

THE UPDATED PAVEMENT MANAGEMENT ROADMAP

MAX GROGG

APPLIED PAVEMENT TECHNOLOGY, INC.



PROJECT TEAM

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PRESENTATION APPROACH

- 1.0 BACKGROUND
- 2.0 GAP ASSESSMENT
- 3.0 PAVEMENT MANAGEMENT ROADMAP SUGGESTIONS
- 4.0 PAVEMENT MANAGEMENT ROADMAP IMPLEMENTATION

1.0 BACKGROUND

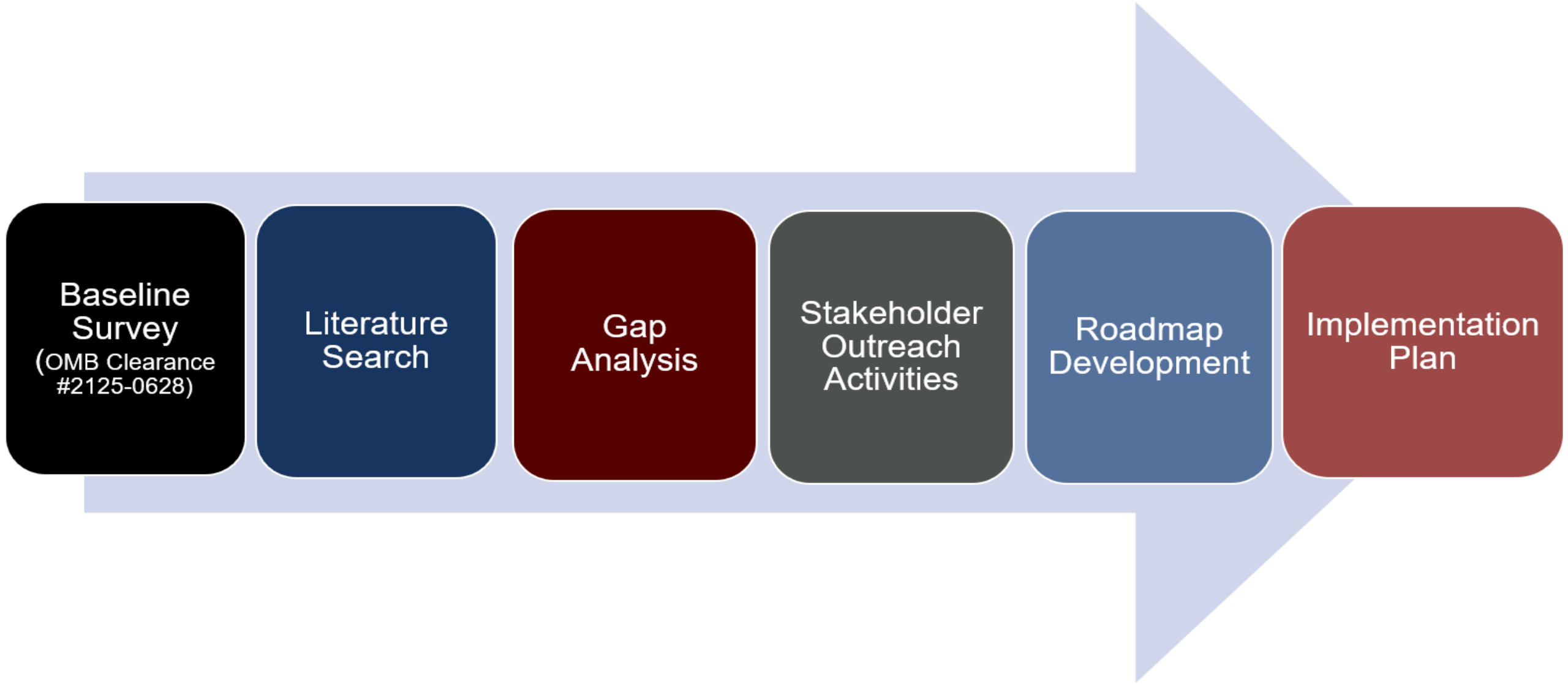
PROJECT OBJECTIVE

TO PROVIDE AN UPDATED PAVEMENT MANAGEMENT ROADMAP THAT PRESENTS A 10-YEAR STRATEGY THAT CAN BE USED BY FHWA & OTHER TRANSPORTATION AGENCIES TO DRIVE RESEARCH, TRANSFORMATIVE INNOVATION DEVELOPMENT, AND TECHNOLOGY TRANSFER ACTIVITIES THAT WILL CONTINUE TO IMPROVE PAVEMENT MANAGEMENT PRACTICES.

