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# *Office of Inspector General*

# *Audit Report*

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## **LESSONS LEARNED FROM ARRA COULD IMPROVE THE FEDERAL HIGHWAY ADMINISTRATION'S USE OF FULL OVERSIGHT**

*Federal Highway Administration*

*Report Number: MH-2013-075*

*Date Issued: May 7, 2013*





U.S. Department of  
Transportation

Office of the Secretary  
of Transportation  
Office of Inspector General

# Memorandum

Subject: **ACTION:** Lessons Learned From ARRA Could  
Improve FHWA's Use of Full Oversight  
Federal Highway Administration  
Report Number MH-2013-075

Date: May 7, 2013

From: Joseph W. Comé   
Assistant Inspector General for  
Highway and Transit Audits

Reply to  
Attn. of: JA-40

To: Federal Highway Administrator

With the infusion of \$27.5 billion in American Recovery and Reinvestment Act (ARRA)<sup>1</sup> funds for highway projects, the Federal Highway Administration (FHWA) had to meet Office of Management and Budget (OMB) requirements for enhanced oversight and increased accountability for recovery funds. To address these requirements, FHWA expanded its existing oversight process by performing ARRA programmatic and project reviews of States' management of Federal funds, such as those performed by National Review Teams. Additionally, FHWA conducted full oversight reviews of about 1,200 of nearly 15,000 ARRA projects to ensure they received a comprehensive assessment and that States met all relevant Federal requirements. Under full oversight, FHWA retains review and approval responsibilities for project design, plans, specifications, estimates, right-of-way certification statements, contract awards, inspections and final acceptance. When projects are not designated for full oversight, these responsibilities are typically delegated to the States through Stewardship and Oversight Agreements.

Given FHWA's responsibility to provide effective stewardship and oversight of ARRA funds, we initiated this audit to (1) determine whether FHWA's full oversight inspections detected instances of noncompliance with select Federal requirements and (2) assess whether FHWA's oversight guidance adequately defines full oversight procedures needed to ensure a comprehensive review of projects during construction.

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<sup>1</sup> American Recovery and Reinvestment Act, Pub. L. No. 111-5 (2009).

To conduct our audit, we performed a detailed review of project activities to test the effectiveness of FHWA's full oversight on 9 randomly selected ARRA full oversight projects out of 125 in Florida, Michigan, and Pennsylvania. The select Federal requirements we reviewed were from the United States Code and the Code of Federal Regulations related to progress payments, labor compliance and disadvantaged business enterprise participation, change order and claims management, quality control and quality assurance, and project closeout. To assess FHWA's oversight of progress payments made to contractors, we selected a statistical sample of progress payment line item transactions made on the sampled projects, which allowed us to project the total amount of unsupported progress payments on 125 ARRA full oversight projects in these 3 States. We also evaluated the full oversight inspection reports FHWA prepared on 15 projects—the 9 projects noted above plus 6 other ARRA-funded full oversight projects. The six projects were the highest funded ARRA projects located in Florida; Michigan; New Jersey; Pennsylvania; Washington State; and Washington, DC. We also evaluated applicable FHWA construction oversight and inspection guidance. We conducted our work in accordance with generally accepted Government auditing standards.

## **BACKGROUND**

In the early stages of ARRA implementation, FHWA delegated authority to its Division Offices to develop a comprehensive ARRA risk management plan to minimize, monitor, and eliminate identified project risks. Although State departments of transportation are primarily responsible for project supervision and control of federally funded projects, FHWA routinely conducts program reviews and implements full oversight inspections on selected projects when the construction phase of work begins. These inspections are used to fulfill FHWA's construction program oversight responsibilities on both design-bid-build and design-build contracts,<sup>2</sup> which use a variety of progress payment methods.<sup>3</sup> Division Offices identify the risk areas they consider important enough to be inspected during full oversight, while individual engineers determine the level of review to be performed and the amount of documentation needed.

