practical Guide for QMP**



U.S. Department of Transportation
Federal Highway Administration



TRANSPORTATION POOLED FUND PROGRAM

BENEFITS



Anticipated Benefits

- Improve current **QM plan** and **Quality Management Plan (QMP) guidelines** by establishing standards that can be used by State and Local Transportation Agencies to develop their QMP;
- Improve the **accuracy**, **precision**, and **reliability** of pavement surface condition data; and
- Improve the **cost-effectiveness** of pavement surface condition data collection and analysis processes.

To Meet State DOTs' Needs on QMP!

How can We Get There?

1. Develop a clear understanding of the current **state-of-the-practice** for QMPs and SHA's **challenges** for developing and maintaining data QMPs.
2. Develop a **living document of “Document of Successful Practices”** that combines the best information available and recommendations for needed future improvements.
3. Conduct **pilot study** to test the proposed QMP guidelines and to revise those guidelines as needed.

Document of Successful Practices

Ms. Amanda Gilliland, P.E.

Objectives of Document of Successful Practices

- One document to summarize current practices, existing national standards, and on-going research.
- A living document that is easy to update as data collection practices evolve.
- Improve current QM practices and QMPs using successful practices that can be tailored to fit the needs of existing programs.
- Improve the accuracy, precision, and reliability of data collection by agencies.
- Improve agency's effectiveness of data collection and analysis processes.
- Consider unique agency needs – not one size fits all.

Identifying Successful Practices

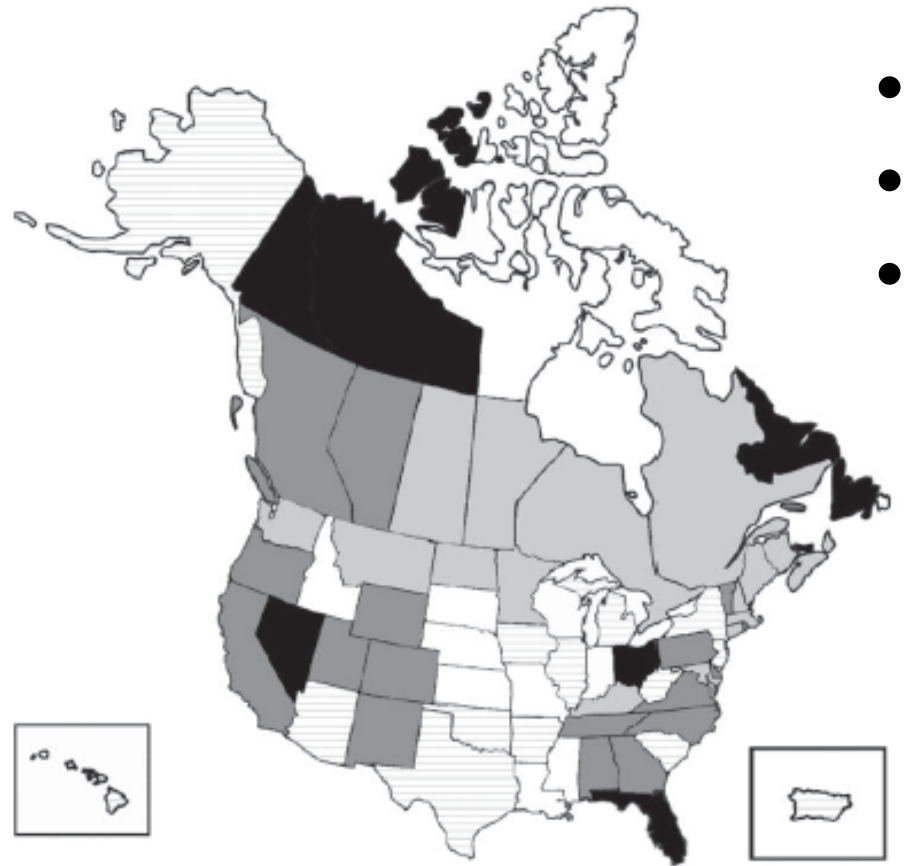
Traceable, objective, practical, and transparent

Example criteria: certification control sites should:

- Reasonably represent pavement types in the network. This includes different pavement types (asphalt, JCP, CRCP), and surface texture (rough, smooth, high macrotexture asphalt, tined).
- Include a range and variety of ride quality and distresses that are typically encountered in the network.
- Reasonably include all data metrics that are collected and used during DOT decision-making processes.
- Include sufficient length to gather enough data for certification processes.
- Have adequate ground reference established so that the accuracy of data being collected can be checked.

