2026 Caltrans & Industry BIM4I Summit

Building the Future Together: Partnering to Turn Ideas into Actions

Summit Summary Report

Sacramento, California | March 10–11, 2026

Third Annual Summit | 228 In-person Attendees

Prepared for: California Department of Transportation (Caltrans) Building Information Modeling for Infrastructure (BIM4I) Program

Executive Summary

The 2026 Caltrans & Industry BIM4I Summit highlighted the program's shift from early awareness-building and pilot activity toward implementation, standardization, and broader institutional adoption. A central outcome of the Summit was the introduction of the five-year Caltrans BIM4I Program Strategic Plan, which establishes a coordinated direction for advancing digital project delivery and long-term asset lifecycle management through stakeholder collaboration. Across plenary and track sessions, participants focused on how Caltrans can convert pilot experience into repeatable practices, stronger standards, and more effective organizational alignment.

Several key insights emerged consistently throughout the Summit. First, BIM4I was framed not simply as a modeling or software initiative, but as a broader transformation in how information is defined, managed, exchanged, and used across planning, design, construction, and future asset management. Second, speakers emphasized that data quality is more important than data volume: models create lasting value only when they support specific decisions, improve coordination, and produce reliable information for downstream users. Third, many of the main barriers to progress are organizational rather than technical, including inconsistent training readiness, fragmented workflows, limited hardware, and uncertainty about standards, roles, and long-term data ownership.

The Summit also produced clear practical lessons for advancing BIM4I. Caltrans case studies showed that model-based delivery is most effective when workflows, object strategies, and training are established early, and when digital deliverables are tied directly to construction, inspection, and future asset needs rather than treated as isolated design products. Peer DOT and contractor presentations reinforced the value of starting with achievable use cases, building confidence through visible results, using role-based and just-in-time training, and establishing connected data environments and information requirements before modeling begins. Across sessions, participants emphasized that durable policy should define information outcomes rather than depend on specific software tools.

Overall, the Summit showed that Caltrans has reached a point where the primary challenge is no longer whether BIM4I can create value, but how to scale it effectively. The most important outcomes of the Summit were a clearer strategic direction, stronger alignment around the need for disciplined implementation, and a broader shared understanding that long-term success will depend on standards, training, governance, and sustained collaboration across districts, divisions, and external partners.

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Background

The California Department of Transportation (Caltrans) hosted its third annual Caltrans & Industry Building Information Modeling for Infrastructure (BIM4I) Summit on March 10–11, 2026, in Sacramento, California. The Summit had 228 in-person attendees, representing Caltrans districts and headquarters divisions, other state departments of transportation (DOTs), general and specialty contractors, Federal Highway Administration (FHWA), design consultants, technology partners, local agencies, utility companies, and the California Transportation Commission (CTC), comprising the largest and most diverse attendance in the Summit's history. A virtual webcast of the morning plenary sessions was available for Caltrans staff, with approximately 200 viewers.

The 2026 BIM4I Summit was the product of an extended preparation effort beginning in mid-2025. The Summit Planning Committee is a collaboration of Caltrans and industry stakeholders and supported by a team of consultants. The planning effort encompassed Summit program design, presenter coordination, logistics management, and content development and quality review. This year's Summit featured a combination of plenary sessions and topic-specific track sessions.

Participant feedback collected through a post-event survey indicated strong satisfaction with the Summit's content and structure, with many noting it as the most programmatically cohesive event in the series' three-year history.

Table 1 illustrates the growth of the Summit from its first year to 2026.

Table 1. BIM4I Summit history and attendance.

Year	Theme	Primary Focus	In-Person Attendance
2024	Model the Way: From Plan to Practice	Awareness; sharing existing 3D models with contractors	107
2025	Looking Inward, Looking Outward	Expanded stakeholder engagement; peer DOT input; early pilot lessons	191
2026	Building the Future Together: Partnering to Turn Ideas into Actions	Implementation, standardization, and scalable delivery	228

The 2026 theme, "Building the Future Together: Partnering to Turn Ideas into Actions," reflected the program's current stage: past initial awareness and early pilots, and now focused on turning lessons learned into scalable standard practice. Both mornings were held in plenary session; afternoons featured three concurrent topic-focused tracks with facilitated discussion.

Morning plenary sessions on both days featured keynote addresses from Caltrans executive leadership, presentations from program staff and district practitioners, case studies from peer state DOTs, and industry presentations from major contractors. Three concurrent afternoon track sessions covered a variety of specific topics, including digital delivery barriers, data sharing and management, inter-agency data exchange,

stakeholder engagement, leadership alignment, Common Data Environment (CDE) configuration and Application Programming Interfaces (APIs), change management, and digital construction inspection.

This report synthesizes the key findings and takeaways from the Summit's morning plenaries and track sessions. It draws on session transcripts, presentation slides, the official Summit agenda, and post-event participant survey results. Speaker remarks are paraphrased rather than presented as a verbatim record, and key takeaways are highlighted throughout.

Figure 1. Photograph of the 2026 Caltrans & Industry BIM4I Summit attendees gathered on Day 1 in front of the main auditorium of the May Lee State Office Complex, Sacramento, California, March 10, 2026.

Day 1 – Morning Plenary

Welcome and Program Overview

Devin Porr, Caltrans BIM4I Program Director, opened Day 1 by tracing the program's three-year trajectory and introducing the strategic framing for the 2026 Summit. Donna Berry, Caltrans Chief Engineer and Deputy Director of Project Delivery, delivered the opening keynote address, "Embracing Change: Building Confidence for the Road Ahead."

Berry characterized BIM4I not as a technology initiative but as a cultural transformation requiring collaboration across all stakeholders. She cited improved worker safety, reduced contract change orders, fewer field conflicts, and better asset data as the primary justifications for the investment and highlighted that Caltrans has become the first state DOT in the nation to appoint a Chief Data and Artificial Intelligence (AI) Officer, positioning the agency's BIM4I data pipeline as a future enabler for artificial intelligence and predictive infrastructure management.

Porr described the program's iterative growth across the three Summit years. The inaugural 2024 Summit focused on building awareness between Caltrans and the contracting industry; the primary takeaway was a contractor request to share 3D models of work already being designed in 2D. This feedback drove an expansion of pilot projects. The 2025 Summit broadened outreach to consultants, peer state DOTs, and technology partners, and its key outcome was the formation of a monthly Industry Working Group launched in mid-2025 in which large and small contractors provided direct feedback on sample models and program practices.

At the 2026 Summit, Caltrans announced the five-year Caltrans BIM4I Program Strategic Plan representing a coordinated roadmap for advancing statewide BIM4I adoption. The plan is organized around five strategic focus areas: Engagement, Transparency, Awareness, Education, and Outreach; Data Management and Security; Digital Workflows, Standards Development, and Compliance; Executing BIM4I Use Cases, Pilots, and Deployment; and Training and Workforce Development. Consistent with the Strategic Plan’s mission and vision, the plan advances seamless digital project delivery and asset lifecycle management through collaboration with stakeholders, with digital project delivery as the near-term focus and asset lifecycle management as the long-range goal.

Industry Perspective: The Case for BIM Data Quality

Connor Christian, BIM Operations Manager at Kiewit Corporation, provided an industry perspective framed around the importance of data quality over data volume. Christian noted that the infrastructure industry's capacity to generate data has outpaced its ability to manage it, and that the challenge facing programs like BIM4I is not producing more data but curating it more effectively. He distinguished between persistent data (information that carries value throughout the project lifecycle and must pass intact between owner, designer, and contractor) and transactional data, which serves a specific task and can be discarded afterward.

Christian described BIM models as the "digital linchpin" of project information: models are the only digital representation of specific work put in place, making them uniquely capable of connecting schedule, cost, and productivity data to discrete physical components. This makes high-quality model data the foundational dataset for future AI and predictive analytics applications. However, he cautioned that AI tools require expert-grade,

structured data, not raw, unfiltered model output. Using the analogy of crude oil versus refined fuel, he warned that AI runs on refined data, and that programs must define what data is valuable and ensure its quality before expecting emerging technology to deliver on its promise. He invited attendees to keep this framing in mind throughout all subsequent presentations: do not look at the model and miss the data underneath it.

Key Takeaways
The challenge for programs like BIM4I is not producing more data but curating it more effectively, distinguishing between persistent data that must travel intact across the project lifecycle and transactional data that can be discarded. BIM models are the only digital representation of specific work put in place, making high-quality model data the foundational input for AI and predictive analytics. AI runs on refined data, not raw model output; programs must define what data is valuable and ensure its quality before expecting emerging technology to deliver on its promise.

Voices from Caltrans' BIM4I Adoption Journey

Amy Fong, BIM4I Program Delivery and Guidance Manager at Caltrans, moderated a session presenting two Caltrans implementation fronts: a model-as-legal-document pilot in District 11 and bridge and earth retaining system (ERS) BIM workflows developed by the Division of Engineering Services (DES). Together, these presentations represented the program's advanced delivery-level case studies and demonstrated both the institutional infrastructure required to support three-dimensional (3D) modeling at scale and the principle that BIM value derives from information intent.

District 11: Model-Based Project Delivery

Chelsie Hopkins, District 11 BIM4I Coordinator, and Jeremy Pangilinan, Electrical Branch Chief, described District 11's experience developing and delivering California's first model-as-legal-document project. The effort required developing a non-standard special provision (NSSP) for model-based project delivery, which redefined traditional "plans" as Digital Design Data Files. The NSSP, now approved through Caltrans' internal review process, establishes the contractual and procedural basis for all future model-based delivery projects statewide. Concurrently, Caltrans headquarters CADD support staff and District 11 developed, tested, and implemented 3D model-based workflows and a parametric cell library that will serve as the foundation for subsequent projects.

The pilot is being delivered primarily as a 3D model (DWG/DGN, XML, and Excel files hosted in the Bentley Infrastructure Cloud) with a minimal set of 2D sheets supplementing elements that could not be fully modeled. Quantities are provided both within model property sets and as Excel extracts for ease of use by bidders. A file and level naming convention based on pay items and bid items was developed specifically for this project, allowing reviewers to isolate individual elements easily. Caltrans also worked with the California Board of Professional Engineers, Land Surveyors, and Geologists to secure approval for digital signing of DWG, DGN, and XML file types, eliminating the need for state-level legislation and enabling all future model-based delivery projects to proceed legally.

Hopkins was candid about the organizational challenges encountered. The project was redefined as a model-as-legal-document at the 60% design milestone, compressing the timeline for developing workflows, training staff, and building parametric cell libraries. Over 80 staff members required training in 3D model review; Bentley representatives provided on-site training and daily office hours during review periods. Hopkins noted that staff resistance and uneven training attendance created downstream remediation work that proper advance planning could have reduced. The digital signature workflow, while ultimately implemented successfully, required substantially more technical effort than anticipated, given the need to securely sign multiple file types across a multi-signatory process.

Hopkins identified the most significant lesson as the price of being first: every object, feature, and workflow had to be reviewed holistically and from first principles, with no established precedent to build upon. Looking back, she would have started the model-based delivery approach earlier in the design process, established an object-level delivery strategy before design began, held more focused project development team meetings earlier, and developed training videos proactively to multiply the team's knowledge base.

