JUNE 10, 2025

WORKING GROUP MEETING

AGENDA

1) Sign-In /Meeting Overview

2) Public Comments

3) Welcome Message

4) Featured Presentation

5) Subcommittee Updates

6)Industry/Organization Updates

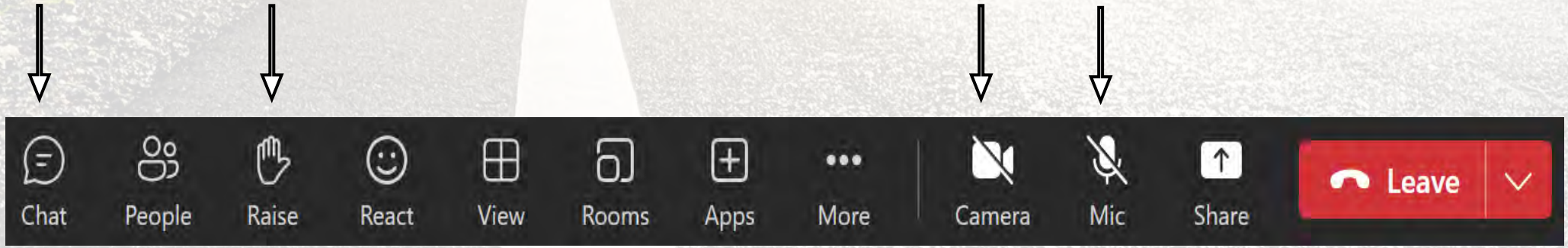
7) Next Working Group Meeting / Close

www.sandiegocounty.gov/BBR

San Diego County BUILDING BETTER ROADS

MEETING LOGISTICS

- Sign In
- Meeting being Recording per Brown Act
- Restrooms/ Exists
- Teams Meeting Etiquette
  - Mute Microphone/ Turn off Camera
  - Use Chat window or Raise Hand for questions



San Diego County
BUILDING BETTER ROADS

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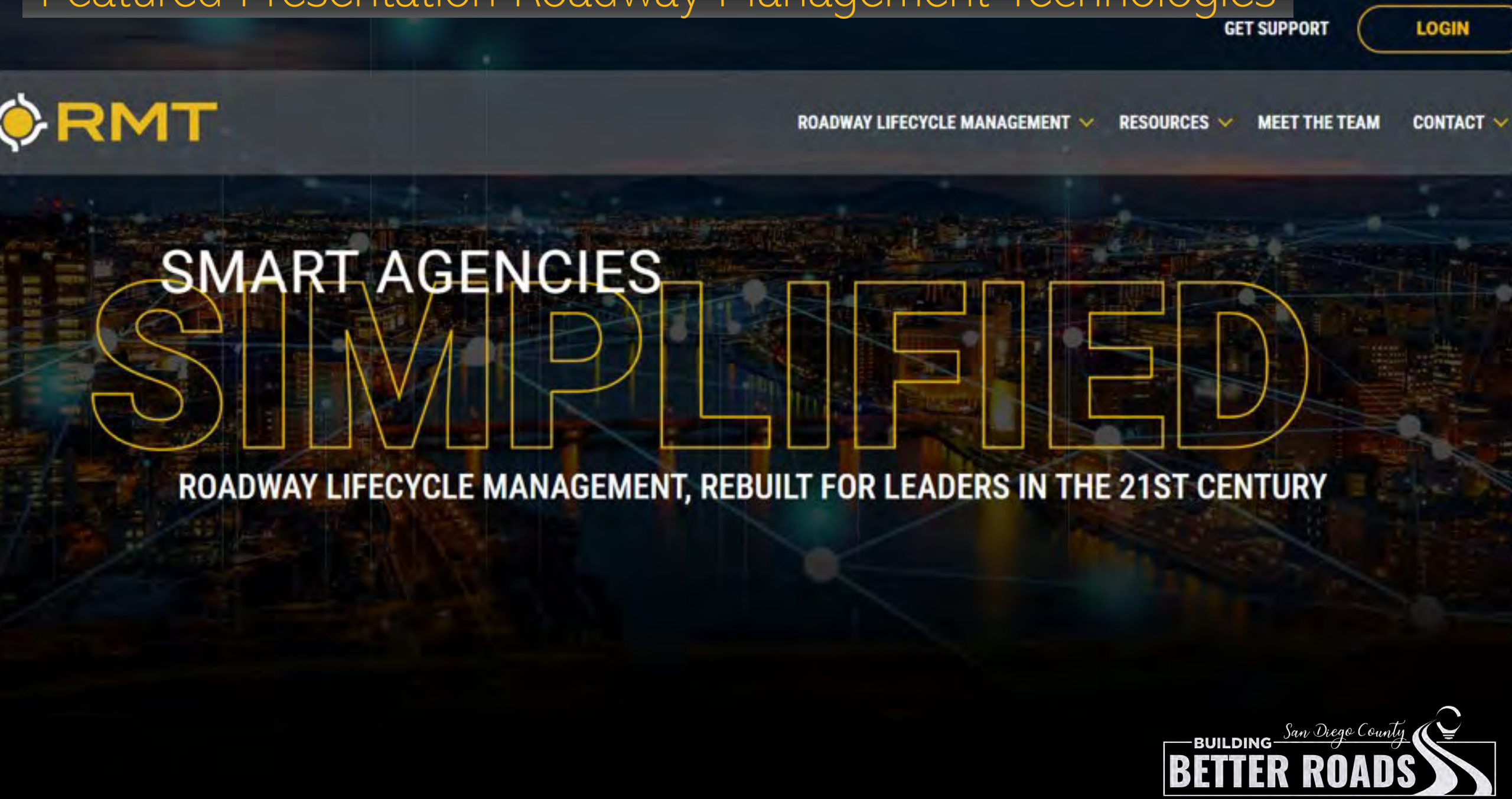
San Diego County
BUILDING BETTER ROADS

Featured Presentation Roadway Management Technologies



BUILDING BETTER ROADS San Diego County

Building Better Roads

Smarter Streets, Stronger Agencies

Revolutionizing Roadway Management with AI & Lifecycle Intelligence

Presented by:
Candler McCollum, Founder & CEO
Roadway Management Technologies

Welcome!

- **RMT: Who Are We?**
- **With you Today**

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- **Overview of today's agenda**
  - **The Smart City Shift**
  - **Roadway Lifecycle Management**
  - **AI in Road Preservation**
  - **The Power of Proactive Maintenance**

The Smart Agency Shift

- **Key local government challenges:**
  - Aging infrastructure
  - Workforce shortages
  - Budget constraints
  - Climate stress
  - Unconnected assets
  - Critical events

- **What is a smart agency in public works?**
  - Proactive, not reactive
  - Real-time data through connected assets
  - Living, intelligent, and actionable insights
  - Justified, transparent spending across the board
  - Higher quality of assets
  - Iterative, constantly improving process
  - More efficient, technology and AI-based solutions

ASCE: America's Infrastructure Report Card

2025 Grade: D+ | Funding Gap: $684B Over 10 Years

🚧 Current State of Pavement

- **39%** of major roads are in *poor or mediocre* condition
- Pavement ride quality worsened on many federal-aid highways
- **EVs and heavier vehicles** further stress existing roadways

🌡️ Resilience & Risk Exposure

- Roads are increasingly vulnerable to **flooding, extreme heat, and weather events**
- DOTs need proactive tools to ensure **evacuation routes & critical infrastructure** remain operational
- Intelligent maintenance strategies reduce long-term disruption

