Opportunities Exist for FHWA To Strengthen Its Oversight of Contract Change Orders Under the Federal-aid Highway Program
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Self-initiated
Federal Highway Administration | ST2022031 | July 20, 2022

What We Looked At
The Federal Highway Administration (FHWA) oversees about $52 billion in Federal-aid Highway Program funds for fiscal year 2022. The Agency makes these funds available to State Departments of Transportation for highway and infrastructure projects. Modifications to a project’s contract specifications are frequently done through change orders, which are an important component of the Federal-aid Highway Program since they can affect projects’ cost, schedule, design details or specification requirements, or a combination of these key elements. Given the possible risks to program oversight posed by change orders, we initiated this audit to assess FHWA’s oversight of contract change orders.

What We Found
We found data limitations that could impact FHWA’s ability to monitor and oversee change orders. Furthermore, FHWA’s methodology for its compliance assessment program (CAP) reviews can lessen the reviews’ usefulness for oversight and monitoring of change orders. The Agency also lacks a consistent definition of change order as well as clear guidance on what constitutes a major change. Lastly, FHWA’s policy and guidance on change orders in its Contract Administration Core Curriculum (CACC) Manual are outdated, and its guidance for monitoring and tracking its change order reports and associated findings lacks clarity.

Our Recommendations
We made recommendations to help FHWA strengthen its oversight role and help to mitigate potential exposure to risks related to change orders. FHWA concurred with four recommendations and partially concurred with the other two. We consider all six recommendations resolved but open pending completion of planned actions.

All OIG audit reports are available on our website at www.oig.dot.gov.

For inquiries about this report, please contact our Office of Government and Public Affairs at (202) 366-8751.
The Federal Highway Administration (FHWA) oversees about $52 billion\(^1\) in Federal-aid Highway Program funds for fiscal year 2022. The Agency makes these funds available to State Departments of Transportation (State DOT) for highway and infrastructure projects. The Coronavirus Response and Relief Supplemental Appropriations Act of 2021 provided an additional $10 billion for FHWA to prevent, prepare for, and respond to the Coronavirus Disease 2019 (COVID-19).\(^2\)

While project designers and engineers develop infrastructure plans, many factors—such as utility conflicts, unknown geology, and errors and omissions—can result in the need to modify construction contracts and plans to fit field conditions and achieve project goals. These modifications are frequently done through contract change orders (hereafter referred to as change orders) which are important components of FHWA’s Federal-aid Highway Program since they can affect projects’ cost, schedule, design details or specification requirements, or a combination of these key elements.

Given the possible risks to program oversight posed by change orders, our office initiated this audit. Our audit objective was to assess FHWA’s oversight of change orders. We focused on FHWA’s procedural and internal controls for overseeing change orders as an element of the Federal-aid Highway Program.

We conducted this audit in accordance with generally accepted Government auditing standards. Exhibit A details our scope and methodology, including our work with FHWA and OIG’s Senior Statistician to develop a statistical sample of four States—Maryland, North Carolina, Texas, and Utah—for our audit. Exhibit B

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lists the entities we visited or contacted. For a list of acronyms used in this report, see exhibit C.

We appreciate the courtesies and cooperation of Department of Transportation (DOT) representatives during this audit. If you have any questions concerning this report, please contact me or Program Director Tony Wysocki.

cc: The Secretary
    DOT Audit Liaison, M-1
    FHWA Audit Liaison, HCFB-32
**Results in Brief**

