



MAINE DEPARTMENT OF TRANSPORTATION
and
AMERICAN COUNCIL OF ENGINEERING COMPANIES

Quarterly Meeting Minutes

March 20, 2023 – 1:30 to 3:30

Location – MaineDOT Main Conference Room (216 – Main Floor)

- Introductions
- Review minutes –September 19, 2022, meeting
- Review agenda
- General MaineDOT Updates – Todd Pelletier
 - Latest Organization Charts attached for Bureau of Project Development, and the Highway, Regional, Bridge, and Multi-modal programs, and Bridge Maintenance.
 - Regeneration of Regional Program
 - Fall 2022 - Rural Areas focus - some of these roads did not rise to the top with prioritization models. Department was looking for ways to bring these projects to light. Dave Bernhardt is the Regional Program Manager. Additional \$30 M/per year to fund these more rural road projects.
 - Structure: All construction staff on the highway side are now under the Regional Program. Highway and Regional are two programs but work very much together and many of the highway staff have moved over to the Regional Program.
 - Scott Bickford responsible for construction for both Programs
 - Dennis Lovely is the other assistant program manager.
 - Construction Administration Needs
 - Multimodal - fully dependent on consultants and the primary need for consultants will remain the same.
 - Highway – the use of consultants will be similar to last year (60% use of consultants). May request more people based on an increase of projects and staff shortages within MaineDOT.
 - Bridge - demand is going to go up based on increased funding opportunities.
 - Like many of the firms, MaineDOT is trying to stay level staffed.
- Bridge – Wayne Frankhauser
 - Rich Myers – Assistant Program Manager leaving vacant Sr. Designer on Team North
 - Tony Beaulieu, PM was promoted to M&O
 - Jeremiah Brunelle – promoted to utility coordinator.
 - Chad Sawyer – Lead Clerical
 - 2023-24-25 Workplan – general schedules are in place. Kick offs late spring early summer.
 - Funding \$700 M
 - Trend for bridge projects is to increase. This year 70 projects for \$190 M
Next year 90 projects for 270 M.
 - Not as many big dollar projects but the number of projects is going up likely resulting in more consultant contracts.
 - Work Plan funded a lot more PE projects so they can have them ready for grant projects.
There are new PE projects and a backlog of work.
 - Construction cost trends are continuing upwards. Focus on constructability.
 - No full out ABC projects anticipated.
 - Going thru contractor “input” projects to reduce risk and improve constructability.
 - Bridge Design Guide (BDG) – Under contract with HNTB to complete the first 3 or 4 chapters. Chapter 1 is complete; Chapter 2 is halfway complete; Chapter 3 is drafted. In a few months this will be shared with Bridge Subcommittee. Chapter 2 is significantly different. After these chapters are complete they will see where they are with the budget before moving on to additional chapters.
 - In the meantime, updates to the current state of design practice will continue to be communicated through the ACEC Bridge Subcommittee.
- Highway – Steve Bodge
 - After restructuring with Regional, the Highway Program is now 33 people.

- The Village Team is just Ernie Martin, eventually he will get an assistant PM. Doug Coombs leads an in-house team with Terry Blair.
- Standard Workload – includes intersections, a few PE projects.
- More large culverts will be in the new Highway than before. Previously these were typically managed by the regions.
- Rhobe and Doug will have approximately 50 % of them.
- Multi-Modal – Nate Benoit
 - Many vacancies. Lost all of their field staff, AE's, Construction Manager
 - Deb Crandall – Appraiser I
 - Anticipate filling the Construction Manager Position in the spring. In the meantime, Project Managers are acting as their own Construction Managers.
 - Greatest challenge for inspection is in The County for the railroad projects.
 - Acadia Gateway Center, Trenton – underway
 - 4 CRISI projects for the railroads \$100 M. Railroads will lead efforts. MaineDOT will provide inspection and some administration.
 - 2 ferry boat projects underway with a 3rd one in design.
 - 12 LAP's remaining to advertise and 10 MaineDOT projects going out to bid - mainly signal, safety, rail bridge, sidewalk and slope stabilization.
- Regional Program – Dave Bernhardt
 - Priority 3 and 4 roadway focus.
 - Brought back the CHIP program to rehab Corridor Priority 3 and 4 roadways. These can include full depth reconstruction, pavement preservation and a combination. The Department is putting out 8 of them this summer. Most are at PSE. All regions except Region 1 this year.
 - The program has put together a 7-year outlook/list of projects – these are made up of the priority 3 and 4 roadways and include LCP, cyclical paving, RAMP, drainage, spot safety improvement, guardrail, and large culverts.
 - There will be 110 large culverts in 3 years. Most large culverts are on Corridor Priority 3 and 4 roads.
 - Great need for Construction Management/Inspection for PM's in the Regions and Highway.
 - Design – large culverts, RAMPS, CHIP's, typically EOR will be Regional Engineer for CHIPs but that doesn't mean they will not need consultants.
 - Tie between M&O and Project Development – M&O does some of the pre-work such as ditching and clearing.
 - Program is looking into providing some small State Aid Construction like previously provided.
 - Staffing – Doug Coombs moved to Highway Program. Rob Betz moved from Region 1 to Senior PM position at Region 2.
 - Region 5 Dan Mulaver and Mark Murphy Region 3
 - 2 vacancies
 - Region 3 – Tony Beaulieu now at Region 3
 - Region 1 – vacant Regional Engineer
 - Two thirds of regional construction work will be let within the month.
- Bridge Maintenance – Ron Taylor
 - No personnel changes in Augusta
 - Anticipates the same use of consultants this season for bridge inspections. F group slightly increasing,
 - Load Ratings – There is a shift to update previous ratings to include EV2 and EV3 – Bridge Maintenance is trying to re-use the same consulting firms that did the previous HL-93 ratings for rating EV2 and EV3.
- Contract Procurement Office – Chad Lewis
 - Update on current DW RFQ – Results of prequalification were sent out. Currently doing interviews. Schedule completion the end of next week.
 - How CPO is handling current workflows:

- 8 CPO's – down to 5 (3 vacancies) down to 50 % capacity.
 - Posted Positions with only one applicant that was not successful.
 - Promoting “open communications” through an invoice and contract tracker
 - Bridge Invoicing – based on the vacancy, all firms are asked to send invoices directly to Chad, All Contract Specialists are using the trackers and if a Contract Specialist has availability, they pick up an invoice in order from the tracker.
 - The CPO notifies all parties of priorities.
 - Outstanding invoices – OT has been approved for all to help manage the work.
 - If consultants have an outstanding invoice, send to Chad. It will be prioritized for processing.
 - Potential changes with Consultant Performance Evaluations – CPO is looking at simplifying the evaluations as they are mostly interested in concerns.
 - Fixed versus adjustable contracts: These are considered on an individual basis. When fixed rate contract goes over the 12 month period, Chad looks at why the project went beyond the original completion date. Fixed versus adjustable rate contracts are typically based on the following:
 - 12 months or less fixed
 - 12+ months adjustable
 - OH Audit – Not available this week but Chad will check back in with her to find out about Audit Letters
- Property Office – Heath Cowan
 - Region 5 QAT- Jason Peterson
 - Region 1 QAT– Connor Crawford
 - Brian Mulhern – New Property office Manager (surplus property disposition)
 - Survey – Looking at additional projects for consultants to take on preliminary data to final mapping (trying to find a few projects to try this process). They have some former MaineDOT folks on the outside that could do some of this work.
 - Processing of data – more of the mobile lidar processing (there might be more need to assist with processing)
 - Friendly reminder – No changes after PIC
 - Planning – Dale Doughty
 - Dakota Hewitt - new Active Transportation Planner – Bike/Ped Coordinator
 - Multimodal Project Controller – looking for new person within F&A and Rio
 - Modal and Long-Range plan soon to be published.
 - Carbon Reduction Strategy – due mid Nov 23, 2023. There will be public outreach
 - Village Partnership – continue to sign up communities currently 15 communities working to get to a state of readiness. More small communities reached out initially. Now more middle sized are reaching out. Consultants might see some solicitations.
 - Questions to Ask for Village Partnership –
 - Is there clear vision?
 - Is there controversy = has it gone through public process?
 - Can it be built within design standards or reasonable exceptions?
 - ENV constraints?
 - Realistic Costs?
 - Schedule – on time completion
 - Match – is community ready for their portion?
 - Consultants – urge applicants to communicate with MaineDOT. For letters of support, early communication with MaineDOT is required. Recommend outreach through their Regional Planners.
 - Committee wants to truly invest and they are looking for other opportunities.
 - If not necessarily a DOT project – try to help these entities to understand the funding requirements if they have the intent for putting in for grant moneys.
 - Virtual Public Involvement – Scott Rollins – Participation trends
 - <https://storymaps.arcgis.com/stories/0ee6761d9b074a37961d301e5d4dc31d>
 - Keep videos short – 5 to 7 minute range.

