Date of Hearing: April 27, 2021

ASSEMBLY COMMITTEE ON JOBS, ECONOMIC DEVELOPMENT, AND THE ECONOMY
Sabrina Cervantes, Chair
AB 1037 (Grayson) – As Amended April 20, 2021

SUBJECT: Infrastructure construction: digital construction management technologies

POLICY FRAME: Digital construction technologies are changing the pace and improve the process of delivering and operating the built environment. In general, digital construction technologies have the capability of making the delivery, operation, and renewal of the built environment safer, more efficient, and more collaborative.

Among other advantages, digital construction technologies are already streamlining workflows across entire private construction projects. With the COVID-19 pandemic, the drive for fast, integrated platforms that connect remote workers, subcontractors, suppliers, and primes has grown. Many states are beginning to adopt these private sector digital platform models, including Tennessee, Michigan, and Utah. The California Department of Transportation has undertaken at least one pilot project using some digital management technologies on a Highway 99 Realignment project.

AB 1037 proposes California implement the mandatory use of digital management technologies for projects over $50 million. The analysis includes information on related federal legislation and a list of nearly one dozen different companies that produce and/or offer technologies mandated by this bill. There is not known opposition to this bill. Suggested amendments are included in Comment 6.

SUMMARY: AB 1037 requires any infrastructure project that receives state funding to deploy digital construction technologies. Specifically, **this bill**:

1) Makes legislative findings and declarations:
    a) According to the Legislative Analyst's Office budget outlook, the budget for the 2021–22 fiscal year is expected to have a windfall, but it is also expected to see an operating deficit growing to around seventeen billion dollars ($17,000,000,000) by the 2024–25 fiscal year.
    b) According to the 2021 Five-Year Infrastructure Plan, the state's investments in infrastructure can be leveraged to create jobs that contribute to expediting California's economic recovery.
    c) According to the 2021 Five-Year Infrastructure Plan, building resilience into decisions in relation to both built and natural infrastructure is critical to California's future and will require strategic investments in the state's capital assets and natural systems.
    d) As the state distributes federal infrastructure funding or leverages state funds for new civil infrastructure projects in an effort to climb out of the COVID-19-induced recession, it should seek to maximize taxpayer dollars and drive the best possible value for its investments.
    e) Digital construction management technologies empower governments and asset owners to accelerate civil infrastructure project delivery time, reduce cost and waste, develop more sustainable infrastructure, improve worker safety, enable remote work, and enhance resiliency.
    f) According to the United States Department of Transportation Federal Highway Administration, digital construction management technologies have been successfully utilized by various state departments of transportation, including those in Michigan, Minnesota, Florida, Texas,

Pennsylvania, North Carolina, Wisconsin, and Iowa. The Michigan Department of Transportation has saved approximately twelve million dollars ($12,000,000) in added efficiencies, and 6,000,000 pieces of paper annually by using electronic document storage for its one-billion-dollar ($1,000,000,000) construction programs, while reducing its average contract modification processing time from 30 days to 3 days.

g) California government departments responsible for the developing infrastructure projects have implemented these tools but have done so inconsistently across projects and agencies, without standards or uniform policies.

h) The lack of uniformity can lead to incomplete and inaccurate contract records and missing information from completed projects, including from contractors, that could assist in the development of future projects, as well as maintenance and operations.

i) It is the intent of the Legislature to promote the use of digital construction management technologies on civil infrastructure projects within California to reduce delivery time, reduce cost and waste, develop more sustainable infrastructure, improve worker safety, enable remote work, and enhance resiliency.

2) Requires a civil infrastructure project with a project cost of fifty million dollars ($50,000,000) or more, which receives any state funding and begins preconstruction activities after January 1, 2022, to deploy digital construction management technologies from preconstruction to asset life cycle.

3) Requires, to the extent practicable, an agency that awards funding for a civil infrastructure project to require that any bid or proposal for the civil infrastructure project contract include a digital construction management plan that describes how the bidder, if successful, would utilize digital construction management technology to significantly reduce project cost, improve project delivery times, or increase project quality.

4) Requires each state agency that constructs or manages a civil infrastructure project to develop a comprehensive multiyear and multidiscipline plan to fully integrate and deploy digital construction management technologies across the agency by January 1, 2025. The digital construction management technology agency plan shall include, but not be limited to, all of the following:

a) An identification of gaps that exist in current deployment and integration of digital construction management technologies.

b) Plans to increase collaboration and data sharing and accessibility among contractors, subcontractors, departments within the agency, and other state or local governmental agencies when appropriate.

c) Plans to leverage data collected during the deployment of digital construction management technologies across the asset lifecycle, including in operations and maintenance.

d) A proposal to incorporate the use of these tools through procurement or contracting, including strategies to ensure small businesses are not adversely impacted.