**Opportunities exist for FHWA to strengthen its oversight of change orders under the Federal-aid Highway Program.**

FHWA’s controls for overseeing change orders occurring on Federal-aid Highway Program projects can be strengthened in four areas to enhance access to available data, compliance results, and the communication of definitions and responsibilities as emphasized in the Federal Control Standards. FHWA’s Fiscal Management Information System (FMIS)—the Agency’s major automated financial information system for administering the Federal-aid Highway Program—lacks a field for change orders. This prevents the Agency from using FMIS to have basic management information available such as the numbers, types, and causes of change orders nationwide or in particular States. Having this information is important to help FHWA’s capability to oversee and more continuously identify risks to adjust its oversight needs. Instead, the Division Offices in our sample relied on their State DOTs’ systems for change order data, but this approach has limitations as a sustained management and oversight tool. For example, we found that the information was not always made available to the Division Offices and lack of training and succession planning could hamper this approach as a sustained management and oversight tool. Additionally, while FHWA uses its compliance assessment program (CAP) reviews to determine States’ compliance with key Federal requirements and understanding risks, including those for change orders, the Agency’s methodology for CAP reviews can lessen the reviews’ usefulness for assessing change orders. FHWA also lacks a consistent definition of the term “change order,” and FHWA Headquarters, Division Offices, and Directors of Field Services (DFS) personnel all use various definitions. The Agency also lacks clear guidance on what constitutes a “major change” which require approval prior to implementation. This lack of a consistent definition and clear guidance limits the Agency’s ability to provide uniform oversight of change orders across the Federal-aid Highway Program. Further, FHWA’s change order policy and guidance on change order approval in the Agency’s Contract Administration Core Curriculum (CACC) Manual are outdated. Specifically, the Manual calls for FHWA to approve all change orders. In practice, however, State DOTs have assumed this responsibility. Reliance on this outdated CACC Manual by the Agency and State may result in ambiguity and conflicting processes for approving change orders. Finally, FHWA’s guidance for monitoring and tracking reports on change orders and associated findings developed by FHWA personnel lacks clarity, limiting FHWA’s ability to develop

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3 23 CFR § 635.102 defines “major change” as a change that will significantly affect the project’s cost or alter the termini, character, or scope of work.
institutional information on change orders and use the reports to make improvements. A lack of improvement in these areas can diminish the Agency's assurance for mitigating potential risks related to change orders such as limited data to monitor and oversee, inconsistent definitions, and outdated policy and guidance.

We are making recommendations to help FHWA strengthen its oversight of change orders.

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**Background**

FHWA broadly describes a change order as a mechanism that documents negotiated agreements to amend an existing construction contract between an agency and the contractor, such as documenting: (a) plan changes or revisions, (b) specification requirement changes, (c) change in cost (increase or decrease), and (d) change in the time (increase or decrease) to complete work. Change orders are a common occurrence on construction projects and can vary from an action with no monetary effect to an action that can significantly increase or decrease the cost or scope of a project. See figure below for examples of some types of field conditions on construction projects that may trigger the need for change orders.

![Figure. Examples of Some Types of Field Conditions That May Trigger Change Orders](image)

- **Encountering Unknown Geology**
- **Unanticipated Utility Conflicts**

Source: FHWA

Our prior work has highlighted the importance of properly designing and implementing change orders to safeguard FHWA’s interests. For example, we
have previously reported on a lack of cost analysis documentation for change orders that should serve as the basis for negotiating fair and reasonable prices. Price negotiations without such bases can adversely impact Federal funding amounts provided. In addition, our prior audit work also showed instances of noncompliance with change order requirements. Specifically, we found a lack of documented cost analysis for negotiated change orders, as required by Federal regulations.

FHWA uses FMIS, the Agency’s major automated financial information system, for administering the Federal-aid Highway Program. For example, the Agency uses information in FMIS for planning and executing its program activities, evaluating program performance, and detecting financial trends and requirements related to current and future funding.

FHWA uses its risk-based stewardship and oversight (RBSO) framework to determine the level of its oversight for the Federal-aid Highway Program, including for change orders. A major component of FHWA’s RBSO are CAP reviews—annual reviews to help the Agency maintain reasonable assurance that Federal-aid Highway Program projects comply with key Federal requirements. FHWA generally categorizes the current risk for change orders as low, based in part on the results of its CAP reviews.

Federal regulations require FHWA to review and approve all change orders for Federal-aid Highway Program projects. However, under Federal law, State DOTs may assume certain FHWA responsibilities and enter into agreements with FHWA for doing so. Further, the Fixing America’s Surface Transportation Act directs FHWA to allow States to assume its responsibilities to the maximum extent practicable for project design, plans, specifications, estimates, contract awards and inspections of projects on a project specific basis as well as a programmatic basis. To that end, FHWA and the State DOTs enter into Stewardship and Oversight Agreements, which allow a State to assume certain FHWA responsibilities related to the Federal-aid Highway Program, including change

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6 23 CFR § 635.120(e).
7 The RBSO framework is FHWA’s data-driven, risk-based approach to prioritizing its resources for overseeing the Federal-aid Highway Program.
8 23 CFR § 635.120.
9 Title 23 of the U.S. Code (U.S.C.) § 106(c) allows a State to assume FHWA’s responsibilities for design, plans, specifications, estimates, contract award, and inspections for projects on the National Highway System. States must assume these responsibilities for projects not on the National Highway System.
order approval. However, FHWA remains accountable for ensuring that the State complies with Federal requirements covering change orders.