Draft Document of Successful Practices

One document for all data collection methods

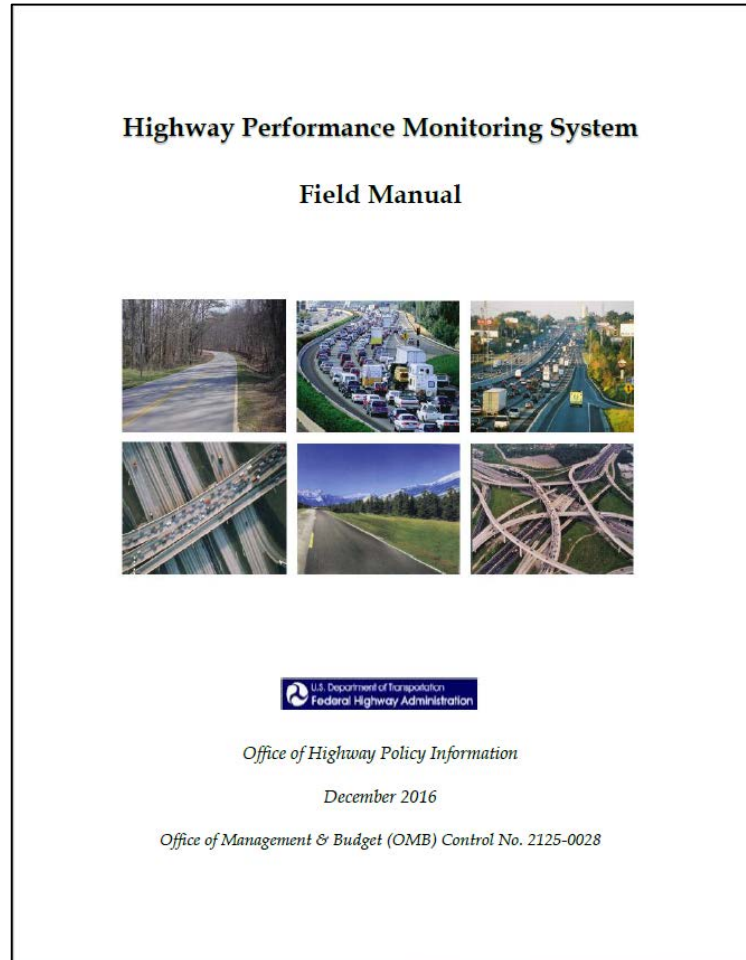


- Agency collects and analyzes
- Vendor collects and analyzes
- Combination of agency and vendor:
 - Both the agency and the vendor collect and analyze the data (six agencies).
 - A vendor collects the data, and the agency analyzes the data (five agencies).
 - A vendor collects the data, and the agency and the vendor analyze the data (three agencies).
 - The agency and a vendor collect the data, and the agency analyzes the data (two agencies).