5) Defines key terms:

a) "Digital construction management technologies" means cloud-based mobile platforms on construction sites by owners and contractors for the collection, organization, and managed accessibility to accurate data and information related to a construction project, including for project site preparation, field execution, construction project management, document management,

coordination and collaboration among stakeholders, reducing the embodied carbon of construction materials, inspection, and commissioning and handover to owner.

b) "Civil infrastructure" means structures and equipment constructed and managed by a governmental agency, and that are integral to the operation of transportation structures, easements, rights-of-way, and other forms of interest in roadways and water conveyances. "Civil infrastructure" includes airports, ports, roads, highways, bridges, water, stormwater systems, and rail and transit.

EXISTING LAW:

1) Expresses legislative intent, including the following:
   a) A five-year plan for funding infrastructure is required to be developed an annually updated.
   b) The proposed infrastructure plan is be considered by the Legislature in conjunction with its consideration of the State budget.
   c) The proposed infrastructure plan is intended to identify state infrastructure needs and set out priorities for funding.
   d) The proposed infrastructure plan need not identify specific infrastructure projects to be funded, but it shall be sufficiently detailed to provide a clear understanding of the type, amount of infrastructure to be funded, and the programmatic objectives to be achieved by this funding.
   e) The proposed infrastructure plan is intended to complement the existing state budget process for appropriating funds for infrastructure by providing a comprehensive guideline for the types of projects to be funded through that process.

2) Defines "infrastructure" for the purpose of the proposed infrastructure plan to mean real property, including land and improvements to the land, structures and equipment integral to the operation of structures, easements, rights-of-way and other forms of interest in property, roadways, and water conveyances.

3) Requires the Governor, in conjunction with the release of the Administration's proposed budget for the following fiscal year, to submit a proposed five-year infrastructure plan to the Legislature. http://www.ebudget.ca.gov/2021-Infrastructure-Plan.pdf The infrastructure plan is required to contain the following information:
   a) (a) Identification of new, rehabilitated, modernized, improved, or renovated infrastructure requested by state agencies.
      i) Aggregate funding for transportation as identified in the four-year State Transportation Improvement Program Fund Estimate prepared pursuant to Sections 14524 and 14525.
      ii) Infrastructure needs for kindergarten through grade 12 public schools necessary to accommodate increased enrollment, class size reduction, and school modernization.
      iii) The instructional and instructional support facilities needs for the University of California, the California State University, and the California Community Colleges.
   b) The estimated cost of providing the infrastructure identified in subdivision (a).
   c) A proposal for funding the infrastructure identified in subdivision (a), that includes all of the following:

i) Criteria and priorities used to identify and select the infrastructure it proposes to fund. This criteria is required to be consistent with the state planning priorities, as specified.

ii) Sources of funding, including, but not limited to, General Fund, state special funds, federal funds, general obligation bonds, lease revenue bonds, and installment purchases.

iii) An evaluation of the impact of the new state debt on the state's existing overall debt position if the plan proposes the issuance of new state debt.

iv) Recommended specific projects for funding or the recommended type and amount of infrastructure to be funded in order to meet programmatic objectives that shall be identified in the proposal.

4) Requires any capital outlay or local assistance appropriations intended to fund infrastructure included in the Administration's proposed budget to be derived from, and be encompassed by, the funding proposal contained in the proposed infrastructure plan.

5) Requires a state agency that requests infrastructure to be included in the proposed state infrastructure plan, to also specify how that infrastructure is consistent with the state planning priorities, as specified.

6) Sets the state's planning priorities, which are intended to promote equity, strengthen the economy, protect the environment, and promote public health and safety in the state, including in urban, suburban, and rural communities, as specified.

7) Authorizes the Governor to order any entity of state government to assist in preparation of the proposed infrastructure plan.

FISCAL EFFECT: Unknown

COMMENTS & CONTEXT:

1) **Author's Purpose**: "The purpose of AB 1037 is to improve the delivery of California's infrastructure projects by requiring that projects receiving state funding deploy digital construction management technologies. There is evidence of greater cost savings, time, and sustainability benefits associated with the implementation of construction management tools uniformly across organizations and project delivery stakeholders. For example, by using these technologies, Michigan DOT estimates $12 million in savings through added efficiencies and eliminating six million pieces of paper annually from just using electronic document storage for its $1 billion construction program, and also reduced their average contract processing time from 30 days to three days."

2) **Who Provides the Mandated Products**? A central question is analyses that are sponsored by a private vendor of whether the passage of the bill may create a unique benefit for the company as compared to other similar firms. According to the sponsor, Autodesk, there are a number of other businesses in this field including: Bentley, Oracle, Procore, Trimble, Kahua, Hexagon, CMiC, Newforma, and Kahuna.