In addition to FHWA CAP reviews, Division Offices and Headquarters also conduct national and Division Office program reviews to evaluate program effectiveness and whether Federal requirements and assumed responsibilities are met, including those for change orders. FHWA has 52 Division Offices—one in each State, the District of Columbia, and Puerto Rico. It also has four DFS that report to the Executive Director, each of whom oversees 13 Division Offices.

Opportunities Exist for FHWA To Strengthen Its Oversight of Change Orders

Our review found areas of internal control where FHWA can strengthen its oversight of change orders. Specifically, data limitations can impact FHWA’s ability to monitor and oversee change orders. Furthermore, FHWA’s methodology for CAP reviews can lessen the reviews’ usefulness for oversight and monitoring of change orders. The Agency also lacks a consistent definition of change order as well as clear guidance on what constitutes a major change. Lastly, FHWA’s policy and guidance on change orders in its CACC Manual are outdated, and its guidance for monitoring and tracking its change order reports and associated findings lacks clarity.

Data Limitations Can Impact FHWA’s Ability To Monitor and Oversee Change Orders

The Government Accountability Office’s (GAO) Standards for Internal Control in the Federal Government\textsuperscript{11} (Federal Control Standards) calls for agencies to develop programs that include the ongoing identification and analysis of risks related to achieving program objectives. These Federal Control Standards also state that to maintain program effectiveness, agencies should use quality information in designing and revising on a timely basis their internal control systems.

However, FHWA’s FMIS—the Agency’s financial system for planning and monitoring program activities—lacks a specific field for change orders. This

\textsuperscript{11} GAO, Standards for Internal Control in the Federal Government (GAO-14-704G), September 2014.
prevents the Agency from using FMIS to have basic management information available such as the numbers, types, and causes of change orders nationwide or in particular States. As a result, FHWA cannot use FMIS for generating quality data to help it programmatically identify, categorize, and monitor change orders.

Instead of using FMIS, the Division Offices in our sample relied on their State DOTs’ systems for change order data. However, we found limitations with this approach as a sustained management and oversight tool. For example, an official from one Division Office told us that despite having access, the Division Office does not know how to obtain change order data from its State DOT’s system. An official from another Division Office with access to its State DOT’s system pointed out a concern over the lack of succession planning within the Division to ensure continuity of knowledge regarding the collection of change order data using their State DOT’s system. Additionally, at the time of our review, officials in another Division Office relied on the State DOT to provide data the Division needed to monitor and analyze the numbers, types, and causes of change orders to identify trends and areas of high risk. However, the State DOT has stopped providing the data to the Division due to a lack of funding and staffing turnover.12

We also found that two of the four Division Offices in our sample categorized the current risk level for change orders differently than their State DOTs (see table). Officials at one Division Office stated that the State DOT was more knowledgeable about risk in change orders since it was more involved in change order approvals.

Table. Categorizations of Change Order Risk by Sample FHWA Divisions and State DOTs

<table>
<thead>
<tr>
<th>Entity</th>
<th>Maryland</th>
<th>North Carolina</th>
<th>Texas</th>
<th>Utah</th>
</tr>
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<tbody>
<tr>
<td>FHWA Division Office</td>
<td>Low</td>
<td>Low</td>
<td>Medium/High</td>
<td>Low</td>
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<td>State DOT</td>
<td>Medium</td>
<td>Low</td>
<td>Low/Medium</td>
<td>Low</td>
</tr>
</tbody>
</table>

Note: Italics designate difference in risk categorization between the FHWA Division Office and the State DOT.

Source: OIG analysis of FHWA and State DOT data.