According to FHWA guidance, the purpose of the resulting inspection reports is to (1) provide permanent file evidence that inspections are being completed as required by Federal regulations; (2) provide a basis for acceptance of completed

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<sup>2</sup> A design-bid-build project separates the design contract from the construction contract, while a design-build project consolidates the design and construction work into a single contract.

<sup>3</sup> Progress payments made on design-bid-build construction work are generally paid based on installation or delivery of unit-priced contract items, such as the number of cubic yards of concrete. Progress payments made on design-build construction work are generally paid based on a lump-sum contract which may include a payment schedule similar to a unit-priced contract or may be paid using an estimate of the percentage of project completion.

work; (3) document field conditions, contractor performance, and the States' management of projects; and (4) document FHWA's role, observations, findings, resolution of identified problems, claims, and any other topics of interest.

The Division Office engineer (also known as the area engineer, transportation engineer, inspecting engineer, or highway engineer) is FHWA's principal agent involved in the full oversight of highway projects. FHWA provides elective but not mandatory guidance to its engineers on planning, conducting, and reporting on the results of project visits, and emphasizes the need for inspection reports to stand on their own merit, so that report users can easily understand the scope and results of inspections.<sup>4</sup>

The recently enacted surface transportation authorization,<sup>5</sup> Moving Ahead for Progress in the 21st Century Act (MAP-21), retains FHWA's oversight responsibility for projects designated as high risk; therefore, lessons learned from FHWA's full oversight of ARRA projects could be instructive going forward as FHWA reassesses its oversight processes.

## RESULTS IN BRIEF

While Florida, Michigan, and Pennsylvania generally complied with Federal requirements for quality control and quality assurance, FHWA full oversight inspections did not always detect instances of States' noncompliance with other Federal requirements. Specifically, FHWA Division Offices did not routinely verify whether these States complied with some Federal requirements. For example, we found that these States did not have adequate support for 28 of the 141 progress payment line item transactions randomly selected for review. Based on this sample, we project that \$125.6 million (about 12 percent) in ARRA progress payments made to contractors in these three States were unsupported.<sup>6</sup> Adequate supporting documentation is important to ensure that contractors are paid according to the work delivered and installed. Further, in Michigan and Pennsylvania, we identified instances of noncompliance with Federal regulations related to labor and disadvantaged business enterprise (DBE) participation,<sup>7</sup> as well as change order justifications. For example, in Michigan, none of the three projects we reviewed had documented evidence that the State conducted project

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<sup>4</sup> This inspection report form is the primary means for communicating the results of project oversight. All information gathered during inspections may be kept in the work papers and filed with the file copy of the report.

<sup>5</sup> Moving Ahead for Progress in the 21st Century, Pub. L. No. 112-141 (July 2012), § 1503.

<sup>6</sup> We estimate with 90-percent confidence that the amount of unsupported payments in our three-state universe is \$125.6 million or about 12 percent of a \$1 billion total universe (+/- \$30.7 million or 3 percent).

<sup>7</sup> Department of Transportation (DOT) DBE regulations require state and local transportation agencies that receive DOT financial assistance to establish goals for the participation of DBEs.

reviews<sup>8</sup> to verify that the DBE firm was supervising and controlling the work being performed, as required by Federal regulations.

FHWA guidance does not adequately define full oversight. Rather, FHWA allows each of its Division Offices to determine the type, scope, and consistency of project inspections and the extent of supervision needed. As a result, FHWA Division Offices rarely prepared written plans to identify which construction activities would be inspected, did not fully document oversight procedures performed or justify why they excluded some Federal requirements and the related risk areas from their review, and—contrary to FHWA guidance—had limited evidence of supervisory review of inspection reports. In addition, FHWA guidance did not establish a Headquarters or Directors of Field Services<sup>9</sup> (DFS) role to assess the quality and scope of Division Office inspections. Without a more defined approach with specified minimum procedures and a quality control assessment of their inspection process, FHWA does not have assurance that designating a project for full oversight results in a comprehensive review of project-specific risk areas to ensure compliance with Federal requirements.

