

Department of Transportation (DOT)

Federal Highway Administration

The Supporting Statement A

Bridging the Data Gap in Pavement Management and Quality Assurance

OMB Control No. 2125-XXXX

Introduction: The Federal Highway Administration (FHWA) is submitted this request to support a new information collection titled “Bridging the Data Gap in Pavement Management and Quality Assurance” in support of research to advance the development and use of quality assurance data within digital as-builts and advanced digital construction management systems (ADCMS).

Part A. Justification.

1. Circumstances that make collection of information necessary:

FHWA is conducting research on the current state of practice for digital project delivery, with a specific focus on pavement and materials testing and electronic quality assurance (QA) data within State transportation agencies. While many industries leverage artificial intelligence, machine learning, and robust data analytics to improve decision-making, the highway construction field is seeing an increased need to link disparate data sources to support design models, intelligent construction, e-ticketing, materials testing, digital as-builts, pavement management systems (PMS), building information modeling (BIM) for Infrastructure, and advanced digital construction management systems (ADCMS). As agencies transition toward digital models as the successor to paper plan sets, interoperability across vendor tools is critical, and a standardized data schema is needed to prevent data loss between applications. This information collection is necessary to obtain the empirical data required to assess current practices, identify gaps, and inform the development of standardized approaches to electronic QA data.

The project supports goals outlined in the U.S. DOT Strategic Plan FY 2026-2030:

(<https://www.transportation.gov/sites/dot.gov/files/2026-03/DOT-Strategic-Plan-FY2026-2030.pdf>)

- **Infrastructure:** The project contributes to the goal of improving system condition and reliability due to the important role that material quality plays in highway asset performance. By incorporating materials data into decision-making related to budgets, scheduling, and maintenance, the project will help state agencies better manage infrastructure assets and maintain them in a state of good repair.
- **Innovation:** The effort embodies the goal to enable transportation technology development and adoption; and invest in transformative technologies by leveraging new data sources and moving away from paper-based or siloed systems toward interoperable BIM, digital as-built, and ADCMS frameworks.

The project also directly supports existing FHWA programs, including:

- Every Day Counts Round 8 (EDC-8) Integrated Digital Project Delivery deployment, which connects people, data, and tools to transition from disconnected paper workflows to shared digital models and open data formats.

https://www.fhwa.dot.gov/innovation/everydaycounts/edc_8/

- Advanced digital construction management systems (ADCMS) to carry out the purposes of Section 13006 of the Bipartisan Infrastructure Law (BIL), enacted as the Infrastructure Investment and Jobs Act, Pub. L. 117-58 (Nov. 15, 2021), and codified at 23 U.S.C. § 503(c)(5). ADCMS includes the development and support of systems to enhance and share data across an asset's lifecycle and across organizational units (design, engineering, construction and operations), also referred to as lifecycle integration and system interoperability.

2. How, by whom, and for what purpose is the information used:

FHWA will use the information collected from this voluntary, one-time survey to support agency research on the use of electronic quality assurance (QA) data in pavement management and digital project delivery. The survey will be administered electronically to State transportation agencies (the 50 U.S. States, the District of Columbia, and Puerto Rico, totaling 52 agencies), three (3) FHWA Federal Lands Highway Divisions, and the American Association of State Highway and Transportation Officials (AASHTO) Committee on Materials and Pavements.

The survey instrument will gather information regarding: the extent of collection, processing, storage, and analysis of pavement and materials QA data across design, construction, and asset management; the availability and integration of geospatial information; currently implemented commercial-off-the-shelf (COTS) and in-house technologies and databases; existing data exchange standards or processes supporting digital QA data; challenges associated with data-related practices; and specific data use cases or desired practices not yet implemented.

FHWA staff and supporting contract research personnel will analyze the responses to: (a) assess the beneficial uses and limitations of electronic QA data; (b) evaluate its implications for digital as-builts, advanced digital construction management systems (ADCMS), and lifecycle asset management; and (c) identify gaps and the requirements for a standardized data schema. Aggregated findings will inform FHWA technical guidance, research products, and outreach to State transportation agencies, AASHTO, and the broader highway construction community. Because this is a new collection, no prior use history exists.

3. Extent of automated information collection:

This information collection will be primarily conducted through electronic means. The survey instrument will be deployed as a web-based questionnaire accessible to respondents via a secure online platform, and respondents will submit their responses electronically. A paper submission is not required from any respondent. The use of a web-based instrument minimizes respondent burden by allowing partial completion and return to the survey, automated skip logic to bypass non-applicable questions, and elimination of mailing, printing, and manual data-entry steps.