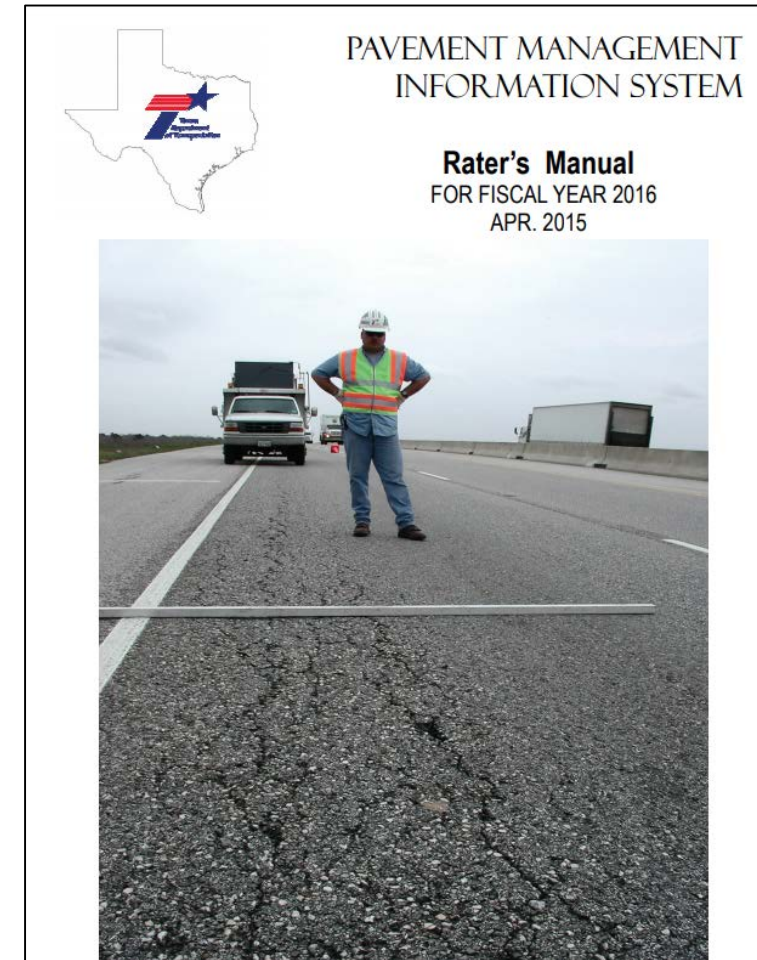
Vendor
 Agency
 Both
 No response
 Manual Survey