2010 ROADMAP 10-YEAR PLAN

- FOUR THEME AREAS
- 47 NEEDS TOTALING MORE THAN \$14.5M IN ESTIMATED COST
- SHORT-TERM NEEDS (<5 YEARS); LONG-TERM NEEDS (5 TO 10 YEARS)

PROJECT APPROACH

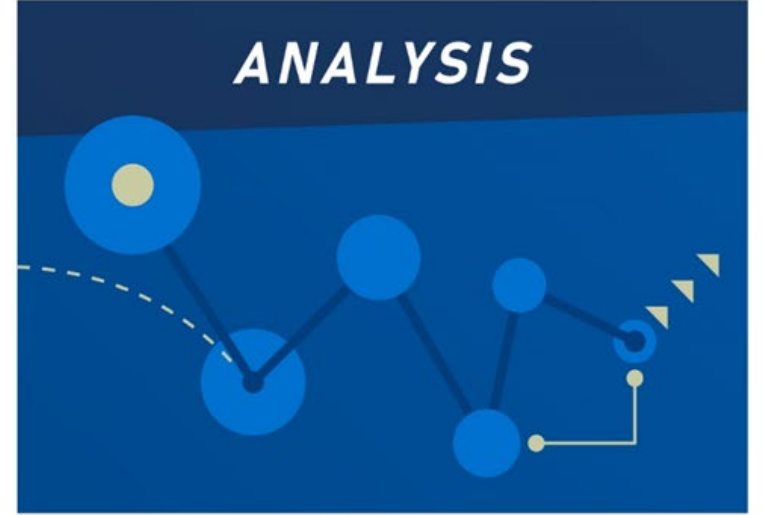


2.0 GAP ASSESSMENT: THEMES

DATA



ANALYSIS



WORKFORCE



NEW TECHNOLOGY



3.0 PAVEMENT MANAGEMENT ROADMAP SUGGESTIONS



NOTE: THE SUGGESTED ACTIVITIES ARE BASED ON THE GAP ASSESSMENT AND OUTREACH ACTIVITIES. THERE ARE NO COMMITMENTS TO FUNDING THE SUGGESTIONS IMPLIED BY THE FHWA OR ANY OTHER AGENCY.

DATA



DATA COLLECTION – IMPROVE THE EFFICIENCY AND RELIABILITY OF EXISTING DATA COLLECTION.

DATA QUALITY – IMPROVE THE QUALITY OF DATA COLLECTION USING TRADITIONAL PROCESSES.

DATA MANAGEMENT – SUPPORT EFFORTS TO IMPROVE DATA PROCESSES AND MANAGEMENT.

ANALYSIS



PERFORMANCE MODELING – ENHANCE THE RELIABILITY AND LEVEL OF CONFIDENCE IN PAVEMENT PERFORMANCE MODELS.

TREATMENT RULES AND IMPACTS – REFINE TREATMENT RULES AND IMPACTS TO IMPROVE PROJECT AND TREATMENT SUGGESTIONS.

PMS ANALYSIS – STRENGTHEN THE USE OF PAVEMENT MANAGEMENT SOFTWARE TO SUPPORT AGENCY INVESTMENT- AND PROJECT-PLANNING DECISIONS.

PERFORMANCE MEASURES – SUPPORT THE EXPANDED USE OF EXISTING PERFORMANCE MEASURES AT THE FEDERAL, STATE, AND LOCAL LEVELS.

NEW TECHNOLOGY



NEW TECHNOLOGY – PROMOTE STRATEGIES FOR USING NEW TECHNOLOGY TO SUPPORT PAVEMENT MANAGEMENT DATA COLLECTION AND ANALYSIS

NEXT GENERATION PERFORMANCE MEASURES – IMPLEMENT NEXT GENERATION PERFORMANCE MEASURES INTO PAVEMENT MANAGEMENT PROGRAMS

WORKFORCE



TRAINING – DEVELOP AND DEPLOY CONTENT TO SUPPORT WORKFORCE DEVELOPMENT.

WORKFORCE DEVELOPMENT – REDUCE BARRIERS TO READY ACCESS TO TRAINING AND INFORMATION NEEDED TO SUPPORT WORKFORCE TRANSITIONS.

TECHNICAL ASSISTANCE – PROVIDE SUPPORT TO PROMOTE THE USE OF PAVEMENT MANAGEMENT CONCEPTS.

TOOLS – SUPPORT THE DEVELOPMENT OF SOFTWARE TOOLS TO SUPPLEMENT EXISTING CAPABILITIES.

COMMUNICATION – DEVELOP EFFECTIVE TOOLS FOR STRATEGIES FOR COMMUNICATING PAVEMENT MANAGEMENT RESULTS TO DIFFERENT STAKEHOLDERS.

ORGANIZATIONAL CHALLENGES – ADDRESS ORGANIZATIONAL CHALLENGES THAT HINDER THE USE OF PAVEMENT MANAGEMENT

TYPES OF ACTIONS SUGGESTED



ROADMAP SUGGESTIONS



NOTE: THE SUGGESTED ACTIVITIES ARE BASED ON THE GAP ASSESSMENT AND OUTREACH ACTIVITIES. THERE ARE NO COMMITMENTS TO FUNDING THE SUGGESTIONS IMPLIED BY THE FHWA OR ANY OTHER AGENCY.

