NHI Real Solutions Seminar Presentation

Pavement Management That Works

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What Is Pavement Management?

- "a set of tools or methods that assist decision-makers in finding optimum strategies for providing, evaluating, and maintaining pavements in a serviceable condition over a period of time."

AASHTO 1993

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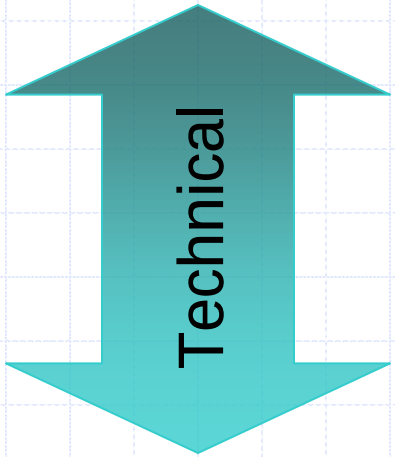
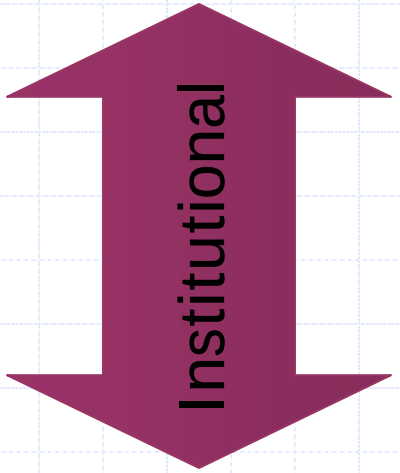
Pavement Management Challenges

- Data quality
- Data integration
- Model development
- Lack of acceptance
- Inadequate resources
- Political pressure
- Competing priorities
- Others?





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Addressing Technical Challenges

- Training classes
  - NHI 131116, Pavement Management: Characteristics of an Effective Program (1 day)
  - NHI 131105, Analysis of PMS Data for Engineering Applications (2 days)
  - NHI 131104, Pavement Preservation: Integrating Pavement Preservation with Pavement Management (2 days)