Draft Document of Successful Practices

One document for all data definitions

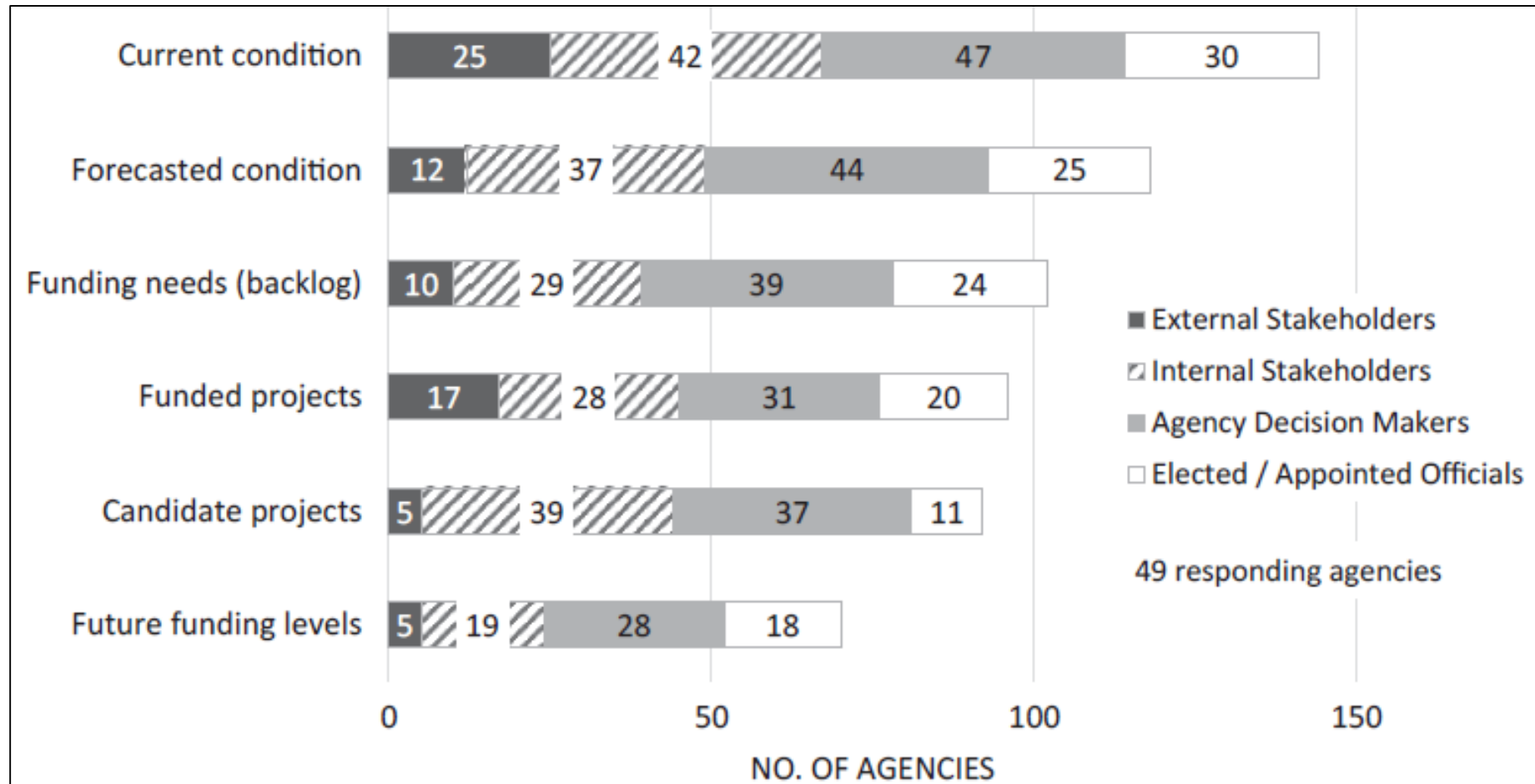


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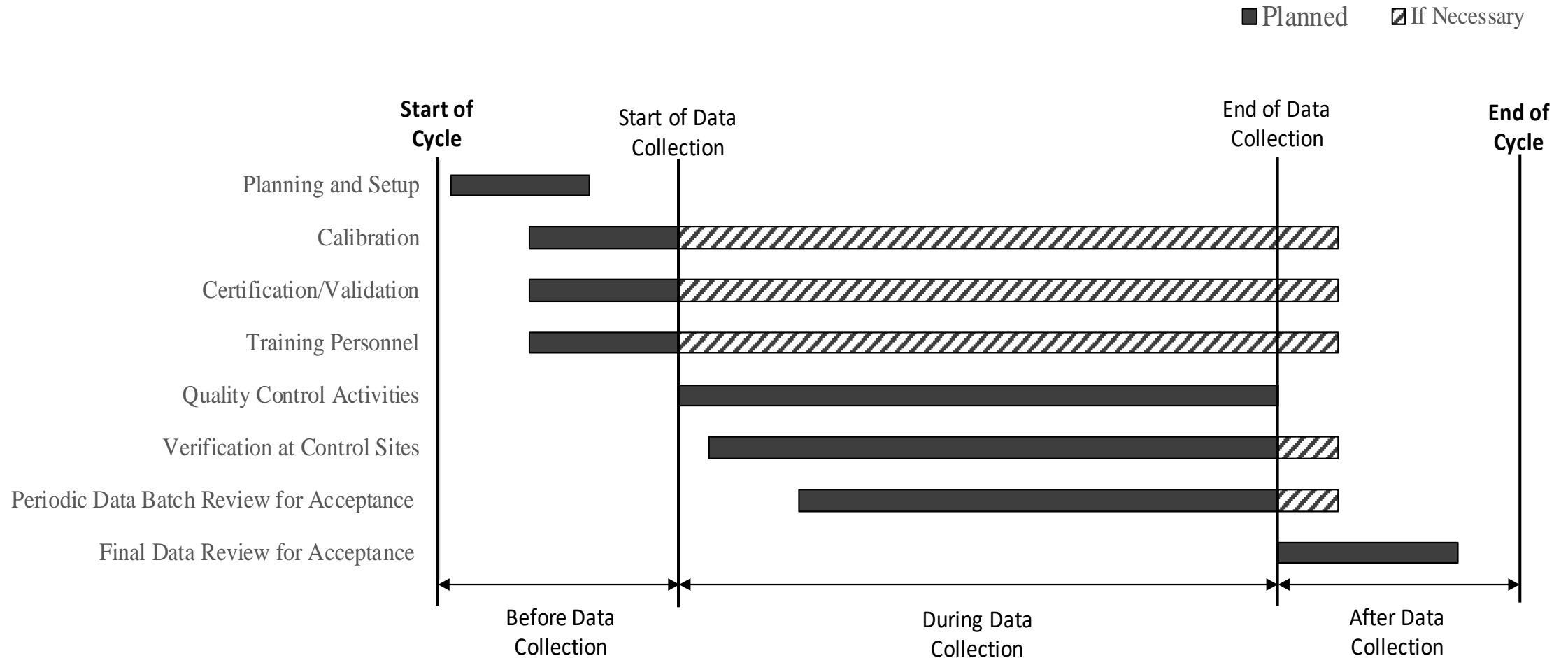
Draft Document of Successful Practices