- See link in-person versus the VPI
- Some might be limited to a description of the project and a few photos.
- All projects are in a story map that include brief scope and ROW information to provide a good understanding of the project without looking at the video.
- People can view the information anonymously but have to sign in to comment.
- Equity outreach dashboard is used to see who is looking at the information.
- Social media advertisements are targeting those that live in or travel through the area.
- Average - seen 60,000 times by 20,000 people.
- Internal changes – internal check list.
- See link for outline of what is needed to do a public meeting and for best practices.
- 2022 – picked up many more people seeing the videos.
- 136 projects with 75% favorability
- Averaging 75 stakeholders per meeting.
- Maine compared to other states – some virtual, some in person, some aren't using story maps. There are five or six states in the consortium – some states have gone back to in person meetings.
- CADD Subcommittee – Jonathan French
 - ORD Update and overview of upcoming peer exchanges.
 - Released first ORD workspace and has split cadd standards between both.
 - Please continue to look at the updates on the Cadd Support website.
 - Brand new file folder structure
 - Brand new level structure
 - Constant updates to workspace.
 - **Important for consultants to use the version that is on the website.** Currently it is “2021 Release 2”
 - Bi-monthly to monthly updates
 - Training – MaineDOT has started training survey and starting into design expect to have all internal staff trained by June.
 - If survey is collected in ORD cannot revert back to Microstation/InRoads.
 - Bentley ended projection of features on ORD – may leave projected features off the cross sections. If it is important to show the feature on the cross-section, can cut where the feature is, manually add the feature in, or leave it off.
 - Digital Development Management Work Group: In-person peer exchanges part of a STIC & T2 grant with PennDOT and >>>> to talk with design and construction staff to see what is working and what is not working.
 - Virtual peer exchange in July hosted by MaineDOT and facilitated by FHWA.
 - Contractors' use of 3D models – Department workgroup is looking at this. Currently the stamped plans/specs are the bid documents. Eventually this could end up being the 3D model. Lots of discussion going on within MaineDOT's larger group that includes Legal, the Chief Engineer, Maine PE Board etc.
 - There will likely be a couple of pilot projects where the model will be the contract documents.
 - MaineDOT will always have paper plans so the smaller contractors are not impacted/excluded.
- Funding – Andy Bickmore
 - Workplan - \$800 M is an increase over last workplan. Currently a number of funding bills at the Legislature.
 - New Funding programs – Notice of funding opportunities come out regularly.
 - Secured about \$150 Million in grants.
 - Not all Fy22's projects are out but some of the Fy23 projects are out.
 - \$144 M request for several projects in various stages of development
- Report from Subcommittee Co – Chairs
 - Bridge – Andy Blaisdell for the Subcommittee
Up to date on all meeting minutes on the ACEC Website.
 - Highway - Ray Hanf
Working thru lessons learned power point. Will hold Consultant only meeting to finalize powerpoint.

- Training session will be held the end of April early May timeframe.
 - Multimodal – Don Ettinger
 - LAP training scheduled for May 11 (in person).
 - Mission statement's primary focus is to improve on LPA delivery and schedule adherence.
 - Speakers at next few meetings will be:
 - Brian Keezer - for traffic signals/plans (discuss need for standardization)
 - Kate McGuire to discuss formalizing guidance on geotech for the signal foundations.
 - Joe Stillwell on formalizing shop drawing review.
- Post-Pandemic Operations –
 - MaineDOT has implemented a 3 day in the office/2 day remote work agreement. Management/Leadership is 4 and 1 but most are in the office five days. Some units are required to be fully in the office based on operational needs. MaineDOT's policy is more stringent than the State Policy.
 - Consultant open discussion around remote work agreements, hybrid schedules and trends. To summarize, several firms are back to full in person work schedules with some exceptions/flexibility. Most discussed was the 3 days in the office/2 days remote work arrangements. Some firms require remote work agreements and others do not. Some firms require those who have not passed a probationary period or have not been with the firm for more than one year to work five days per week in the office. A few firms allow for full remote work or one day per week required in the office.
 - Several firms require management/leadership to be in the office at least 4 days per week and some 5 days. It seemed that the majority of managers at the meeting noted they are back in the office mostly 5 days per week.
 - Discussion around mentoring and junior staff training, team building etc. was discussed.
 - The virtual platforms such as Zoom or Teams allows for discussions, reviews etc. without having to encroach on someone's personal space. This is working well both in the office and remotely. Allows firms to more easily utilize staff/share resources across their organizations.
- 2022 Year End and 2022 Year to Date Delivery Performance Summary– Jeff Folsom
 - Delivery Stats - Advertise – 28 days within cap date 199 projects schedule delivered 92% 477 projects out of 515 over the last 4 years. Thank you for all your hard work.
 - LAP – 74% on time - smashes old record
 - 2023 to date 65 of 65 at 99%
 - Importance of intermediate dates of PDR and PIC – stay true to delivering a project so it is constructed within the 3 year period. MaineDOT is looking at crafting performance measure to meet intermediate dates.
- EDC-7 & State Transportation Innovation Council Updates – Patrick Adams, FHWA and MaryAnn Hayes, MaineDOT
 - See handout for EDC-7 Summary and opportunities for participation.
 - Kellon Ronspies moving from Maine Division as of April 15. Patrick Adams will be taking over Kellon's responsibilities for the STIC/EDC
 - Receive a new Engineering position – filled by former MaineDOT person.
 - New position opening up soon
 - Carlos retired approximately 1 year ago – applicant is going through the on-boarding process.
 - ROW person leaving that position will be posted in approximately one month.
- Maine Turnpike Authority Updates – No MTA Update this meeting.
- Next meetings:
 - Technical – April/May - Highway Program Lessons Learned
 - Policy – September 18, 2023 - In person, Workforce Development will be discussed.

Bureau of Project Development

Bureau Director
Todd Pelletier, PE

Office Specialist I
Jamie Dunn

Materials, Testing, & Exploration Unit
Richard Bradbury, MTEEx Eng

Contract Unit
George Macdougall, Contracts Eng

Asst Bureau Director
Jeff Folsom, PE

VPI Coordinator
Scott Rollins

See MTEEx
Org. chart

See Contracts
Org. chart

Highway Program
Bradford Foley, Program Mgr

Regional Program
David Bernhardt, Program Mgr

Bridge Program
Wayne Frankhauser, Jr., Program Mgr

Multimodal Program
Jeff Tweedie, Program Mgr

Property Office
Heath Cowan, Office Director

Steve Bodge
Asst. Prog. Mgr

Scott Bickford
Asst. Prog. Mgr

Denis Lovely
Asst. Prog. Mgr

Rich Myers
Asst. Prog. Mgr

Eric Shepherd
Asst. Prog. Mgr

Nate Benoit
Asst. Prog. Mgr

See Highway
Org. chart

See Regional
Org. chart

See Bridge
Org. chart

See Multimodal
Org. chart

See Property
Org. chart

Bradford Foley
Program Manager

Scott Bickford
Regional Program
Assistant Program Manager

Stephen Bodge
Assistant Program Manager

Lisa Porter
Administrative Staff
Supervisor

Geotechnical
Kathleen Maguire, TE 3

Drainage Design
Lindsey Merrifield, TE 2

Contracts
Matt Sullivan, ST

Senior Designers
Andy MacDonald, TE 3
Atlee Mousseau, TE 3

Senior Property Officer
Brian Sanderson, SPO

Augusta
Regions 1 & 2
Doug Coombs, Sr PM
Terry Blair, Jr., PM

Augusta
Regions 3, 4, 5
Rhobe Moulton, Sr PM
Laurie Rowe, PM

Augusta
Downtown
Ernie Martin, Sr PM
Vacant, PM

Regional PMs

Administrative Staff

Lisa Porter, C 4
Mark Tardiff, OA 2

Utilities

Ron Cote, TE 3 (Property)
Norma Gilman, ST
Mark McCue, ST
Mark LaGross, ST
Derrick Carleton, ST
Dave Ouellette, ST
Cheryl Dugal, ST

Property

Brian Sanderson, APP 3
Scott Smith, APP 2
Tim O'Brien, APP 2
Alicia Andrews, APP 2
Jessica Dow, APP 1
Lauri Noel, APP 1
Elisha DiPietro, APP 1
Vacant, APP 1
Vacant, APP 1

Geotechnical

Kathleen Maguire, TE 3
Cody Russell, TE 2
Terry White, T

Drainage

Lindsey Merrifield, TE 2

Augusta, Regions 1 & 2

Doug Coombs, Sr PM

Terry Blair, Jr., PM

Matt Philbrick, TE 2

Lyric Deagle, ATE

Nathan Segler, ATE

Judy Harden, T

Augusta, Regions 3, 4, & 5

Rhobe Moulton, Sr PM

Laurie Rowe, PM

Clark Sulloway, TE 2

Dana Cloutier, ATE

Matthew Mihaiu, ATE

Augusta, Downtown

Ernie Martin, Sr PM

Vacant, PM

Shared Resource

Works closely with Sr PM's

David Bernhardt
Regional Program Manager

Clerk IV
Stephanie Freeman

Denis Lovely
Asst Program Manager

Scott Bickford
Asst Program Manager

Region Engineers

Tim Pelotte
Project Manager

Shawn Smith Sr. Pm
Brian Luce Sr. PM
Tim Kelley TE 3

State Project Construction Supt
Clem Baxter Region 1
Brian Cooley Region 2
Mark Murphy Region 3
Jared Stanley Region 4
Dan Molaver Region 5
Barry Breton Pugmill Mgr.