Officials in another Division Office noted that they did not know why its risk categorization was different from that of the State DOT and could not recall whether a recent conversation with the State DOT had occurred on categorizing

12 During our audit, the Division Office and the State DOT began discussing the possibility of the State DOT providing the Division this information again.
change order risk. Additionally, at the time of our review, none of the Division Offices in our sample monitored and analyzed the number, type, and cause of change orders in their State to identify trends and areas of high risk. An FHWA official cited the Agency’s low risk categorization of change orders, in part, as the reason for not monitoring and analyzing change order data. Having this information can be crucial to help FHWA’s capability to oversee and more continuously identify risks to adjust its oversight needs. The Federal Control Standards state that continuous monitoring and evaluation are needed regardless of risk level so the entity can identify risk level changes and adjust its oversight approach accordingly. These data limitations can lessen FHWA’s ability to monitor and oversee change orders.

FHWA’s Methodology for CAP Reviews Can Lessen the Reviews’ Usefulness for Assessing Change Orders

FHWA’s overall program assessment of risk associated with change orders is partly derived from the results of its annual CAP reviews, which are intended to help the Agency maintain reasonable assurance that Federal-aid Highway Program projects comply with key Federal requirements. For these reviews, FHWA creates a sample of projects using FMIS. When change orders were discovered as a part of a project selected in FHWA’s CAP reviews, the review evaluated whether a cost analysis was performed and adequately documented for each negotiated change order, as required by Federal regulation.13

However, we found that FHWA’s methodology for CAP reviews can lessen the reviews’ usefulness in generating specific information to help the Agency oversee change orders. Specifically, FHWA does not know whether and to what extent its reviews include projects with change orders because it uses FMIS to create project samples and FMIS—since it lacks a field for change orders—cannot identify projects with them. As a result, samples are purely random project selections that may or may not include change orders.

Furthermore, under the CAP review methodology, a project is considered compliant with Federal change order requirements even though it may not have had any change orders to be evaluated. That is because when sampled projects do not have any change orders, the Agency records them as “not applicable” but still considers the projects in compliance with Federal change order requirements. According to FHWA officials, “not applicable” means that the condition for the requirement being reviewed did not apply to the project and consequently,

13 23 CFR § 635.120(e).
FHWA staff record the project as compliant. While FHWA officials believe that CAP reviews provide reasonable assurance of compliance with Federal change order requirements, the conditions we found can lessen the reviews’ usefulness regarding change orders.

**FHWA Lacks a Consistent Definition of “Change Order” and Clear Guidance on What Constitutes a Major Change**

We found various definitions of the term “change order” in Agency documents. For example, a national program review issued by FHWA Headquarters defined change orders to include contract claims\(^{14}\) while another document also issued by FHWA Headquarters—the CACC Manual—did not. Moreover, a program official at FHWA Headquarters noted that “change order” is a term of art with a working definition. This is consistent with our audit work where we also found that personnel at FHWA Headquarters, Division Offices, and DFS provided various definitions of change order. For example, one FHWA official defined a change order as an instance of difference or something unusual or unforeseen that happens on a construction project. Another FHWA official defined it as any formal change to the construction contract that may be (1) unilateral, non-substantive, administrative changes; (2) formal agreements between the State DOT and the contractor; and (3) changes directed by the State DOT without the contractor’s consent. Furthermore, an FHWA program official at Headquarters informed us that Headquarters does not expect the Division Offices to use its definition of change order. This lack of a consistent definition could cause change orders to be defined and processed differently and pose challenges for FHWA in its administration and oversight of change orders nationwide.

As noted earlier, change orders can vary from a change with no monetary effect to a change that can significantly increase or decrease the cost or scope of a project. Our review of Agency documents and interviews with Agency staff also noted that FHWA lacks clear guidance on what constitutes a “major change.” FHWA’s regulation\(^{15}\) broadly defines “major change” as a change that will significantly affect the project’s cost or alter the termini, character, or scope of work. However, no additional guidance exists that clarifies when a change could “significantly affect” the work, such as illustrative examples. Instead, the Agency relies on each Division Office and State DOT to determine what constitutes non-major changes with the expectation that any change not defined as “non-major”

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14 A claim is a formal request for additional compensation that is a step beyond the normal change order process.
15 23 CFR § 635.102.
by the State DOT and the Division Office is a major change.\textsuperscript{16} This lack of clear guidance for “major change” could inhibit uniformity in Agency and State DOT’s change order review and approval.

