



ASPHALT SPECIFICATIONS FOR LOCAL PAVING PROJECTS



**Purdue Road School
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PRESENTATION OVERVIEW

- The “Need”
- APAI Community Crossings Guide
- Design and Construction Best Practices
- What is Superpave 5?
- Quality Assurance



THE NEED

THE “NEED”

Community Crossings Program

- INDOT \$, LPA administered
- State Code Requirements

Design and Specification Issues

- Use of outdated INDOT specs
- Improper mixture types
- Varying RAP/RAS contents
- Not enforcing construction requirements
- Inaccurate asphalt layer thicknesses

**Quality Product
at Lowest Cost**





APAI COMMUNITY CROSSINGS GUIDE

APAI CCMG GUIDE


- Indiana Code Requirements
- INDOT specifications
- Asset Management Plan
- APAI Documents
 - Asphalt Design & Construction Guide
 - Bid Form Template
 - Sample Advertisements for Bids
 - Sample Award Procedure
 - Contract Template
- Endorsed by INDOT and LTAP



Community Crossings - Asphalt P x +

← → ↻ https://www.asphaltindiana.org/community_crossings.php 🔑 🔍 📄 ⭐ ⚙️ 🗄️ 📱 🌐

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ABOUT APAI MEMBERSHIP EVENTS AWARDS CAREERS TECHNICAL RESOURCES MEMBER LOGIN

Community Crossings

APAI Guide for Asphalt Projects

The Asphalt Pavement Association of Indiana (APAI), in collaboration with INDOT and Indiana LTAP, has developed Community Crossings Matching Grant (CCMG) guidance documents to assist counties, cities and towns with navigating the grant procurement process, disbursing funds in the correct manner and designing and constructing quality asphalt pavement projects. We thank INDOT and Indiana LTAP staff along with APAI membership for their invaluable assistance in developing this guide.

[Community Crossings Matching Grant Program Information](#)

The INDOT Community Crossings webpage provides background information about the program, project eligibility information, timelines for application and award, example applications based on project total cost, frequently asked questions, and other informative documents. APAI guidance documents were developed to supplement the information available on INDOT's website. Program questions should be directed to CCMG district administrators.

[LTAP Asset Management Guide](#)

The CCMG program requires local agencies to have approved asset management plans to qualify for funds. This resource by Indiana LTAP introduces asset management and outlines the steps involved in developing an effective asset management plan.

[Asphalt Design and Construction Guide](#)

APAI created this two-part guide to assist locals with designing and constructing quality asphalt pavements. The design section provides guidance to specify correct asphalt mixtures in accordance with INDOT Standard Specifications, Section 402 Hot Mix Asphalt Pavement. The construction section helps Owner/Inspector ensure Contractor is observing best practices during asphalt paving operations.

[Bid Form Template](#)

A bid form with list of commonly used bid items with appropriate units is provided as downloadable MS Excel document. User should add and remove items to customize for project needs. Owner/designer will fill out units column and include in project documents for bid. Contractor will fill out price column, and total column will automatically compute. Bid form will be used to determine low bidder.

[Sample Advertisements for Bids](#)


Sample newspaper advertisements for bids are provided for Owner to custom with project specific information. Bidding procedures vary based on total project cost, and Owner should review Indiana code to determine requirements.


[Sample Award Procedure](#)

Sample award procedure, customizable with project specific information, is provided for Owner to use at Board meeting to award contract to low bidder.

[Contract Template](#)

Contract template, customizable with project specific information, may be used as agreement between Owner and Contractor for CCMG projects. This contract specifies that all work should be performed according to project specifications and INDOT published standards. Indiana code for CCMG projects allows Owner to elect either unit price (INDOT recommendation) or fixed price contract.

