



Asphalt Pavement Quality Initiative Committee (APQI)

Eric Lykins, P.E. – Texas Department of Transportation

Craig Odom – Reece Albert, Inc.

PARTNERSHIP * PLANNING * PARTICIPATION * PERFORMANCE



Quick Recap

- Partnership between TxDOT, TXAPA, and AGC
- Established in 2018
- Meets quarterly
- Solution Driven
- Goal: to get at least one more year out of our asphalt pavements



The AQPI partnership has raised the bar by setting new standards for excellence, focusing on **accountability** and **education**, and dedicating itself to quality asphalt pavements.

Committee Member	Company / Division
Eric Lykins (Co-Chair)	TxDOT - Administration
Jessica Butler	TxDOT - Administration
Duane Milligan	TxDOT – Construction
Jace Lee	TxDOT – Maintenance
Jenny Li	TxDOT – Maintenance
Ryan Barborak	TxDOT – Materials & Test
Enad Mahmoud	TxDOT – Materials & Test
Gisel Carrasco	TxDOT – Materials & Test
Ernest Longoria	TxDOT – Materials & Test
Pravat Karki	TxDOT – Materials & Test
Glenn Allbritton	TxDOT – Houston
Charles Benavidez	TxDOT – San Antonio
Kelly Morris	TxDOT – Lufkin
Tomas Trevino	TxDOT – El Paso
Jeffery Vinklarek	TxDOT – Yoakum
Steve Smith	TxDOT – CST

Committee Members	Company / Division
Craig Odom (Co-Chair)	Reece Albert
Cliff Kay	A.L. Helmcamp
Jason Exum	R.K. Hall Construction
Kal Kincaid	Texas Materials
Dean Word III	Dean Word Company
Jeff Greene	Durwood Greene
Andy Cascione	Valero
Doug Eichorst	AGC
Michael Lee	AGC
Jon Epps	TTI
Harold Mullen	TXAPA
Jim Warren	TXAPA
Chuck Fuller	TXAPA
Corey Schwarz	TXAPA

APQI Working Groups

- Liquid Asphalt
- Aggregates
- Heavy Duty Pavements
- Intersections
- RAP Stockpile Management
- Balanced Mix Design
- Partners in Quality
- Bolt-On
- Asphalt Pavement EXchange (APEX)



Liquid Asphalt Working Group

Pravat Karki & Andy Cascione

- Required Certification and Proficiency Program in 2027
 - Address Variability
 - Provide In-State Option for Training & Certification
- Revised the Asphalt Binder Quality Program
- Review, Evaluate, and Update Test Procedures and Specifications
 - Currently Revising Tex-545-C

TxDOT MTD Binder Section Test Around 4,500 Samples Per Year





Aggregates Working Group

Kelly Morris & Tomas Trevino

- Evaluating Form 2088 “Surface Aggregate Selection”
- Variable Speed Test (VST)
 - Renamed - Dynamic Friction Test (DFT)
 - Bituminous Rated Source Catalog
 - 6 New SAC A Sources for Seal Coats



TEXAS DEPARTMENT OF TRANSPORTATION
FORM 2088
SURFACE AGGREGATE SELECTION

DISTRICT					
CONTROLLING CSJ					
COUNTY					
HIGHWAY					
PROJECT LIMITS					
PAVEMENT DESIGN ENGINEER					

Selection Guidelines for Bituminous Surface Aggregate Classification (SAC)