We are making recommendations to improve FHWA's use of full oversight for current and future Federal-aid projects.

## **FHWA'S FULL OVERSIGHT INSPECTIONS DID NOT ALWAYS DETECT INSTANCES OF STATES' NONCOMPLIANCE WITH FEDERAL REQUIREMENTS**

While Florida, Michigan, and Pennsylvania generally complied with Federal requirements for quality control and quality assurance, FHWA Division Offices' full oversight inspections did not routinely verify whether ARRA projects we reviewed complied with other Federal requirements. As a result, FHWA inspections did not detect some cases of noncompliance. Our review of five key project activities (see table 1), found that the most prevalent noncompliance issue was related to progress payments, which States pay to contractors for work completed over the life of a project. Using a statistical sample, we found that 28 of 141 progress payment line item transactions randomly selected had incomplete

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<sup>8</sup> Per 49 CFR § 26.55, a DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved.

<sup>9</sup> FHWA's DFS serve as an extension of FHWA's Office of the Executive Director, and provide executive oversight to the Federal-Aid Division Offices in their assigned geographic area. The DFS assure that State Division Offices implement DOT and FHWA strategic policies, plan to expedite transportation project delivery, and build and enhance partnerships and coordination efforts with other Federal, State, and local agencies.

records needed to support payments made to contractors.<sup>10</sup> Based on this sample,<sup>11</sup> we project that \$125.6 million (about 12 percent) in ARRA progress payments made to contractors in these three States were unsupported. In Michigan and Pennsylvania, we also identified instances of noncompliance with Federal regulations related to labor compliance and DBE participation,<sup>12</sup> as well as change order justifications.

**Table 1. Results of Five Full Oversight Project Activities Reviewed<sup>a</sup>**

<b>Project Activities Reviewed</b>	<b>Number of Projects Reviewed</b>	<b>Number of Projects Reviewed With Instances of Noncompliance</b>
Progress Payments	9	7
Labor Compliance/DBE	9	4
Change Order/Claims	9	3
Quality Control/Quality Assurance	9	0
Project Closeout	2	0

<sup>a</sup> The five project elements included in our review represent a select portion of all the review activities that can be conducted by FHWA engineers during site inspections.

Source: OIG analysis

### **FHWA's Full Oversight Did Not Ensure That Progress Payments Were Fully Supported**

In seven of the nine projects we reviewed in Florida, Michigan, and Pennsylvania, we determined that FHWA did not routinely ensure that States made ARRA progress payments with all required supporting documentation. Specifically, we found that the files for these 7 projects had incomplete records or lacked support for quantity calculations supporting 28 of 141 progress payment line item transactions sampled. Adequate supporting documentation is important to ensure that contractors are not paid before work is completed. Additionally, project funds provided in advance may not be reimbursed should the contractor default during project construction.

<sup>10</sup> These progress payments (generally on a biweekly or monthly basis) are paid to contractors for contract items delivered and installed during construction. Before payment, the State must verify delivery and installation of the quantities billed, by comparing the quantities to the inspector field diary entries or other engineering calculations.

<sup>11</sup> We statistically sampled at least 14 progress payment line item transactions in each of the 9 projects we reviewed.

<sup>12</sup> One labor compliance issue relates to 23 CFR § 113 "Davis Bacon Act," all laborers and mechanics employed by contractors or subcontractors on the construction work performed on Federal-aid highways shall be paid wages at rates not less than those prevailing on the same type of work on similar construction in the immediate locality.

For progress payments, FHWA's full oversight role is to ensure that States' payments accurately reflected the completed work and that States collected or prepared the necessary documentation to confirm that materials were delivered and installed. Such documentation includes engineering calculations, field diary entries, or delivery tickets and is kept in the project files to support progress payments made to the contractors.