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 **COMMUNITY CROSSINGS**
MATCHING GRANT

Windows Search [Taskbar icons: File Explorer, Microsoft Edge, Google Chrome, PowerPoint]

ONLINE GUIDE

WWW.ASPHALTINDIANA.ORG



TECHNICAL TAB



COMMUNITY CROSSINGS



DESIGN AND CONSTRUCTION BEST PRACTICES

DESIGN BEST PRACTICES

Mixture Specification

- Align with current INDOT Standard Specs
- Mixture designation
 - Type B or C depending on ESALs
 - PG binder grade
 - HMA, Type B, 64, Surface, 9.5mm
- Recycled content
 - Maximum binder replacement = 25%



CONSTRUCTION BEST PRACTICES

Subgrade and Subbase

- Subgrade uniformly compacted
 - Proof roll to check stability
- Aggregate subbase compacted & smooth
- Roadway properly graded

Milling

- Mill to sound surface
- Patch and crack repair
- Clean surface – no dust or debris



CONSTRUCTION BEST PRACTICES

Tack Coat

- Uniformly applied across lane width
 - No streaking or ponding
- Time to break and set



Mixture Placement

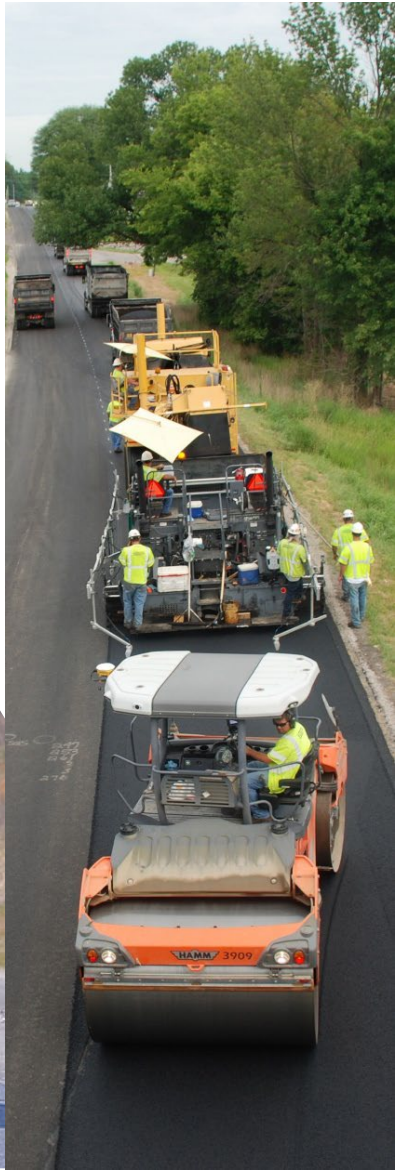
- Minimize segregation
- Smooth finished mat
- Temperature requirements



CONSTRUCTION BEST PRACTICES

Compaction

- Most critical part of asphalt installation
- Establish rolling pattern
 - Initial breakdown when HOT
- Proper roller operation techniques
- Lift thicknesses





WHAT IS SUPERPAVE5?

What is Superpave5?

- Design target air voids 5.0%
- Density target 95.0% (5.0% in-place air voids)

	Superpave4	Superpave5
Design target air voids	4.0%	5.0%
Minimum VMA	15.0%	16.0%
Minimum Vbe	11.0%	11.0%
N _{des} gyrations (Type B)	75	30
Density (in-place air voids)	92.0% (8.0%)	95.0% (5.0%)

Design information

- Increase target air voids to 5.0%
- Increase minimum VMA +1.0%
- Aggregate quality requirements remain the same
- Lower gyrations at N_{des}
- **All INDOT designs in 2020 are Superpave5**

Constructability Information

- Standard rolling train remains the same
- Rolling patterns remain the same
- Density targets 95.0% (5.0% in-place air voids)
 - Decrease in aging
 - Decrease in permeability
 - Maintain rut resistance



QUALITY ASSURANCE

Quality Control and Quality Assurance

- Quality Control (QC) performed by Contractor
- Quality Assurance (QA) performed by Owner
- Define requirements in the specification
- Provides a way for Contractor to ensure their product and Owner to verify they are receiving the product specified.

Common QC/QA Practices

- Review HMA designs and material information prior to any work
- Require Contractor to provide mix certifications during production
- Obtain cores from the pavement and test for density



QA Considerations

- Communicate with Contractor before, during, and after production
- Inform and train field inspectors
 - Review of the HMA design
 - Subbase/Subgrade requirements
 - Crack sealing
 - Tack coat application
 - Proper temperatures
 - Proper Compaction
 - Lift thickness and yield
 - Additional specification requirements



Questions?

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