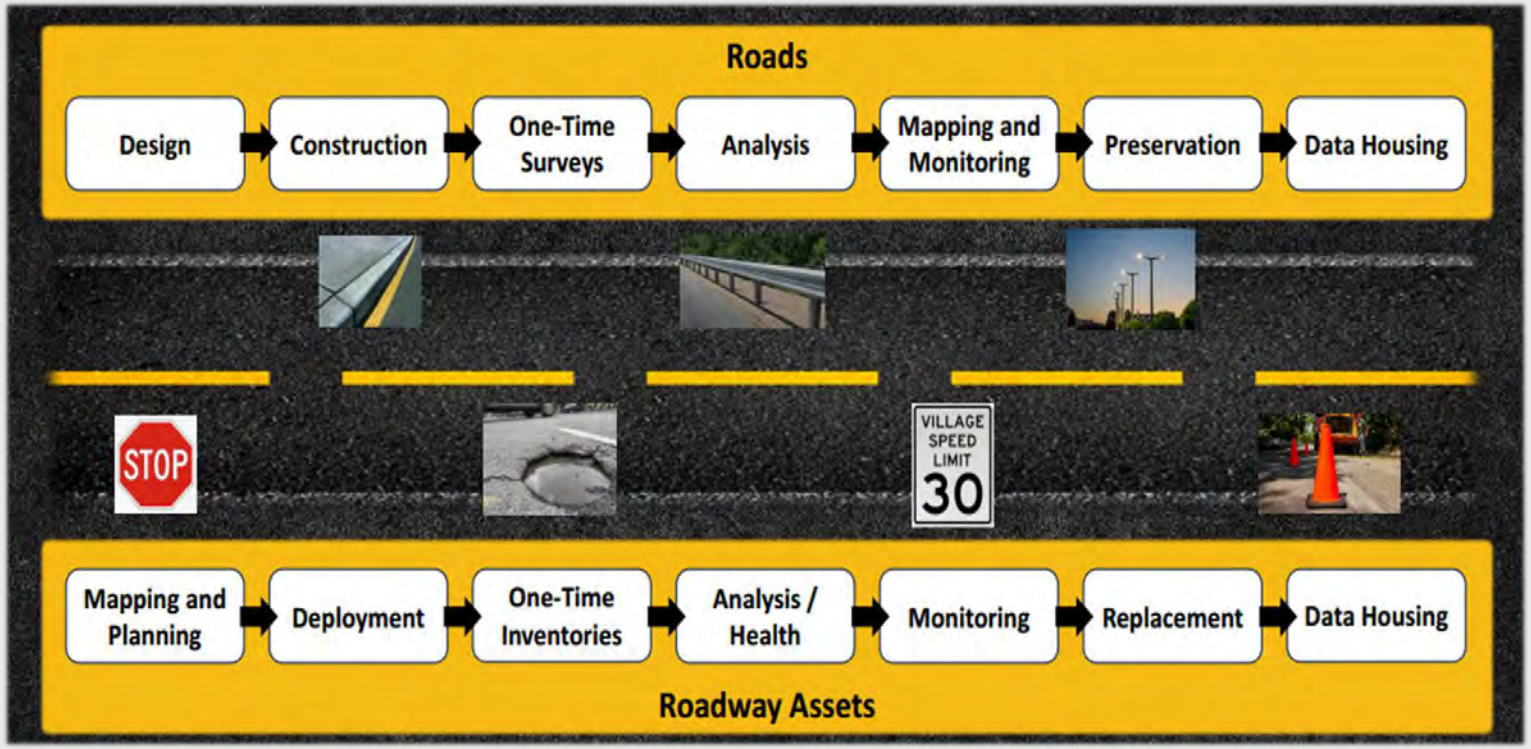
🔁 Lifecycle Management is Critical

- Deferred maintenance accelerates deterioration & cost
- **$87B/year** needed just for system **rehabilitation**
- Investment focused on **preservation > expansion**

🔍 Why It Matters to Agencies

- Real-time, high-frequency distress data supports proactive maintenance
- AI-powered analysis helps optimize treatment timing & funding allocation
- Avoid costly reconstruction by extending pavement life **early and often**

Roadway Lifecycle Management



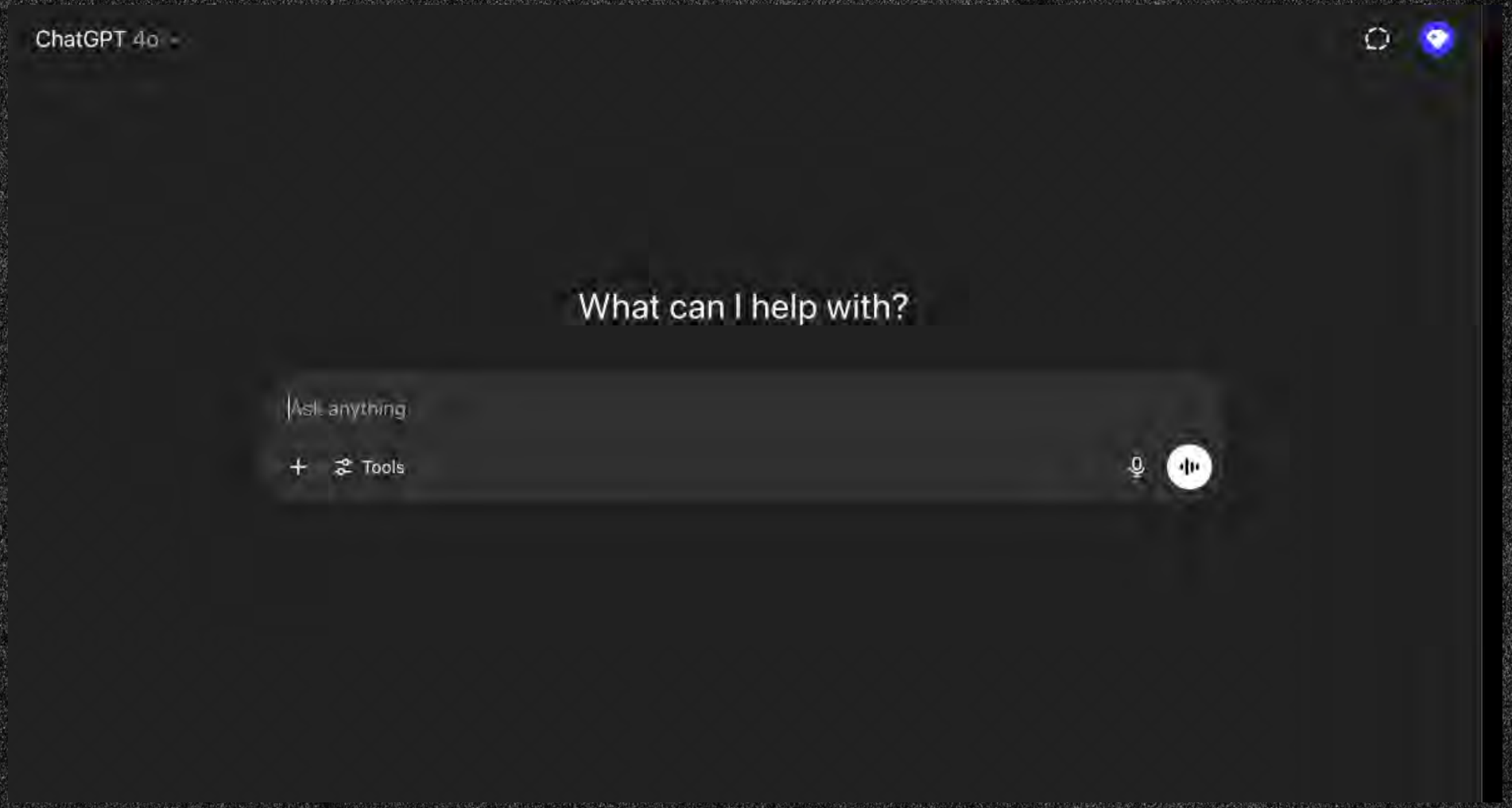
Traditional Processes

- Outdated
- Expensive
- Multiple disconnected processes
- One-time data
- Often inaccurate

What is Smart Roadway Lifecycle Management?