3) **Being Used in Other States**: As noted in the author's statement, several states have already implemented similar legislation. In Tennessee, their PlanGrid went online March 2019. The state took a very comprehensive approach which contains the capability of syncing across various locations

and workers, assigning and tracking requests for information (RFIs), providing an overlay and comparison of different sheets or versions, and creating personal mark-ups of plans, among other things.

Under the Tennessee system, every contractor who has been awarded a contract is required to register with the plans collaboration software designated by the state prior to the preconstruction meeting, with limited exclusions. All correspondence related to the project, plans revisions, and any RFI is communicated through PlanGrid.

Other states moving to the comprehensive cloud-based digital construction management technologies include Michigan and Utah.

4) **America's Transportation Infrastructure Act of 2019**: During the 2019-20 federal legislative session, US Senator Barrasso introduced Senate Bill 2302. According to the Congressional Research Service, the bill proposed a number of key infrastructure related actions, including:

- Reauthorizing several transportation programs from FY2021-FY2025, including the federal-aid highway program and the transportation infrastructure finance and innovation program;
- Increasing funding for tribal and federal lands transportation programs;
- Providing for a bridge investment program to award competitive grants to certain governmental entities for projects that improve the condition of bridges, and the safety, efficiency, and reliability of the movement of people and freight over bridges;
- Requiring the Department of Transportation to encourage each state to develop a voluntary plan that provides for the immediate and long-term personnel and workforce needs of the state to deliver transportation and public infrastructure projects;
- Establishing a two-year goal for the completion of environmental review with respect to highway projects and a 90-day timeline for related project authorizations;
- Setting forth several new climate-related grant programs, including for resiliency, carbon reduction, charging and refueling, alternative road user fees, carbon capture, and diesel emissions;
- Expanding the flexibility and eligible uses of formula funds provided out of the Highway Trust Fund;
- Prioritizing the research and development of animal detection systems that reduce the number of wildlife-vehicle collisions; and
- Expediting environmental reviews for tribal transportation safety projects.

The bill also included a $20 million special project to help accelerate implementation and deployment of an advanced digital construction management systems by states and local governments. Under S.2302, the DOT was directed to use this special project to "promote, implement, deploy, demonstrate, showcase, support and document the application of advanced digital construction management systems, practices, performance, and benefits."

More specifically, the programs goal was to accelerate state adoption of advanced digital construction management systems, which would be applied throughout the construction lifecycle (including through the design and engineering, construction, and operations phases). The bill stated that this would maximize interoperability with other systems, products, tools, or applications; it would boost

productivity, manage complexity, reduce project delays and cost overruns; and enhance safety and quality.

The bill further stated that the utilization of an advanced digital construction management systems would also provide more timely and productive information-sharing among stakeholders through reduced reliance on paper to manage construction processes and deliverables, such as blueprints, design drawings, procurement and supply-chain orders, equipment logs, daily progress reports, and punch lists.

Deployment of digital management systems would allow construction workers to perform tasks faster, safer, more accurately, and with minimal supervision. Further, the increased technology adoption and deployment by states and local governments would allow project sponsors to integrate the adoption of digital management systems and technologies in contracts, to consider the cost of digitization and technology in setting project budgets, and to better manage projects using advanced construction management technologies.

If implemented, the bill would have shared best practices and provided guidance to the state in updating regulations in order to allow project sponsors and contractors report data relating to the project in digital formats.

AB 1037 proposes to mandate the use of digital construction management technologies in line with the purposes of S 2302.

5) **Broad Application**: AB 1037 requires civil infrastructure projects with a project cost of $50 million or more, that receives even one penny of state funding, to deploy digital construction management technologies from preconstruction to asset life cycle.

   While clearly the use of cloud based management systems is becoming standard in the industry, not every state agency is ready to make this shift without clear guidance, training, enhanced IT capabilities, and additional staff. According to the Department of General Services, the FI$CAL IT system could be capable of supporting a cloud-based construction management system, and at least the pilot is under way.

6) **Proposed Amendments**: Below is a list of amendments the committee members may wish to review when considering the bill.

   a) Set a minimum state financial contribution to ensure these requirements are not inadvertently triggered.

   b) Narrow the scope to projects in which the state is the developer.

   c) Require DGS to prepare guidance for the State Administrative Manual and the State Contracting Manual, as appropriate.

   d) Require the guidance to apply to DGS, CalFire, Caltrans, Parks and Recreation, High Speed Rail, Corrections, Department of Military Affairs, and Department of Water Resources.

REGISTERED SUPPORT / OPPOSITION:

Support

Business Software Association
California Manufacturers and Technology Association
Trimble

Opposition
None on File

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