Improved quality for all data needs



Draft Document of Successful Practices

Organized by timeline of events



Draft Document of Successful Practices

Includes different levels of quality activities to implement as a quality program



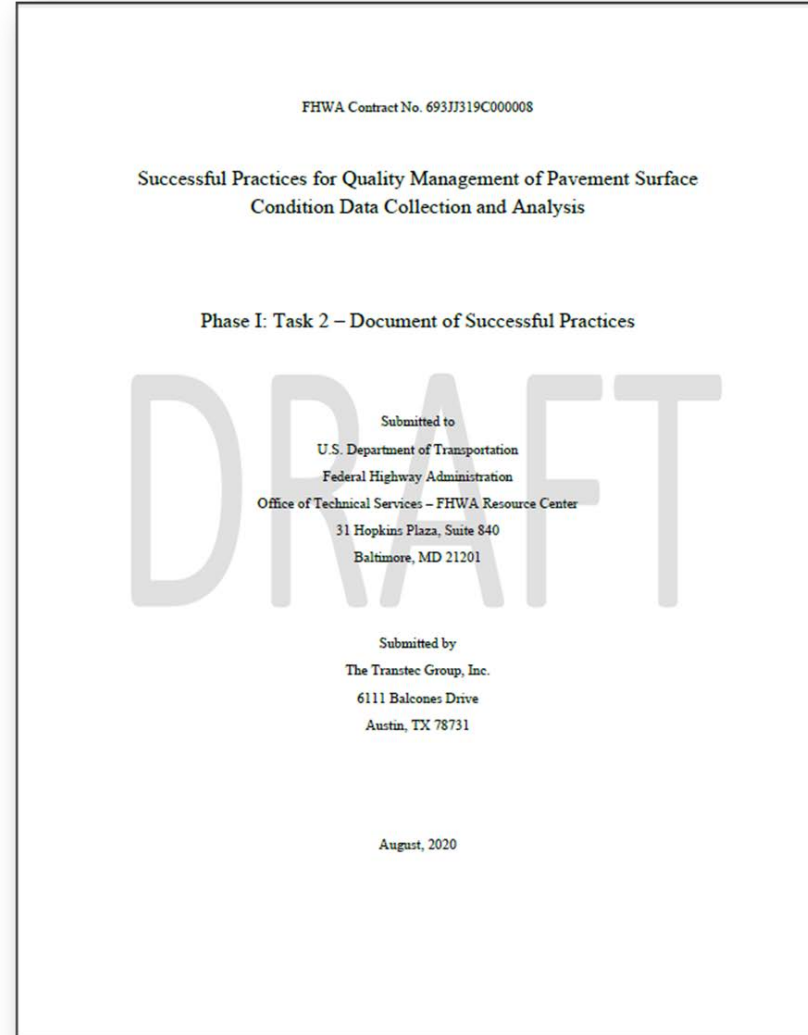
Source: FHWA TPP draft report (2020)



Source: pavemetrics.com

Summarize Document of Successful Practices

- Highlight successful practices case studies from existing DQMPs.
- Include relevant recently developed and on-going TPF-5(299)/(399), NCHRP, and other research.
- “Soup to nuts” for PSC data quality.
- Continue to update with new technology and research solutions.