Steve Bodge
Asst Program Manager

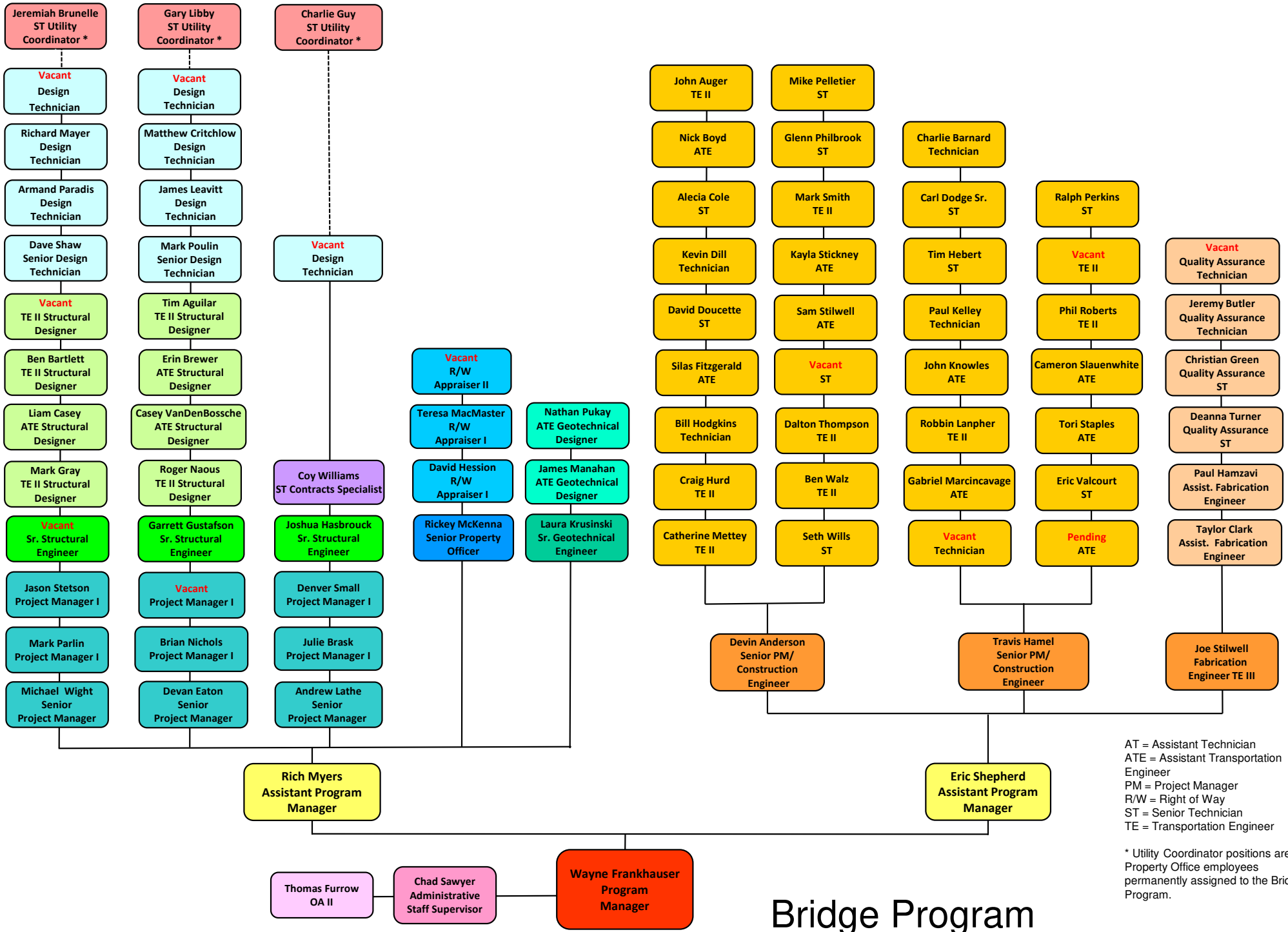
LaRay Hamilton
Region 1

Rob Betz
Region 2

Guy Whittington
Region 3

Randy Barrows
Region 4

Roger Soucy
Region 5

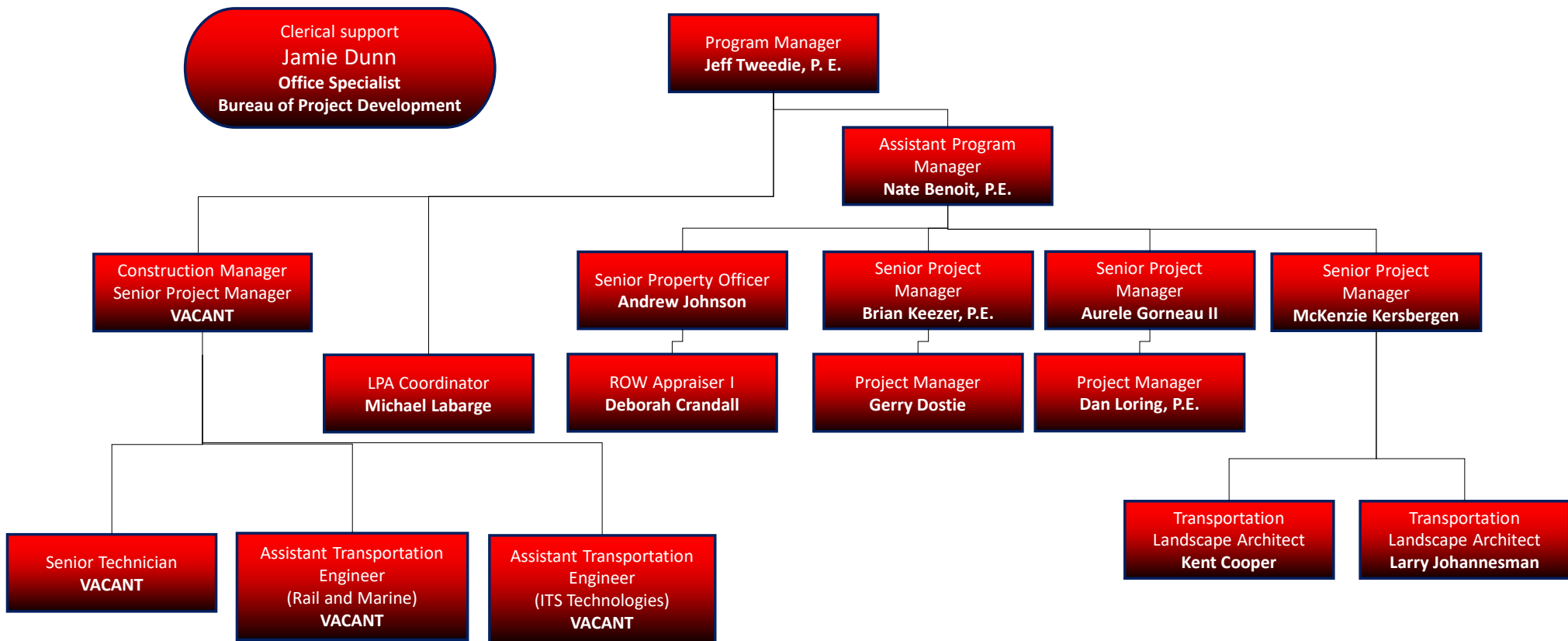


AT = Assistant Technician
 ATE = Assistant Transportation Engineer
 PM = Project Manager
 R/W = Right of Way
 ST = Senior Technician
 TE = Transportation Engineer