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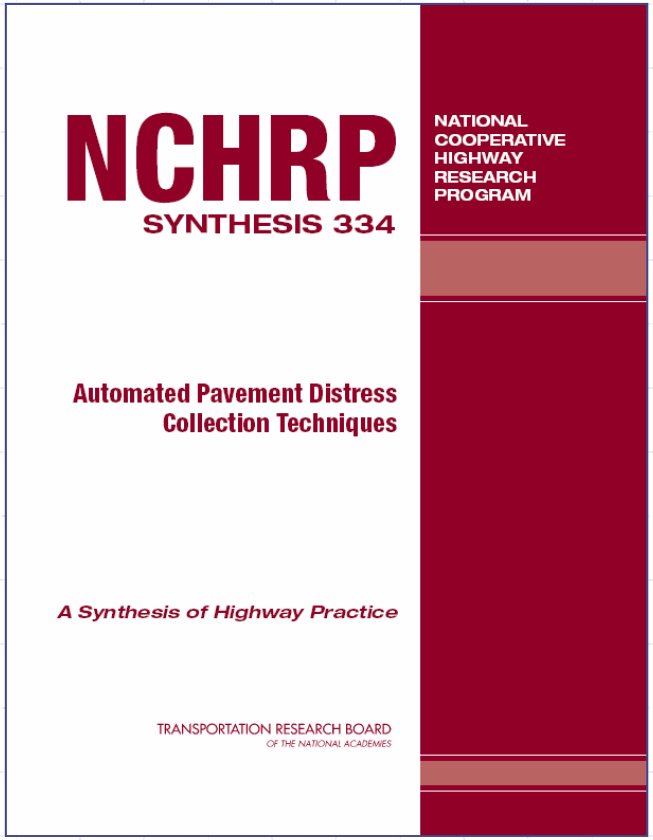
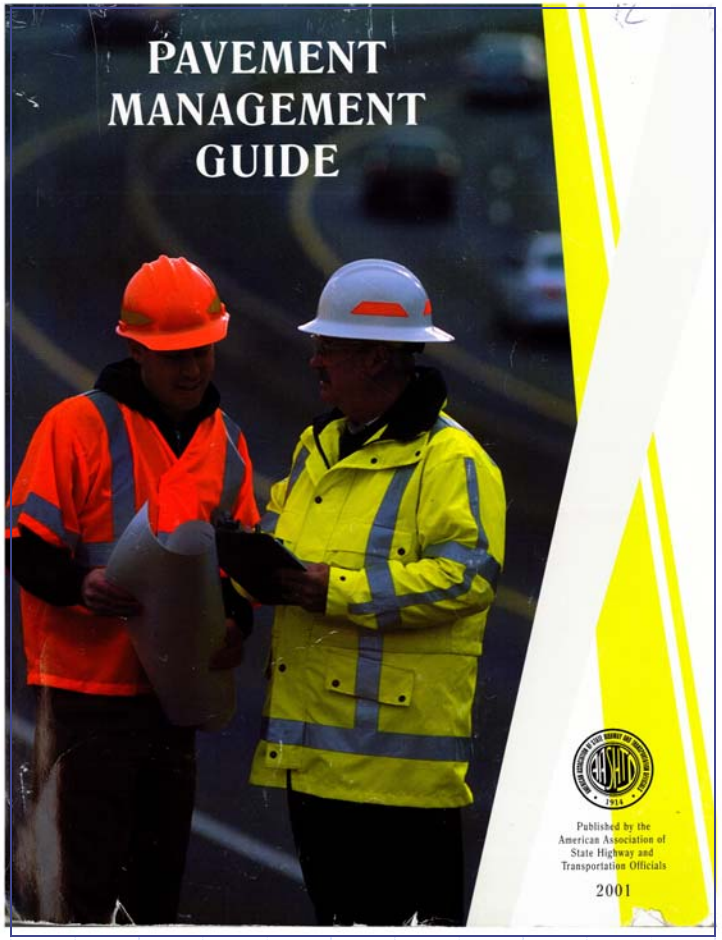
Addressing Technical Issues

- References





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Technical Issues

- Conferences/Technical Meetings

2008 Southeastern Pavement Management and Design Conference – June 1-4, 2008

7th International Conference on Managing Pavement Assets

ICMPA

CALGARY, CANADA 2008

June 24-28, 2008

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Software/Data Availability Issues

- Business process review
  - Where is the data? What format is it in?
  - Who uses the data? What format do they need it in?
  - What changes are needed to better align the business processes?
- Gap analysis
  - Document existing capabilities
  - Identify needs
  - Evaluate gaps between the two

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Resource/Support Issues

- Business case study
  - Needs/criteria/resource requirements/results
  - Peer review
- Quantifying the benefits of pavement management

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Integration Into Agency Decisions

- Goals or performance targets
- Consequences of investment decisions
- Linking program recommendations with field activities
  - Use pavement management data to set investment levels
  - Set up matching guidelines for field personnel
  - Place pavement management engineers in the district or region offices