Also, there is an additional need to clarify “major change.” A Federal regulation—not directly related to the change order regulation discussed above—defines “significant change” for a standard changed condition contract clause that must be included in certain construction contracts.\textsuperscript{17} Specifically, the regulation states that a significant change is an increase in excess of 125 percent or more of the “original contract quantity,” among other things, to a major item of work, or a decrease to below 75 percent. According to FHWA’s Office of Chief Counsel, while many “significant changes” are also “major changes,” the term “significant change” is not synonymous with “major change.” According to FHWA, “major change” covers changes in cost to the Federal Government, project termini, and character or scope of the work; whereas, “significant change,” covers sizeable cost adjustments, not other types of impacts. However, a Headquarters program official informed us that the terms could be synonymous and that ambiguity between the two terms can occur due to the overlap in meaning. We also found ambiguity regarding these terms among personnel at the Division Offices in our sample. For example, personnel in one office believed that “major change” and “significant change” are synonymous; while personnel in another office believed that “major change” and “significant change” are not necessarily synonymous but used the terms interchangeably.

Federal Control Standards emphasize the need for clearly developed and communicated parameters to help personnel achieve oversight objectives, address risks, and support the internal control system, including the evaluation of oversight effectiveness. FHWA’s lack of a consistent definition for change order and corresponding clear guidance on what constitutes a major change can inhibit the Agency’s ability to oversee change orders. It also increases the risk that FHWA and the States may not be appropriately approving certain “major” changes to a project’s character or scope in advance as required by the regulations.

\textbf{FHWA’s CACC Manual on Change Orders Is Outdated}

FHWA uses its CACC Manual\textsuperscript{18} as policy and guidance for its personnel and the State DOTs as a part of its nationwide oversight role. According to FHWA, the

\textsuperscript{16} All major changes must have advance formal approval. Non-major changes also require formal approval but that approval may be given retroactively.
\textsuperscript{17} 23 CFR § 635.109.
CACC Manual was initially developed as a resource for FHWA Division Offices, but over time, has become a critical resource for both internal FHWA staff and external personnel such as State DOT officials. The CACC Manual focuses primarily on contract provisions, administrative procedures, and applicable policies related to Federal-aid Highway Program construction contracts.

However, the CACC Manual does not reflect the Agency’s current operating practice and therefore, is not an effective and accurate source of information for FHWA and State DOT personnel who may rely on it for various purposes, including understanding the roles and responsibilities of approving change orders. Specifically, the CACC Manual, last updated in 2014, calls for FHWA to approve all change orders. However, under the law\(^{19}\), the State DOTs may assume this responsibility and enter into an agreement with FHWA for doing so. We found that all four State DOTs in our sample assumed their Division Offices’ approval responsibilities for change orders through their Stewardship and Oversight Agreements.\(^{20}\)

A State DOT official informed us that they conduct annual trainings related to FHWA’s CACC Manual. According to the official, the State DOT needs an up-to-date manual so it can include current information in the training. Furthermore, the Federal Control Standards call for an up-to-date and ongoing information process that identifies changes needed to meet evolving oversight environments and functions.

FHWA’s outdated CACC manual has resulted from a lack of management attention to ensure it is updated with current policies and guidance. Due to the reliance States place on the manual, an outdated CACC Manual can result in ambiguity and conflicting processes used by those responsible for administering and overseeing change orders and related functions, including new and inexperienced FHWA and State DOT personnel.

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**FHWA’s Guidance on Monitoring and Tracking Change Order Reports and Associated Findings Lacks Clarity**

In addition to CAP reviews, Division Offices and Headquarters conduct other reviews to evaluate program effectiveness and whether Federal requirements and assumed responsibilities are met, including those for change orders. However,


\(^{20}\) All four State DOTs in our sample implemented the Stewardship and Oversight Agreements with FHWA between 2015 and 2017.
FHWA’s internal guidance on monitoring and tracking the resulting reports and associated findings and recommendations lacks clarity.