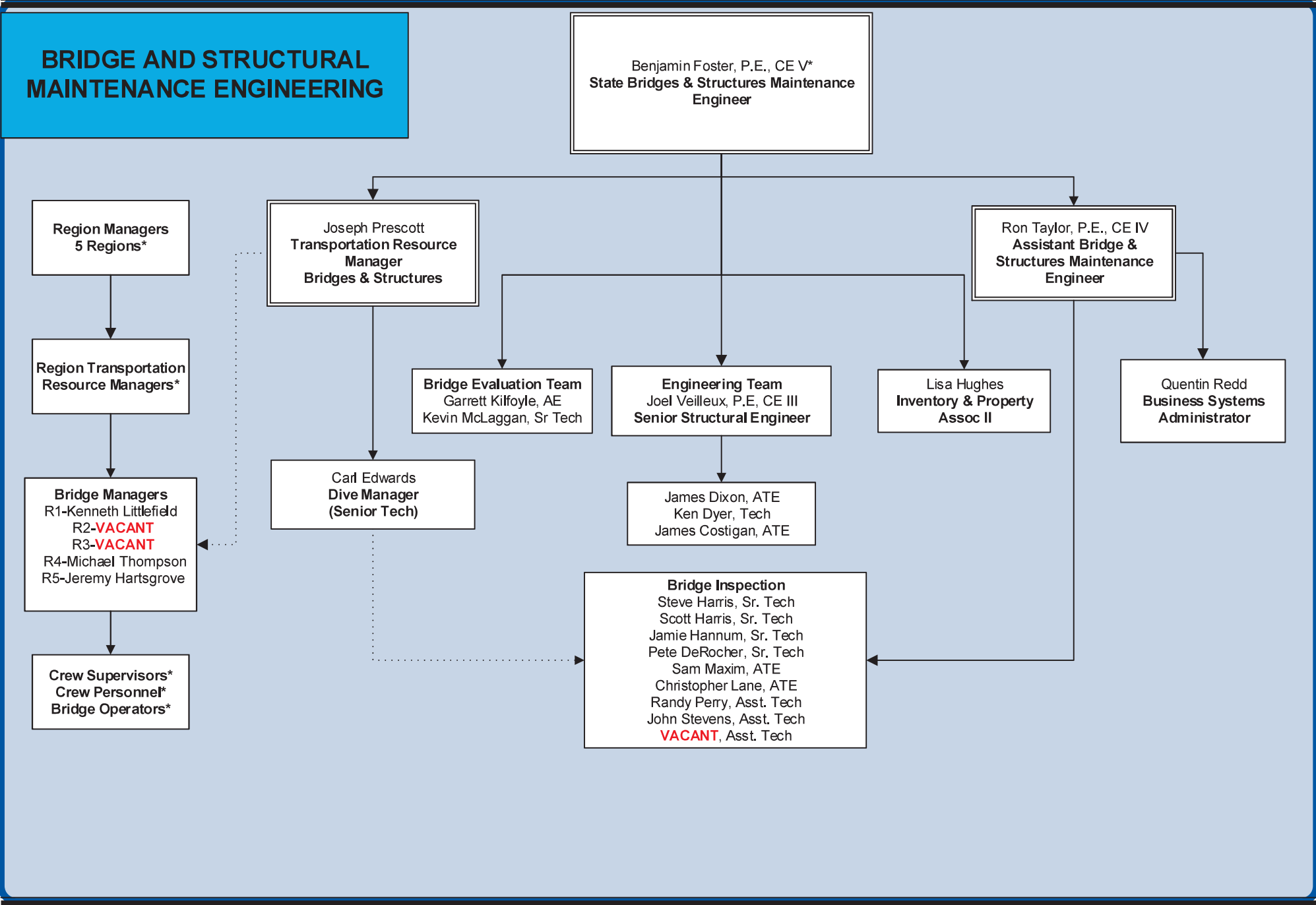
* Utility Coordinator positions are Property Office employees permanently assigned to the Bridge Program.

Bridge Program

Multimodal Program Organization Structure



BUREAU OF MAINTENANCE & OPERATIONS





Co-facilitators: **Todd Jorgensen**, FHWA
Joyce Taylor, MaineDOT

EDC-7 (2023-24) Participation Options for ACEC Members

Please review the EDC-7 Fact Sheets and Draft Participation Plan (attached). Consider colleagues from ACEC member firms who may have relevant expertise and interest to offer. Let them know of their options to participate as follows:

1. Follow

- a. Review innovation highlights, bookmark site and sign up for FHWA E-News for each Innovation(s) of Interest: https://www.fhwa.dot.gov/innovation/everydaycounts/edc_7/
- b. Receive periodic Maine STIC updates through ACEC as significant benchmarks are reached

2. Contribute

Join distribution list for Maine STIC Initiative Steering Committee and contribute as circumstances direct. *(Note: Please do not bog a steering committee down if you are just trying to stay informed and will not materially contribute.)*

Email MaineDOTInnovates@maine.gov to request addition to list, explaining interest, qualifications, and intent. Requests may be screened to confirm suitable level of interest. Innovation Champion will make the final decision.

3. Direct

Join STIC Initiative Steering Committee with intent to regularly participate in meetings to review emerging information, share knowledge, generate additional involvement, and direct initiative efforts. Regular participation will be expected.

The first task for the Steering Committee will be to prepare a baseline report describing existing conditions, participating entities, anticipated activities, desired assistance from FHWA and cohort states, and setting an innovation stage attainment goal for the 2-year period. Deadline April 21.

Email MaineDOTInnovates@maine.gov to request addition to Steering Committee, explaining interest, qualifications, and intent. Requests may be screened to confirm suitable level of interest. Innovation Champion will make the final decision.

Questions? Email Mary Ann Hayes MaineDOTInnovates@maine.gov or call 207-544-IDEA (4332).

Maine State Transportation Innovation Council Directory**Maine STIC Membership as of 1/1/23**

First Name	Last Name	Representing	Company/Agency
Glenn	Adams	Associated General Contractors	Sargent - General Contractor
Ryan	Barnes	Maine Turnpike Authority	Maine Turnpike Authority
Pat	Brady	Maine Better Transportation Association	BernsteinShur
Jim	Bryce	UMaine Transportation Infrastructure Durability Center	University of Maine
Sandy	Buchanan	Maine Transit Association	Western Maine Transportation Services
Chris	Chop	Metropolitan Planning Organization	PACTS
Lisa	Churchill	Climate Professionals	Climate Advisory, LLC
Pete	Coughlan	Maine Local Roads Program	MaineDOT
Tim	Doyle	Maine Motor Transport Association	MMTA
Peggy	Duval	American Council of Engineering Companies of Maine	Kleinfelder
Dan	Goyette	Small City	City of Auburn
Mary Ann	Hayes	MaineDOT Research & Innovation Office	MaineDOT
Todd	Jorgensen	FHWA Maine Division Administrator	FHWA
Jay	Kamm	Regional Planning - Small Towns	Northern Maine Development Commission
Dean	Lessard	Maine Chapter of American Public Works Assn	Town of York
Dale	Peabody	MaineDOT Research & Innovation Office	MaineDOT
Todd	Pelletier	MaineDOT EDC Coordinator	MaineDOT
Brett	Plossay	Maine Asphalt Paving Association	Crooker Construction
Kellon	Ronspies	FHWA Maine EDC Coordinator	FHWA
Ali	Shirazi	UMaine Civil & Environmental Engineering	University of Maine
Joyce	Taylor	MaineDOT Commissioner	MaineDOT
Sharri	Venno	Federally Recognized Tribe	Houlton Band of Maliseets

National STIC Network Liaison

Sara	Lowry	FHWA National STIC Network & Incentive Program	FHWA
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Maine STIC EDC-7 Participation Plan – as of 3/7/23 Caucus

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Initiative	Champion and Assistants	Other Participants	Working Group	Notes
Strategic Workforce Development	AGC-Maine (Kelly Flagg until coordinator hired) Mary Ann Hayes, MaineDOT liaison Holly Greenleaf & Jeremiah Hutchinson, MaineDOT (assist)	AGC-Maine, MBTA MMTA, MAPA Maine Transit Assn UMaine TIDC APWA-Maine, ACEC Portland Public Works WTS, ASCE, Turnpike, Women in Construction	Workforce Development	Highest STIC Priority 2- year pilot workplan outlined in STIC Incentive Program grant application; Working Group is steering committee
NextGen TIM: Technology for Saving Lives	Steve Landry, MaineDOT BACTS (Sara Devlin) and/or TIM consultant assisting with SW TIM Steering Committee	MPOs (BACTS lead – Sara Devlin), Regional Councils (Jay Kamm) UMaine (Ali Sharazi) State Police, County Sheriffs, Fire Depts, Towing Industry (already represented)	Advanced Technology	Continued high priority from EDC-6; structure and staffing already in place 8 regional TIM groups and statewide steering committee; will become Working Group initiative and keep STIC informed
Enhancing Performance with Internally Cured Concrete (EPIC ²)	Taylor Clark, MaineDOT Jeff Folsom (assist)	UMaine TIDC (Eric Landis) Turnpike (Ryan Barnes) Maine Aggregates Assn (Remi Delcourt from Auburn Concrete)	Infrastructure Durability and Resilience	Combine with existing concrete cracking research

