



INDIANA DEPARTMENT OF TRANSPORTATION

Driving Indiana's Economic Growth

Design Memorandum No. 20-14

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TO: All Design, Operations, and District Personnel, and Consultants

FROM: /s/ Elizabeth P. Mouser
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SUBJECT: Preventative Maintenance and 3R Design Criteria for Freeway and Interstate Resurfacing Projects

EFFECTIVE: Immediately

There continues to be confusion on the appropriate design criteria related to pavement resurfacing projects on Freeway and Interstate routes. IDM Chapter 54, contains the INDOT design criteria for an existing freeway or interstate with 3R and Partial 4R scopes of work. It does not discuss criteria related to preventative maintenance. This has led to the inappropriate use of IDM Chapter 56 for freeway and interstate applications.

The following guidance should be used until further notice.

Project Scope of Work

1. Preventative Maintenance (Preservation). A pavement preventative maintenance treatment consists of work that keeps the facility in a state of good repair. FHWA Memo *Guidance on Highway Preservation and Maintenance*, dated February 25, 2016, defines Preventive Maintenance as referenced in 23 U.S.C. 116(e): "A preventive maintenance activity shall be eligible for Federal assistance under this title if the State demonstrates to the satisfaction of the Secretary that the activity is a cost-effective means of extending the useful life of a Federal-aid highway."

Preventative maintenance treatments do not add capacity or structural value but do restore the overall surface condition or rideability of the facility. Examples include single-lift HMA overlays, in-place recycling, and crack and joint sealing. The complete list of preventative maintenance treatments in IDM Chapter 602 has been approved by FHWA as cost-effective means of extending the useful life of the highway.

2. 3R Project. Since 1982, Part 625 of Title 23, *Code of Federal Regulations* (CFR), has allowed for federal funding of 3R projects under the mandate that these projects are “constructed to preserve and extend the service life of existing highways and enhance highway safety”. This may include addressing performance issues, such as poor infrastructure condition, current or anticipated traffic congestion, or crash patterns.

Pavement rehabilitation is considered a 3R treatment. These add structural capacity to extend the service life of the pavement. Examples include 2-lift and 3-lift HMA overlays, PCCP cracking and seating with HMA overlay, and full depth reclamation. See IDM Chapter 602 for a complete list of pavement rehabilitation treatments.

Design Criteria and Level One Checklist – Permanent Conditions and MOT

1. Preventative Maintenance. Design criteria have not been established for preventative maintenance projects.
 - a. Level One Checklist is not required for permanent conditions of a Preventative Maintenance project. However, this does not relieve the designer of the responsibility of identifying geometric criteria that are reduced as a result of the work.

Often missed secondary impacts include reduced vertical clearance of overpassing bridges, reduced barrier height, reduced stopping sight distance where barrier is installed.
 - b. A Level One Checklist is required for maintenance of traffic, except for detours.

2. 3R Projects. The 2016 AASHTO *A Policy on Design Standards - Interstate System* states the geometric design standards used for 3R projects may be the AASHTO Interstate standards that were in effect at the time of original construction or inclusion into the interstate system.
 - a. Level One Checklist is required for permanent conditions of a 3R project.
 - b. Level One Checklist is required for maintenance of traffic, except for detours.

Design Exceptions

1. Preventative Maintenance. Design exceptions are generally not applicable as design criteria has not been established for preventative maintenance projects. A design exception is required for a new geometric feature created by the project which does not satisfy current INDOT criteria and for an existing feature made worse, for example, vertical clearance.
2. 3R Project. A design exception is required for an existing geometric feature which does not meet the standards that were in effect at the time of original construction or inclusion into the interstate system. A design exception is required for a new geometric feature created by the project which does not satisfy current INDOT criteria and for an existing feature made worse.

IDM Revisions

Indiana Design Manual guidance related to preventative maintenance on the NHS contained in Chapters 40 and 54 will be updated at a later date. This memo should be referenced until further notice.

Questions related to this memo should be directed to the Highway Design Review Office, Russ Brittain at rbrittain@indot.in.gov roadreviewteam@indot.in.gov.

References

- FHWA Technical Advisory 5040.28: *Developing Geometric Design Criteria and Processes for Nonfreeway RRR Projects*
<https://www.fhwa.dot.gov/design/t504028.cfm>
- FHWA Memo: *Guidance on Highway Preservation and Maintenance*
<https://www.fhwa.dot.gov/preservation/memos/160225.cfm>
- FHWA *Bridge Preservation Guide*
<https://www.fhwa.dot.gov/bridge/preservation/guide/guide.pdf>