EXAMPLE SHORT-TERM RESEARCH ACTION ITEMS SUGGESTED BY STAKEHOLDERS

- IMPROVE 3D DATA COLLECTION & INTERPRETATION TECHNOLOGIES
- DEVELOP CONSISTENT NONREGULATORY DISTRESS DESCRIPTIONS & CRITERIA USING AUTOMATED DATA COLLECTION PROCEDURES
- DEVELOP CONSISTENT NONREGULATORY CRITERIA FOR RUTTING CERTIFICATION & VERIFICATION
- IDENTIFY COST-EFFECTIVE DATA STORAGE & ARCHIVING METHODS
- DEVELOP AN ONLINE, SEARCHABLE PAVEMENT MANAGEMENT GUIDE
- DEVELOP TEMPLATES FOR DOCUMENTING MODELS, PROCESSES, & PROCEDURES
- ENHANCE LOCAL ACCESS TO TRAINING MATERIALS

EXAMPLE SHORT-TERM DEPLOYMENT TOPICS SUGGESTED BY STAKEHOLDERS

- STRATEGIES FOR DATA COLLECTION, USE OF TSDD & GPR, USING EXISTING EQUIPMENT TO BUILD ANCILLARY ASSET INVENTORIES, & STREAMLINING DATA COLLECTION ACTIVITIES
- STRATEGIES FOR ADDRESSING TRANSITIONS IN EQUIPMENT, AUTOMATED DATA QUALITY CHECKS, USING ACCEPTANCE CRITERIA, AND USING DATA SAMPLING
- STRATEGIES FOR DEVELOPING PERFORMANCE MODELS, EVALUATING MODEL REASONABLENESS & RELIABILITY, INCORPORATING RISKS INTO MODELS
- STRATEGIES FOR INCORPORATING TSDD RESULTS INTO DECISION TREES
- STRATEGIES FOR USING NEW TECHNOLOGY AND DEVELOPING PRECISION/BIAS STATEMENTS

EXAMPLE TECHNICAL ASSISTANCE TOPICS SUGGESTED BY STAKEHOLDERS

- SHORT-TERM

- PILOT & IMPLEMENT TECHNICAL ASSISTANCE PROGRAMS ON DATA MANAGEMENT, DATA QUALITY, AND PERFORMANCE MODELING
- DEVELOP AN EQUIPMENT LOAN PROGRAM TO TEST NEW TECHNOLOGY

- LONG-TERM

- DEVELOP A NATIONAL EQUIPMENT CERTIFICATION CENTER
- PILOT PROGRAMS TO DEMONSTRATE THE USE OF NEW TECHNOLOGY, NEXT GENERATION PERFORMANCE MEASURES, & RETURN ON INVESTMENT FROM GPR & TSDD DATA
- DEVELOP A PROGRAM TO SUPPORT NEW TECHNOLOGY TRIALS

EXAMPLE SHORT-TERM TRAINING ACTION ITEMS SUGGESTED BY STAKEHOLDERS

- DEVELOP TRAINING ON BASIC STATISTICS, DATA QUALITY MANAGEMENT PLANS, EQUIPMENT CALIBRATION & CERTIFICATION, & PERFORMANCE MODELING
- CONDUCT WORKSHOPS ON HOW TO USE GPR & TSDD DATA, DATA INTEGRATION, LIFE CYCLE PLANNING, & USE OF LEADING PERFORMANCE MEASURES
- REDESIGN THE PMS USER'S GROUP WEBINAR SERIES TO FOCUS ON TRAINING
- CREATE ON-THE-JOB AND JUST-IN-TIME TRAINING MATERIALS
- CREATE SHARABLE MATERIALS FOR PUBLIC MESSAGING OF PAVEMENT MANAGEMENT INFORMATION

4.0 PAVEMENT MANAGEMENT ROADMAP IMPLEMENTATION

FHWA – RESEARCH STUDIES, DEPLOYMENT ACTIVITIES, TRAINING, TECHNICAL ASSISTANCE, PEER EXCHANGES, CASE STUDIES, REGIONAL WORKSHOPS, & TOOL DEVELOPMENT

NCHRP – RESEARCH STUDIES & SYNTHESSES

AASHTO – SUPPORT AND DEPLOYMENT OF RESEARCH PRODUCTS

POOLED FUNDS – RESEARCH, DEPLOYMENT ACTIVITIES, TOOL DEVELOPMENT

TRB – RESEARCH NEEDS STATEMENTS, NCHRP PROJECT ADMINISTRATION, WEBINARS, WORKSHOPS AT CONFERENCES

PRIVATE INDUSTRY – EQUIPMENT & SOFTWARE DEVELOPMENT

ACADEMIA – RESEARCH & TRAINING PROGRAMS

GET YOUR COPY OF THESE DOCUMENTS!

- PAVEMENT MANAGEMENT ROADMAP
- PAVEMENT MANAGEMENT ROADMAP EXECUTIVE SUMMARY

[Roadmap 2022 - Roadmap - Pavement Management & Performance - Pavements - Federal Highway Administration \(dot.gov\)](#)