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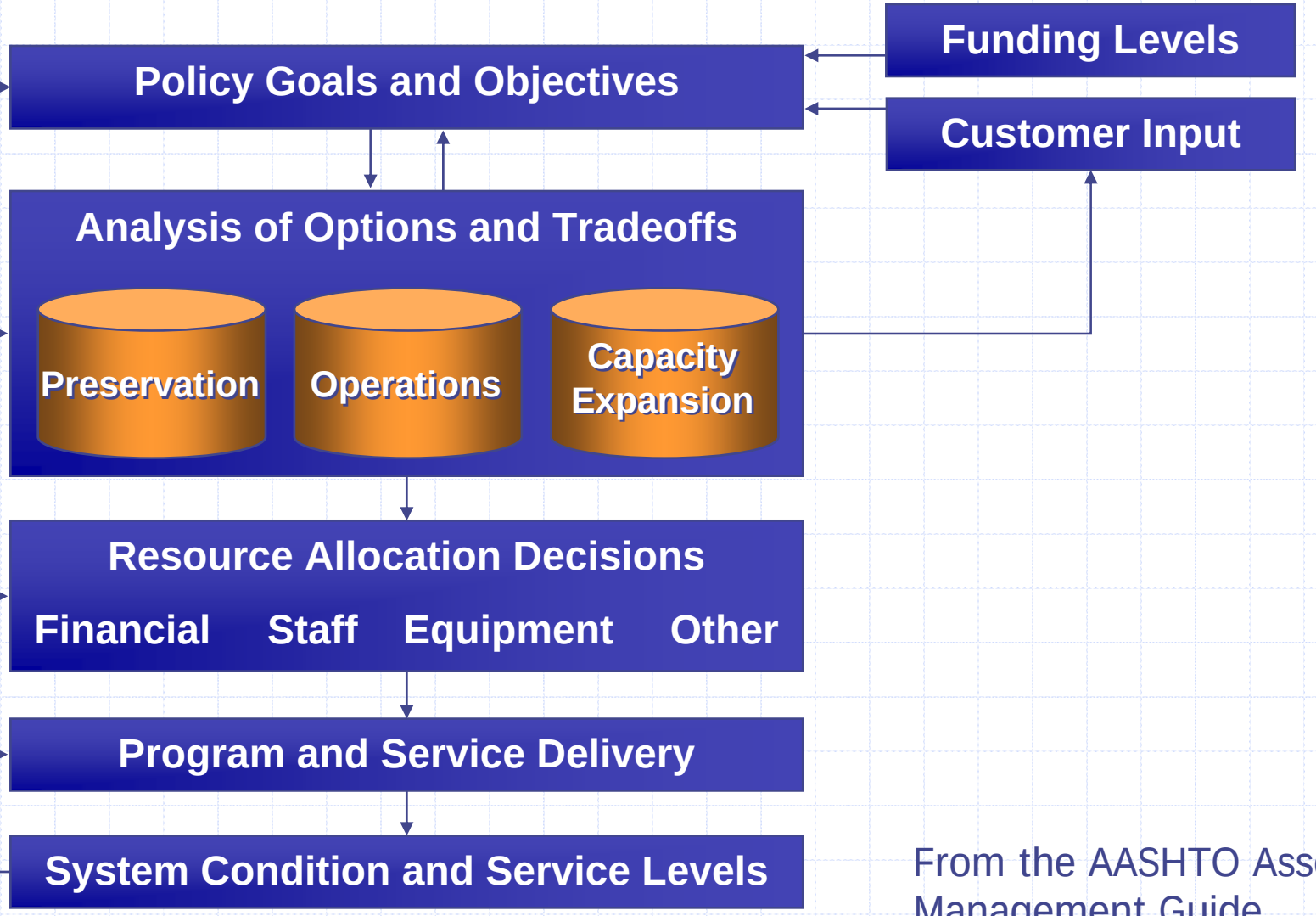