Pangilinan described the specific benefits realized through the electrical component of the pilot. The 78-cell parametric library (developed through an iterative workflow between Pangilinan and headquarters CADD staff) closely mirrors Caltrans electrical standard plans and design manual content, because electrical designers were involved throughout cell development. Clash detection allowed the team to identify and resolve conflicts between signal poles, utilities, and right-of-way boundaries before construction. In one case, a signal pole was confirmed to be outside the right-of-way boundary; in another, a signal head was found to overlap with a signing element, which was resolved through direct coordination with the signing and striping unit. Point cloud integration enabled OSHA clearance verification for signal pole installations beneath transmission lines (a process that previously required survey coordination over several weeks) and provided 3D visualizations that facilitated faster permit approval from the California Coastal Commission.

Pangilinan reported that a new electrical designer unfamiliar with the workflow became productive within approximately two weeks, and that a neighboring district independently replicated the cell library on a new project within two months without direct training, demonstrating the scalability of the approach. He projected that district-wide and statewide adoption will produce time savings for designers, inspectors, and contractors, and contribute to overall project cost reduction as the program matures.

Key Takeaways

Model-based delivery works best when it begins at the start of the design process, with an object-level delivery strategy established before design work starts. Caltrans now has a well-established parametric library of electrical standard objects that closely mirrors Caltrans standard plans and can be deployed statewide to benefit future projects.

Division of Engineering Services: Bridge and Earth Retaining System BIM

Bin Shen, Chief of the Bridge Design BIM Specialty Branch, described DES's BIM journey, which began with participation in FHWA's Transportation Pooled Fund project for BIM for Bridges and Structures. That early involvement enabled DES to secure its first California State Transportation Innovation Council (CalSTIC) Grant, which funded development of a BIM Execution Plan based on ISO 19650 while establishing a dedicated support structure: first a BIM for Bridges and Structures Committee, then the Bridge Design BIM Specialty Branch, and subsequently the broader Engineering Services BIM Committee encompassing all DES partners and subdivisions. A second CalSTIC Grant, focused specifically on advancing BIM for earth retaining systems, followed in 2023.

DES published its internal BIM4I roadmap in July 2025. The roadmap organizes use cases into three groups: primary uses centered on project delivery and design-to-construction handoff; secondary uses focused on field checking and information collection; and tertiary uses supporting maintenance and asset management. The roadmap establishes implementation priorities across bridges, culverts, retaining walls, and buildings, progressing from simple to complex structure types and targeting full rollout through 2029. Shen also described DES's development of Level of Information Need (LOIN) specifications for three bridge types: cast-in-place box girder, precast girder, and steel; and seven ERS types, organized into geometry, attribute, and documentation categories. These specifications have been shared with FHWA's BIM for Bridges and Structures pooled fund technical team, contributing to the expansion of structure elements in national standards.

Lynn Hiel, BIM4I Specialist and Chair of the DES BIM Committee, introduced the concept of "decision-grade data" as the correct standard for BIM model content. Model elements should be created only when the data they contain will inform a specific decision; geometry and attributes produced for their own sake are decoration, and decoration is expensive. She urged teams to ask, before any modeling work begins, who needs the data, what decisions it will drive, and what happens if it does not exist. If nothing happens—it does not need to be modeled. She characterized over-modeling as a systemic risk in the current BIM environment and framed BIM's goal not as perfect geometry or perfect clash scores but as better information management that empowers collaboration and builds trust across teams.

Hiel recommended ISO 19650 as an actionable framework for information management: its Plan-Do-Check-Act cycle structures the process of defining information requirements, delivering information, verifying quality, and feeding results back into refined requirements. She also called for commercial technology partners to develop native tools for bridges and ERS modeling, noting that DES's current reliance on visual scripting (Dynamo routines for rebar modeling, excavation volumes, attribute assignment, and layout points) is effective but not a robust or long-term solution. DES is publishing workflow descriptions on a new public-facing Engineering Services BIM4I website with the explicit intent of providing the software community the insight needed to close this product gap.

Key Takeaways
Model elements should only be created when their data will inform a specific decision; geometry for its own sake adds cost without value. DES has developed Level of Information Need (LOIN) specifications for three bridge types and seven ERS types to support this standard, while continuing to push technology partners to develop native tools that eliminate the current reliance on custom scripting.

Proof in Practice: Construction Pilot Highlights

Tony English, Caltrans Structure Construction Manager and BIM field procedures contributor, moderated a panel discussion featuring two contractors who participated in Caltrans BIM4I construction pilots: Casey Poff of GR Sundberg Inc. and Anthony Abitz of Granite Construction. Contractors on the panel shared experiences demonstrating that 3D models in construction provide measurable safety, coordination, and quality benefits when field teams have access to appropriate tools and training, and that omitting modeling on projects perceived as simple can produce avoidable rework.

Poff described GR Sundberg's experience on a soldier pile tiebacks wall emergency project in Humboldt County (the Bridgeville site). GR Sundberg is a small business based in Arcata, CA with limited prior exposure to BIM tools before Caltrans introduced the technology on the project. Poff noted that the decision to participate (made by the Caltrans structure representative, George Moore, who approached the contractor early in the project) was unexpected, but that the team quickly realized the tool's value. Using Caltrans-provided Trimble field software and 3D model access, the team resolved a critical staging conflict between first-row tieback ground anchors and a proposed 24-inch storm drain excavation running approximately 22 feet below grade. By examining a cross-section at the specific alignment station in question, the team confirmed adequate clearance and adjusted the approach before work began, avoiding potentially costly and unsafe field conditions. The model also informed a staging decision to over-pave the shoulder and eliminate one row of K-rail in a high-truck-traffic zone, improving crew safety by increasing the available buffer for passing vehicles.

Abitz presented case studies from the American River Bridge, a Construction Manager/General Contractor (CMGC) project in Sacramento that Granite effectively treated as a BIM pilot. Because the existing bridge deck remained in service during design, the team could not directly access the girders to determine their settled elevation and camber. Granite commissioned a LiDAR scan of the in-service structure early in the project and worked with Trimble representatives to process the point cloud into surface and elevation models. This enabled the team to predetermine haunch depths (some exceeding 20 inches) and estimate camber recovery before demolition, allowing stay-in-place deck forms to be pre-ordered with verified dimensions. A 3D rebar model of the pier cap, developed in response to a value engineering change proposal, identified multiple anchor bolt and pipe pin clashes before fabrication. All 25 girder spans were subsequently erected without a single reset, and the 1,900-linear-foot deck was placed without any grinding required for profile correction, an outcome that the Caltrans structure representative on the project described as extraordinary.

As a counterexample, Abitz described the Tribute Underpass: a companion structure on the same project considered too simple to warrant 3D modeling. A pre-existing cross-slope on the existing structure was shallower than anticipated, and when projected 27 feet to the widened deck edge, the resulting profile prevented drainage. The issue was not detected until abutments were already constructed, requiring deck edge

corrections and grade adjustments that a basic 3D surface model would have identified at the design phase. Both contractors affirmed that the value of 3D modeling is not limited to complex projects, and that the primary field adoption barriers are hardware availability and training rather than the technology itself.

During audience Q&A, panelists discussed the implications of moving toward model-only contract delivery for subcontractors and specialty trade firms lacking BIM capability. The panel acknowledged that some 2D companion documents will remain practical in the near term for trades working from limited information (guardrail, fencing, minor electrical). On the question of as-built documentation, panelists agreed that LiDAR scanning combined with model annotation of part numbers, material submittals, and shop drawings represents the most viable near-term workflow, and that this capability will improve as the program matures. The panel also confirmed that interoperability between different software ecosystems (Trimble versus Topcon in these case studies) is functionally achievable today, but will become more robust and less effort-intensive as IFC open format delivery and shared Common Data Environments become standard practice.

Key Takeaways
3D models deliver measurable safety and coordination benefits even on smaller projects; the Bridgeville pilot demonstrated this on an emergency project with a contractor that had no prior BIM experience. Omitting modeling on projects perceived as simple carries real risk; the Tribute Underpass required costly rework that a basic surface model would have caught at the design phase. The primary barriers to field adoption are hardware availability and training, not the technology itself.

Day 1 – Afternoon Track Sessions

Following the morning plenary, attendees self-selected into three concurrent afternoon tracks. Each track ran two 50-minute topic sessions, each comprising presentations or panel discussion followed by facilitated group activity. Tracks were designed to provide depth on themes introduced in the plenary: Track A addressed digital delivery adoption barriers and design firm workflow shifts; Track B examined data sharing, management, and inter-agency exchange; and Track C explored stakeholder engagement and leadership alignment strategies. Summaries below reflect the combined sessions for each track.

Track A — Digital Delivery Barriers; Design Firm Workflow Shifts

Track A examined the practical barriers to digital delivery adoption and how design firms are adapting their workflows to meet growing BIM4I requirements. Alexa Mitchell, Enterprise Digital Delivery Services Director at HDR and Pooya Haddadi, Department Manager (Structures) at Michael Baker International (MBI), moderated both sessions in Track A. The first topic, “Digital Delivery Barriers” (session one) featured a panel of Caltrans construction managers Tony English and George Moore alongside contractors Andre Cattelier (DNB Construction) and Alicia Lopez (FlatironDragados). The second topic, “Design Firms: Workflow Shifts” (session two), brought in Mike W. Smith (HNTB), Ignacio de la Hera Sola (TYPSA), Joseph Brenner (Michael Baker International), and Jon Berkoe (Arup).

Digital Delivery Barriers

The first session opened with reflections on two Caltrans pilot projects that were introduced in the morning plenary: the American River Bridge and the Bridgeville retaining wall project. Tony English noted that the barrier for field staff was primarily knowledge and training, not technology resistance; once the team saw that the model eliminated the guesswork around anchor bolt placement and eliminated rework at a critical schedule milestone, adoption followed naturally. George Moore, who served as the structure representative on the Bridgeville project, acknowledged that both he and the contractor learned what BIM4I was after the project was underway. Lessons-learned meetings held monthly between field staff and the design group, combined with a willingness to openly document and learn from mistakes, ultimately produced a body of practice that Caltrans is now encoding in updated field procedures manuals, including a long-overdue revision to the Bridge Survey Guide, last updated in the 1990s.

Cattelier, whose firm DNB Construction began BIM investment fifteen years ago, offered a direct industry perspective on the cost and commitment required. He estimated that a program the size of Caltrans should be investing on the order of $300 million in BIM infrastructure, a figure he derived by prorating his firm's own capital investments. He described in concrete terms what that investment yields: a bridge project designed to zero Request for Information (RFI) and completed in three and a half months against a fourteen-month schedule; an Army Corps project involving twenty-one structures reduced from a two-year construction timeline to six months; and utility-dense box-girder bridge work for technology campuses that would be physically impossible to coordinate without a full 3D model. He introduced the concept of the "truth model": the idea that the model's value is only as good as the accuracy of the underlying survey datum on which it is built, a lesson his firm learned the hard way when a datum error invalidated an entire set of tiebacks on one project. Cattelier recommended that Caltrans start by modeling all standard plans (drainage structures, traffic control configurations, earthwork) using dedicated teams with specialized workflows, rather than trying to apply BIM across all project types simultaneously.