Demand For Friction	Low	Moderate	High	Designer's Rating	Points
Rain Fall (inches/year)	≤20	>20 ≤40	>40		
Traffic (ADT)	≤5000	>5000 ≤15,000	>15,000		
Speed (mph)	≤35	>35 ≤60	>60		
Trucks (%)	≤8	>8 ≤15	>15		
Vertical Grade (%)	≤2	>2 ≤5	>5		
Horizontal Curve (Degrees)	≤3	>3 ≤7	>7		
Driveways (per mile)	≤5	>5 ≤10	>10		
Intersecting Roadways (ADT)	≤500	>500 ≤750	>750		
Wet Surface Crashes (%)	≤5	>5 ≤15	>15		
SUMMARY OF TOTAL DEMAND FOR FRICTION					0
*Available Friction	Low	Moderate	High	Designer's Rating	Points
Cross Slope (%)	≤2	2-3	3-4		
Aggregate MicroTexture	SAC B		SAC A		
Pavement				Surface Design Life	
HMA Mixture Type				Macro Texture	
SUMMARY OF TOTAL AVAILABLE FRICTION					0
DOES TOTAL AVAILABLE FRICTION EXCEED TOTAL FRICTIONAL DEMAND?					

*Parameters set by the designer that affect pavement friction.
Total friction available should always exceed total frictional demand.
Comments:

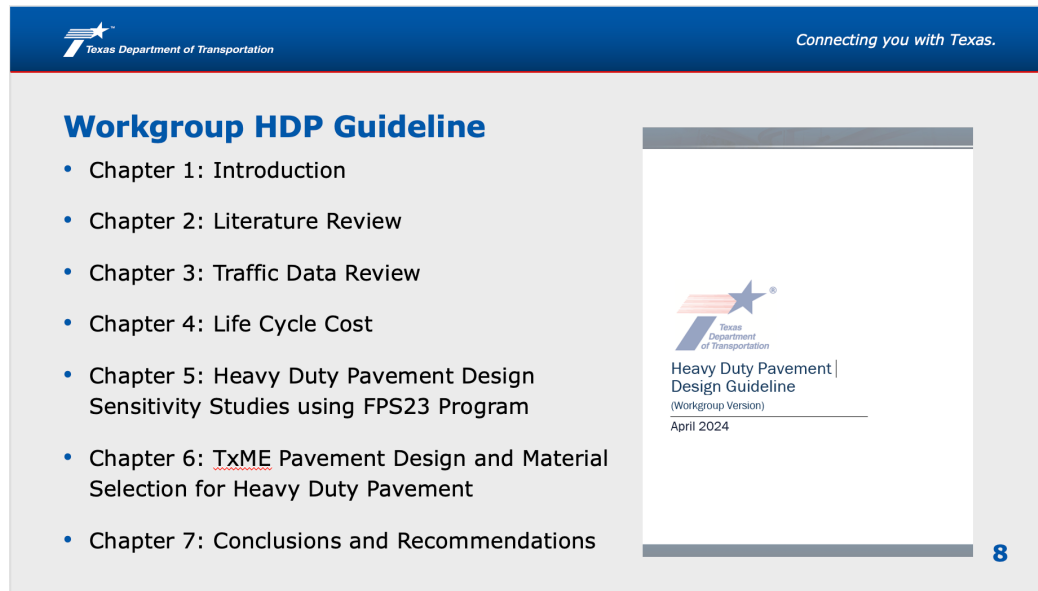
Print

Form 2088 SAC 02-10-221 of 1Rev. 07/11/2022

Heavy Duty Pavements Working Group

Jace Lee & Craig Odom

- Heavy Duty Pavement Design Guideline



The screenshot shows the Texas Department of Transportation website. The header includes the TxDOT logo and the tagline "Connecting you with Texas." The main content area is titled "Workgroup HDP Guideline" and lists seven chapters: Chapter 1: Introduction, Chapter 2: Literature Review, Chapter 3: Traffic Data Review, Chapter 4: Life Cycle Cost, Chapter 5: Heavy Duty Pavement Design Sensitivity Studies using FPS23 Program, Chapter 6: TxME Pavement Design and Material Selection for Heavy Duty Pavement, and Chapter 7: Conclusions and Recommendations. To the right of the list is a thumbnail image of the guideline document cover, which features the TxDOT logo and the title "Heavy Duty Pavement Design Guideline (Workgroup Version) April 2024". A blue number "8" is visible in the bottom right corner of the screenshot.