- Proactive, not reactive
- Live, connected assets
- Artificial intelligence
- End-to-end workflow
- Smart forecasting

What is AI?



How We Do This at RMT

RMT

Pavement

Assets

Continuous data from connected Fleets

Artificial intelligence

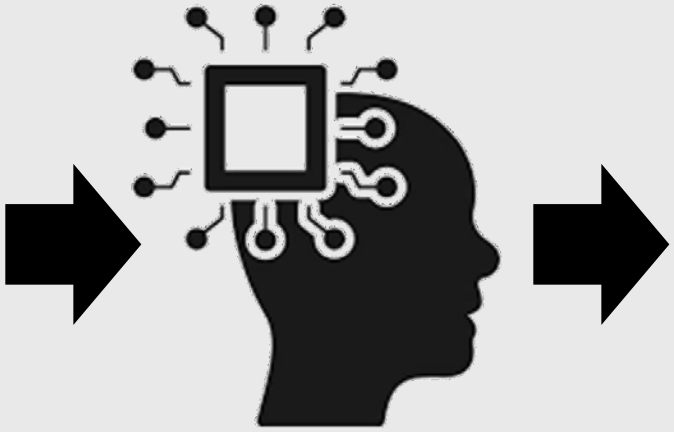
Living, actionable insights

How Does This Work?

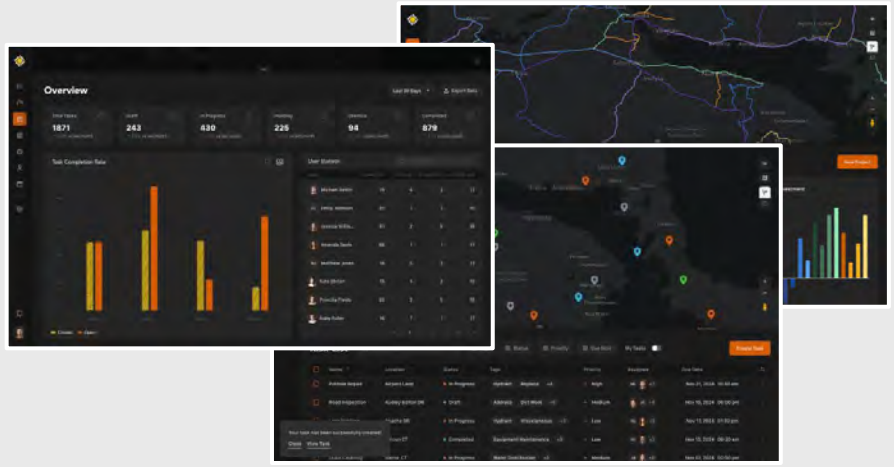
Principle Components

- Material
- Climate
- Base
- Traffic patterns
- Critical events
- Work quality

… tracked continuously, in real-time



Actual Performance, on Every Road

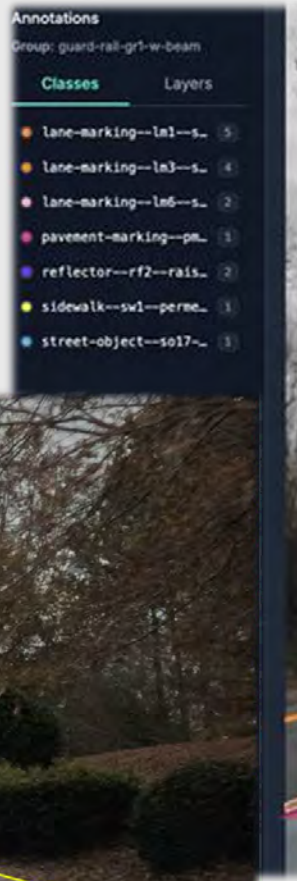


Budgets go much further!

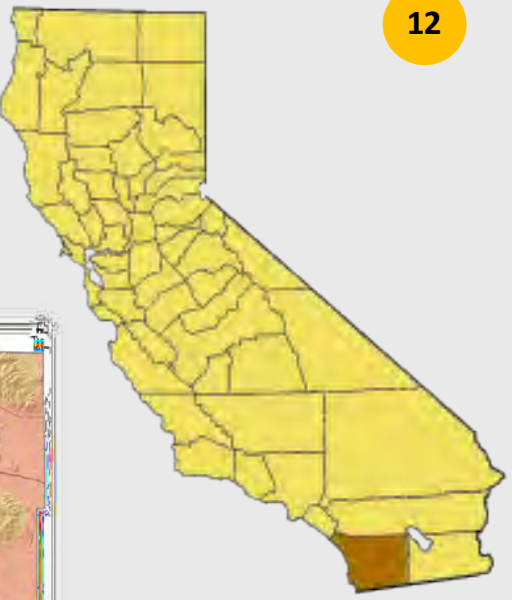
Product Walkthrough

Automated Asset Recognition

Automated Asset Recognition



California-Focused Applications



Challenges in the San Diego Region:

- Aging infrastructure systems
- Funding shortfalls
- Climate stress

CASE STUDY

CAPE CORAL, FLORIDA

RMT
ROADWAY MANAGEMENT TECHNOLOGIES

Cape Coral
FLORIDA

ROADWAY LIFECYCLE MANAGEMENT

ACCOUNT NAME

Cape Coral FLORIDA

- City of Cape Coral, Florida
- Second Largest City in Florida

SIZE/COVERAGE

3,142 Lane Miles

120 Square Miles

224,000 Population

BEFORE RMT

The City of Cape Coral faced significant challenges in managing its roadway network due to the absence of a formal pavement management system (PMS). The city sought a solution that would centralize all paving-related information, provide objective roadway evaluations, and streamline maintenance and project planning. Cape Coral's need for a comprehensive pavement lifecycle management approach was driven by the challenges of maintaining an expansive roadway network using legacy providers and processes.

TODAY

By implementing RMT's Roadway Lifecycle Management solution, the city created a proactive strategy to manage its pavement network efficiently. The integration of real-time data and workflows into decision-making processes has ensured that funding allocations were data-driven and will continue to be optimized for long-term sustainability. ***For fiscal year 2025, Cape Coral is now expecting to increase the number of lane miles of road touched by repaving efforts by approximately 50%. RMT's team identified the roads to be touched using the RoadManTech platform and decision logic provided by Cape Coral's team.*** This project set a precedent for other municipalities looking to transition from reactive maintenance to predictive asset management, informed by real-time data and truly intelligent systems.

CAPE CORAL INITIAL PROJECT NEEDS

Evaluation of Current Practices:

Assessing pavement conditions and optimizing maintenance strategies.

Comprehensive Pavement Condition Survey (PCS):

Full network evaluation based on ASTM-D6433-18 standards to establish PCI.

Pavement Management Software Implementation:

Centralized system for data storage, budget analysis, and project planning.

Optimization of Maintenance & Rehab (M&R) Strategies:

Using predictive modeling to allocate funds efficiently.

RMT RESPONSIBILITIES

RMT provided a comprehensive Pavement Lifecycle Management solution for Cape Coral and established a relationship with the agency towards a sustainable, ongoing solution.

Evaluation of Current Program & Procedures

- Conducted a needs assessment and business process audit.
- Facilitated strategy meetings with city staff.
- Delivered a Needs Assessment Report with strategic recommendations.

Continuous Pavement Condition Survey

- Performed full network pavement condition assessments.
- Integrated real-time PCI data into a GIS-compatible database.
- Refined deterioration models using real-world conditions.

Pavement Maintenance & Rehabilitation Workflows

- Developed standardized M&R workflows.
- Provided decision trees for selecting treatments based on multiple factors.

Pavement Management Software Implementation

- Implemented a web-based pavement management system.
- Enabled ‘what-if’ scenario analysis for budget planning.
- Generated multi-year maintenance plans.