Lopez organized her contribution around three pillars: people, processes, and technology, in that order. She emphasized that paralysis-by-analysis is the primary adoption risk for programs at Caltrans' stage, and that the most important thing is to keep moving, acknowledge that the first attempts will not be perfect, and treat every pilot as a learning event. She described augmented reality as a practical current application of the model in the field: by scanning a QR code at any location on a project, field workers can see the georeferenced 3D model overlaid on actual site conditions using a tablet (no goggles required), enabling instant visual confirmation of design intent.

The facilitated discussion surfaced five categories of action that attendees identified as essential for BIM program success: education and communication (including a proposed "BIM Academy" modeled on Caltrans' existing ADA training programs); stakeholder engagement and early industry involvement; technical training with project-specific scope definition; data management and standard plan modeling; and structured pilot programs with documented lessons learned.

Key Takeaways
A recurring theme was the importance of defining the end product before beginning modeling. Attendees identified education and communication, stakeholder engagement and early industry involvement, technical training with project-specific scope definition, data management and standard plan modeling, and structured pilot programs with documented lessons learned as essential to BIM program success. Participants also noted that many BIM efforts are too narrowly focused on the design deliverable, when the true end goal is a maintained, operations-ready asset; failing to back-engineer from that goal produces wasted modeling effort.

Design Firms: Workflow Shifts

The second topic opened with Smith's account of HNTB's approach to BIM execution planning. Smith noted that BIM execution plans are most valuable when they function as strategic playbooks rather than compliance checklists—defining roles, decision processes, and deliverable standards in a way that is project-specific rather than generic. He described adding dedicated BIM manager and discipline-level BIM lead roles to project org charts and emphasized that BIM must be integral to the design work rather than performed by a separate team after the fact. HNTB's key challenges were navigating diverse client standards across hundreds of projects, the limitations of 30-year-old CADD platforms that were not natively designed for BIM, and the difficulty of justifying BIM investment when it is not contractually required.

Brenner of MBI focused on bridges, where BIM adoption has historically progressed more slowly than in roadway design. He described an evolution from 3D visualization-only models, to informational-only model supplements, to fully contractual model deliverables—noting that the shift from informational to contractual is the critical inflection point, because it establishes trust in the model's content and creates legal accountability for its accuracy. He presented an example of the first IFC-contractual model for a bridge delivered in the United States, through PennDOT, and described how hierarchical organization within IFC—from project to bridge to superstructure to individual girder plates—allows specific property sets and attributes to be attached at the correct level of granularity. This structure benefits fabricators particularly, who can extract only the properties relevant to their scope without sorting through hundreds of irrelevant fields. Brenner identified open BIM standards, specifically IFC, as essential to solving the interoperability problem—but cautioned that not all IFC models are created equal, and that the geometry-plus-data integration required for full lifecycle benefit is still developing in the horizontal infrastructure space.

Berkoe of Arup described the firm's "total design" paradigm, in which the BIM model functions as a top-down collaboration medium rather than a bottom-up documentation tool. On a large transit project in San Jose (a five-mile tunnel and three stations beneath Silicon Valley) the model is not just used by BIM specialists; it is the central workspace for the project director, project manager, package managers, and all discipline leads. He noted that automation through scripting is currently necessary to achieve the speed that projects demand, and that until commercial technology partners integrate these capabilities natively, firms that invest in scripting develop a meaningful competitive advantage. He closed with an observation that when owners write BIM requirements in Request for Proposals (RFPs), they are asking

not for a specific tool or standard but for trustworthy, shareable data and a fully integrated project, a distinction that requires active conversation with owners early in the process to surface and address.

Key Takeaways
BIM execution plans work best as project-specific strategic playbooks, not compliance checklists. For bridges, the shift from informational to contractual model delivery is the critical inflection point, establishing trust and legal accountability. When owners write BIM requirements, they are asking for trustworthy, shareable data and a fully integrated project; surfacing that distinction early produces better outcomes for all parties.

Track B — Data Sharing and Management; Inter-Agency Data Exchange

Track B explored how project data is structured, shared, and governed across platforms and organizational boundaries, including the emerging challenges of inter-agency data exchange. John Wilkerson, Director of Digital Delivery at MBI and Paul Pak, Partner at Amheart Solutions, moderated both Track B sessions. The first topic, “Data Sharing and Management” (session one), featured Mike W. Smith (HNTB) on a large urban design-build project, Pat Lane (Montana DOT) on Montana's connected data environment strategy, and Paul Pedini (Skanska-Flatiron). The second topic, “Inter-Agency Data Exchange” (session two) convened a panel of utility and transit agency representatives: Moshik Mah (Los Angeles Metro, virtual), Allie DeVaux (San Diego Association of Governments - SANDAG), and Aimee Crawford (Pacific Gas and Electric - PG&E).

Data Sharing and Management

Smith described data management practices on a project exceeding $1.5 billion in construction value, involving more than ten agencies with jurisdiction, delivered using progressive design-build with Skanska-Flatiron as contractor and HNTB as designer. The project illustrated what is increasingly the real-world CDE landscape: not a single common platform, but a "connected data environment" (meaning multiple linked platforms that allow each party to share the right information without giving everyone full access to everything) in which the designer uses Autodesk Construction Cloud, the contractor uses Procore, the owner's representative uses SharePoint, and each party has role-based, limited access to the others' platforms. Smith noted that this structure, while complex, is actually appropriate: designers do not necessarily want contractors seeing every intermediate design file, and role-based access controls enable precise governance of what information moves between platforms and when. His most practical contribution was a file naming and coordination model matrix that translated cryptic NCS file codes into plain-language model names, making the coordination model accessible to project managers and discipline leads who are not CADD-fluent. His key lesson was that while further platform consolidation is desirable in the long term, contractual structures, commercial terms, and organizational preferences make it difficult to achieve on any single project.

Lane described Montana DOT's approach as building a "connected data environment" in the absence of a single unified platform, a practical acknowledgment that consolidating data into one place across a legacy-rich state agency is not achievable on any near-term timeline. Montana's workflow connects civil design in Autodesk Civil 3D, contract management in AASHTOWare Project, field data collection through Esri Field Maps and Survey 123, construction verification through Trimble Business Center and

Trimble Access, and asset management through an Esri-based system. Montana uses Feature Manipulation Engine (FME) as the integration layer to move data between platforms, maintaining geospatial referencing throughout so that pay items can be tracked from design origin through field placement to asset record. Lane's most significant statement was that Montana recreates the pre-construction model in Trimble Business Center for every project with earthwork before passing it to construction, a practice that ensures the contractor receives a field-ready model regardless of the format in which the design was originally produced. He emphasized that data governance (role-based permissions, folder structures aligned to project phases, and clearly defined access matrices) is what makes a connected data environment function as a single source of truth.

Pedini offered a contractor perspective on data governance and value creation. Describing a billion-dollar-plus design-build rail project in Boston (replacing two century-old bascule bridges while maintaining active commuter service), he noted that working in a common model with the design engineer produced pre-award quantity accuracy within one percent of final quantities and enabled a full construction sequence simulation used as a proposal deliverable. He observed that owners in the Northeast still largely require 2D deliverables, leaving contractors without an external mandate to demand 3D workflows from design partners. His closing point: the value of model-based data is greatest at project transition, when the model is no longer approximate but is actually what will be built. Asset management integration remains absent from most infrastructure projects in his region because owners have not yet built the systems to receive that data.

Key Takeaways
A single common data environment is rarely achievable in practice; most large projects operate across multiple platforms with role-based cross-access between them. Effective data governance (standardized folder structures, file naming conventions, and clearly defined access controls) is what makes a connected data environment function as a reliable single source of truth. Delivering a field-ready model to construction requires deliberate preparation regardless of the format in which design was originally produced. The value of model-based data is greatest at project transition, when the model reflects what will actually be built rather than an approximation of it.

Inter-Agency Data Exchange

The inter-agency data exchange session opened the conversation to stakeholders outside the traditional DOT-contractor pairing. Mah of LA Metro described the agency as having benefited from contractor-initiated BIM for over a decade without having formally managed or acquired the resulting data. Metro is now developing a BIM policy to establish standards for how BIM is employed on its projects and to define how the agency itself will acquire and use model data for asset management, quality control, and design review. Mah described the challenge as establishing symmetry between the sophistication of BIM as deployed by Metro's contractors and consultants, and Metro's own internal capacity to consume and use that information.

DeVaux of SANDAG described the Otay Mesa East Port of Entry as the agency's first BIM project, a joint venture with Caltrans District 11, in which the federal end users (GSA and CBP) required BIM throughout. SANDAG delivers projects on behalf of cities, railroads, and other regional agencies rather

than operating them directly. Because each end operator brings different BIM requirements, SANDAG must navigate a diverse and often conflicting set of standards across its project portfolio. Delivering its first BIM project under structured federal requirements has given SANDAG a practical foundation for defining what it will require on its own future projects, particularly as it moves toward major rail and active transportation programs.

Crawford of PG&E noted that Caltrans is the only agency currently requiring BIM in the context of PG&E's project work, and that the conversation about how BIM deliverables from Caltrans projects integrate with PG&E's internal GIS and spatial data systems is just beginning. The utility's investment decisions are governed by ratepayer cost accountability, making it difficult to absorb BIM platform costs without demonstrated value. The session surfaced a broader finding: for inter-agency data exchange to function, the minimum common denominator of information required by each party (and the format in which it must be delivered) must be defined collaboratively before projects are designed, not negotiated during construction.

Key Takeaways
Inter-agency data exchange requires defining the minimum information each party needs, and the format in which it must be delivered, before design begins rather than negotiating it during construction. Local agencies and utility companies must balance alignment with Caltrans requirements against the flexibility to meet their own operational needs, particularly when the delivering agency is not the end operator of the infrastructure. As more agencies begin requiring BIM, the experience of delivering under structured requirements is itself a practical foundation for defining what each organization will require on its own future projects.

Track C — Stakeholder and Industry Engagement; Leadership Alignment

Track C addressed the human and organizational dimensions of BIM adoption, from building industry stakeholder engagement to sustaining executive leadership commitment through institutional change. Scot Becker, Director of Asset Management and Bridge Technologies at MBI, and Hayley Quan, Transportation Engineer at HDR, moderated both sessions of Track C. The first topic, “Stakeholder and Industry Engagement,” featured Armando Garcia (Coffman Specialties, formerly Caltrans District 11 Deputy Director), Jonathan Yeo (Caltrans Construction Manager), and Kevin Huang (Caltrans BIM4I Design Manager). The second topic, “Leadership Alignment,” brought in Devin Porr (Caltrans), Trisha Stefanski (MnDOT, virtual), and Allen Melley (PennDOT, virtual).

Stakeholder and Industry Engagement

The stakeholder engagement session examined Caltrans' experiences building internal and external support for digital delivery. Garcia drew an explicit parallel to Caltrans' transition from paper plans to electronic bidding roughly fifteen years ago, a change that also encountered resistance, also required years of engagement, and is now so thoroughly normalized that no one advocates returning to paper. He framed BIM adoption as following the same arc: it will be disruptive during the transition, the transition will be imperfect, and in a decade, it will be inconceivable that it was ever done differently.