All seven of the projects with unsupported payments used a unit-priced payment method, which requires detailed documentation to support progress payments made to contractors. For four of these projects, FHWA told us that States did not have to provide precise progress payment support because they were design-build projects based on lump-sum contract prices, and this method generally requires less rigorous support for progress payments.<sup>13</sup> However, because the States voluntarily opted to use the more precise unit-price method on these projects—which requires actual measurements of materials delivered and installed (e.g., cubic yards of concrete)—when calculating progress payments, FHWA should have ensured that States provided the appropriate support. Examples of unsupported State progress payments made to contractors using the unit-price method include the following:

- For 1 project in Pennsylvania, the State did not have sufficient documentation to support 10 of 14 line item transactions we reviewed. In numerous instances, the State did not document its measurements or calculations to support the 10 line item transactions and could not reconstruct how it calculated the amount paid.
- For one project in Florida, FHWA's engineers did not detect instances in which the State was unable to support some payments made to the contractor. On this contract, costs for 7 of the 14 line item transactions we reviewed were not adequately supported. For example, the State paid for excavation work but could not justify the amount of excavation completed by the contractor when compared to the project records, such as daily diaries.
- For another project in Florida, the Division Office engineer stated that the supporting documentation for unit-price pay items<sup>14</sup> had been reviewed, but not the calculations. Further, the inspection reports did not provide any details to support the Division Office engineer's assessment.

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<sup>13</sup> When using the unit-price method, the State pays a fixed unit price for each completed unit of work, which can be measured in, cubic yards, liner feet, or other units of measure.

<sup>14</sup> In this design-build project, the State used the unit-price method to measure payments, where the contractor is paid based on planned quantities of unit-priced items, which are measured as items are delivered (e.g., cubic yards).

Based on these findings, we project that \$125.6 million in unsupported<sup>15</sup> ARRA progress payments were made in Florida, Michigan, and Pennsylvania—about 12 percent of the \$1 billion in total project payments. In addition, we found that Florida was not able to support an additional \$732,144 in progress payments made on a non-ARRA pay item. Specifically, the State made payments for 2,179 of 2,881 truckloads of embankment material that were not supported with appropriate documentation.<sup>16</sup>

### **FHWA Full Oversight Projects Showed Instances of Noncompliance with Labor, DBE, and Change Order Requirements**

FHWA did not ensure that States responsible for four of nine projects included in our sample (three in Michigan and one in Pennsylvania) fully evaluated labor compliance and DBE participation. Also, FHWA did not ensure that States responsible for three of nine projects (one in Michigan and two in Pennsylvania) complied with change order requirements, as required by Federal regulations. Specifically:

**Labor Compliance.** FHWA did not detect instances of noncompliance with labor requirements on projects we reviewed in Pennsylvania and Michigan. State project managers did not routinely verify that workers assigned to Federal projects received prevailing wages in accordance with the labor compliance requirements in the Davis Bacon Act.<sup>17</sup> For example, in Michigan, two subcontractors' certified payrolls<sup>18</sup> were not on file for one project, nor did the records show that required worker interviews were conducted to confirm the data included in the certified payrolls. This left the project office with no available evidence to show that the prevailing wages were verified for these subcontractors. FHWA's Division Office engineer did not physically check certified payroll documentation but instead relied on interviews with the State's project management team.

**DBE Participation.** FHWA did not detect instances of noncompliance in projects we reviewed in Michigan and Pennsylvania because Division Office engineers did not routinely verify the States' actions to assure projects' compliance with DBE requirements. For the three projects we reviewed in Michigan, we found no evidence that the State completed required commercially useful function reviews to verify the DBE was supervising and controlling the work being performed and using its own employees and equipment to complete the work. For two of three

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<sup>15</sup> Unsupported costs include the amounts that were not supported by engineering calculations, inspector diaries, delivery tickets or other project documents that are routinely prepared by the State engineer or submitted by the contractor.

<sup>16</sup> The unsupported amount of \$732,144 was part of non-ARRA funding, and as such, was not included in our \$125.6 million projection.

<sup>17</sup> 40 U.S.C. 3141 *et seq.*

<sup>18</sup> Certified payrolls are required to verify the payment of prevailing wages.