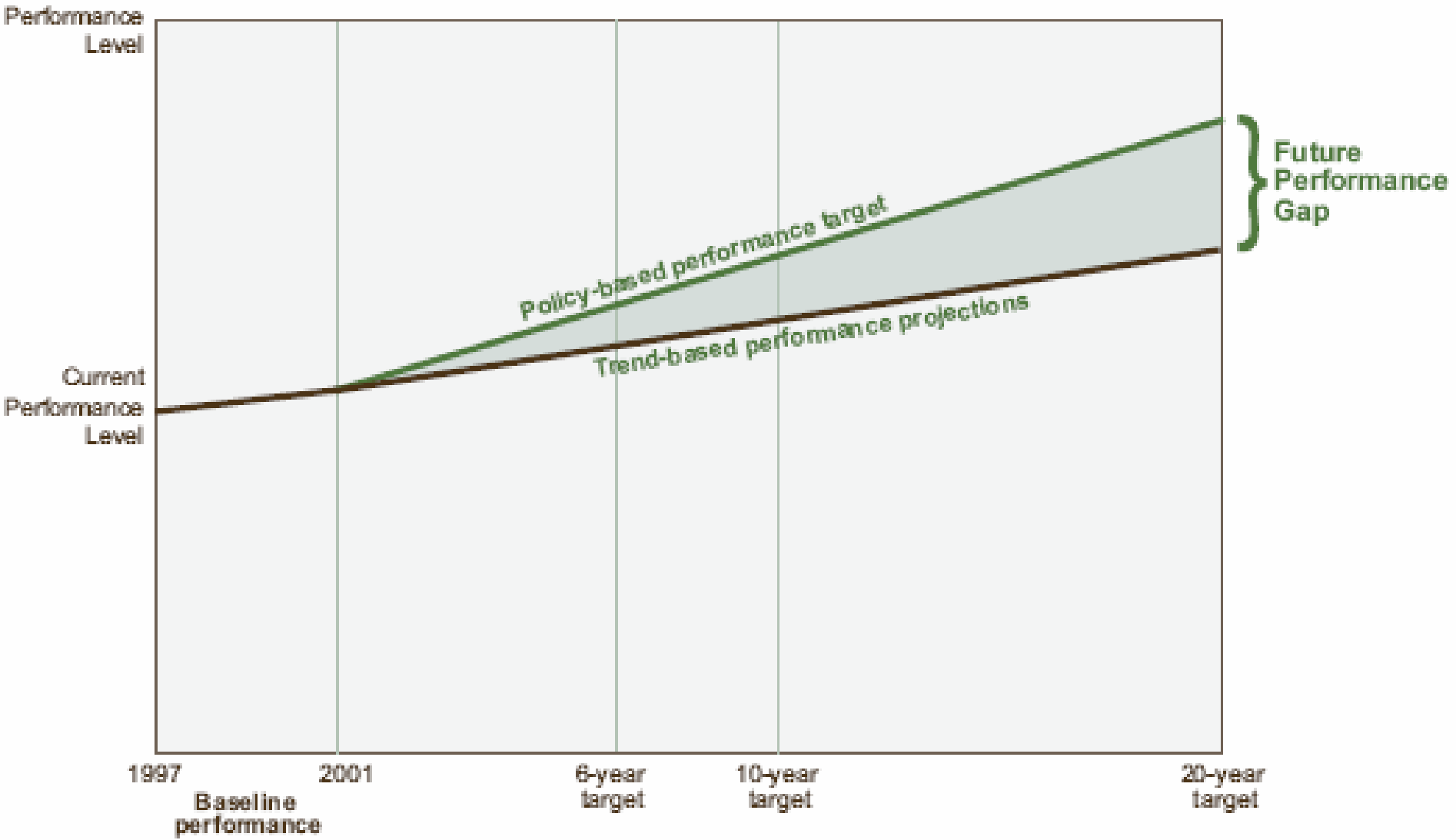
Integrated Decision Approach