4. Efforts to identify duplication:

The research team conducted a review of existing information sources to identify any prior or ongoing data collections that would duplicate the proposed survey. While prior FHWA and AASHTO efforts have addressed adjacent general topics such as e-Construction, digital as-builts, and Building Information Modeling (BIM) for Infrastructure, no current information source provides a comprehensive, agency level view of electronic pavement and materials quality assurance data practices, including the specific dimensions of data exchange standards, COTS and in house technologies, geospatial integration, and identified data handling. Because no existing source captures these specific data elements at the level of detail required to support the stated research objectives, the proposed collection is not duplicative.

5. Efforts to minimize the burden on small businesses:

Targeted at State transportation agencies, this information collection does not impact small businesses or other small entities.

6. Impact of less frequent collection of information:

The information will not be collected at regular frequency or intervals. Less frequent collection is not applicable because this is a one-time survey.

Without this collection, the study would lack the empirical, agency-level information needed to characterize current practices and limitations associated with electronic pavement and materials quality assurance (QA) data. The absence of this information would impede FHWA's and the research team's ability to assess the beneficial uses of electronic QA data and identify gaps and requirements for developing a data schema.

7. Special circumstances:

No special circumstances apply to this data collection.

8. Compliance with 5 CFR 1320.8:

The 60-day Federal Register notice soliciting public comments on this information collection has been prepared.

"The 60-day Federal Register notice intended to solicit comments from the public on this information collection was published on April 14, 2026, at 2026-07407 (91 FR 20561). There were two (2) comments received.

Summary:

Comments from Texas Dept. of Transportation (TxDOT)

TxDOT supports FHWA's goals in advancing digital project delivery and data integration across the transportation sector and finds that the proposed collection aligns with national and state efforts to modernize infrastructure delivery and transition to digital environments. In response, TxDOT offered the following comments:

1. **Necessity of the Information Collection:** TxDOT supports the proposed information collection and believes it is necessary as FHWA advances digital project delivery, intelligent construction, and Building Information Modeling (BIM) for infrastructure. Understanding the current state of practices across state Departments of Transportation is essential to inform federal guidance, identify scalable best practices, and prioritize future research. Without structured, nationwide data collection, FHWA would lack the foundation needed to support consistent implementation and advancement of these emerging technologies across agencies.

FHWA response: We thank TxDOT for its support and for affirming the importance of this data collection. While the survey serves a targeted research purpose, the data collected will provide a foundational understanding of current practices across State DOTs and aligns with broader national efforts to advance digital project delivery, intelligent construction, BIM for infrastructure, and other national U.S.DOT priorities.

2. **Accuracy of Estimated Burdens:** TxDOT finds the estimated burden of approximately 30 minutes per response to be generally reasonable for a single respondent. However, for a comprehensive and coordinated agency response, input may be required from multiple internal divisions. As a result, the total effort required for TxDOT to prepare a consolidated response could take significantly more time.

FHWA response: We thank TxDOT for this feedback. The survey cover page has been modified to include the following statement:

Estimated time to complete: Approximately 30 minutes. The survey is designed to be completed collaboratively and submitted by a designated agency coordinator. While an individual subject matter expert may be able to complete portions of the survey in approximately 30 minutes, agencies are encouraged to engage personnel from Materials, Construction, Pavement Management, Asset Management, Information Technology, and other relevant offices to develop a coordinated response. The total effort required to prepare a consolidated agency response may therefore vary by agency.

3. **Enhancing the Quality, Usefulness, and Clarity of Information Collected:** TxDOT recommends that FHWA: 1) Clearly define key terms such as *digital project delivery*, *intelligent construction*, and *BIM* to ensure consistent interpretation across state responses; and 2) Structure questions to distinguish between existing operational practices and emerging, pilot, or aspirational activities. These refinements could improve the comparability and overall usefulness of the information collected.

FHWA response: We thank TxDOT for this feedback. Definitions of key terminology relevant to this specific research study have been added to the survey where appropriate. These definitions reflect those put forth for the purposes of this study and are intended to promote consistent interpretation across responding agencies. Other than definitions already codified in statute or regulation, it is not FHWA's intent to develop or create a national set of definitions surrounding all aspects of digital delivery within the context of this data collection. The resulting research may facilitate further national dialogue and potential development of consensus definitions.

4. **Minimizing Collection Burdens:** TxDOT suggests that FHWA consider implementing the following measures to reduce respondent burden: 1) Use a web-based questionnaire platform, 2) Provide the ability to upload existing documentation (e.g., workflows, policies, or guidance documents), and 3) Allow for collaborative submission capabilities so multiple subject-matter experts can contribute to a single unified response. These approaches should improve efficiency while maintaining the quality of responses.

FHWA response: We thank TxDOT for these suggestions. The data collection will primarily utilize a web-based platform and documentation collection for the survey to facilitate collaborative responses and improve efficiency. Acknowledging the desire for collaborative submissions of multiple subject matter experts, we will also provide respondents with an optional fillable PDF form that can be used to assist with alternative collaborative response procedures. Both formats will be provided to accommodate the preference of the responding agency. A question has been added to the data collection enabling responding agencies to share existing resources such as workflows, policies, and guidance documents.