Michigan projects, FHWA's engineers did not review DBE compliance. According to one FHWA engineer, DBE reviews were not a Division identified focus for full oversight inspections that year; therefore, the DBE review was not included in the inspection process. Finally, on one project in Pennsylvania, the State paid over \$10,700 to a DBE trucking firm without any certification to prove that work was performed for the payroll submissions provided.

**Change Order Requirements.** FHWA did not detect instances of noncompliance with change order requirements on projects we reviewed in Pennsylvania and Michigan. In Pennsylvania, the State did not adequately document a cost analysis of negotiated change orders on two projects, as required by Federal regulations.<sup>19</sup> For example, we identified a negotiated change order for an additional digital message sign, but the change order lacked a documented cost analysis to support the \$285,182 paid with Federal funds. The State project manager informed us that a State-hired consultant provided only a verbal statement that the price was reasonable. In addition, the FHWA engineer assigned to this project did not document any reviews of the cost analysis or other components of the change order before approving it. In Michigan, the State did not sufficiently validate the time and material cost reimbursed to contractors as required by Federal regulations. For example, the State could not provide field records or other documentation to support the reimbursed costs, and the FHWA engineer assigned to the project did not examine the project files related to this change order.

## **FHWA'S GUIDANCE DOES NOT ADEQUATELY DEFINE FULL OVERSIGHT**

FHWA identified full oversight as one of the tools it would use for increased oversight of ARRA projects. However, FHWA guidance did not adequately define full oversight by identifying mandatory requirements and the minimum inspection procedures that must be performed. As a result, FHWA Division Office engineers rarely prepared written project-specific inspection plans, did not fully document oversight procedures performed or justify why they excluded some Federal requirements and the related risk areas from their reviews. Furthermore, Division Office supervisors could only demonstrate that they had a limited role in supervising planning decisions and in overseeing the preparation and completion of inspection reports. In addition, FHWA guidance does not establish a Headquarters or DFS role to assess the quality of Division Office inspections.

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<sup>19</sup> Per 23 CFR § 635, the State Highway Administration shall perform and adequately document a cost analysis of each negotiated contract change or negotiated extra work order. The method and degree of the cost analysis shall be subject to the approval of the Division Administrator.

## **FHWA Division Offices Rarely Prepared Written Project-Specific Inspection Plans**

FHWA Division Offices rarely prepared written project-specific plans before beginning required inspections on the full oversight projects we reviewed. FHWA guidance only states that inspection plans “should” be prepared and in written form and then further states that the inspection plan may vary from a very detailed plan to a “simple mental image.” Due to the lack of specific requirements, five of the six Division Offices we reviewed did not have written plans that formally identified the activities or the project-specific risks engineers planned to inspect before they began the inspections. Additionally, the role of engineering supervisors in those Division Offices was limited because they did not approve the engineers’ review plans prior to inspections. For example, in Florida, one Division Office supervisor’s involvement in planning was limited to setting the total number of inspections that engineers must complete rather than setting requirements for the project-specific risks that the engineers should review (e.g., DBE and labor compliance).

Despite the emphasis on enhanced oversight under ARRA, only one Division Office in our review—Washington State—had a project with documented plans for construction inspections. These plans provided assurance that inspections were sufficiently scoped to ensure that all appropriate State project activities were inspected during the highway project’s construction period.<sup>20</sup>

Because risks vary by State and by individual project, it is reasonable to expect that Division Offices would choose to conduct only certain inspection procedures on full oversight projects. However, without more formal planning, FHWA managers do not have assurance that their engineers will conduct inspections that address key project-specific risks or Division Office priorities.

## **FHWA’s Division Office Engineers Did Not Fully Document Oversight Procedures Performed or Reasons for Excluding Oversight of Some Federal Requirements**

FHWA Division Office engineers in the States we reviewed did not fully document the project oversight activities they performed during construction or their reasons for not reviewing States’ compliance with some Federal requirements, such as progress payment documentation. Therefore, the inspection reports and other supporting documents did not provide permanent file evidence of the project activities reviewed or the conclusions drawn, which are called for in FHWA guidance.