Living Pavement Management Master Plan

- Developed a long-term pavement strategy with multi-year planning scenarios.
- Provided annual updates to reflect real-time data.

-30% **Hard cost of service**

+70% **Roads affected**

+$1.9M **Budget optimization**

Multi-Year Budget & Maintenance Planning – Partnering with long-term funding allocations and continually optimizing preservation strategies using real-time data insights

Cape Coral-Requested Custom Asset Solutions – Expanding beyond pavement management to include living right of way asset tracking

Software Enhancements & Customization – Continuing development based on Cape Coral's evolving needs

Ongoing Training & Support – Providing continued staff training to maximize system efficiency

CASE STUDY

KITSAP COUNTY, WASHINGTON

RMT
ROADWAY MANAGEMENT TECHNOLOGIES

KITSAP COUNTY
18 57
WASHINGTON

ROADWAY LIFECYCLE MANAGEMENT

ACCOUNT NAME

- **Kitsap County, Washington**
- **Home to one of the largest naval bases in the U.S.**

SIZE/COVERAGE

1,842 Lane Miles

395 Square Miles

286,100 Population

BEFORE RMT

Kitsap County has been facing significant challenges in managing road assets, including inconsistent data collection methods, limited staff and budgets, and outdated systems that hinder efficiency. Traditional approaches—ranging from manual inspections to costly ARAN/LIDAR systems—are often time-consuming, subjective, take months to process, or provide only a snapshot of road conditions. These obstacles, combined with funding constraints and compliance pressures, underscores Kitsap's urgent need for sustainable, data-driven solutions that streamline asset management and support informed decision-making.

TODAY

RMT delivered a fast and accurate PCI analysis that aligned with agency expectations and outperformed legacy system benchmarks. The pilot utilized RMT's proprietary sensor suite and data analytics to generate a comprehensive, real-time, and interactive pavement lifecycle database. Kitsap County found RMT's level of s As a result of the pilot's success, Kitsap has confirmed their intent to formally move forward with RMT's system

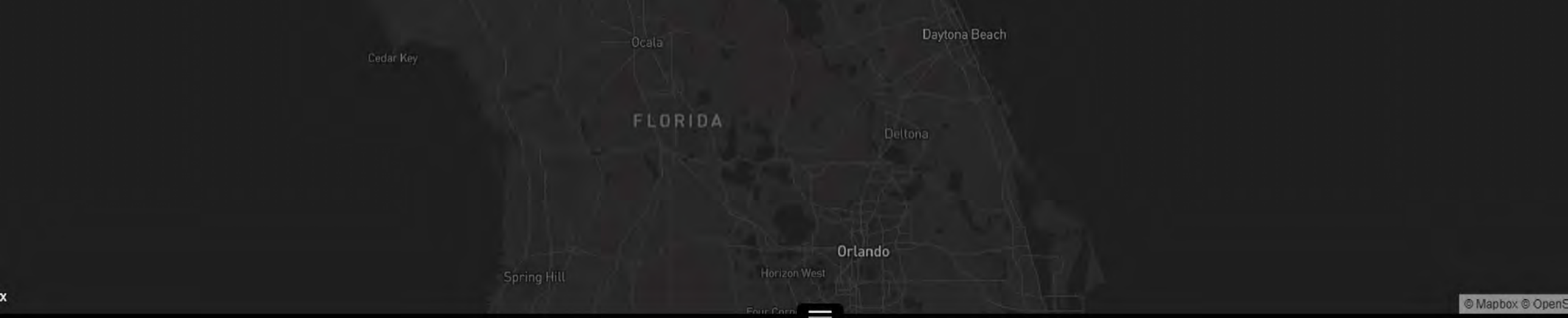
“Kitsap County Found RMT’s level of service to be extraordinary and a complement to their steadfast stewardship of Data Collection, Analysis and Deliverables.”

- Paul Nettleton, Pavement Manager

RMT’s pilot with Kitsap County served as a clear proof of concept, validating the platform’s accuracy, speed, and effectiveness as a modern replacement for legacy systems like LCMS.

Fieldwork was completed in just two days with results delivered in one week—far faster than LCMS’s eight-week timeline—and RMT’s PCI scores better aligned with agency expectations, reducing the risk of misallocated funds.

With a real-time, evolving database, the platform introduced predictive analytics and transparent performance tracking, ensuring that dollars spent on preservation and maintenance are now traceable to network outcomes, and earning strong stakeholder confidence across the state of Washington.



How can I help?

which projects are over budget?

Which project has had the highest ROI?

Show me currently open projects.

New Chat

Start Typing...

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JAC & Associates, Inc.

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619.343.2539

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San Diego County BUILDING BETTER ROADS

Subcommittee Update

- RAS Guidance Document Released
- High RAP HMA (>40%) Work Plan
- Nondestructive HMA Testing- Summary Report Pending
- 2025 Subcommittee Plan

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San Diego County BUILDING BETTER ROADS

Building Better Roads

CalCIMA Updates

Cameron Richardson

June 10, 2025
County of San Diego Operations Center

CalCIMA Updates

- **Legislation & Regulation Updates:**
- **AB 982 (Carrillo) – SMARA; Idle mine status**
- **AB 978 (Hoover) – Extends AB 2953**
- **SB 526 (Menjivar) – Fugitive Dust**

CALCIMA
California Construction and Industrial Materials Association

CalCIMA Updates

- **Pavement Materials Partnering Committee (PMPC):**
- **10% Rap in RHMA**
- **Statistical Pay Factor (SPF)**
- **Post Plant Gradation (PPG)**

CALCIMA
California Construction and Industrial Materials Association

CalCIMA Events

2025 Golf Tournament
June 23, 2025
8:30am – 4:30pm
Yocha Dehe Golf Club
Brooks, CA

2025 Education Conference
November 10-13, 2025
Disney's Grand Californian
Anaheim, CA

Contact: Abi Hague ahague@calcima.org

The California Asphalt Pavement Association

Asphalt Industry Update

June 10, 2025
Building Better Roads Working Group Meeting

Specification Updates

- 2024 Caltrans Standards Available Online
  - New book published ANNUALLY

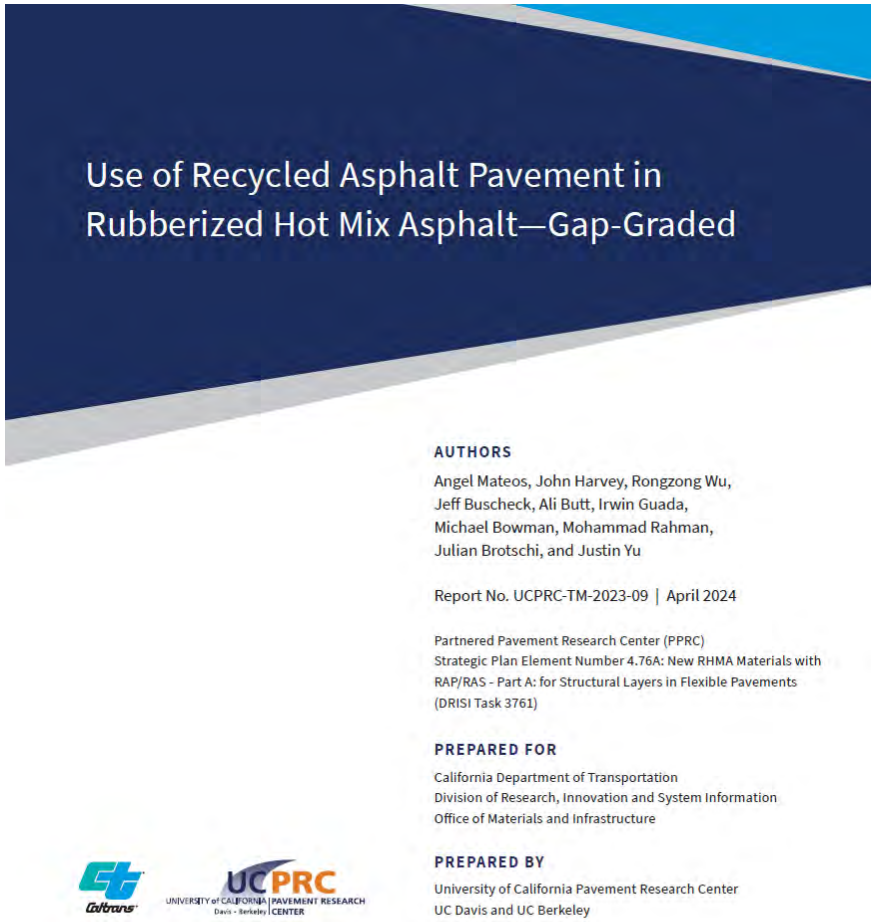
- 2024 Greenbook Available to Order

- City and County Pavement Improvement Center (CCPIC):