Comments submitted from "WhoPoo App"

"Where is the wildlife corridor in Virginia that Wild Virginia got \$20,000 for? Please place a culvert under the highway around Hampton Roads for turtle migration. There is already construction there so it should be no problem."

FHWA response: The comment is not applicable to the information collection proposed in the Federal Register notice.

The 30-day Federal Register notice intended to notify the public this information collection was submitted to OMB for review and approval was published on August 27, 2026, at [91 FR 55427]."

9. Payments or gifts to respondents:

No payments or gifts of any kind will be provided to respondents in connection with this information collection.

10. Assurance of confidentiality:

Responses to this collection will be treated with confidentiality. The information requested is institutional in nature, focused on agency practices, technologies, data, and processes, and is not intended to collect personally identifiable information beyond respondent contact details necessary to administer the survey. Respondent contact information will be safeguarded and used only for survey administration and follow-up. The study will report findings in aggregate form to the extent practicable. Respondents will be informed of these protections within the survey's introduction.

11. Justification for collection of sensitive information:

This information collection does not request nor require information of a sensitive nature.

12. Estimate of burden hours for information requested:

The estimated burden for this single, web-based survey instrument is summarized below.

- Estimated number of respondents: 56 (52 State transportation agencies – the 50 States, the District of Columbia, and Puerto Rico; 3 FHWA Federal Lands Highway Divisions; and the AASHTO Committee on Materials and Pavements).
- Frequency of response: Once per respondent.
- Estimated burden per response: 30 minutes (0.5 hour).
- Estimated total annual burden hours: 28 hours. Calculation: 30 minutes × 56 responses = 1,680 minutes ÷ 60 = 28 hours.

13. Estimate of total annual costs to respondents:

The respondents consist primarily of personnel from State transportation agencies (52 of the 56 respondents), along with FHWA Federal Lands Highway Divisions and the AASHTO Committee on Materials and Pavements. The professionals tasked with responding to technical surveys regarding QA data, highway materials, and pavements are typically Civil Engineers or Materials Engineers in state government.

According to the U.S. Bureau of Labor Statistics (BLS) Occupational Employment and Wage Statistics (OEWS), the mean hourly wage for Civil Engineers (Standard Occupational Classification code 17-2051) employed is \$52.24.¹

A standard multiplier for state government employees is 1.60 (based on BLS Employer Costs for Employee Compensation data showing that wages typically constitute approximately 62% of total compensation for state and local workers)²

Loaded Hourly Wage =

$\$52.24 \text{ (base wage)} \times 1.60 \text{ (benefits/overhead multiplier)} = \83.58 per hour

Using the fully burdened hourly rate, we calculate the total annual cost for the estimated 28 total burden hours.

$28 \text{ hours} \times \$83.58 \text{ burdened hourly wage} = \$2,340.24$

¹ U.S. Bureau of Labor Statistics, Occupational Employment and Wage Statistics (OEWS) Profiles, May 2025. *Civil Engineers (SOC 17-2051)*. Available at: https://data.bls.gov/oesprofile/?major_group=170000&occupation=172051&measure=01&areas=INDUSTRY,STATE,MSA

² U.S. Bureau of Labor Statistics, Employer Costs for Employee Compensation (Ecec), March 2026, Available at: <https://www.bls.gov/news.release/ecec.nr0.htm>

14. Estimate of cost to the Federal government:

40 hours are estimated of Federal staff time (GS-13, Step 5, Washington-DC locality) for instrument review, PRA clearance support, deployment monitoring, and review of results.

The 2026 hourly rate for a GS-13, Step 5 in the Washington-Baltimore-Arlington locality is \$66.14.³

Estimated cost to the government: 40 hours x \$66.14 hourly wage = \$2,645.60

15. Explanation of program changes or adjustments:

Not applicable. This is a new information collection.

16. Publication of results of data collection:

FHWA intends to use the survey results to support agency research products that may include technical reports, conference papers, and outreach materials directed to State transportation agencies, AASHTO, and the broader highway construction community. Findings will be reported in aggregate form to provide a holistic view and offer insights into the current state of practice of pavement and materials testing and electronic data associated with quality assurance efforts. Publication is expected at the conclusion of the research in the second half of the 2028 calendar year.

17. Approval for not displaying the expiration date of OMB approval:

The OMB control number and expiration date will be displayed on the survey instrument.

18. Exceptions to certification statement:

No exceptions noted.

³ U.S. Office of Personnel Management. (2026). *Salary Table 2026-DCB (Hourly) Locality Pay Area of Washington-Baltimore-Arlington, DC-MD-VA-WV-PA*. Available at: https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/salary-tables/26Tables/html/DCB_h.aspx