Yeo described the specific challenge of engaging construction staff, whose relationship with BIM is primarily informational rather than geometric. Construction engineers work with schedules, payment

records, RFIs, and change orders, artifacts that do not naturally emerge from a 3D model. Transitioning construction workflows to data-driven tools requires a different approach than design-side BIM adoption: training construction staff on how to collect and transfer data from the field to the office using GPS rovers, total stations, and data collectors, then connecting that field-collected data to model-based digital as-built records. Yeo cited the Bridgeville project as the clearest example of this workflow demonstrating value: the as-built records produced from field data capture provided a foundation for managing the retaining wall system as an infrastructure asset going forward.

Huang described the design-side engagement challenge of working with Caltrans' own internal functional units (many of which do not model in 3D) while simultaneously engaging downstream construction partners who need to consume whatever design delivers. Caltrans' Industry Working Group, which has brought contractors and consultants into monthly review sessions to evaluate design deliverables and provide feedback, was cited as the most effective engagement mechanism. The group's input directly shaped the District 11 pilot deliverable package, including decisions about what to model, what to provide in Excel, and what viewer guidance to develop for bidders. Huang also noted that CMGC delivery methods have produced significantly higher contractor BIM engagement than design-bid-build, because contractors have a direct stake in model usability during the design phase when they are already part of the team.

Key Takeaways
Construction staff engage with BIM through information (schedules, payment records, RFIs, and change orders), not geometry. Engaging this audience effectively requires a distinct approach: training inspectors on data-driven field collection tools and connecting that data to model-based as-built records, so that field activity directly feeds long-term asset management. CMGC delivery methods produce significantly higher contractor engagement than design-bid-build because contractors have a direct stake in model usability during the design phase.

Leadership Alignment

The leadership alignment session examined how to build and sustain executive commitment to BIM across inevitable leadership transitions in state government. Stefanski of MnDOT described using the Tuckman team development model (forming, storming, norming, performing) as a framework for diagnosing where her agency's cross-divisional BIM effort stands. She attributed a significant acceleration in MnDOT leadership commitment to sending executives to international BIM forums, where hearing about program maturity from peer DOTs and foreign transport agencies carries more weight than internal advocacy. She noted that MnDOT, like Caltrans, spans multiple divisions (bridge, pavement, planning) and that BIM adoption requires all of them to move together, which in practice means ongoing cross-divisional leadership buy-in is a sustained, ongoing effort.

Melley of PennDOT described the challenge of leadership continuity through administration changes. PennDOT's digital delivery program began with strong top-down executive sponsorship that provided initial momentum; as administrations changed, sustaining the program required re-educating new leadership and shifting from a top-down to a middle-out advocacy model. His key message was that

BIM programs cannot depend entirely on any single executive champion: the program must become institutionalized at the practice level so that it continues regardless of who is in the leadership role.

Porr described Caltrans' approach to navigating an organization of 14 different programs and 12 districts in which no single leader can drive adoption unilaterally. The BIM4I Program's strategy has combined executive-level strategic planning (the BIM4I Strategic Plan as a formal Caltrans organizational commitment) with bottom-up engagement through working groups, summits, and direct district outreach. He acknowledged that the challenge of communicating BIM's value is not uniform: what a bridge designer finds valuable is different from what a pavement engineer or a construction inspector finds valuable, and that effective communication must be tailored to each role's specific pain points and benefits.

Key Takeaways
BIM programs cannot depend on any single executive champion; leadership transitions are inevitable, and programs that rely solely on top-down sponsorship will stall when administrations change. Sustaining momentum requires institutionalizing BIM at the practice level and tailoring the value message to each role, since what resonates with a bridge designer differs from what motivates a construction inspector.

Day 2 – Morning Plenary

A Call to Action

Ray Hopkins, Caltrans Division Chief of Construction, opened Day 2 with a keynote presenting the construction program leadership perspective on BIM4I. Hopkins reframed BIM4I not as a product or a document type but as a philosophy for leveraging digital tools across the asset lifecycle: models, digital twins, and accurate as-built records are instruments for achieving a safer, more efficiently maintained transportation system.

Hopkins offered a practical fiscal argument for BIM4I investment in construction: reductions in change orders and field conflicts reduce cost overruns, and recovered dollars are not banked but reprogrammed into the next capital project. BIM4I efficiency is therefore a direct multiplier of transportation program delivery capacity. He also noted that the stakeholder community responsible for BIM4I adoption must be understood broadly. Utilities, technology partners, local agencies, railroads, the CTC, and peer DOTs are not observers of BIM; they are part of the same industry ecosystem and share collective responsibility for guiding its direction.

Hopkins elaborated on the Strategic Plan focus area of Engagement, Transparency, Awareness, Education, and Outreach: engagement means shared understanding of project goals; transparency means openly acknowledging what each party does not know; awareness means disseminating BIM knowledge back through each organization after the Summit; and education is a continuous organizational responsibility, not a one-time event. The keynote concluded with a specific call to action: every attendee should return to their organization with something concrete to share, because knowledge retained individually generates no program value.

Case Studies: Peer DOT Digital Delivery Programs

Alexa Mitchell, Enterprise Digital Delivery Services Director at HDR, moderated a session featuring digital delivery implementation experiences from Iowa DOT, Texas DOT, and RL Wadsworth Construction. Each represented a different maturity stage and project context, providing a national cross-section of what early-stage institutionalization of digital delivery looks like in practice.

Cedric Wilkinson, e-Construction Program Administrator at Iowa DOT, described the agency's progression through two digital delivery pilots. Iowa's first pilot used a complex, aesthetically detailed skewed bridge and produced mixed contractor feedback: the 3D model was visually impressive but lacked the dimensioned views, navigable saved perspectives, and hyperlinked specifications contractors needed to use it effectively in place of traditional plan sheets. The agency responded by selecting a simpler project as its active 2026 pilot: a zero-skew, zero-aesthetic three-span concrete bridge in southwest Iowa, using IFC models delivered through Trimble Connect and supplemented by drone-captured existing conditions data processed through Propeller.

To incentivize contractor engagement with the model, Iowa included a dedicated bid item compensating the contractor for participation in weekly model review meetings and feedback sessions. The pilot field office was upgraded with a 55-inch display to support collaborative model review, and the contractor was set up with Trimble Connect accounts in advance of construction. Wilkinson reported enthusiastic early feedback: the contractor identified a wing wall rebar configuration (difficult to interpret on conventional plan sheets due to overlapping elements) as an example of where the 3D view immediately clarified construction intent in a way that years of experience had not resolved.

Wilkinson also described Iowa's parallel asset tracking program, funded through an FHWA Accelerated Innovation Deployment (AID) grant, which pilots the collection of guardrail, lighting, and roadway pipe attributes using field data collection software. He emphasized that not all projects warrant 3D models (for flat-terrain asphalt overlay work, model-based delivery adds little value over conventional digital files) and that distinguishing between model-based delivery and digital asset collection as two parallel tracks allows the agency to focus modeling effort where it generates the most value. Iowa DOT's open format strategy—using IFC for all model deliverables and avoiding technology partner lock-in—was presented as a deliberate policy to ensure that contractors can use whichever software platforms they prefer.

Jacob Tambunga, Director of Digital Delivery at Texas DOT, described TxDOT's rapid expansion from approximately six voluntary pilot projects (some with construction dates stretching to 2035) to approximately 35 active pilots following an executive director mandate requiring every district to have a project letting by end of calendar year 2027. Four pilots are letting in 2026, with 24 in 2027. TxDOT is targeting a statewide model-based delivery requirement for widening projects beginning in 2028, and plans to expand to higher-complexity project types in subsequent years.

Tambunga shared detailed lessons from TxDOT's first completed construction pilot, located in the San Antonio district. The project used a hybrid delivery model: IFC models as the governing documents and a reduced PDF plan set as supporting reference. Lessons included: the reduced plan set contained too much information, and contractors used it rather than the model; the model's precedence over plan sheets was explained at mandatory pre-bid meetings but not consistently observed in the field; connectivity in rural areas limited cloud access; and inspection staff did not receive iPads until midway through construction. The hardware delay directly caused a

field error: a culvert was constructed in the wrong location because the inspector was unable to verify its position against the model in real time. Once hardware was available, the error was identified quickly, and the contractor was able to correct it by reference to the model, a process that would have been more contentious without the shared single source of truth.

On the positive side, model-based quantities for surface treatment were closer to actual paid amounts than the agency's traditional basis-of-estimate approach, providing preliminary evidence of improved quantity accuracy. Phase modeling (cutting the project model into construction phases) was identified as a standard TxDOT practice for all pilots, enabling staged quantity extraction and traffic conflict visualization. Tambunga identified standardization across TxDOT's 25 districts as equally important to model quality: contractors working across district boundaries encounter inconsistent plan formats and build in risk premiums accordingly. Consistent standards reduce that uncertainty and improve bid accuracy. On training, Tambunga noted that training delivered months before a project enters construction is largely forgotten by the time it is needed; TxDOT is developing persona-based short-format on-demand video resources (two to three minutes each) to supplement just-in-time training at project mobilization.

Steve Baret, Senior BIM/VDC Manager at RL Wadsworth, presented a contractor-initiated BIM case study from a rock shed project near Yosemite National Park. The project involves removing fallen talus material and constructing an 11-segment precast concrete rock shed (each segment weighing 6 to 7 million pounds, with dense rebar, pipe anchors, and precision hydraulic roller placement) to protect a Caltrans highway from further rockfall. The complexity of the work made constructability analysis from 2D plans effectively impossible, and Wadsworth built a full 3D model independently to plan the work, though model delivery was not a contract requirement.

Baret described the Common Data Environment as the central enabler of field-office coordination. Using Autodesk Construction Cloud and Navisworks, field crews and office staff access the same model in real time, eliminating the version control and email-chain information loss that commonly affect complex projects. When design changes require updating pile foundation coordinates (with 174 pile foundations on the project), Wadsworth uses CSV-driven Dynamo scripts to automatically update all affected locations in the model, a process that would require hours of manual work if done individually. Baret noted that models were received later in the project than ideal, because the project was not a CMGC delivery, and recommended that Caltrans consider how earlier contractor access to design models (through CMGC or similar collaborative delivery methods) would allow BIM's constructability benefits to be realized before design decisions become fixed.

Key Takeaways
Starting simple produces better outcomes than attempting full complexity from the start; Iowa DOT's first pilot confirmed that an overly complex bridge left contractors unable to use the model, while a simpler follow-on project generated immediate engagement. Field hardware is not optional; TxDOT's San Antonio pilot showed that a culvert was built in the wrong location simply because an inspector lacked an iPad. Early contractor involvement through CMGC or collaborative delivery allows constructability issues to be resolved while design can still respond, a lesson RL Wadsworth learned in reverse on a non-CMGC contract.

BIM for Contractors: Kiewit's Approach

Andy Kayhanfar, Director of Digital Delivery at Kiewit Corporation, presented alongside virtual colleagues Chris Lopez, Survey Operations Manager, and John Foreman, Senior Leader of the Temporary Engineering group, to describe how Kiewit applies BIM across three construction phases: pre-construction existing conditions modeling, temporary works engineering, and enterprise data management through a proprietary platform called LAND.

