2018 AASHTO
Maintenance Manual for Roadways and Bridges Update
Your Presenters...

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A Brief History

• Project 20-07 (64) Originally published the Manual
• Project 20-07 (170) Revised the Manual
• Project 20-07 (203) Added the Systems Operation & Management Chapter
• Project 20-07 (380) Current Revision to the Manual
10 Years Later...

What’s changed?

• Moving Ahead for Progress in the 21st Century Act (MAP-21) passed in 2012
• Environmental Changes
• New technology, materials, and regulations for all aspects of maintenance operations
• Changes in Best Management Practices
• Reductions in Maintenance Budgets and employees
• Online tools and resources
Addressing Those Changes

• 2014 - Research Proposal Submitted and Approved
• 2015 - Additional Funds Requested and Approved
• 2015 - NCHRP 20-07 (380) Initiated
• 2016 - Volkert Awarded the Contract to update the Manual
• 2018 - Final Draft Manual was submitted to NCHRP
Target Audience

- Young engineering managers early in their career
- Vastly Different Workforce:
  - Technically savvy
  - Growing use of electronic references
  - Internet search engines
How the New Manual was Prepared

• Starting Point
  • MAP-21 changed the face of maintenance in 2012
  • Reference materials and photographs out of date
  • Overlap between chapters on general subjects
  • Drastic environmental changes

• Process
  • Reviewed current manual and related literature
  • Used teams’ collective knowledge and literature review to pinpoint the needed updates
  • Prepared and submitted a detailed outline for new manual
  • Developed draft manual chapters for NCHRP review
  • Compiled those chapters into a draft manual for NCHRP review
## Summary of New Chapters and Changes

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<th>Chapter</th>
<th>Chapter Name</th>
<th>Changes</th>
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| 1       | General Highway Maintenance (Old Title - Maintenance Management) | • Name of the chapter was changed from Maintenance Management to General Highway Maintenance to better reflect the contents of the chapter  
• Added MAP-21  
• Reorganized the existing material  
• Updated references  
• Added the role of AASHTO  
• Added material about management systems and the various software packages |
| 2       | Roadway Maintenance (Old Title – Roadway Maintenance and Management) | • Name of the chapter was changed to better reflect the contents of the chapter  
• Reorganized the existing material  
• Updated references  
• Consolidated environmental information into distinct sections  
• Significant updates were made to the sections detailing new research and findings, environmental programs and processes were added based on various state agency best practices, various alternative energy programs were added |
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| 3       | Bridge Maintenance (Old Title – Bridge Maintenance and Management) | • Significant updates were made to the sections detailing new research and findings with regard to materials and techniques, environmental considerations, and new technology  
• Added MAP-21 requirements  
• Added information on Load Rating, Element Level Inspection, Preventive Maintenance and Benefits including cyclical and condition based activities  
• Updated references  |
| 4       | Systems Operations and Management                             | • This chapter was updated with new case studies and research material  
• Included material about AASHTO National Operations Center of Excellence  |
| 5       | Equipment                                                     | • This chapter was updated with new material about preventive maintenance programs and alternative fuels  |
| 6       | Tort Liability                                               | • This chapter was updated for current legal practices  
• Verified and updated references  
• Added information about Open Records Laws  |
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| 7       | Worker and Work Zone Safety (New Chapter) | • This was a new chapter developed to eliminate much of the overlap in chapters regarding safety of the worker and the traveling public  
• OSHA requirements for worker safety were included and work zone safety material was updated based on the latest Manual on Uniform Traffic Control Devices (MUTCD)  
• Consolidated previous safety information into a new chapter  
• Updated relevant reference material and added new material as necessary |
| 8       | Human Resources (New Chapter) | • This is a new chapter developed to eliminate much of the overlap in chapters  
• Hiring practices, diversity laws and harassment was covered in this chapter. This chapter is not intended to replace state agency personnel policies but simply give maintenance professionals an additional resource  
• Consolidated previous personnel information into a new chapter  
• Updated relevant reference material and added new material as necessary |
The New Manual Provides

- Updated, state of the art, best practices in maintenance
- Resource to answer common questions
- Gives user a starting point for your research
- Library of resource links at the end of each chapter
- Forms, worksheets and checklists from various state agencies

1.9 Resources

FHWA
FHWA By Day: A Look at the History of the Federal Highway Administration:
https://www.fhwa.dot.gov/roads/day.htm

America’s Highways 1776-1976: A History of the Federal-Aid Program:
https://hdl.handle.net/2027/uc1.b3948863

Caltrans report:

Scan reports:

FDOT

Hurricane Preparedness: FloridaHustler.org

Hurricane Response Evaluation and Recommendations Report:

FDOT Hurricane Preparation and Response Recommendations:

National Weather Service
http://www.weather.gov/

USGS
https://water.usgs.gov/zoom/streamstats/

Waze
https://www.waze.com/

MQA
NCHRP 14-12, Highway Maintenance Quality Assurance:
Best Practices In Performance Measurement For Highway Maintenance And Preservation

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SPECIAL NOTE: This report is NOT an official publication of the National Cooperative Highway Research Program, Transportation Research Board, National Research Council, or The National Academies.
Next Steps

Committee Options:
1. Adopt the new Manual as is
2. Adopt with editorial corrections
3. Not ready for publication at this time