Maine STIC EDC-7 Participation Plan – as of 3/7/23 Caucus

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<p>Nighttime Visibility for Safety</p>	<p>Bob Skehan, MaineDOT Others: Steve Landry (traffic) Dakota Hewlett (bike/ped) Pete Coughlan (local TA) Jeff Tweedie (local project oversight)</p>	<p>UMaine (Ali Shirazi) MPOs MCAPWA Maine Transit Assn (Sandy Buchanan) Auburn (Dan Goyette) Regional Councils (Jay Kamm)</p>	<p>Advanced Technology</p>	<p>High Priority Other possible interest groups: Maine Transportation Safety Coalition (AAA, BCM, Public Safety, Local Police, Sheriffs) Heads Up Initiative Partners</p>
<p>Integrating GHG Assessment and Reduction Targets in Transportation Planning</p>	<p>Taylor LaBrecque, MaineDOT Dawn Bickford (assist)</p>	<p>PACTS/GPCOG (Chris Chop) Lisa Churchill MMTA (Tim Doyle) MAPA (Brett Plossay) UMaine (Jim Bryce) Turnpike (Ryan to recruit) Transit?</p>	<p>Whole Systems Approaches</p>	<p>Expect to learn, not lead</p>
<p>EPDs for Sustainable Project Delivery</p>	<p>Dawn Bickford, MaineDOT</p>	<p>Turnpike (Ryan to recruit)</p>	<p>Whole Systems Approaches</p>	<p>Expect to learn, not lead</p>
<p>Rethinking DBE for Design-Build</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>Not participating as irrelevant to Maine</p>

Strategic Workforce Development



Innovative strategies to identify, train, place, and retain workers in highway construction jobs that support the Nation's highway system.



Photos: USDOT / Getty Images

The demand for highway construction, maintenance, and operations workers is growing while industry is experiencing a revolution of emerging technologies that will require new skills. To attract and retain workers in the contractors' workforce, new resources are available to help State, local, and tribal communities compete with other industries and demonstrate the value of a career in transportation. Increasing the highway construction workforce can help communities thrive while solving one of today's most persistent national transportation problems and offers an opportunity to recruit underrepresented groups, including minorities and women, to jobs that can change their lives.

AN INDUSTRY AND PUBLIC WORKFORCE COLLABORATION

According to a [2021 national survey](#) by the Associated General Contractors of America (AGC), 89 percent of construction firms reported difficulty finding qualified workers. In addition, the [U.S. Bureau of Labor Statistics](#) estimates that construction occupations are projected to grow 4 percent from 2021 to 2031.

FHWA partnered with the American Association of State Highway and Transportation Officials, AGC, the American Road & Transportation Builders Association, and the U.S. Department of Labor's Employment and Training Administration to bring together various parties interested in workforce development in the highway construction field. One result of this partnership is a highway construction workforce development playbook called "[Identify, Train, Place.](#)" The playbook helps State, local, and tribal communities identify, train, and place workers in the contractor workforce to meet resource needs to

deliver highway construction projects. The playbook includes simple, repeatable "plays" that departments of transportation (DOTs), workforce development boards, community colleges, non-profits, and contractors can use. The plays reflect solutions to workforce development challenges and are customizable to local needs. Additionally, with its workforce partners, FHWA developed a comprehensive [toolkit](#), with factsheets, profiles, case studies, and marketing materials.

BENEFITS

Effective Solutions. Case studies, pilot profiles, and other resources are available to help identify potential workers to enter highway construction training programs and careers.

Proven Training. Agency collaborations have created successful highway construction training programs that are graduating trained employees ready for the workforce.

Customizable Outreach. Strategic workforce development toolkit materials and outreach events can boost efforts to place and retain workers in highway construction careers.

STATE OF PRACTICE

Across the country, State DOTs are partnering with workforce development boards, community colleges, nonprofits, and contractors to tackle the shortage in qualified workers for highway construction projects.

- ▶ Texas's [ConnectU2Jobs](#) program prepares and trains justice-involved young adults between the ages of



18 and 24 for careers in the heavy highway construction industry. Two cohorts graduated in 2022, and almost all cohort participants graduated with their National Center for Construction Education and Research (NCCER) Core Construction Level 1 Certification and NCCER Heavy Equipment Operator Level 1 Certification.

- ▶ The Arizona chapter of the AGC developed an [Industry Readiness Program](#) that offers 10 weeks of on-the-job training for job seekers entering the heavy civil construction industry. In 2021, 121 trainees participated in the program and 19 apprentices reached journeyman status.
- ▶ Idaho's Highway Construction Workforce Partnership established a [Heavy Equipment Operator Training program](#) that includes certifications in heavy equipment operation as well as hazardous waste operations and emergency response. In 2022, 92 percent of the trainees graduated the program and 80 percent obtained jobs in the construction industry.

RESOURCES

[EDC-6 Summit breakout sessions](#)

[Strategic Workforce Development Factsheet](#)

[Strategic Workforce Development Toolkit](#)

[Strategic Workforce Development Storyboard](#)

Subscribe to [SWD e-News](#)

Webinars/Videos

[Highway Construction Workforce Partnership Webinars](#)

[Innovation Spotlight: Strategic Workforce Development](#) (2:37) 04/21



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Next-Generation TIM: Technology for Saving Lives



Next-Generation Traffic Incident Management (NextGen TIM) technologies aim to increase traveler and responder safety, transforming response operations from routine to extraordinary.



Photo: PA Turnpike Commission



Photo: Utah DOT



Photo: FDOT

More than 6 million [reportable crashes](#) occur each year in the United States, resulting in 2 million injuries and more than 30,000 fatalities. Additionally, there are over [32 million disabled vehicles](#) and countless incidents of roadway debris. Each of these events places responders and motorists at risk of secondary crashes. A planned and coordinated approach to handling these incidents is the essence of TIM. FHWA's [national TIM responder training](#) program has successfully trained more than 600,000 responders to clear incidents collaboratively, safely, and quickly. In practice, TIM on all types of roadways has been shown to save lives, time, and money.

TECHNOLOGY FOR MORE EFFECTIVE TIM

Today's technology has the potential to leverage TIM responder training and enable incident responders to become more effective and efficient in their response duties. Clearing roadway incidents more quickly reduces exposure for incident responders and restores traffic for commerce, productivity, and quality of life for roadway users.

Technology such as smart emergency vehicle lighting can better inform roadway users about incidents, helping them avoid those locations or navigate around them more safely. Similarly, digital alerts can help responders at the scene of incidents be more aware and protected from the dangers of working near moving traffic. Use of unmanned aerial systems (UAS) is reducing the amount of time responders spend mapping crash scenes. New debris removal tools will enhance the safe removal of dangerous roadway objects.

BENEFITS

Increased Safety. NextGen TIM feeds a larger TIM role in the [Safe Systems approach](#), and more specifically post-crash care, by creating a safe working environment for vital first responders and preventing secondary crashes through robust TIM practices.

Improved Operations. Integrating new and emerging technology, tools, and training can mitigate incident impacts from detection to roadway clearance.

Better Situational Awareness. Technology delivers timely and critical information to on-scene responders, remote support functions like transportation management centers, and roadway users who are approaching traffic incidents.

STATE OF PRACTICE

Examples of NextGen TIM technologies in use by State and local agencies:

- ▶ The Indiana Department of Transportation (DOT) has reduced "hard braking" near roadway queues by deploying queue warning trucks equipped with truck-mounted attenuators, arrow boards, and digital alert systems to warn approaching motorists of dangers ahead.
- ▶ The Washington State Patrol has reduced the time needed to measure, map, and photograph serious crash scenes by 70 percent with the use of UAS.