Lopez described Kiewit's practice of building 3D models of existing conditions at the outset for certain projects, combining public datasets, client-provided files, and self-collected LiDAR surveys. These models enable early identification of utility relocation needs, overhead clearance constraints, and geotechnical complexity before design is finalized. On a recent airport drainage project (located in a congested area between taxiways and a low-lying area with several deep existing structures), the existing conditions model allowed the team to plan temporary access roads and equipment staging in 3D during planning meetings, export the approved layout directly to survey crews for field staking, and use a rock strata surface model derived from bore log data to adjust utility alignment and minimize rock excavation.

Foreman described the temporary engineering group's transition from 2D AutoCAD to model-first parametric design using Revit and Dynamo. Starting from a 3D model ensures that all 2D drawing views are derived from and consistent with the model, eliminating the discrepancy between plan and model that creates field confusion. The group produces 200 to 300 individual construction engineering scopes per major project; parametric modeling has materially reduced the time required to develop and update these packages. Foreman noted that Kiewit instructs its designers to start with the model and let the drawings derive from it—the reverse of conventional practice—and that this shift has improved constructability review because the team is virtually building the work months in advance of construction.

Kayhanfar introduced LAND, a Kiewit-developed enterprise data platform built around APIs from Autodesk's platform services and Bentley's iTwin platform. LAND addresses a fundamental deficiency in model data as extracted from standard BIM software: property names are unstructured and inconsistent, and values are often stored as text strings rather than numeric values. LAND applies "data operations" (normalization and derivation rules) to raw model properties, producing a single, semantically consistent version of each quantity across all model elements and federated models. The platform is dual-software capable, allowing field staff and joint-venture partners to access unified data regardless of whether the originating model was built in Autodesk or Bentley software (addressing the training burden of requiring every user to be fluent in both platforms). Kayhanfar framed LAND explicitly as AI readiness infrastructure: the platform produces the structured, expert-quality data that enterprise analytics applications require. Programs that hope to leverage AI will need to solve the data quality problem first; LAND represents Kiewit's investment in doing so proactively.

Key Takeaways
Starting from a 3D model and deriving drawings from it eliminates plan-to-model discrepancies and allows teams to virtually build the work months before construction begins. Raw model data is unstructured and inconsistent; programs that hope to leverage AI will need to resolve that problem first. Kiewit's LAND platform illustrates what that investment looks like: normalized, consistent data accessible across software platforms and project partners.

Scaling Pilots to Policy: Panel Discussion

Jonathan Yeo, Caltrans Construction Manager, moderated the Summit's closing plenary panel on the challenge of translating lessons from individual pilot projects into formal organizational policy. Panelists included Alicia Lopez, Chief Innovation Officer at FlatironDragados; Connor Christian, Kiewit; Mina Pezeshpour, Caltrans Office Chief of Bridge Design South Manager; and Allen Melley, Chief of Digital Delivery at Pennsylvania DOT, participating virtually.

All four panelists independently identified people and organizational resistance (not technical complexity) as the central barrier to embedding BIM into standard practice. Lopez and Melley observed that staff default to familiar workflows unless the new practice is made mandatory rather than optional, and that sustained communication of the personal value proposition for each role is essential for overcoming resistance. Lopez emphasized the importance of selecting the right project, champion, and contracting method for pilots: design-bid-build lowest-bidder selection can undermine pilot quality when the successful contractor lacks BIM capability, while CMGC and design-build methods provide more control over the implementation environment. Christian added that pilots are more likely to succeed when they have clear, intentional goals—"do BIM" is not a goal—and that the results are more likely to build organizational support when they demonstrate tasks becoming easier rather than harder.

Melley described PennDOT's implementation path as a model for incremental institutionalization. PennDOT set a 2019 strategic goal of fully digital project delivery by 2025 and achieved it through a district-by-district ramp-up using incremental mandates. Going forward, each of PennDOT's 11 decentralized districts must have two digital delivery projects in 2027, increasing annually through 2030, when all new and reconstruction projects initiated in design will be delivered digitally. Melley shared a cautionary case study that has since shaped PennDOT policy: on an early pilot, a contractor used a superseded 2D plan sheet—after an RFI correction had been applied to the model but not propagated to the companion sheet—resulting in a bridge substructure built in the wrong location. PennDOT's response was to eliminate all 2D sheets that duplicate information available in the model, enforcing the model as the single authoritative source of project information.

Pezeshpour highlighted findings specific to Caltrans bridge design pilots. First, the Common Data Environment must be established before modeling begins; retroactively introducing CDE workflows mid-project is disruptive and creates data continuity risks. Second, certain modeling software defaults to international survey feet rather than U.S. survey feet, causing model-to-point-cloud misalignment when validating against existing conditions, a recurring issue that requires active coordination with survey staff to correct at project initiation. Third, as the BIM branch simultaneously develops standards, trains others, and executes pilot projects, workload balance is a constant challenge; dedicated staffing for each function is necessary for sustainable program delivery.

On the question of what Caltrans should prioritize to accelerate long-term BIM4I adoption, panelists offered the following recommendations: incorporate BIM requirements into as many appropriate projects as possible so that teams learn through doing; invest in role-specific, just-in-time training supplemented by short-format on-demand videos; develop robust, outcome-focused modeling procedures and standards so that expectations are consistent across districts and delivery methods; set realistic, achievable intermediate goals and celebrate small wins to build momentum; and do not be afraid to fail—each unsuccessful attempt generates lessons that make subsequent efforts more effective. Christian added that policies written around specific software tools will

become obsolete; durable policy specifies the information outcomes required (model-delivered quantities, georeferenced as-builts, clash-free deliverables) and leaves the method of achieving them open.

Audience questions during Q&A addressed three themes that emerged as priorities across the Summit audience. A Caltrans project engineer asked how to train functional unit staff in the absence of a mature training program; the panel's consensus was that just-in-time, project-specific BIM branch support combined with step-by-step written procedures and recorded walkthroughs is the most practical approach at this stage. A question about field hardware requirements prompted Melley to describe PennDOT's standard: iPad Pro for each inspector, high-graphics-card laptops, a 60-inch display in every project trailer, and Global Navigation Satellite System (GNSS) rovers per project. A final question about the data lifecycle—whether any peer programs have begun connecting BIM data to maintenance and asset management—prompted Melley to confirm that asset management data integration is now PennDOT's primary program focus, having achieved delivery-phase digital maturity, and that connecting construction-generated data to long-term operations and maintenance systems remains the defining long-term challenge for BIM programs nationally.

Key Takeaways
People and organizational resistance, not technical complexity, is the central barrier to embedding BIM into standard practice. Pilots succeed when they have clear, intentional goals and are delivered through contracting methods that give owners control over the implementation environment. Policy should specify information outcomes rather than software tools, so that standards remain durable as technology evolves. The Common Data Environment must be established before modeling begins, and dedicated staffing for standards development, training, and pilot execution is necessary for sustainable program delivery.

Day 2 – Afternoon Track Sessions

Day 2 track sessions continued the thematic progression from plenary discussions, with Track A covering strategies for overcoming barriers and digital construction inspection implementation; Track B examining CDE configuration, software APIs, and change management; and Track C addressing stakeholder messaging and engagement cadence across the project lifecycle.

Track A — Playbooks to Overcome Barriers; Digital Construction Inspection

Track A focused on turning BIM concepts into operational practice, examining how Caltrans brought a field inspection program from idea to statewide scale, and how organizations can build the playbooks needed to overcome adoption barriers. The first session, “Playbooks to Overcome Barriers,” was moderated by John Wilkerson and Paul Pak, and featured Dan Prokop (HDR), Steve Baret (RL Wadsworth), and Michael Warren (AECOM). The second session, “Digital Construction Inspection,” included a presentation by Aaron Chamberlin, a Senior Transportation Engineer from the Caltrans Office of Performance and Innovation, and Mark Counts, Chief of BIM4I Survey Systems, both of whom served as moderators.

Playbooks to Overcome Barriers

During the first session, Prokop framed BIM adoption as a culture change initiative, not a technology deployment, and noted that its success depends on identifying and empowering champions: people who are authentically motivated by improving outcomes and who have leadership backing to act when

resistance arises. He emphasized that technology career paths must extend to leadership levels to attract the caliber of talent that BIM programs require; if BIM specialist roles have no upward trajectory, talented technologists will go work elsewhere. He also recommended that pilot projects be designed to create positive experiences across the entire project lifecycle (from planning through design, advertisement, inspection, and construction) because every person who has a positive first experience with digital delivery becomes an informal advocate.

Baret of RL Wadsworth described the challenge of bridging the gap between technology-fluent staff with no construction experience and construction-experienced staff with no technology background. RL Wadsworth addressed this by pairing Virtual Design through Construction (VDC) staff with field mentors in structured meetings, creating a mutual knowledge transfer that builds both technical and construction competency within the same team. He noted that as Integrated Project Delivery becomes more common, the expectation of BIM participation from all parties becomes embedded in the contract, removing the need to persuade skeptics, because participation is no longer optional.

Warren of AECOM cautioned that BIM has become incorrectly equated with 3D modeling. His central argument: there are no universal solutions: success requires matching the right tool, person, and approach to the specific situation. He attributed the industry's shift from skepticism toward genuine adoption to the 2009 market collapse, when firms began valuing staff who could use the tools they had invested in, and technology partners responded by offering free retraining to those who had been left behind. He also described the challenge of keeping tools from becoming shelf-ware, pointing to the recurring cost of deprecated software, forced interface changes, and common data environments that are themselves built on outdated platforms, business costs that programs must budget continuously rather than treat as one-time implementation expenses.

Key Takeaways
BIM adoption is a culture change, not a technology deployment. Champions need leadership backing and clear career pathways, and pilots should be designed to create positive experiences across the full project lifecycle. Software maintenance and platform updates are recurring program costs, not one-time expenses, and must be budgeted accordingly.

Digital Construction Inspection

During the second session, Chamberlin and Counts presented the six-year development arc of Caltrans' digital construction inspection program, from a stockroom of surplus GNSS equipment to a statewide program that has trained over 500 staff and reported more than $4 million in documented savings under California's Senate Bill (SB) 1 gas tax accountability requirements. Rather than presenting a finished program, they described the innovation process itself as a model for how Caltrans (a large, policy-bound public agency) can bring new tools into operational use at scale.

Counts described a five-stage pattern: forge the idea (refine the initial concept through structured feedback before committing to implementation); lab phase (one person, controlled variables, short feedback loops, approximately twelve months in this case, working alone with surplus Trimble equipment to develop kits, training materials, and preliminary workflows); pilot phase (three districts,

expanded feedback loops, local survey staff as mentors rather than headquarters staff); structured training rollout; and scale with metrics. The critical insight was that skipping the lab phase is the most common failure mode for innovation in large organizations: field staff who receive an idea rather than a tested workflow will leave the equipment in their trucks, and demoralizing early failure makes subsequent adoption attempts harder. Counts estimated that the lab phase alone took twelve months, entirely appropriate given that those months eliminated the risk of failing publicly at the pilot stage.