The goal is to equip districts with the necessary training and resources for designing and constructing asphalt pavements capable of enduring heavy traffic loads while minimizing the maintenance requirements between surface treatments.

Intersection Working Group

Duane Milligan & Jim Warren

- HMA Intersection Design Guidelines
- Thick HMA Intersection Construction Guidelines

Thick HMA Intersection Construction Guidelines



Introduction

Pavement construction in intersections is a complex issue that requires balancing safety, traffic impacts, quality, and costs. Too often working in intersections focuses on minimizing impacts to traffic which inadvertently takes priority over quality of construction. This can result in a shorter lifespan for the intersection pavement. This paper describes items that field personnel should consider in order to balance impacts to traffic versus quality of pavement construction for pavements that have hot mix asphalt (HMA).

Construction Planning

A successful project requires planning and communication among all parties in order to optimize details to allow a high quality, safe, and low traffic impact project. The following describes the planning and communication best practices.

Preconstruction Meeting.

Project construction planning starts with the preconstruction meeting, which occurs after the project award and before construction begins. There is online guidance for pre-paving meetings, including example agendas. Attendees should include TxDOT Design and Construction personnel, contractor staff, TxDOT Public Information Officer (PIO), key material suppliers and subcontractors, local officials as applicable (police, fire, signals, street administration, city manager). In order to cover all contractual requirements, topics tend to stay at a higher/generic level. Project specific key topics should be discussed in detail in order to resolve known issues. Key topics should include but are not limited to the following:

1. Alternative Methods or Materials – suggested by contractor or TxDOT
 - a. HMA mix designs (approved or needing approval)
 - b. Materials (substitutions, pre-testing, recent performance, etc.)
2. Discussion of known plan errors and changes
 - a. Bid Item and Quantities
 - b. Milestones and incentives/penalties
 - c. Traffic Control Plan issues

-HMA Intersection Design Guidelines



Introduction

Pavement construction in intersections is a complex issue that requires balancing safety, traffic impacts, quality, and costs. Too often working in intersections focuses on, minimizing impacts to traffic which inadvertently takes priority over the quality of construction. This can result in a shorter lifespan for the intersection pavement. To obtain a safe, efficient, and high-quality intersection project, designers should ensure they have complete knowledge of existing conditions, of available materials and methods, traffic control procedures, construction methods, and specifications. Designers should use this knowledge to develop detailed plans. This paper provides an overview of the items necessary to design an intersection project with either thick or thin HMA that is durable and cost-effective.

Preparation for Design

All design work begins with obtaining all applicable information that is needed to make decisions about the project. Intersections differ from normal roadway work because of the increased number of factors that combine to impact the construction operations in one localized area. Some of these factors are:

- Turning and stopping traffic apply unique and increased forces that can damage pavements.
- Non-uniform paving widths are difficult to pave due to unusual shapes (widening lane and radii) and constricted areas (radii).
- Utilities (underground and above) including manholes and junction boxes within the pavement require handwork and limit compaction methods.
- Traffic volumes. Trucks, passenger vehicles, pedestrian volumes.

Basic field information must be obtained to understand the intersection's condition, work needed, and optimal solution. Information needed:

1. Limits of Intersection (all directions and roadways)
 - a. Length and location of rutting, shoving, failures, repair areas, etc.
 - b. Length of typical queue (all directions)
2. Intersection geometrics (angles, radii, etc.)
3. Type of control (signal, 2/4-way stop/yield, etc.)