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- ▶ The Pennsylvania Turnpike has installed specialized push bumpers on the front of service patrol and maintenance vehicles to effectively move roadway debris without the need for operators to leave their vehicle.
- ▶ The New Jersey DOT uses in-cab electronic logging devices to deliver real-time alerts to trucks and other commercial motor vehicles operating in areas near traffic slowdowns, work zones, and bad weather conditions.
- ▶ The North Carolina DOT's Incident Management Assistance Patrol (IMAP) program is using tethered UAS that can fly 150 feet above incident scenes and provide video to the regional Traffic Management Center and responders on the scene, increasing safety for both responders and approaching drivers. In addition, arrow boards on IMAP vehicles can detect which lane is closed and publish alerts to mapping and navigation providers to pass on to users.
- ▶ The Illinois State Police uses emergency lighting systems that interface with the vehicle controller area network to change emergency light color, intensity, and pattern based on vehicle settings like motion, braking, and ambient lighting.
- ▶ Safety Service Patrols in Missouri are using channelizing devices that synchronize and light sequentially to direct drivers approaching incident scenes where a lane closure is present.

RESOURCES

[FHWA Traffic Incident Management](#)

[National Operations Center of Excellence Next-Generation TIM](#)

[Talking TIM Webinar Series](#)

Subscribe to [TIM e-News](#)



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Integrating GHG Assessment and Reduction Targets in Transportation Planning

By incorporating greenhouse gas (GHG) analysis into transportation planning, agencies can act now to help decrease future emissions.



Credit: Fotosearch.com

Transportation is the largest emitter of greenhouse gases (GHGs) in the United States—as well as one of the fastest-growing sources. [National inventories](#) suggest the transportation sector generates approximately 29 percent of the Nation’s GHG emissions, and roadway vehicles account for about 83 percent of that amount. Integrating the consideration of GHG emissions into transportation planning and decision-making is a critical step that agencies can take toward meeting national reduction goals and reducing their climate impact.

TOOLS AND PRACTICES FOR EFFECTIVE DECISION-MAKING

State departments of transportation (DOTs) and metropolitan planning organizations (MPOs) play essential roles in implementing policies, programs, and projects that can reduce GHG emissions, not only directly from motor vehicles, but also life-cycle emissions from construction and embodied carbon of materials. Integrating the consideration of GHG emissions into agency procedures and decision-making can lead to better transportation program and project decisions.

DOTs and MPOs can address GHGs in the planning process based on vetted, state-of-the-practice examples. These approaches include specific analytic tools, methods, and frameworks to support target setting and GHG estimation that can be integrated with existing planning products, including statewide and metropolitan transportation plans and transportation improvement programs. They can also support planning for programs such as the newly established [National Electric Vehicle Infrastructure Program](#) and [Carbon Reduction Program](#).

BENEFITS

Adaptable Strategies. Currently available tools and best practices related to GHG analysis and target setting will allow all agencies, regardless of technical capacity or size, to take steps toward integrating the consideration of GHG emissions into existing planning structures.

Practical Mitigation. Comprehensive methods of addressing GHG emissions, from both tailpipe and life-cycle emissions, can be integrated into current planning products and programs to provide decision-makers with reliable information that can be used to mitigate GHG emissions throughout a project’s life cycle.

Measurable Progress. By considering GHG emissions at every step in the transportation planning and decision-making process, agencies can align GHG reduction goals with strategies to meet targets and make progress.

STATE OF PRACTICE

DOTs and MPOs in several States are taking action to integrate best practices related to GHG policy and analysis into the transportation planning and project development process.

- ▶ The California DOT has a strategic management plan that calls for reducing GHG emissions to achieve a target 80-percent reduction below 1990 levels by 2050. The plan includes a performance measure for transportation-related GHG emissions.



Integrating GHG Assessment and Reduction Targets in Transportation Planning

- ▶ The Minnesota DOT (MnDOT) uses the Minnesota Infrastructure Carbon Estimator tool to evaluate GHG emissions from the agency's construction projects. MnDOT uses this information to monitor progress toward an agency goal for reducing construction GHG emissions.
- ▶ The Colorado DOT (CDOT) and MPOs in Colorado are planning to achieve GHG reduction levels for four time periods up to 2050 as established in State legislation and the Colorado GHG Pollution Reduction Roadmap. To determine compliance, CDOT and MPOs model existing transportation networks and all future regionally significant capacity projects in their long-range transportation plans (LRTP).
- ▶ The Virginia DOT has used the Infrastructure Carbon Estimator to evaluate construction-related GHG emissions from projects as part of its LRTP. This information is included in a Statewide Greenhouse Gas Planning Level Analysis.

RESOURCES

NCHRP 25-56: [Reducing Greenhouse Gas Emissions: A Guide for State DOTs](#)

[A Performance-Based Approach to Addressing Greenhouse Gas Emissions through Transportation Planning](#)

SHRP2-C09: [Incorporating Greenhouse Gas Emissions into the Collaborative Decision-Making Process](#)

[Handbook for Estimating Transportation Greenhouse Gases for Integration into the Planning Process](#)



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Nighttime Visibility for Safety

Improving visibility along corridors, at intersections, and at pedestrian crossings can help reduce nighttime crashes and fatalities.



Photo: VHB



Photo: FHWA



Photo: FHWA

The nighttime fatality rate on the Nation's roadways is [three times higher](#) than the daytime rate, and [76 percent](#) of pedestrian fatalities occur at night. Enhancing nighttime visibility for drivers and other road users will save lives. Several countermeasures and approaches are available that agencies can employ to improve visibility and reduce fatalities.

A VISIBILITY PROBLEM WITH VISIBLE SOLUTIONS

FHWA has used a focused approach to safety for many years, based on findings that [almost 90 percent](#) of the traffic fatalities in the United States happen in three main areas:

- Intersections
- Pedestrians and bicyclists
- Roadway departures

Enhancing visibility in these three areas with a targeted application of cost-effective and proven lighting and traffic control device countermeasures can address a large part of the nighttime safety problem. The improvements range from lighting training and design to traffic control devices for vulnerable users, to ensuring these devices can be seen and are effective for all road users.

Available tools include proven safety countermeasures and products, such as those championed by FHWA's Safe Transportation for Every Pedestrian ([STEP](#)) and Focus on Reducing Rural Roadway Departures ([FoRRRwD](#)) initiatives, as well as updated and new tools for lighting design and application of traffic control devices.

BENEFITS

Implementing measures to enhance nighttime visibility can save lives and, in some cases, reduce energy costs.

Intersections. Nighttime crashes at rural and urban intersections can be reduced by [33 to 38 percent](#) using well-designed lighting. Adequate intersection lighting can help reduce nighttime pedestrian-injury crashes by [42 percent](#). In addition, light-emitting diode (LED) luminaires use less energy than traditional ones, like high-pressure sodium luminaires, creating cost savings.

Pedestrians and Bicyclists. Crosswalk visibility enhancements for pedestrians such as rectangular rapid flashing beacons ([47-percent reduction](#)) or advance markings and signs ([25-percent reduction](#)) make it safer for people to cross a road. Many of these countermeasures are also cost-effective and relatively easy to install.

Roadway Departures. Horizontal curve delineation enhancements using chevrons ([16- to 25-percent reduction](#)), in-lane pavement markings ([35- to 38-percent reduction](#)), or fluorescent sheeting ([18-percent reduction](#)) can alert drivers to upcoming curves and can be used individually or in combination with each other or other countermeasures to reduce fatalities.

STATE OF PRACTICE

- ▶ Communities across the Nation are already benefiting from the use of many of these countermeasures.
- ▶ The Minnesota Department of Transportation (MnDOT) developed a process to streamline prioritization and

funding of lighting installation at higher-risk rural intersections. MnDOT's process allows luminaires to be proactively installed through systemic analysis on both District and County Road Safety Plans. Since implementation, MnDOT has noticed a reduction in nighttime crashes at the rural intersections where lighting was installed.

- ▶ The Florida DOT researched lighting solutions and directed \$100 million to its districts to replace high-pressure sodium lighting with LEDs for improved pedestrian visibility, resulting in enhancements at approximately [80 percent](#) of the State's most dangerous intersections.
- ▶ Bonner County, ID, improved visibility at curves by using edge lines and delineators on 31 roadways to address roadway departure crashes. The edge lines are a durable pavement marking with a 10-year expected life. Delineators are installed at a 200-foot spacing (closer on sharp curves), are low cost, can be installed by maintenance crews, and are visible in snow conditions.
- ▶ The North Carolina DOT (NCDOT) evaluated durable pavement markings and wider lines (6 inches versus 4 inches) and found that while the 6-inch stripes had better crash reduction, using 4-inch stripes allows the agency to treat more miles of roads for the same amount of money, resulting in a larger overall crash reduction. NCDOT plans to use the wider lines on select roads with concentrations of lane departure crashes.