Chamberlin described the progression from base-and-rover GNSS setups (too cumbersome for typical construction inspection tasks) to real-time network (RTN) connections, which reduced setup time from thirty minutes to two minutes and made the tool usable for quick field verification tasks rather than dedicated survey operations. The transition to RTN was itself discovered during the pilot phase through feedback from district surveyor mentors, an example of the feedback loop working as designed. Field deployment now uses the same hardware generation as Caltrans' survey crews, enabling job file sharing between inspectors and surveyors on the same project. The program has achieved zero quantity claims on earthwork projects using automated machine guidance specifications, a metric Counts described as extraordinary given how common earthwork volume disputes are in traditional contract administration. TxDOT has approached Caltrans to replicate the training program, and the curriculum has been shared through FHWA's Every Day Counts initiative.

The program also illustrated an organizational design principle: the initial subject matter expert should plan for the program to outgrow them. Counts noted that he now has zero day-to-day involvement in training delivery or equipment management; the program operates independently through district technology coordinators and local survey mentors. This is the intended outcome of any successful innovation program, and he framed the goal explicitly: design for the program to be bigger than the person who started it.

Key Takeaways
Innovation in large public agencies requires a disciplined process: refine the idea before committing, spend adequate time in a controlled lab phase before piloting, and build feedback loops that improve the approach before scaling. Skipping the lab phase is the most common failure mode, leaving field staff with untested workflows they will not use. The goal of any successful innovation program is to build something that operates independently of the person who started it; Caltrans' digital construction inspection program, now spanning over 500 trained staff and $4 million in documented savings, is a demonstration of that principle in practice.

Track B — CDE, APIs, and Standards in Practice; Change Management and Adoption

Track B addressed the technical and organizational infrastructure required to sustain BIM programs, examining software interoperability challenges in practice and the change management strategies that move programs from pilots to standard practice. Subu Nujella, Caltrans CADD Manager, and Mark Counts moderated the first session, “CDE, APIs, and Standards in Practice,” which brought together five technology partners, Trimble (Russ Tamblyn), Esri (Randy Garcia), Autodesk (Keith Warren), Bentley Systems (Don Lee), and Mach9 (Alex Baikovitz). Alexa Mitchell and Pooya Haddadi moderated the second session, “Change Management and Adoption,” a panel that featured Amy Fong (Caltrans), Jacob Tambunga (TxDOT) and Paul Pedini (Skanska).

CDE, APIs, and Standards in Practice

Nujella opened with a direct statement of the problem: Caltrans is a multi-platform environment using Civil 3D for design and MicroStation for plan preparation, with Trimble tools in construction, and while property sets and item types can be successfully attached within each platform individually, transferring attributed data across platforms produces consistent failures. Attribute data assigned in MicroStation is not properly read by Autodesk products, and vice versa. Elements do not always appear in the correct geospatial location after format conversion. Caltrans staff have resolved these issues through a combination of custom JSON export scripts, workarounds, and extensive manual intervention, but the labor involved is not scalable. The session's explicit charge to technology partners was to report on implemented solutions, not aspirational roadmaps.

Tamblyn described active integration work between Trimble Connect and both Autodesk and Bentley platforms, including a pipeline being built with MnDOT (funded through an Advance Digital Construction Management System, ADCMS, grant) to transfer data from design to field without losing attribution in the process. He also described Trimble's participation in ISO 15143-4, a working group on machine control interoperability that includes Topcon, Caterpillar, John Deere, Komatsu, and Hitachi, making the point that interoperability at the machine-control level requires coordination not just among technology partners but among equipment manufacturers.

Garcia of Esri described the GIS platform's role as a system of systems: a connected data environment in which BIM data from Autodesk Civil 3D, Revit, Bentley MicroStation, and Trimble can all be integrated alongside geospatial information, providing a unified view accessible to engineers, field teams, and asset managers. He demonstrated that Civil 3D alignment data (including stationing, curves, and profile information) can now be connected live to ArcGIS through a plug-in, so that updates in Civil 3D propagate downstream to field teams using ArcGIS Field Maps with station-offset information. Counts announced that Caltrans is rolling out an ArcGIS Connected Project Infrastructure (ACPI) initiative in 2026 in which all survey data collected by approximately ninety field crews will flow through GIS as the primary data backbone, not just as a final output, but as the active exchange medium between design engineers, surveyors, right-of-way agents, and construction staff.

Key Takeaways
Multi-platform data exchange remains one of the most significant technical barriers to BIM implementation, with attribute transfer failures between design, plan preparation, and construction platforms currently requiring manual workarounds to resolve. Interoperability requires coordination across both software vendors and equipment manufacturers. GIS is emerging as a practical integration backbone, with Caltrans' Connected Project Infrastructure initiative positioning project data as a live exchange medium across disciplines rather than a final output.

Change Management and Adoption

Mitchell framed the session around how BIM programs move from pilot projects to standard practice, and how change management strategies must adapt as program scale increases.

Fong described Caltrans' BIM4I program structure: a central office within the Division of Project Management, led by Devin Porr as BIM4I Program Director, coordinating with six divisions: Design,

Construction, Engineering Services, Project Management, Right of Way and Land Surveys, and Environmental, plus twelve districts. The office was established two years ago specifically to foster collaborative, integrated development and move beyond the siloed approaches that characterized earlier BIM4I efforts. Fong noted that Caltrans is currently running approximately thirteen pilot projects in addition to three CMGC projects, and that pilot selection criteria explicitly include evaluating the project team's openness to innovation and confirming that leadership support is in place before committing to a pilot designation. She acknowledged that Caltrans does not yet have formal, certified BIM training on a learning management system; current training is delivered through headquarters CADD resources, on-demand micro-tutorials, and train-the-trainer models at the district level.

Tambunga described how TxDOT's program structure (a dedicated digital delivery section of thirteen Full-Time Equivalents, FTEs, within the Design Division) with discipline-specific work groups of fifteen to twenty people each, scaled rapidly after the executive director mandate. Each of the agency's twenty-five districts now has an assigned project manager from the central digital delivery team for support and monthly check-ins. Training was described as running behind the pace of program expansion: with a pilot letting scheduled in several months, TxDOT acknowledged that review-phase training materials and micro-videos were not yet complete—a candid admission that rapid scale-up creates training gaps that must be actively managed. Tambunga reiterated the importance of showing local results to local staff: hearing that something works in another state is far less persuasive than seeing it work on a Texas project.

Pedini of Skanska described a twenty-year journey with VDC in which the firm centralized its BIM capability in a single group in Boston, made digital delivery non-negotiable on projects above a certain threshold, and achieved pre-award to post-award quantity accuracy within one percent. He was direct about resistance management: staff who do not adopt the tools do not succeed at the firm, and that standard is enforced. He described a $625 million interchange project with eighteen new bridges and five miles of complex cut-and-fill sequencing as the kind of work where model-based quantity analysis is not just beneficial but essential: doing it by hand is not merely difficult, it is practically impossible within the time and budget constraints of competitive infrastructure delivery.

Key Takeaways
Rapid program scale-up creates training gaps that must be actively managed; TxDOT acknowledged that training materials were not yet complete as pilots were already letting. Centralized BIM capability, as demonstrated by Skanska's twenty-year experience, produces consistent quality and lessons-learned compounding that distributed models cannot match. Local proof points matter: showing results on a local project is far more persuasive than citing successes from another state or organization.

Track C — Messaging When Decisions Are Largely Set; Practical Engagement Cadence

Track C examined how program leaders communicate and engage stakeholders once major decisions have been made, and how organizations can structure their BIM4I rollout cadence across different project phases and divisions. Scot Becker and Hayley Quan moderated both Track C sessions. The first session, “Messaging When Decisions Are Largely Set," featured Devin Porr (Caltrans), Jacob Tambunga (TxDOT), and Alicia Lopez

(FlatironDragados). The second, "Practical Engagement Cadence (Playbook)," featured Mina Pezeshpour (Caltrans Office Chief of Bridge Design South Manager), Jonathan Yeo (Caltrans Construction Manager), and Tigi Thomas (Caltrans State Pavement Engineer).

Messaging When Decisions Are Largely Set

The messaging session examined a specific and under-addressed challenge: how do program leaders communicate transparently with stakeholders when major decisions have already been made and the window for fundamental input has closed, while still maintaining authentic engagement and preserving space for feedback on decisions that remain flexible? Tambunga noted that explaining the "why" is the most important element, not the high-level program rationale, but specifically how the decision affects each stakeholder and what their role is going forward. TxDOT structures this through discipline-specific work groups that receive regular updates and are explicitly told what is being decided versus what is already determined, so that participants do not feel their input is being solicited for decisions that have already been made. Ongoing monthly newsletters and quarterly webinars maintain ambient awareness across the broader stakeholder population.

Porr added that the distinction between informing, deciding, and doing must be made explicit in every working group. Caltrans has learned that setting up groups without clarifying roles leads to unproductive meetings where everyone participates as if they have decision authority, consuming time without producing clarity. He also highlighted transparency about uncertainty as a cultural challenge specific to engineering organizations: the professional norm of not being wrong makes it difficult for technical staff to openly acknowledge gaps in their planning, even when honesty would accelerate problem-solving. Porr framed the Summit itself as part of Caltrans' transparency strategy: presenting an honest account of where the program is, what is working, and what is not, is a deliberate choice to build credibility through candor.

Lopez emphasized the value of continuous communication beyond formal engagement events. FlatironDragados runs bi-monthly intranet reports, spotlights on projects using BIM, and webinars showcasing specific use cases, not as one-time training events but as sustained, company-wide visibility mechanisms that prevent BIM from becoming associated only with a specialist group. She noted that communicating value through specific, quantified project outcomes (hours saved, clashes resolved before construction, schedule days recovered) is the most effective way to maintain engagement among stakeholders who are skeptical of abstract program claims.

Key Takeaways
When major decisions have been made, transparent communication requires being explicit about what is decided versus what remains open, so stakeholders do not feel their input is being solicited in bad faith. Working groups function better when roles are clearly defined as deciding, informing, or doing. Sustained communication through regular newsletters, webinars, and project spotlights is more effective than periodic engagement events, particularly when value is communicated through specific, quantified outcomes rather than abstract program claims.

Practical Engagement Cadence

The engagement cadence session brought a lifecycle perspective to the question of how BIM4I rollout should be sequenced across an organization. Pezeshpour described the DES Bridge Design BIM Committee's 30-60-90 day framework, developed when she and a colleague in Bridge Design Central proposed the committee to their design deputy and received approval. The first 30 days focused on establishing the committee charter, identifying four core team members, assigning each member a specific DES subdivision to represent, and selecting ISO 19650 as the information management framework. The first 60 days covered implementation planning: briefing the design deputy on short- and long-term vision, launching educational series and recorded walkthroughs, standing up a BIM4I webpage, and initiating outreach to external stakeholders including Associated General Contractors (AGC), American Concrete Institute (ACI), Precast Concrete Institute (PCI), and academia. The 90-day period extended to procurement planning, resource development, automation through visual scripting, and the first pilot project scoping. She was candid that the 90-day framework was a planning scaffold, not a complete roadmap; many intended activities took longer than planned, and some required significant iteration before producing usable results. The creation of the BIM branch took two years longer than originally estimated. The framework's value was in establishing the direction and creating enough structure to sustain momentum through the inevitable delays. The framework's primary value, she noted, was not in delivering every planned activity on schedule but in establishing enough direction and structure to sustain momentum through the inevitable delays of a large program.