Caltrans – Post-Plant Gradation Reminder

- Post-Plant Gradation
  - Mix gradation **ACCEPTANCE** based on gradation of aggregates retained from the ignition furnace asphalt content sample.
  - Cold Feed samples are not used to determine mix aggregate gradation acceptance.
  - Included in 2024 Standard Specifications.
  - AASHTO T30

UCPRC: Use of RAP in Asphalt Rubber Mixes

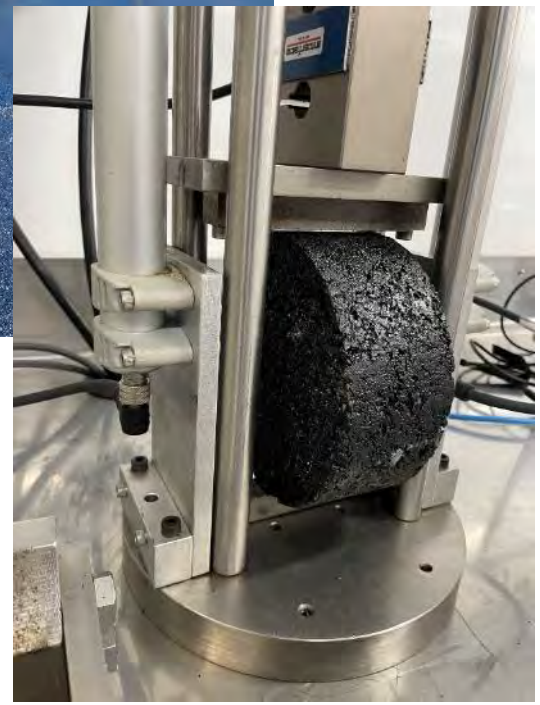


- Key Findings:
  - The cracking performance of the pavement, based on CalME modeling, was either negligible or comparable to project-to-project differences.
  - The RAP binder can be considered to contribute to the minimum 7.5%
  - The addition of 10% RAP to the RHMA-G,… resulted in GWP reductions of 5%.

CalAPA

Caltrans – Emerging Initiatives

- Balanced Mix Design
  - Design mixes to meet project mix criteria for rutting and cracking potential.
  - 2025 shadow testing program



Caltrans – Environmental Product Declarations (EPDs)

- EPDs provide Global Warming Potential (GWP) information on the environmental impact of Construction Materials.

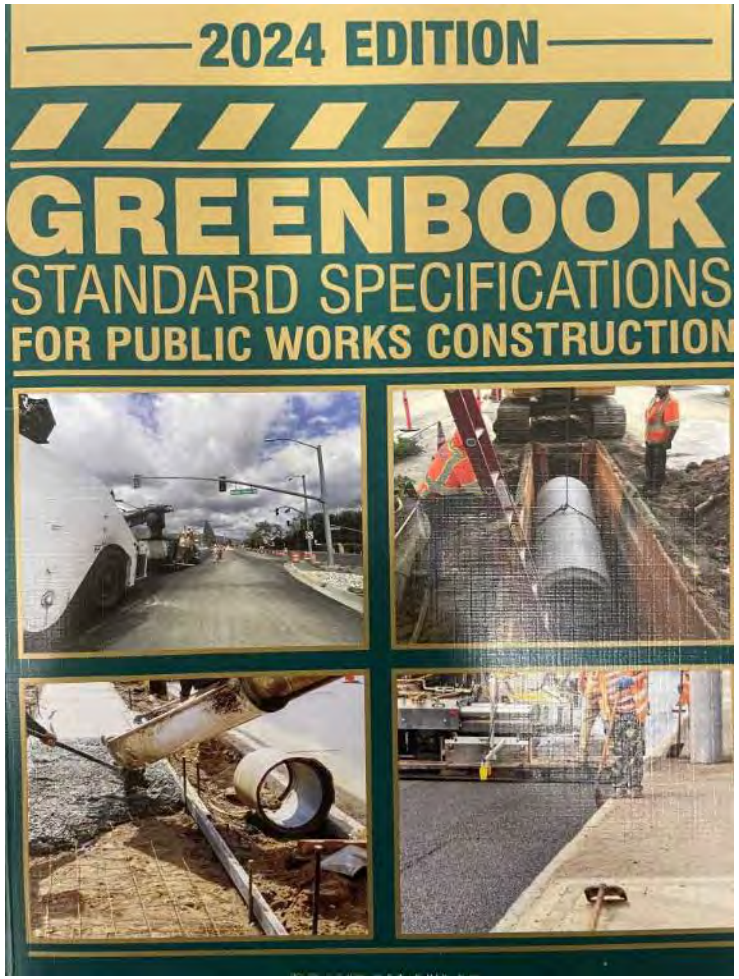
- Caltrans Site

- Published EPDs

- Caltrans requires contractors to submit an EPD for HMA-A.
  - Projects > $1 million
  - Working Days > 175
  - Bid Item > 2,250 tons

Greenbook Asphalt Task Force

- 1:00pm 1st Wednesday of the month
- Specification development efforts:
  - Fiber use in HMA
  - HMA mix design with gyratory compactor
  - RAP content verification in HMA



CCPIC: Training Opportunities

City and County
Pavement Improvement Center

- Pavement training courses available online and self-paced!

- Pavement Engineering and Management Certificate
  - Comprehensive curriculum of pavement management, design, construction, and sustainability

CalAPA

CalAPA Training and Networking Events

- CalAPA Training Courses '25 / '26
  - AP101
  - Asphalt Forensics
  - Quality Asphalt Paving
  - Owner's Manual for Your Pavement Network

- CalAPA - Day at the Races
  - Del Mar Racetrack, Del Mar, CA
  - July 19th
  - Opening Weekend Festivities

- CalAPA Annual Golf Outing
  - Journey @ Pechanga, Temecula, CA
  - September 25th

www.calapa.net

Building Better Roads

June 2025

CONSTRUCTION TRENDS / OUTLOOK

NATIONAL BIG PICTURE

OPPORTUNITIES

- House and Senate vote to overturn CARB electric vehicle mandates
- Federal DOT Agrees DBE Program Unconstitutional
- Funding of Infrastructure, IIJA and IRA Popular With Congress
- Court Slams Door on Biden PLA Mandate—Would of sidelined 2/3 of Construction Workforce