RESOURCES

[Nighttime Visibility General Information](#)

[Pedestrian Lighting Primer](#)

[Lighting for Pedestrian Safety factsheet](#)

[Lighting—A Florida Case Study on a Proven Safety Countermeasure](#) (video)

[FHWA Minimum Sign Retroreflectivity Requirements](#)

[Implementation Tools—Sign Retroreflectivity Methods Table](#)



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Enhancing Performance with Internally Cured Concrete (EPIC²)

Internal curing increases concrete's resistance to early cracking, allowing the production of higher-performance concretes that may last more than 75 years.



Photos: FHWA

Shrinkage cracking in concrete is a key limiting factor in achieving acceptable long-term performance in concrete bridges, roads, and repairs. When this cracking occurs at an early age, it leaves the concrete and embedded reinforcement exposed to degradation, reducing the service life of the structure. Unlike conventional curing where water is supplied on the concrete's surface, internal curing provides a source of moisture from inside the concrete mixture, improving its resistance to cracking and overall durability.

IMPROVED INFRASTRUCTURE THAT LASTS LONGER

Internal curing targets and mitigates the source of shrinkage cracking by providing curing water integrally to the concrete mixture. Over the last 30 years, extensive studies have shown that internal curing addresses the root cause of self-drying shrinkage that is particularly problematic in lower water-to-cementitious materials ratio concretes.

This material-level technology can be employed in any concrete mixture with an adjustment to mixture proportions. The most widely used approach includes pre-wetted lightweight aggregates, which have a high-absorption capacity and are naturally compatible with common concrete production practices. A portion of the normal-weight fine aggregate is replaced with a pre-wetted lightweight fine aggregate. The saturated, porous fine aggregates in the concrete mixture distribute the curing water throughout the concrete body. As the concrete loses water naturally due to continued hydration or environmental exposure, water is pulled out of the lightweight aggregate and creates internal curing. This allows cementitious microstructure pores to be refilled

before they become empty, avoiding the negative pore pressures that cause concrete to shrink.

APPLICATIONS

Internal curing is primarily used in concrete bridge decks where a reduction in shrinkage coupled with lower-permeability mixture designs can provide substantially improved protection to the steel reinforcement. In paving and overlays, the technology reduces the magnitude of crack widths and curling deformations and can be used to extend the spacing between engineered joints. For patching and repair materials, internal curing minimizes the potential for restrained shrinkage cracking associated with high cement content mixtures designed to develop strength rapidly.

BENEFITS

Versatility. Internal curing can be used anywhere traditional concrete is used. It follows the norms of industrial concrete production, making it accessible to any producer already familiar with the state of practice.

Durability. Internal curing mitigates shrinkage cracking that is particularly problematic in low water-to-cementitious materials ratio concretes, allowing construction with lower permeability concretes to improve durability.

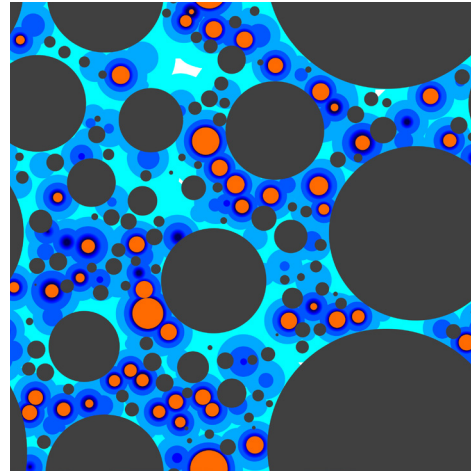
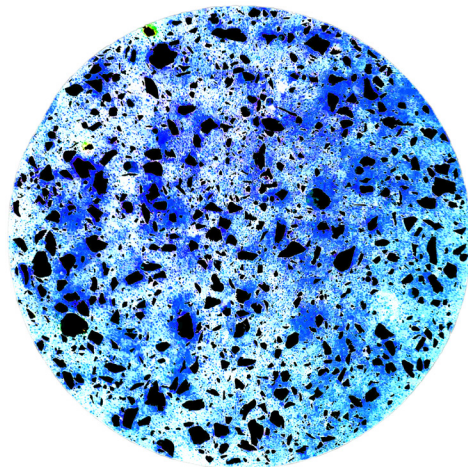
Cost Savings. Higher-durability concrete mixtures can last several times longer than traditional concretes, reducing the need to rehabilitate or replace critical elements such as bridge decks during the design life of the bridge, resulting in life-cycle cost savings.

Embodied Carbon Reduction. Internally cured concrete mixtures can be designed with lower water-to-cementitious materials ratios and increased utilization of natural, waste, or alternative recycled cementitious products without reduced performance or increased risk of cracking.

STATE OF PRACTICE

State departments of transportation (DOTs), local public agencies, and transit authorities have begun implementing internal curing to meet their needs.

- ▶ Bridge Decks: New York State, Indiana, Louisiana, North Carolina, Ohio, and Utah DOTs; Western Federal Lands Highway Division; and the Illinois State Toll Highway Authority.
- ▶ Pavements: Kansas and Texas DOTs and the North Texas Tollway Authority.
- ▶ Pavement Patches: City of West Lafayette, Indiana; Texas DOT; and Michigan municipalities.



Images: FHWA

Internally cured concrete cylinder cross section with dye (blue, color corrected) showing areas of internal curing water movement at early ages (left) and the simulated distribution of internal curing water (right).

RESOURCES

[FHWA EDC-7 Enhancing Performance with Internally Cured Concrete](#)

[NIST Internal Curing of Concrete Information Sources](#)



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EPDs for Sustainable Project Delivery

An Environmental Product Declaration (EPD) is a tool that can demystify the environmental impacts of construction materials.



As State departments of transportation (DOTs) become increasingly conscious of infrastructure's environmental burdens and seek more sustainable strategies, they are looking for measures that accurately reflect the environmental impacts of each alternative. EPDs communicate the greenhouse gas (GHG) emissions of construction materials in a transparent and standardized manner. They provide an opportunity to reduce negative environmental impacts by transforming the project delivery process.

A SIMPLE YET ROBUST ENVIRONMENTAL REPORTING TOOL

The manufacture, transportation, and production of construction materials such as aggregate, asphalt, cement, asphalt mixtures, concrete mixtures, and steel reinforcement generates environmental impacts. An EPD is a transparent, third-party verified report used to communicate those impacts from resource use, energy, and emissions. Type III EPDs are product labels developed in accordance with the International Organization for Standardization (ISO) Standard 14025 (ISO 2006). These EPDs are developed using life-cycle assessment (LCA) methodology, follow the industry consensus, and undergo third-party verification before being published. Agencies can leverage the use of EPDs to support decision-making throughout the project delivery process. Agencies can request EPDs at material installation to establish and develop benchmarks for current designs and projects. This tool will help agencies reduce GHG emissions in their construction projects.

BENEFITS

Sustainable Procurement. EPDs encourage the demand and supply of products that promote the more sustainable use of resources and create less stress on the environment.

Sustainable Design. EPDs provide critical information for use in conceptual- and project-level full LCAs or other types of environmental assessment of alternative design decisions. EPDs allow for meaningful information on environmental performance for construction materials.

Sustainable Asset Management. EPD data can be included in databases used in asset management systems to perform network-level LCAs and identify areas for environmental performance improvement.

STATE OF PRACTICE

While the development of EPDs in the United States has been mainly initiated by the vertical construction industry and material manufacturers, transportation agencies are beginning to require and collect EPDs during project procurement to prepare for implementing EPDs as part of procurement decisions.

State DOT adoption and implementation of procurement using EPDs has steadily increased over the past 5 years. Although the use of EPDs does not necessarily require a legislative mandate, various types of Buy Clean Acts have been enacted in [California](#) (2017), [Colorado](#) (2021), and [Oregon](#) (2022) that require the use of EPDs as part of the procurement process.



Currently, the use of EPDs is not required under title 23, United States Code; however, the Federal government has outlined related efforts through [Executive Order \(EO\) 14057](#). Under the EO, several Federal agencies are advancing activities related to EPDs. The U.S. General Services Administration (GSA) issued its first-ever specifications requiring EPDs for [concrete](#) and [asphalt](#) materials for GSA projects. The recently passed [Inflation Reduction Act](#) authorizes the Environmental Protection Agency to establish two programs for EPDs. One program will award grants and provide technical assistance to support the development, enhanced standardization, and transparency of a uniform approach to measuring and certifying the carbon content of construction materials and products. The second program will set standards for determining which construction materials are carbon efficient and provide for labeling that would certify lower carbon construction materials. Other Federal efforts are being advanced through the [Federal Buy Clean Initiative](#).