Yeo described the construction division's parallel rollout challenge: unlike bridge design, which works primarily with geometric models, construction deals predominantly with information (e.g., schedules, payment records, compliance documentation, and RFIs) much of which is mandated to be archived. The transition to data-driven construction workflows therefore requires not just training on new tools but a fundamental rethinking of how construction engineers document and transmit the information they have always produced. Yeo described focusing first on enhancing field data collection (training inspectors on GPS rovers, drones, and total stations, then connecting that collected data to model-based digital as-built records) as the most manageable entry point for construction BIM4I adoption.

Thomas offered the maintenance and operations perspective: the asset management endpoint that the entire BIM4I program is ultimately designed to serve. Pavement management is a data-intensive discipline already: Caltrans collects detailed pavement condition, ride quality, and structural data across thousands of lane-miles annually. The question Thomas raised is how BIM-generated project data (design geometry, material specifications, construction quality records) can be connected to existing pavement management databases to improve predictive maintenance, reduce inspection costs, and extend the interval between major rehabilitation cycles. This integration does not yet exist at Caltrans, but Thomas' presence in the session underscored the program's intent: BIM4I is not complete when the project is constructed; it is complete when the asset data produced during design and construction is actively informing the decisions that sustain the infrastructure over its service life.

Key Takeaways
A structured rollout framework provides direction and momentum even when individual activities take longer than planned. Construction BIM4I adoption requires a fundamentally different approach than design adoption, focused on data-driven field collection workflows rather than geometric modeling. BIM is not complete at project closeout; it is complete when asset data generated during design and construction is actively informing the decisions that sustain infrastructure over its service life.

Participant Survey Findings

Post-event surveys were completed by 137 participants on Day 1 and 91 on Day 2. Across both days, ratings were consistently at or above 90 percent satisfied or very satisfied across nearly all content and facilitation categories. Day 2 scores were generally higher than Day 1, particularly on morning plenary satisfaction and facilitation ratings. Sessions related to software interoperability, field workflows, organizational rollout, and data standards drew high attendance and frequent open-ended comments.

Table 2 below summarizes key participant survey results for Days 1 and 2 of the Summit, including respondent totals, session satisfaction ratings, track attendance concentrations, and selected logistics measures:

Table 2. Summary of 2026 Caltrans & Industry BIM4I Summit participant survey results.

Category	Day 1	Day 2	Notes
Survey respondents	137	91	Post-event survey completions
Morning plenary satisfaction	93%	97%	Satisfied / Very Satisfied
Most-attended Topic 1 track	Digital Delivery Barriers (48%)	CDE, APIs, & Standards in Practice (42%)	Highest attendance share
Topic 1 content satisfaction	96%	94%	Overall track-session results
Topic 1 facilitation satisfaction	91%	98%	Overall track-session results
Most-attended Topic 2 track	Design Firms / Workflow Shifts (49%)	Digital Construction Inspection (51%)	Highest attendance share
Topic 2 content satisfaction	95%	100%	Overall track-session results
Topic 2 facilitation satisfaction	95%	100%	Overall track-session results
Pre-Summit communications	—	91%	Day 2 survey only
Venue satisfaction	—	96%	Day 2 survey only

Key written feedback from open-ended survey responses emphasized the value of practical, implementation-focused content, particularly contractor perspectives, peer DOT case studies, software interoperability discussion, and real-world pilot examples. Recurring improvement themes included audio and AV issues, breakout and overflow room limitations, insufficient collaboration time in some sessions, requests for more contractor- and newcomer-oriented context, and interest in broader access to concurrent track content.

Survey Findings from Day 1

The Day 1 morning plenary earned a 93% satisfied or very satisfied rating across 137 respondents. Open-ended comments highlighted the diversity of perspectives represented (contractor voices, peer DOT experience, and Caltrans program candor) as the session's primary strengths. Afternoon attendance concentrated heavily on Track A for both topic sessions: 48% of respondents attended Digital Delivery Barriers at 1:00 pm and 49% attended Design Firms: Workflow Shifts at 2:45 pm, the highest attendance concentrations among the Day 1 afternoon sessions.

The Day 1 session content at 1:00 pm rated 96% satisfied or very satisfied across all tracks combined, while facilitation rated 91%. Comments cited audio problems that made in-room speakers difficult to hear, rooms that felt too large for breakout discussion, and insufficient time left for actual collaboration after panel presentations consumed most of the session. Track B (Data Sharing and Management) drew the highest overflow rate of any session on either day, with 53% of Track B attendees watching from an overflow room. Topic 2 content and facilitation each rated 95% overall, with Design Firms: Workflow Shifts rated more positively and Inter-Agency Data Exchange receiving more mixed feedback; several attendees wanted a clearer focus, more local-agency integration examples, and more evidence of practical implementation rather than agency context-setting.

Day 1 open-ended criticisms focused on audio quality, including multiple references to speakers being difficult to hear; a breakout format that felt more conference-like and less collaborative than prior years; long lunch pick-up wait times; and the difficulty of choosing between concurrent tracks.

Survey Findings from Day 2

Day 2 survey results were generally higher than Day 1 across multiple categories. Pre-Summit communications rated 91% satisfied or very satisfied and the venue 96%, though venue comments split between praise for the facility's quality and criticism of breakout room size, with at least one room reported as more than 13 attendees standing for a session. The morning plenary earned 97% satisfaction, with comments highlighting the practical value of the peer DOT case studies and the contractor perspective.

Afternoon attendance on Day 2 concentrated in Track B for Topic 1 and Track A for Topic 2. CDE, APIs, and Standards in Practice drew 42% of Topic 1 attendees and generated frequent positive open-ended comments. One respondent described it as the most informative session of the entire Summit, specifically because it addressed software compatibility and data formatting problems encountered in daily work rather than high-level program vision. 48% of Track B attendees watched from an overflow room (the highest Day 2 overflow rate) and a recurring complaint was that the facilitator could not reach overflow room questions because the main room's queue was too long.

Digital Construction Inspection: Idea to Implementation drew 51% of Topic 2 attendees, the highest concentration of any afternoon session across both days. Topic 2 content and facilitation each rated 100% overall, with Change Management and Engagement Cadence tracks receiving especially positive responses from attendees. The Digital Construction Inspection session specifically was praised for demonstrating how a pilot program matures into a repeatable statewide practice. The primary criticism of this session was scope: several respondents expected a broader treatment of digital quality assurance and inspection workflows and found the session's focus on GNSS-based earthwork inspection narrower than the session title suggested.

Cross-Cutting Survey Findings

Open-ended responses from both days asked for glossaries, more background context, clearer framing for newcomers, and more contractor-centered and subcontractor-focused examples.

The most frequently requested topics for the 2027 Summit, drawn from Day 2 open-ended responses, were software interoperability and open standards; maintenance, asset management, and digital twin use cases; contractor adoption and subcontractor readiness; deeper pilot case studies including difficult or failed examples; training and workshops for design and field inspection staff; and local agency coordination for as-builts and 3D planning. Suggested speakers reflected the same priorities, with specific requests for UDOT, AASHTO, Wisconsin DOT, FHWA, and additional time from Kiewit and TxDOT representatives.

Acknowledgements

The 2026 Caltrans & Industry BIM4I Summit was made possible through the dedicated efforts of the Summit Planning Committee, whose work for the 2026 Summit began in early 2025. Support for the planning and execution of the Summit was provided by a team of consultants from Value Management Strategies (VMS), HDR, MBI, and Amheart Solutions. Caltrans extends sincere appreciation to all presenters, moderators, panelists, and participants whose contributions made the summit the most substantive and well-attended in the summit's three-year history.

The Summit Planning Committee was a collaboration of the following organizations and individuals:

Caltrans

- Abbie Wong
- Amy Fong
- Arnica MacCarthy
- Devin Porr
- Fion Wong
- Jonathan Yeo
- Juanah Koker
- Kevin Huang
- Mark Counts
- Mina Pezeshpour
- Oscar Hernandez
- Stefan Sutton
- Suresh Dhakal
- Tony English

VMS

- Alexis Rivkin, Associate Organization Development Consultant
- Ashley Hauser, Director of Organization Development
- Linda Chia, Senior Organization Development Consultant

HDR

- Alexa Mitchell, Enterprise Digital Delivery Services Director
- Francesca Maier, Digital Delivery Principal Advisor
- Hayley Quan, Transportation Engineer
- Matt Blake, Digital Delivery Principal Advisor

MBI

- John Wilkerson, Director of Digital Delivery
- Pooya Haddadi, Department Manager - Structures
- Scot Becker, Director of Asset Management and Bridge Technologies

Amheart Solutions

- Paul Pak, Partner

Construction Industry Partners

- Alicia Lopez, Chief Innovation Officer, FlatironDragados
- Brian Algren, Senior Vice President, Security Paving
- Chris Smith, Associate Vice President, State Government Affairs, Associated General Contractors (AGC) of California
- Paul Pedini, Senior Vice President, Skanska-Flatiron
- Paul Von Berg, SCCA Consultant (Heavy Engineering Construction), Southern California Contractors Association (SCCA)
- Ray Baca, Director of Agency Relations, United Contractors

Caltrans also extends gratitude to the Department of General Services for providing the venue and facility support. Caltrans values the time, energy, and expertise that all attendees brought to the Summit. Together, Caltrans looks forward to "Building the Future Together" and "Partnering to Turn Ideas into Actions." Thank you.

Available Reference Information

The following materials informed the preparation of this report and are available upon request:

- Presentation Materials
- BIM4I Summit Participant Survey Results — Day 1
- BIM4I Summit Participant Survey Results — Day 2

For inquiries, please contact bim4i@dot.ca.gov.