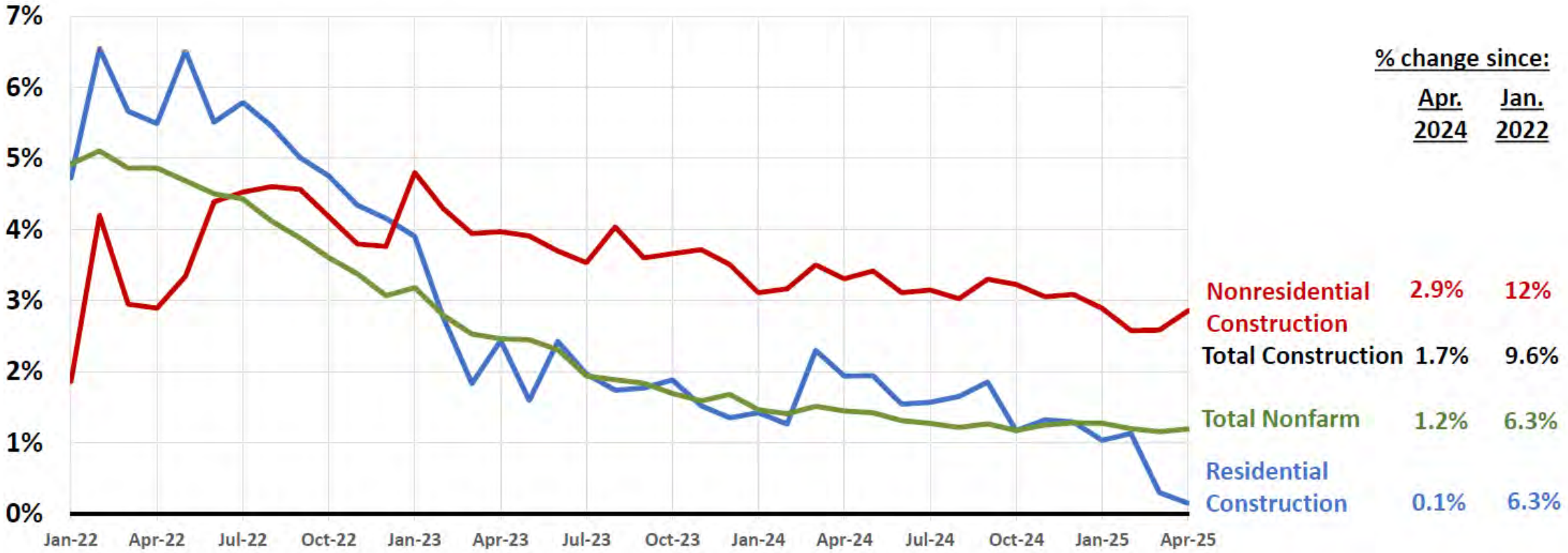
UNCERTAINTIES

- Repeal Parts of Inflation Reduction Act—Some Energy Projects Effected
- Tariffs—Increase Construction Costs and Could Trigger Retaliatory Moves
- Restricting Immigration—Construction Heavily Reliant on Foreign Born Workers
- Deficit Spending Could Trigger Higher Interest Rates

Construction job gains have slowed but still outpace other sectors

Year-over-year change, Jan. 2022-Apr. 2025, seasonally adjusted

AGC THE CONSTRUCTION ASSOCIATION



% change since:	Apr. 2024	Jan. 2022
Nonresidential Construction	2.9%	12%
Total Construction	1.7%	9.6%
Total Nonfarm	1.2%	6.3%
Residential Construction	0.1%	6.3%