From the AASHTO Asset Management Guide

MnDOT Performance Targets



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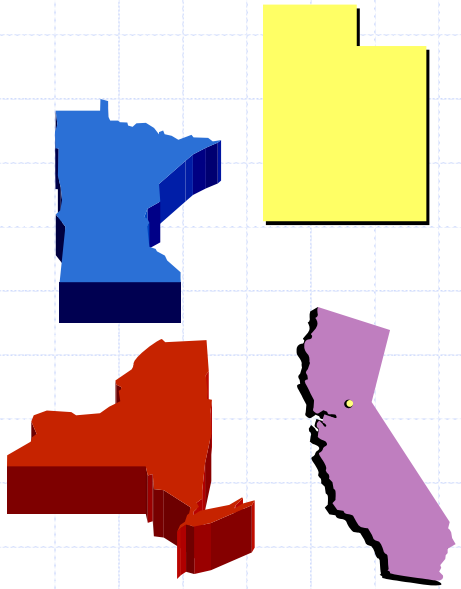
FHWA Pavement Management Peer Exchange – February 2008

- Host States: Minnesota DOT & Utah DOT
- Participating States: New York State DOT & California DOT
- FHWA Office of Asset Management
- FHWA Division Offices



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Topics – Use of Pavement Management To Support:

- Project selection process
- Planning and programming activities
- Internal and external communication activities
- Links to maintenance & operations
- Engineering & economic analyses
- Enhancements to analysis models

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Mn/DOT Points of Interest

- Pavement condition information collected using state-owned vehicles
- Pavement management information is used for long-term planning
- Performance targets and accomplishments are reported to the Districts

UDOT Points of Interest

- Pavement management reports to the Director of Asset Management
- The state is transitioning to contractor-collected condition data
- Strong link to maintenance

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Other Interesting Uses of Pavement Management

- Engineering analysis of full-depth HMA placed directly on the subgrade (Mn/DOT)
- Analysis of proposed impact of a bond program (Mn/DOT)
- Investment strategy tool (UDOT)
- Update of the *Good Roads Cost Less* study (UDOT)

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Mn/DOT Staffing

- Pavement Management Engineer
- Statistician
- Preventive Maintenance Engineer
- Four data collection operators
- Engineering Specialist

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UDOT Staffing

- Director of Asset Management
- Four Pavement Management Engineers
- Asset Management Engineer
- Data Collection Team (1 engineer & 2 technicians)

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Future Activities – Mn/DOT

- Use pavement management to set District funding
- Improve reporting to decision makers and politicians
- Determine the effectiveness of preventive maintenance

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Future Activities - UDOT

- Determine a reasonable investment level for preservation
- Establish “Maintenance Only” sections
- Interface with maintenance work history
- Improve treatment rules

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Software Lessons Learned

- Guard against beta versions
- System should reflect the way your organization does business
- Get a system that is flexible
- Verify data can be exported
- Ask how final program is developed
- Be sure technical support is available
- Check references

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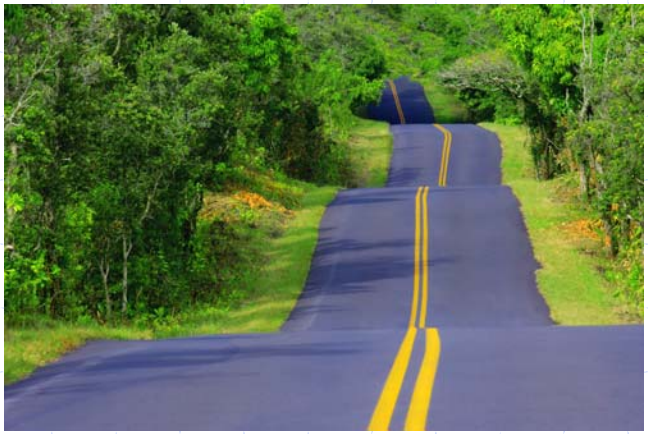
Institutional Issues Addressed

- Time required to “turn the ship”
- Dedicated funding needs
- Fighting worst-first mentality
- Availability of needed data
- Ability to respond quickly to requests



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Key Success Factors

- Consistency in pavement management personnel
- Quality data
- Strong, cooperative relationship with vendor
- Regularly promote pavement management concepts

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Key Success Factors (cont.)

- Build consensus for analysis models
- Use tools with flexibility
- Continue to improve the system with time

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Next Steps

- Report
- Future peer exchanges

Thank You!

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