In 2015, FHWA issued guidance that requires Headquarters and Division personnel to upload all “formal” and “substantive” reports and related findings to the Agency’s Program Review Library. The personnel then monitor and track the related recommendations in the Agency’s Review Response Tracker.\(^\text{21}\) To help ensure that FHWA staff meet the intent of this guidance to include all “formal” and “substantive” reports, the guidance provides some examples but does not include a clear definition of either “formal report” or “substantive report.” FHWA officials told us that they have interpreted the guidance to mean that only substantive reports should be uploaded and tracked. As a result, personnel at offices nationwide upload and track reports that they independently deem as substantive. Additionally, FHWA program officials at Headquarters informed us that the lack of a definition of “substantive report” has led to disagreements between FHWA Headquarters and other offices about whether a report should be uploaded.

Furthermore, FHWA lacks clear guidance for overseeing Division Office responsibilities for uploading and monitoring and tracking Agency reports and associated findings and recommendations. It is unclear who at FHWA is responsible for oversight of these Division Office responsibilities. Program officials at FHWA Headquarters identified DFS as being responsible for overseeing the Division Offices, including whether they monitor and track report findings and recommendations. However, one DFS identified a program office at Headquarters as having this role and responsibility, while another DFS expected each FHWA Division Office to monitor and track its own findings and recommendations.

According to FHWA’s guidance, documenting the Agency’s reports and monitoring the implementation of report recommendations is “a key internal control mechanism.” The Federal Control Standards call for management to periodically review policies, procedures, and related control activities for effectiveness in achieving the Agency’s objectives or addressing related risks. The Federal Control Standards also call for sound internal controls that establish and communicate the who, what, when, where, and why to personnel for executing internal controls and operational needs. The lack of clear guidance for uploading and tracking reports and associated findings and recommendations has resulted from a lack of management attention to ensure that such internal controls are in place. These issues limit FHWA’s ability to develop institutional information on change orders and leverage Agency reports for continuous improvement.

\(^\text{21}\) The Program Review Library is an Agency-wide library for program review reports. The Review Response Tracker is used by the Agency to monitor and track the recommendations from the reports.
Conclusion

Change orders are important components of FHWA’s Federal-aid Highway Program that can affect projects’ cost, schedule, design details, specification requirements, or a combination of these. FHWA plays an important role in ensuring the stewardship and oversight of its Federal-aid Highway Program. The Agency’s oversight of change orders can be strengthened with a data system enhancement or an Agency-wide data management process to identify and monitor change orders, a consistent definition of change orders and further guidance related to what constitutes a major change, and updated policy and guidance, to include monitoring and tracking its reports and associated findings and recommendations. Implementing these controls will strengthen FHWA’s oversight role and help to mitigate potential exposure to risks related to change orders.

Recommendations

To strengthen FHWA oversight of change orders, we recommend that the Federal Highway Administrator:

1. Enhance the Fiscal Management Information System or develop an agency-wide data management process to provide FHWA personnel with access to change order information for performing their oversight, which includes identifying and monitoring change orders.

2. Evaluate and revise as necessary the Agency processes, including Compliance Assessment Program reviews, to include an oversight methodology that can generate accurate, statistically valid, and representative compliance results for change orders.

3. Develop and implement guidance for use by FHWA and States that:
   a. Includes a consistent definition of "change order;"
   b. Delineates the differences between a major change and a significant change; and
   c. Further clarifies what may constitute a major change.

4. Update FHWA’s Contract Administration Core Curriculum Manual, dated October 2014, to clearly reflect that FHWA may assign its change order approval responsibilities to State DOTs through Stewardship and Oversight Agreements.
5. Develop and implement internal guidance for the Agency’s Program Review Library to clearly define the terms “formal report” and “substantive report.”

6. Establish clear roles and responsibilities to verify that FHWA Division Offices monitor and track their reports and associated findings and recommendations related to change orders.

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**Agency Comments and OIG Response**

We provided FHWA with our draft report on April 20, 2022, and received its formal response on June 7, 2022. FHWA’s response is included in its entirety as an appendix to this report. We made six recommendations to help FHWA strengthen its oversight role and help to mitigate potential exposure to risks related to change orders. FHWA concurred with recommendations 3 through 6 and provided appropriate actions and completion dates.