Construction employment is increasing in most states

31 states & DC up & 19 states down Mar. 2024-Mar. 2025 **(U.S.: 1.8%)**

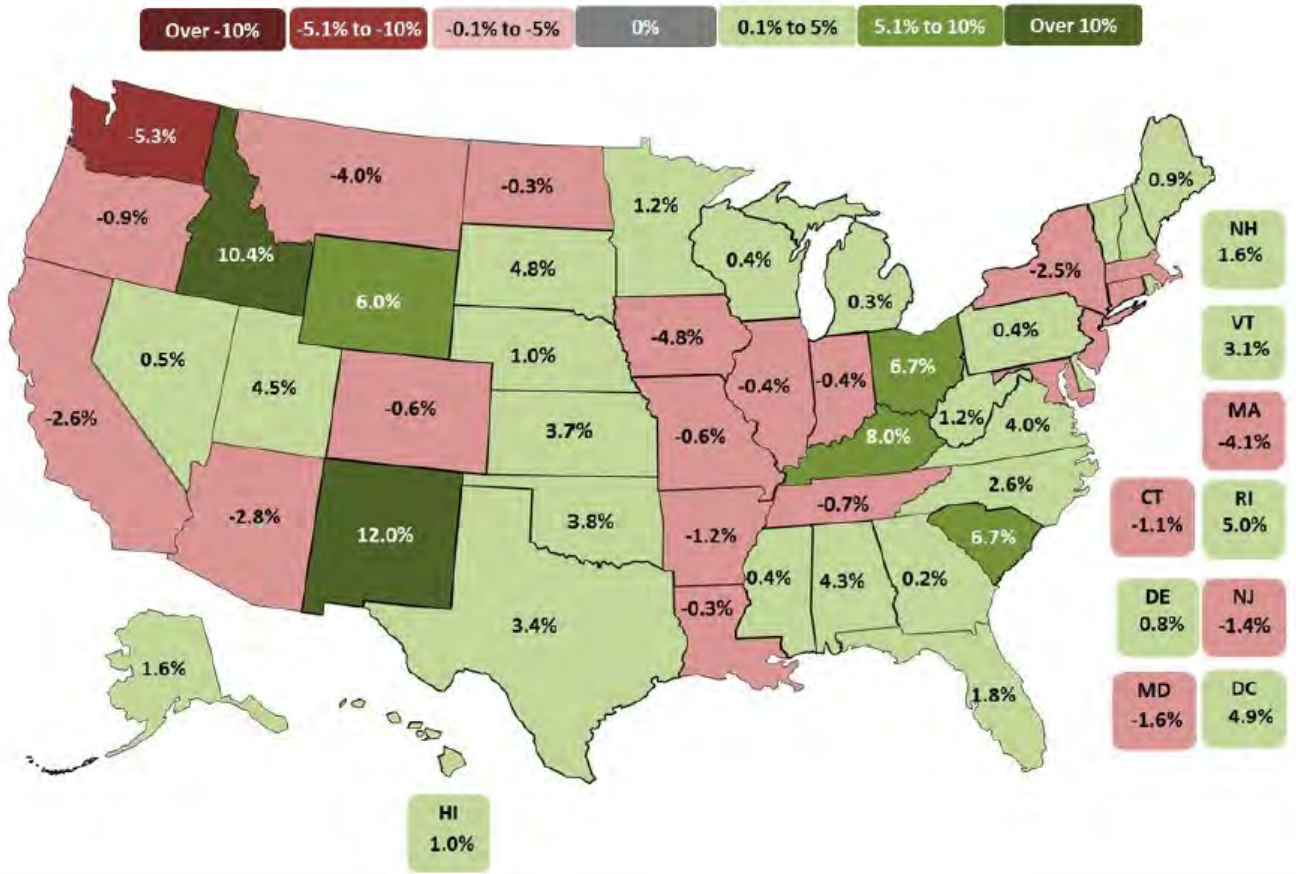
AGC THE CONSTRUCTION ASSOCIATION

Top 5

NM	12%
ID	10%
KY	8.0%
OH	6.7%
SC	6.7%

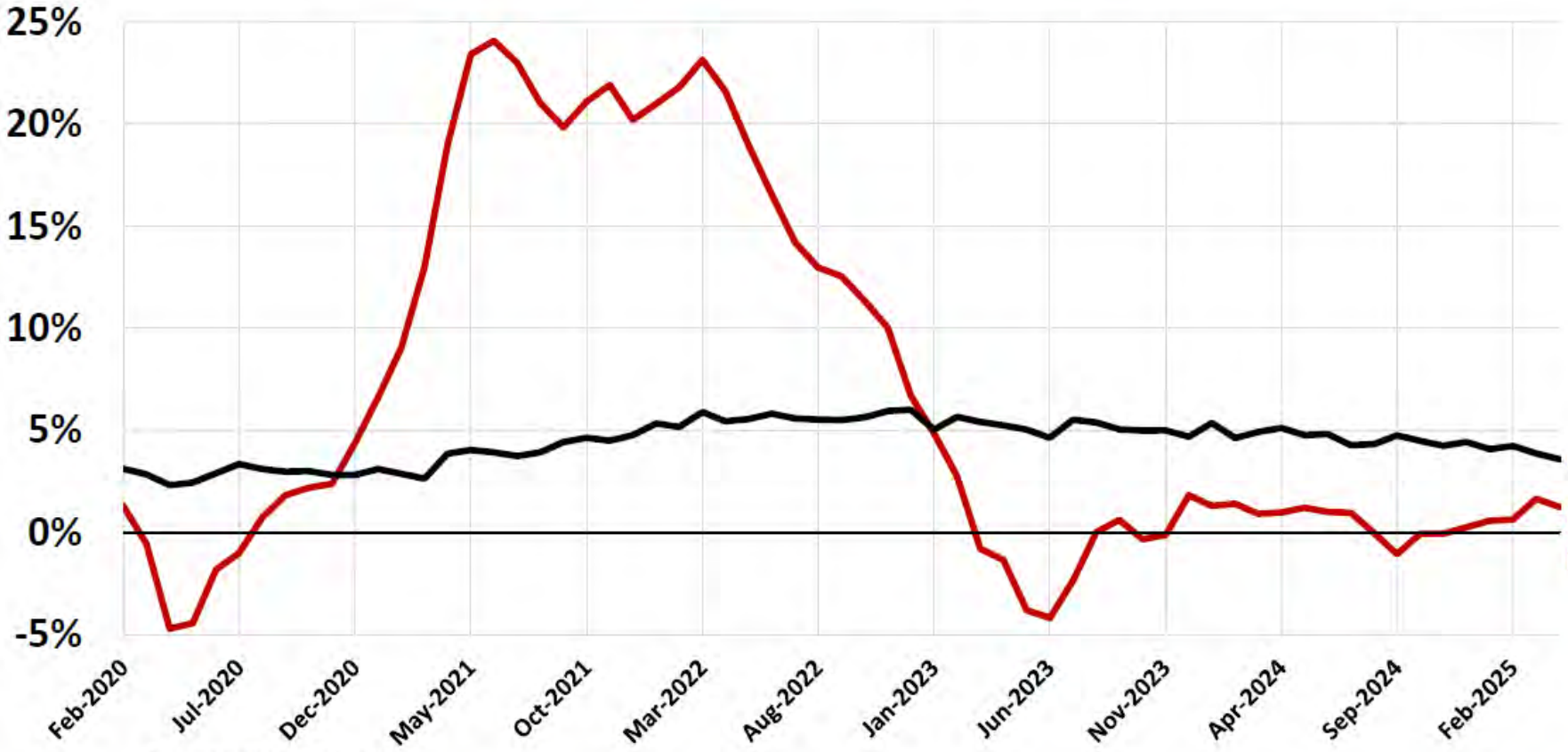
Bottom 5

WA	-5.3%
IA	-4.8%
MA	-4.1%
MT	-4.0%
AZ	-2.8%



Wages have risen 4-6% since 2021; materials costs have been volatile

Year-over-year change in producer price index (PPI) for nonresidential inputs and average hourly earnings (AHE) for construction, Apr. 2020 – Apr. 2025



	April 2025 % change since: Apr. 2024	Feb. 2020
AHE for all employees*	3.6%	25%
PPI for nonresidential inputs**	1.3%	40%

*Seasonally adjusted (SA)

**Not seasonally adjusted (BLS does not post SA data for this series)

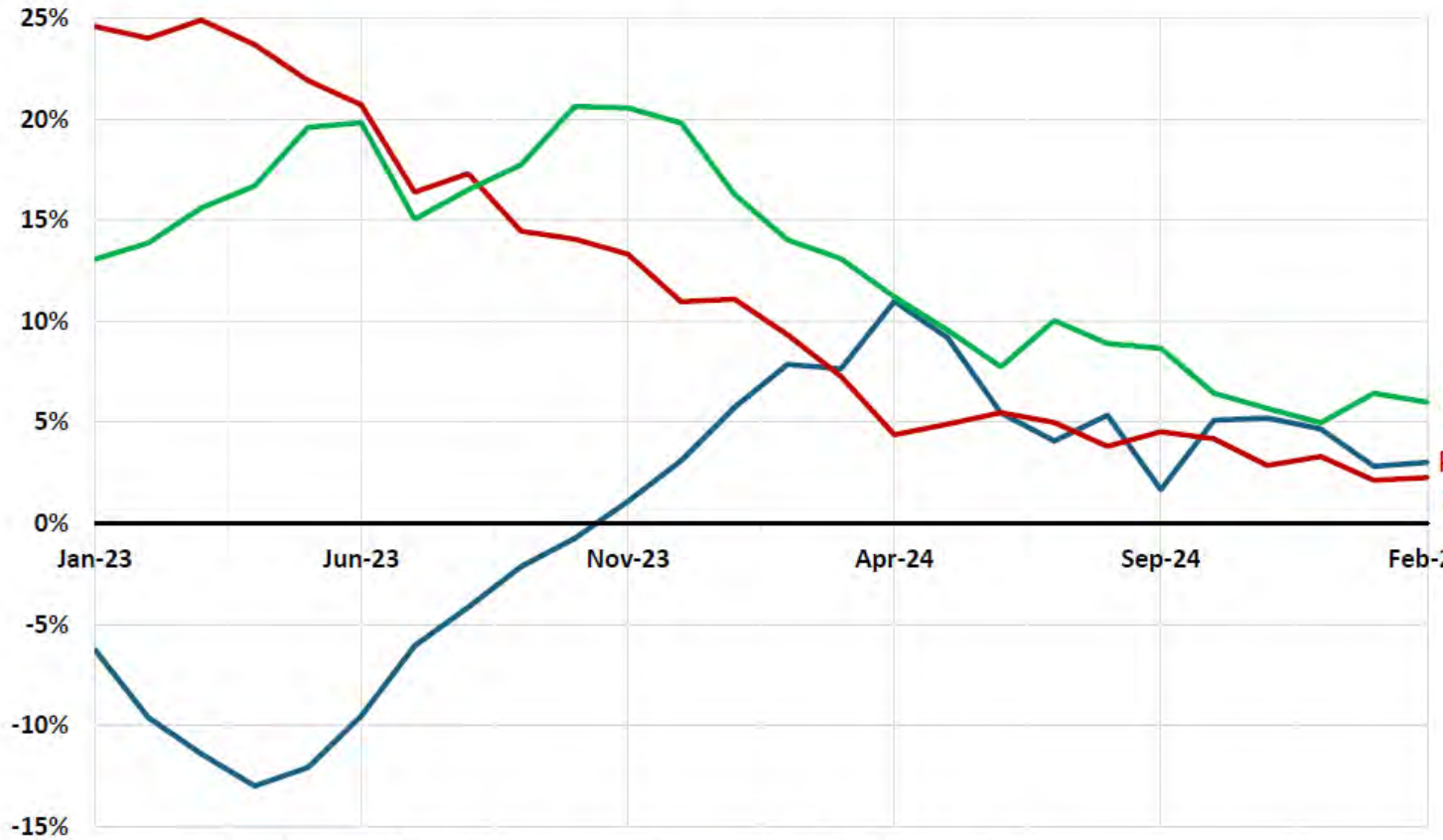
Price changes for construction inputs as of April 2025

producer price indexes (PPIs), 1 - & 12-mo. change (not seasonally adjusted)

	April 2025 change from:		
	Mar. 2025 (1 month)	Apr. 2024 (12 months)	Feb. 2020 (62 months)
Overall input costs were flat in 2024 but have outpaced the CPI since 2020			
PPI for inputs to new nonresidential construction	0.0%	1.3%	40%
Consumer price index (CPI)	0.3%	2.3%	24%
...and some input prices remain volatile			
Copper and brass mill shapes	2.0%	7.0%	73%
Steel mill products	5.9%	2.4%	63%
Gypsum building materials	-0.6%	3.0%	54%