RAP Stockpile Management Working Group

Ryan Barborak & Harold Mullen

- Increase the use of RAP
 - Sustainability, Availability, Cost Savings, and Performance
- RAP Stockpile Management Best Practices Document





Balanced Mix Design Working Group

Ryan Barborak & Jim Warren

- 13 Existing Projects
- Over 35 Test Sections

Field Projects to Date

Phase 1

- 2019: ATL
- 2020: SATx2, YKM, ATL, PAR
- 2021: CHS
- 2022: SJT, SAT

Phase 2

- 2024: DAL, AMA, BWD, PHR





Balanced Mix Design Working Group

Ryan Barborak & Jim Warren

- Specification 3024 Developed for Pilot Projects (3-5 projects)
 - El Paso and Lufkin Districts are Scheduled to Start
- Looking for Additional Projects with the Following Characteristics:
 - Between 10,000 to 20,000 tons
 - All hot mix will be placed according to this specification
 - Uniform subgrade and supporting pavement structure
 - Uniform traffic
 - Need geographic distribution

Partners in Quality

Chuck Fuller

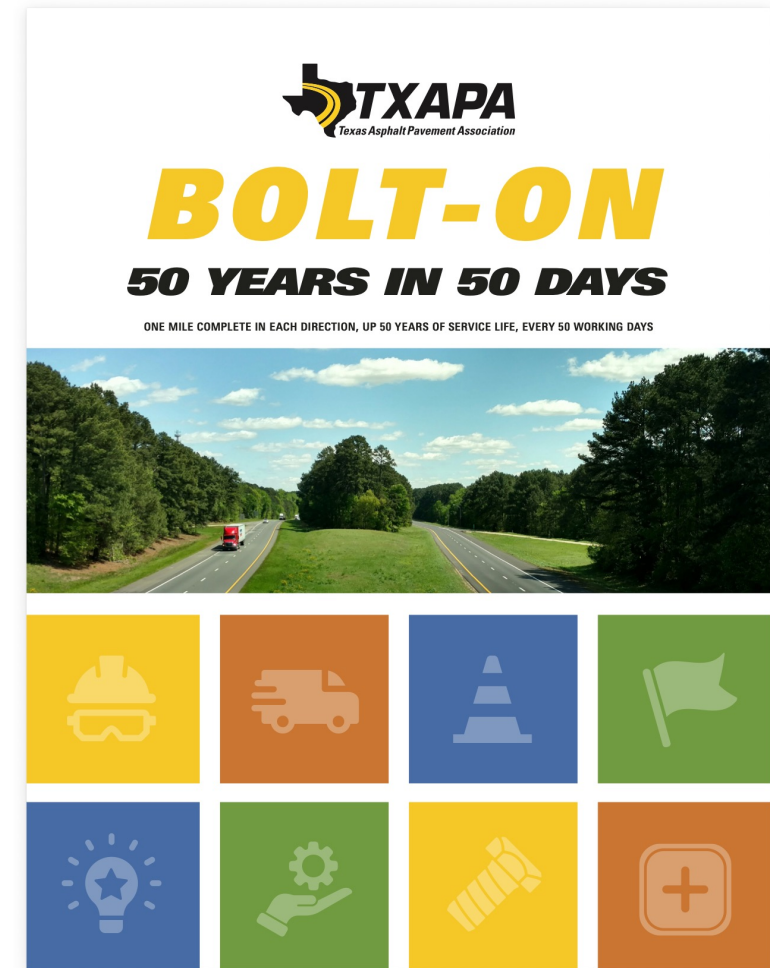
- Revamped Formats
 - Smaller
 - Quarterly
 - Combining Districts
- Over 30 PIQs
- APEX Educational Mini-Session



Bolt-On

Shane Cunningham & David Madden

- What is Bolt-On
- Working group formed Fall 2025
- Looking for projects
- Presentation tomorrow morning, “Why Reconstruct When You Can Bolt-On”



Asphalt Pavement EXchange (APEX)

Jeffery Vinklarek & Cliff Kay

- Develop and deliver a dedicated, coordinated, and continuously improved asphalt pavement knowledge sharing education program at TxDOT and Industry Professionals.





Questions?

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