FHWA partially concurred with recommendations 1 and 2, and provided proposed alternative actions and completion dates. The Agency’s proposed alternative actions meet the intent of recommendations 1 and 2.

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**Actions Required**

We consider recommendations 1 through 6 resolved but open pending completion of the planned actions.
Exhibit A. Scope and Methodology

This performance audit was conducted between April 2020 and April 2022. We conducted this audit in accordance with generally accepted Government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

To assess FHWA’s oversight of change orders, we focused on FHWA’s procedural and internal controls for change orders and program monitoring. We reviewed four sample States—Maryland, North Carolina, Texas, and Utah—representing one randomly selected State from each FHWA DFS area of responsibility. Our process to select these four States is described below. See the figure for a map of DFS areas of responsibility.

Figure A. Map of the Directors of Field Services (DFS) Regions

Source: FHWA

For our audit, we identified, reviewed, and analyzed applicable rules, regulations, policies, guidance, agreements, and FHWA reports. Furthermore, we interviewed relevant FHWA Headquarters, sampled Division Offices, all four DFS, and State DOT officials on their roles and responsibilities related to change orders. We also assessed the functionality of Agency data systems related to change orders—
including FMIS—and consulted with our Attorney Advisor, and other specialists as appropriate. Furthermore, we interviewed the American Association of State Highway and Transportation Officials and the American Road and Transportation Builders Association to obtain their perspectives on change orders. As part of our work, we also reviewed prior GAO and OIG audit reports. We conducted all site visits virtually due to COVID-19 pandemic restrictions. Exhibit B lists the organizations we contacted.

Initially, we intended to review a sample of projects for compliance and make a nationwide projection through a stratified statistical sample consisting of eight States. However, during our audit, FHWA withdrew our direct read-only access to its FMIS and we encountered challenges related to our capability to validate the quality and accuracy of FHWA’s data and information. These conditions increased the audit risk and as such, we took appropriate steps during our audit and notified FHWA of our actions. This included amending our audit plan to focus on the Agency’s internal controls and a review of four States—Maryland, North Carolina, Texas, and Utah—without making projections.

To develop a statistical sample of four States for our review, we worked with FHWA and OIG’s Senior Statistician. First, to develop a sample universe from the 50 States, the District of Columbia, and Puerto Rico, we obtained from FHWA a download of all Federal-aid Highway Program projects that were closed in FHWA’s FMIS between fiscal years 2015 and 2019—with 224,941 records. We were unable to independently verify this information through direct-read only access to FMIS as explained above. Next, we stratified the projects by each of the four DFS regions and excluded records with anomalies (337 that were not associated with a DFS and 2,038 in which the project status did not equal “Closed”) leaving us a final universe of 222,566 records in the four DFS strata. The four sampled States contained a total of $22,484,093,489 in Federal-aid Highway Program funds, which comprised about 11 percent of the universe amount of $198,202,661,721. We then performed a stratified random sample with probability proportional to size on the universe using the size variable of total Federal funds. The four States in our final sample were chosen because they were the first randomly selected from each stratum.
Exhibit B. Organizations Visited or Contacted

FHWA Facilities

Office of Preconstruction, Construction, and Pavements, Headquarters, Washington, DC

Office of Stewardship, Oversight and Management, Headquarters, Washington, DC

Office of Budget and Finance, Headquarters, Washington, DC

Office of Infrastructure, Headquarters, Washington, DC

Office of Chief Counsel, Headquarters, Washington, DC

Maryland Division Office

North Carolina Division Office

Texas Division Office

Utah Division Office

Directors of Field Services, Mid-America

Directors of Field Services, North

Directors of Field Services, South

Directors of Field Services, West

State DOT Facilities

Maryland DOT

North Carolina DOT

Texas DOT

Utah DOT
Other Organizations

American Association of State Highway and Transportation Officials

American Road and Transportation Builders Association
# Exhibit C. List of Acronyms