Change in construction spending, January 2023-March 2025

Year-over-year % change in current (not inflation-adjusted) dollars, seasonally adjusted



	Mar. 2025 (billion $)	year-over-year % change Mar 2023-Mar 2024	Mar 2024-Mar 2025
Public	$508	13%	5%
Private nonresidential	$750	7%	2%
Private residential	$938	8%	3%

Source: Author, from U.S. Census Bureau, www.census.gov/constructionspending

Tariff announcements & dates affecting construction (as of May 12)

(more at AGC Tariff Resource Center: www.agc.org/tariff-resources-contractors)

AGC THE CONSTRUCTION ASSOCIATION

- **10% "baseline" tariff on nearly all imports**
- **Additional** country-specific **"reciprocal" tariffs** announced, then suspended for 90 days on April 9
- **China** 30%: 10% tariff Feb. 4; changed to 20% March 4; 54% April 5, 145% April 9, reduced to 30% May 12 under temporary 90-day truce
- **Canada, Mexico** 25% if not covered by USMCA; 10% on energy, "critical minerals"
- **Steel & aluminum** 25%
- **Copper** pending investigation by Department of Commerce
- **Lumber** possible 25%; possible higher tariffs on Canadian lumber
- **Cars & trucks** 25%; partial credit for parts
- **Fee on Chinese ships calling on U.S. ports:** proposed structure varies by ship type; implementation may begin in Oct., rising through 2028

Share of construction trade workers that are foreign born by trade, 2023

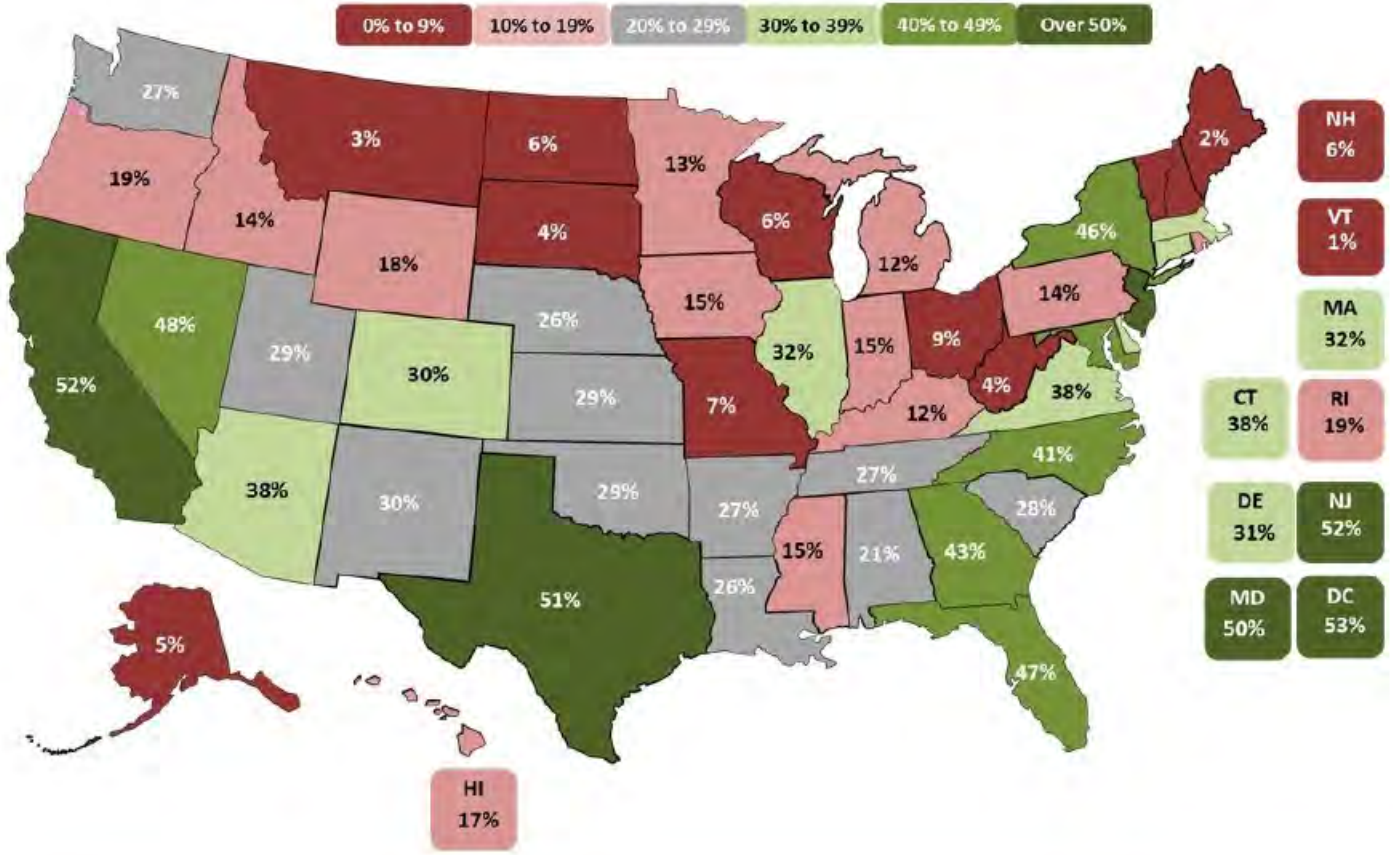
AGC THE CONSTRUCTION ASSOCIATION

Occupation	Foreign born	Occupation	Foreign born
Plasterers & Stucco Masons	61%	Pipelayers	26%
Drywall Installers, Ceiling Tile Installers, & Tapers	61%	Plumbers, Pipefitters, & Steamfitters	18%
Roofers	52%	Glaziers	18%
Painters & Paperhangers	51%	Solar Photovoltaic Installers	17%
Carpet, Floor, & Tile Installers and Finishers	45%	Sheet Metal Workers	17%
Construction Laborers	43%	Boilermakers	16%
Insulation Workers	34%	Electricians	16%
Carpenters	32%	Structural Iron & Steel Workers	15%
Cement Masons, Concrete Finishers, Terrazzo Workers	31%	Construction Equipment Operators	15%

Construction trades rely heavily on immigrants (34% vs. 18% for all workers); impact varies greatly by state (1-53%)

AGC THE CONSTRUCTION ASSOCIATION

Share of construction trade workers that are foreign born by state, 2023



CALIFORNIA

REGULATORY ENVIRONMENT---CARB Agenda being Dismantled

CARB Pulled Request for EPA Waiver on Advanced Clean Fleets Regulations

- ACF Unenforceable for Private Fleets
- Removes Major Uncertainty for Fleet Owners for 4 years (Priority and Drayage)

House and Senate Vote to Kill CARB ZE Car and Truck Mandates and Emission Standards

- Trump 2.0 Administration is hostile towards California ZEV mandates
- ACF now also unenforceable on State and local fleets
- New EPA Administrator may unwind other California Regulatory Mandates

SAN DIEGO REGION EXPECTATIONS

Tight Labor Market is Loosening Some

- Construction Jobs are Down in the LA Basin 5-6%
- Fewer Construction Jobs in San Diego Than last Year (First drop in Employment 15 years)

Upward Price Pressures Had Mostly Eased—Now Tariffs are Kicking in

- Concern About Rising Interest Rates (deficit spending in Washington)
- Materials Costs had mostly leveled out
- Good News—Costs of Equipment—CARB ACF Regulation May be Dead long term
- Tariffs Already effecting $$ Sand—Gravel—Concrete---AC—Steel

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4) Featured Presentation
5) Subcommittee Updates
6)Industry/Organization Updates
7) **Next Working Group Meeting / Close**

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Meeting Adjourned