Appendix A. 2026 Caltrans & Industry BIM4I Summit - Participant Agenda

2026 Caltrans & Industry BIM4I Summit

Building the Future Together: Partnering to Turn Ideas into Actions

Date: March 10 – 11, 2026

Summit Agenda: Day 1

Time	Session Title and Description	Speaker(s)
7:00 AM	Registration Opens | Convene in the Auditorium	n/a
8:00 AM	Day 1 Welcome and Introductions	Devin Porr, Caltrans BIM4I Program Director
8:10 AM	Keynote: Embracing Change - Building Confidence for the Road Ahead	Donna Berry, Caltrans Chief Engineer
8:25 AM	Presentation: From Then to Now – Building on the BIM4I Summit Legacy *Speaker will communicate progress made, how past input shaped today's priorities, and how everyone contributes to advancing BIM4I.*	Devin Porr, Caltrans BIM4I Program Director
8:40 AM	Industry Perspective: A Vision for BIM4I Adoption *Industry representative will share why there is an interest for implementing BIM4I and the overall vision from a CA industry perspective.*	Connor Christian, Kiewit
8:50 AM	Panel Discussion: Voices from the Caltrans BIM4I Adoption Journey *Panelists will share their BIM4I adoption experiences including challenges, breakthroughs, lessons learned, and roles in advancing BIM4I together.*	Moderator: Amy Fong, Caltrans BIM4I Manager • Bin Shen, Caltrans Bridge Design • Chelsie Hopkins, Caltrans District 11 • Jeremy Pangilinan, Caltrans District 11 • Lynn Hiel, Caltrans Bridge Design
9:50 AM	Group Photo / Networking Break	n/a
10:20 AM	Presentations, Panel Discussion & Q&A: Proof in Practice – BIM4I Success Stories and Pilot Highlights *Speakers / Panelists will share their experiences on how BIM4I created value, what worked and what did not, and what lessons should shape future Caltrans standards, expectations, and support for partners.*	Moderator: Tony English, Caltrans Structure Construction Manager • Anthony Abitz, Granite Construction • Casey Poff, GR Sundberg Inc.
11:20 AM	General Session Closing - Information for Lunch Break and Afternoon Track Sessions	Devin Porr, Caltrans BIM4I Program Director
11:30 AM	Lunch (Not Provided)	n/a
1:00 PM	Afternoon Track Sessions (Track A, B, or C)[1]	See next sections below
4:10 PM	Day 1 Concluding Remarks	Devin Porr, Caltrans BIM4I Program Director
4:20 PM	Day 1 Adjourned	n/a
5:30 PM	Optional: Group Networking Gatherings	n/a

[1] There were three afternoon track sessions. Each track session focused on a specific topic through presentation(s) and group discussion. Attendees were able to choose the track session based on their interests.

Day 1, Track A - Auditorium

Time	Session Title and Description	Speaker(s)
1:00 PM	**Topic 1: Digital Delivery Barriers** **Format: Presentations + Panel Discussion** *Speakers / Panelists will explore challenges to BIM4I adoption and key success factors for roles, communication, standards, and training.*	• Alicia Lopez, FlatironDragados • Andre Cattelier, DNB Construction • George Moore, Caltrans Construction Senior • Tony English, Caltrans Structure Construction Manager
1:50 PM	**Facilitated Group Discussion**	Moderator(s): • Alexa Mitchell, HDR • Pooya Haddadi, MBI
2:15 PM	**Networking Break**	n/a
2:45 PM	**Topic 2: Design Firms – Workflow Shifts (ACEC Perspective)** **Format: Brief Presentation + Panel Discussion** *Speakers / Panelists will examine how design firms adapt to BIM4I through model-based coordination, Common Data Environment use, updated quality procedures, and team capability building.*	• Ignacio de la Hera Sola, TYPSA • Jon Berkoe, Arup • Joseph Brenner, MBI • Mike W. Smith, HNTB
3:35 PM	**Facilitated Group Discussion**	Moderator(s): • Alexa Mitchell, HDR • Pooya Haddadi, MBI
4:00 PM	**End Session**	n/a

Day 1, Track B - Room SE.152 (Main) & SE.151 (Overflow)

Time	Session Title and Description	Speaker(s)
1:00 PM	**Topic 1: Data Sharing and Management** **Format: Presentations** *Speakers will discuss how these data management practices can be applied across different delivery methods (e.g., design-bid-build, design-build, CMGC, progressive design-build).*	• Mike W. Smith, HNTB • Paul Pedini, Skanska-Flatiron • Pat Lane, Montana DOT
1:50 PM	**Facilitated Group Discussion**	Moderator(s): • John Wilkerson, MBI • Paul Pak, Amheart Solutions
2:15 PM	**Networking Break**	n/a
2:45 PM	**Topic 2: Inter-Agency Data Exchange** **Format: Panel Discussion** *Speakers / Panelists will explore how to address standards and workflows for exchanging data with partner agencies, including file formats, metadata, and approval processes.*	• Aimee Crawford, PG&E • Allie DeVaux, SANDAG • Moshik Mah, LA Metro (Virtual)
3:35 PM	**Facilitated Group Discussion**	Moderator(s): • John Wilkerson, MBI • Paul Pak, Amheart Solutions
4:00 PM	**End Session**	n/a

Day 1, Track C - Room SE.245 (Main) & SE.270 (Overflow)

Time	Session Title and Description	Speaker(s)
1:00 PM	**Topic 1: Stakeholder & Industry Engagement to Support Digital Delivery** **Format: Panel** *Panelists will share strategies for early collaboration with industry partners to build trust, define data requirements, and communicate the value of BIM4I adoption.*	• Armando Garcia, Coffman Specialties • Jonathan Yeo, Caltrans Construction Manager • Kevin Huang, Caltrans BIM4I Design Manager
1:50 PM	**Facilitated Group Discussion**	Moderator(s): • Hayley Quan, HDR • Scot Becker, MBI
2:15 PM	**Networking Break**	n/a
2:45 PM	**Topic 2: Leadership Alignment** **Format: Panel** *Panelists will discuss strategies for communicating BIM4I's value to decision-makers, including messaging, media channels, and engagement frequency.*	• Allen Melley, Pennsylvania DOT (Virtual) • Devin Porr, Caltrans BIM4I Program Director • Trisha Stefanski, Minnesota DOT (Virtual)
3:35 PM	**Facilitated Group Discussion**	Moderator(s): • Hayley Quan, HDR • Scot Becker, MBI
4:00 PM	**End Session**	n/a

Summit Agenda: Day 2

Time	Session Title and Description	Speaker(s)
7:00 AM	Registration Opens | Convene in the Auditorium	n/a
8:00 AM	Day 2 Welcome and Introductions	Amy Fong, Caltrans BIM4I Manager
8:05 AM	Keynote: Embracing Change - A Call to Action	Ray Hopkins, Caltrans Construction Division Chief
8:20 AM	Case Studies: Studies in Action for Contractors and Peer State DOTs *Speakers will share practical examples, noting lessons learned to overcome challenges. Speakers will also highlight data needs and smoother handover of information between parties.*	Moderator: Alexa Mitchell, HDR • Cedric Wilkinson, Iowa DOT (Virtual) • Jacob Tambunga, Texas DOT • Steve Baret, RL Wadsworth
9:40 AM	Presentation: BIM for Contractors *Contractor's perspective on modeling, operations planning, construction quantities, quality control, and using the model in the field; the power of model data and improved efficiency; and smarter lifecycle planning that delivers lasting value for projects.*	Moderator: Alexa Mitchell, HDR • Andy Kayhanfar, Kiewit • Kiewit Team Members (Virtual)
10:00 AM	Networking Break	n/a
10:30 AM	Panel Discussion: From Lessons to Action – Scaling Pilots into Policy *Panelists will discuss lessons learned from using BIM on pilot projects and will explore strategies for transitioning from the pilot project evaluation stage to formalizing BIM use as a standard practice.*	Moderator: Jonathan Yeo, Caltrans Construction Manager • Alicia Lopez, FlatironDragados • Allen Melley, Pennsylvania DOT (Virtual) • Connor Christian, Kiewit • Mina Pezeshpour, Caltrans Office Chief of Bridge Design South Manager
11:20 AM	General Session Closing - Instructions for Lunch Break and Afternoon Track Sessions	Devin Porr, Caltrans BIM4I Program Director
11:30 AM	Lunch (Not Provided)	n/a
1:00 PM	Afternoon Track Sessions (Track A, B, & C)[1]	See next sections below
4:10 PM	Concluding Remarks	Devin Porr, Caltrans BIM4I Program Director
4:30 PM	Summit Adjourned	n/a

[1] There were three afternoon track sessions. Each track session focused on a specific topic through presentation(s) and group discussion. Attendees were able to choose the track session based on their interests.

Day 2, Track A - Auditorium

Time	Session Title and Description	Speaker(s)
1:00 PM	**Topic 1: Playbooks to Overcome Barriers** **Format: Panel** *Speakers will share practical strategies for selecting tools, redefining roles, and providing training to overcome BIM4I adoption challenges.*	• Dan Prokop, HDR • Michael Warren, AECOM • Steve Baret, RL Wadsworth
1:50 PM	**Facilitated Group Discussion**	Moderator(s) • John Wilkerson, MBI • Paul Pak, Amheart Solutions
2:15 PM	**Networking Break**	n/a
2:45 PM	**Topic 2: Caltrans Digital Construction Inspection: From Idea to Implementation** **Format: Presentation** *Speakers will demonstrate how Caltrans is moving digital construction inspection from concept to practice through structured testing, piloting, training, and implementation of GNSS receivers, data collectors, and modeled information, while addressing common concerns about BIM4I adoption.*	• Aaron Chamberlin, Caltrans Construction Senior • Mark Counts, Caltrans Survey Chief
3:35 PM	**Facilitated Group Discussion**	Moderator(s): • Aaron Chamberlin, Caltrans Construction Senior • Mark Counts, Caltrans Survey Chief
4:00 PM	**End Track**	n/a

Day 2, Track B - Room SE.152 (Main) & SE.151 (Overflow)

Time	Session Title and Description	Speaker(s)
1:00 PM	**Topic 1: CDE, APIs and Standards in Practice** **Format: Presentations + Panel Discussion** *Speakers will demonstrate how to configure CDEs and use APIs for seamless data exchange, focusing on minimal viable setups and metadata standards.*	• Alex Baikovitz, Mach9 • Don Lee, Bentley • Keith Warren, Autodesk • Randy Garcia, ESRI • Russ Tamblyn, Trimble
1:50 PM	**Facilitated Group Discussion**	Moderator(s): • Mark Counts, Caltrans Survey Chief • Subu Nujella, Caltrans CADD Manager
2:15 PM	**Networking Break**	n/a
2:45 PM	**Topic 2: Change Management and Adoption** **Format: Panel** *Panelists will cover how to scale from pilot to standard practice (training, support, procurement, and data ownership) and how strategies vary by delivery method and organization size.*	• Amy Fong, Caltrans BIM4I Manager • Jacob Tambunga, Texas DOT • Paul Pedini, Skanska
3:35 PM	**Facilitated Group Discussion**	Moderator(s): • Alexa Mitchell, HDR • Pooya Haddadi, MBI
4:00 PM	**End Track**	n/a

Day 2, Track C - Room SE.245 (Main) & SE.270 (Overflow)

Time	Session Title and Description	Speaker(s)
1:00 PM	**Topic 1: Messaging When Decisions are Largely Set** **Format: Panel** *Panelists will explain why key decisions are made and how partners can stay engaged to help shape remaining flexible, not-yet-final decisions.*	• Alicia Lopez, FlatironDragados • Devin Porr, Caltrans BIM4I Program Director • Jacob Tambunga, Texas DOT
1:50 PM	**Facilitated Group Discussion**	Moderators: • Hayley Quan, HDR • Scot Becker, MBI
2:15 PM	**Networking Break**	n/a
2:45 PM	**Topic 2: Practical Engagement Cadence (Playbook)** **Format: Panel** *Panelists will discuss ideas on how to establish a 90-day plan for engagement cadence with various target audiences (design-to-construction-to O&M), including considerations for risk management/mitigation.*	• Jonathan Yeo, Caltrans Construction Manager • Mina Pezeshpour, Caltrans Office Chief of Bridge Design South Manager • Tigi Thomas, Caltrans State Pavement Engineer
3:35 PM	**Facilitated Group Discussion**	Moderators: • Hayley Quan, HDR • Scot Becker, MBI
4:00 PM	**End Track**	n/a