<table>
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<tr>
<th>Acronym</th>
<th>Description</th>
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<tr>
<td>CACC</td>
<td>Contract Administration Core Curriculum</td>
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<td>CAP</td>
<td>compliance assessment program</td>
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<td>Code of Federal Regulations</td>
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<td>Coronavirus Disease 2019</td>
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<td>Directors of Field Services</td>
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<td>Office of Inspector General</td>
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<td>risk-based stewardship and oversight</td>
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<td>State Department of Transportation</td>
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Exhibit D. Major Contributors to This Report

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Memorandum


Date: June 7, 2022

From: Stephanie Pollack
Deputy Administrator

In Reply Refer To: HCFB-30

To: David Pouliott
Assistant Inspector General for Surface Transportation Audits

The Federal Highway Administration (FHWA) is committed to managing the use of Federal-aid highway construction funds to effectively achieve the goals of the Federal-aid highway program (FAHP). Critical to this management effort is the development of internal controls to ensure that laws and regulations are followed, as well as an assessment of the relative risks associated with various actions necessary for project development and construction.

Based on our review of the subject Office of Inspector General (OIG) report, FHWA concurs with recommendations 4, 5, and 6 as written. We plan to complete actions to implement these recommendations by December 31, 2023.

We partially concur with recommendation 1 to enhance the Fiscal Management Information System (FMIS) or develop an agency-wide data management process to provide FHWA personnel with access to change order information for performing their oversight. The FHWA will separately evaluate and enhance as appropriate its agency-wide data management process to provide FHWA personnel with access to change order information for performing oversight. FHWA will confirm that division offices have reasonable and timely access to Federal-aid project data and information from State DOTs for FHWA personnel to perform their oversight, which includes identifying and monitoring change orders. FHWA plans to implement this action by December 31, 2023.

We partially concur with recommendation 2 to evaluate and revise as necessary the Agency processes, including Compliance Assessment Program (CAP) reviews, to include an oversight methodology that can generate accurate, statistically valid, and representative compliance results.
for change orders. FHWA’s CAP generates accurate, statistically valid, and representative compliance results for tested requirements within available resources. The CAP has assessed multiple regulatory requirements each year, including a change order requirement in 2014 through 2017, rather than all requirements that pertain to a specific regulation. The Government Accountability Office Standards for Internal Control in the Federal Government (Federal Control Standards) calls for agencies to develop programs that include the ongoing identification and analysis of risks related to achieving program objectives. These Federal Control Standards also state that to maintain program effectiveness, agencies should use quality information in designing and revising, on a timely basis, their internal control systems. The purpose of the CAP is to provide reasonable assurance that Federal-aid highway projects comply with key Federal requirements. The CAP provides this assurance by assessing a statistically valid sample of projects. The results of CAP inform FHWA, with an acceptable level of certainty, of the degree of compliance and whether a State’s internal controls are adequate to assure compliance with selected key Federal requirements. FHWA division offices determine, given an instance of non-compliance, whether a corrective action is needed. The changes to CAP that OIG recommends would undermine the effectiveness of CAP by changing the risk-based, data-driven stewardship nature of this program, which would be inconsistent with the intent of the program and Federal Control Standards. FHWA will evaluate and revise as necessary its other oversight methodology and issue guidance to clarify the oversight role and expectations of FHWA division offices in assessing construction program risks, including specific guidance on how and when to perform change orders reviews. FHWA plans to implement this alternative action by December 31, 2023.

We concur with recommendation 3 to develop and implement guidance for use by FHWA and States that (a) includes a consistent definition of “change order;” (b) delineates the differences between a major change and a significant change, and (c) further clarifies what may constitute a major change. However, we note that, for recommendation 3a, the Contract Administration Core Curriculum (CACC) Manual uses the term ‘change order’ as any formal document that modifies the construction contract. As long as definitions of ‘change order’ used by other entities also include the term as it is used in the CACC Manual, FHWA has considered the definition of the term to be consistent. For recommendation 3b, we agree that we need to further differentiate between ‘major change’ and ‘significant change’ in the CACC Manual. The clarification to address recommendation 3b will also address recommendation 3a by issuing a consistent definition of a change order via the CACC and will address recommendation 3c by clarifying what constitutes a major change. FHWA plans to implement this alternative action by December 31, 2023.

We appreciate the opportunity to review the OIG draft report. Please contact Hari Kalla, Associate Administrator for Infrastructure, at 202-366-0370 with any questions.
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