An Environmental Product Declaration for Asphalt Mixtures		
PRODUCT DESCRIPTION		
Gradation Type: dense Mix Design Method: superpave Nominal Maximum Aggregate Size: 12.5 mm Performance Grade of Asphalt Binder: PG 58-28 This mix producer categorizes this product as a Hot Mix Asphalt (HMA) asphalt mixture. This asphalt mixture was produced within a temperature range of 150 to 161°C.		
IMPACT CATEGORY	POTENTIAL IMPACT PER METRIC TONNE ASPHALT MIXTURE (PER TON ASPHALT MIXTURE)	
Global warming potential (GWP-100)	71.05 (64.46) kg CO ₂ Equiv.	
Ozone depletion potential (ODP)	9.92e-08 (9.00e-08) kg CFC-11 Equiv.	
Eutrophication potential (EP)	1.24e-02 (1.13e-02) kg N Equiv.	
Acidification potential (AP)	1.72e-01 (1.56e-01) kg SO ₂ Equiv.	
Photochemical ozone creation potential (POCP)	4.51 (4.09) kg O ₃ Equiv.	
DECLARED UNIT: The declared unit is 1 metric tonne (1 short ton) of an asphalt mixture		
PRODUCT INGREDIENTS		
Component	Material	Weight %
Aggregate	Natural Stone	15
Aggregate	Natural Stone	21
Aggregate	Natural Stone	13
Aggregate	Natural Stone	14
Aggregate	Natural Stone	8
RAP	Reclaimed Asphalt Pavement	24
Binder	Unmodified	4

ENVIRONMENTAL IMPACTS	
Declared Product: Description: Exterior 4000 PSI Compressive strength: 4000 PSI at 28 days	
Declared Unit: 1 m ³ of concrete	
Global Warming Potential (kg CO ₂ -eq)	318
Ozone Depletion Potential (kg CFC-11-eq)	7.15E-6
Acidification Potential (kg SO ₂ -eq)	0.95
Eutrophication Potential (kg N-eq)	0.24
Photochemical Ozone Creation Potential (kg O ₃ -eq)	20.7
Abiotic Depletion, non-fossil (kg Sb-eq)	5.82E-5
Abiotic Depletion, fossil (MJ)	658
Total Waste Disposed (kg)	94.2
Consumption of Freshwater (m ³)	2.40
Product Components: natural aggregate (ASTM C33), Portland cement (ASTM C150), fly ash (ASTM C618), batch water (ASTM C1602), admixture (ASTM C494), admixture (ASTM C260)	

Left: Sample information from Asphalt EPD.

Right: Sample information from Concrete EPD.

RESOURCES

[FHWA Sustainable Pavements Program](#)

[FHWA EPD Tech Brief](#)



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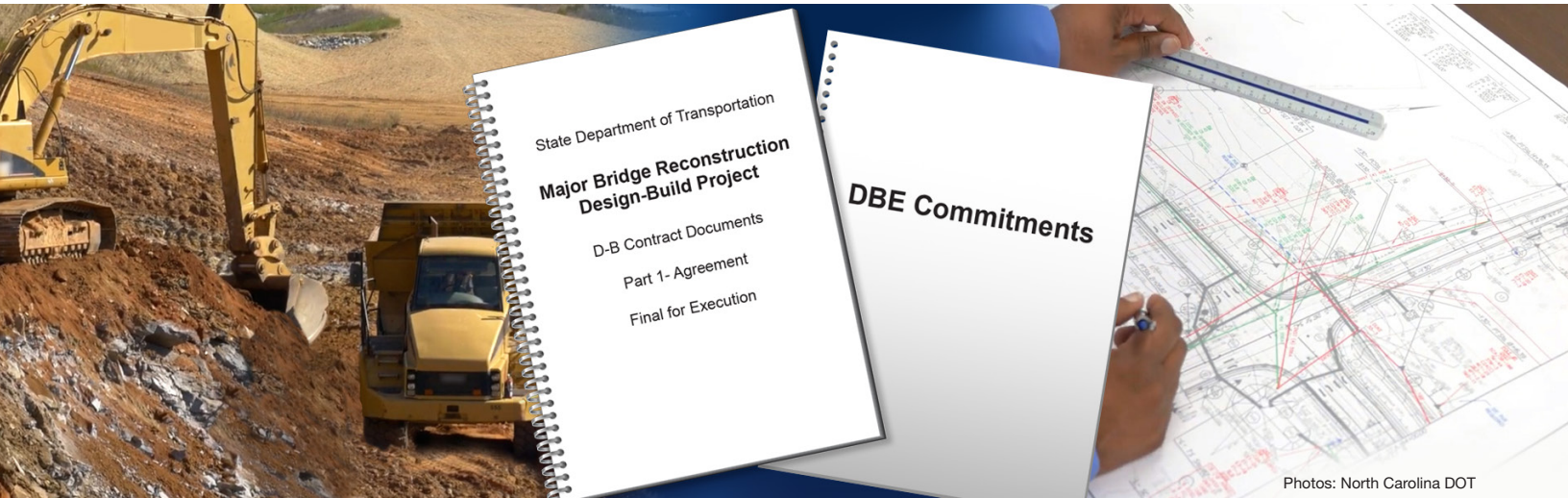
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Rethinking DBE for Design-Build

New tools and innovative practices increase Disadvantaged Business Enterprise (DBE) Program participation in design-build contracting.



Photos: North Carolina DOT

Providing opportunities for small, disadvantaged firms is the essence of the DBE Program. However, as States, or other project sponsors, increase their use of design-build for project delivery, this contracting method is presenting challenges to ensuring that equitable opportunities are realized. Innovative tools and practices are available for modifying traditional DBE commitment processes to align with the design-build process and improve participation.

AN OPEN-ENDED APPROACH

Design-build is a popular alternative contracting method where the project sponsor contracts with the most qualified team to both design and build the project. Design-build contracting is used frequently on larger, complex highway and bridge projects that have potentially significant subcontracting opportunities for DBEs. However, since the projects are not fully designed at time of proposal and the details of available subcontracting opportunities are not yet known, it may be challenging for prime contractors to name DBEs in their commitment plan. In some instances, prime contractors may submit documented good faith efforts instead of a DBE subcontract, thereby limiting opportunities for small, disadvantaged firms.

One solution States have begun using is an open-ended performance plan. An open-ended performance plan is a modified DBE commitment plan that, instead of naming DBEs to perform specific work at a specific price, allows the proposer to list anticipated work types for planned DBE participation throughout the life of the project. This type of plan, specifically for design-build contracting,

serves as a roadmap detailing how the DBE goal can be achieved.

In addition to using open-ended performance plans, other FHWA resources are available to support successful integration of DBEs in design-build contracting. These include templates, a toolkit with sample language for proposals and contracts, tools for monitoring and oversight, and training materials.

BENEFITS

States, DBEs, and design-build teams can benefit in several ways from using open-ended performance plans and other available tools for successful implementation of the program and equitable DBE opportunities in design-build contracting.

Enhanced Opportunities. DBE participation can be increased on design-build projects by providing a wider variety of work types throughout the life of the project.

Flexibility. Design-build teams will have more options to plan and execute DBE participation throughout the project.

Reduced Risk. Open-ended performance plans can provide better levels of certainty and mitigate risk for States, design-build teams, and DBEs.

Efficiency. Increased participation reduces the need for resource-intensive good faith effort reviews and other associated administrative actions.

STATE OF PRACTICE

Nearly every State has enacted design-build contracting legislation. While most continue to use traditional methods for DBE goal setting and request commitments to named DBEs up front, several States have successfully adopted open-ended performance plans to enhance DBE participation.

- ▶ The Texas DOT has been using open-ended performance plans for many years and has integrated them in its design-build procedures manual.
- ▶ The Colorado DOT is successfully using an open-ended performance plan on its Central 70 public-private partnership project as well as several other current design-build projects. In its Request for Qualifications, Instructions to Proposers, and Request for Proposals, the agency includes open-ended performance plans in its design-build template language.
- ▶ After being approached by prime contractors to use open-ended performance plans, the MassDOT Highway Division is looking into adopting new design-build procedures.

RESOURCES

[DBE Program Administration and Oversight on Projects with Alternative Contracting and Procurement Methods Handbook](#)

FHWA [DBE Website](#)

U.S. DOT DBE [Program Homepage](#)

[Design Build Institute of America](#)

Design-Build Institute of America [2021 State Statute Report](#)

49 CFR 26 – [Participation by Disadvantaged Business Enterprises in DOT Financial Assistance Programs](#)

23 CFR 636 – [Design Build Contracting](#)



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