Draft Document of Successful Practices



The Final Step

Pilot Project Work Plan

Ms. Amanda Gilliland, P.E.

Develop Work Plan for Pilot Projects

- Give examples of successful practices that can **supplement existing DQMPs**
- Determine if the proposed QMP Document of Successful Practices is **appropriate for different DOTs using different data collection methods and procedures.**
- Validate and calibrate Document of Successful Practices using **lessons learned** during pilot studies.
- Validate recently developed and on-going research and provide **feedback on new procedures** based on lessons learned during pilot studies.
- Identify and provide options for **solutions to data quality** issues not currently identified in the Document of Successful Practices that are discovered during pilot studies.

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Guidance for Quality Management of Pavement Surface Condition Data
Collection and Analysis

Phase I Task 2 Work Plan

Submitted to:

U.S. Department of Transportation
Federal Highway Administration
Office of Acquisition and Grants Management
1200 New Jersey Avenue, SE, Room E62-204
Washington, DC 20590

Submitted by:

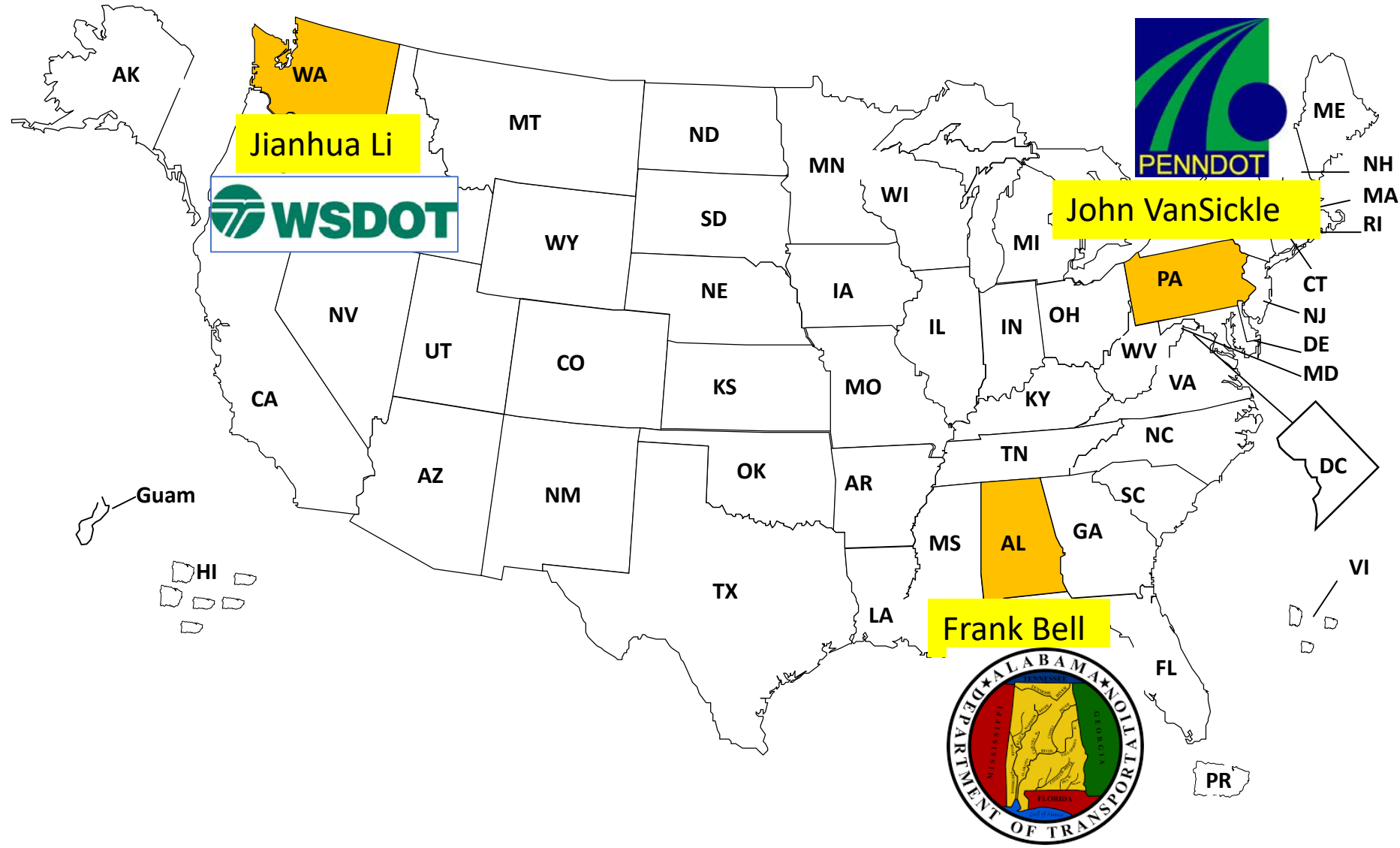
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Next Steps

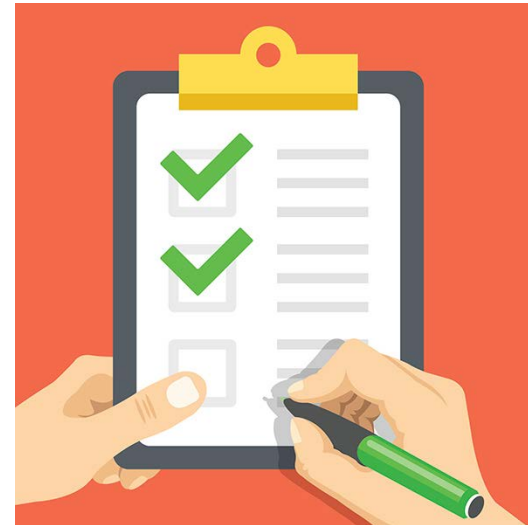
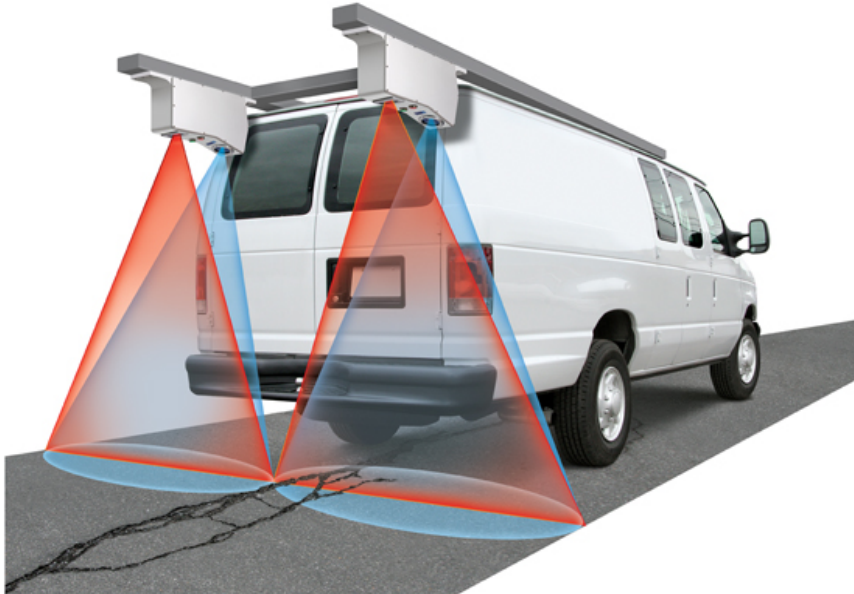
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Phase II Pilot Projects



Conduct Pilot Projects

1. Selection of Test Sections
2. Field Data Collection and Certification
3. Quality Monitoring and Data Analysis
4. Recommend Modifications to QMP Guidelines





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