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<sup>20</sup> The review cycle usually starts with the pre-construction meeting and ends with the final inspection.

In many inspections we reviewed, the engineers used checklists and report templates to assess States' compliance with relevant Federal requirements. However, many engineers only included checkmarks or brief narratives to show completion of an inspection procedure, or provided limited information to establish which project documents they reviewed to support their conclusions. FHWA guidance advises Division Office engineers to make full use of project documentation and source records such as daily diaries when monitoring projects and identifying potential areas of risk.<sup>21</sup> Without this information, the Division is not assured that its engineers' independent decisions are based on potential risks associated with specific projects. For example:

- In Pennsylvania, a Division Office engineer did not fully document review procedures reported as completed. For nine of the reports we reviewed, two included an on-site construction or documentation review. However, the engineer did not fully document what specific activities were addressed during these reviews. For instance, the engineer asserted that a review of required certified payrolls was made but provided no documentation to support what was reviewed, such as dates, payments, or employee records. For the remaining seven reports, the engineer reported only attendance at project progress meetings but provided no evidence of any substantial review of project activities or State documents.
- In Florida, Pennsylvania, and Michigan, the Division Offices did not always justify excluding progress payments and DBE participation even though FHWA identified these items as areas to be considered for review. For instance, a Florida Division Office engineer stated that progress payments were not reviewed because they were not considered a priority. Likewise, a Pennsylvania Division Office engineer stated that progress payments would be reviewed only if State officials independently elevated an issue to the engineer. Lastly, a Michigan Division Office engineer did not perform a review that included the DBE requirement because, according to the engineer, DBEs were not considered a focus area.
- In Florida, FHWA guidance identified labor compliance activities as an area for review—and Florida Division Office oversight guidance describes payrolls, a labor compliance activity, as a core program requirement—but its engineers did not always review this area for compliance with Federal requirements and did not justify their reason for excluding it.

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<sup>21</sup> FHWA Construction Program Management and Inspection Guide, August 2004 (page 1-1).

## **FHWA’s Division Offices Provided Limited Evidence of Supervisory Review of Inspection Reports**

FHWA guidance recommends that at least one level of management review of inspection reports should occur before the reports are released to a State. However, Division Office supervisors in Florida, Michigan, and Pennsylvania for the nine projects we reviewed could not demonstrate how or what they reviewed, even though they stated that they were involved in the review process. Consequently, Division Office supervisors allowed Division Office engineers to issue inspection reports that did not stand on their own merit, contrary to FHWA guidance. For example, in Michigan, one Division Office engineer made an overarching “no issues” statement regarding prevailing wages in an inspection report; however, the engineer provided no documentation to support whether records were examined to support such a claim, such as contractor and subcontractor certified payroll submissions, and wage rate interviews. Despite these deficiencies, the supervisor allowed this report to be issued but was unable to demonstrate how the report was reviewed. Unless supervisors complete adequate reviews, they are not able to evaluate the completeness of engineers’ inspections or identify deficiencies in inspection reports before they are issued to a State.

## **FHWA Guidance Does Not Establish a Headquarters or DFS Role To Assess the Quality of Inspections**

FHWA guidance does not address the Headquarters and DFS roles in overseeing Division Office inspections. Further, DFS considers the supervision of project oversight to be a responsibility of the Division Administrator. As a result, neither FHWA Headquarters nor DFS performed oversight of the quality and scope of the Division Office inspection processes and reports.<sup>22</sup> FHWA oversight procedures do not specify the following:

- A method for ensuring that projects are appropriately inspected in line with FHWA-wide priorities and across all risk areas, such as adequate support for progress payments and compliance with DBE requirements.
- Procedures for selective sampling and review of inspection reports—outside of the Division Office—to ensure they are conducted consistent with FHWA guidance, which stipulates that reports are supposed to be able to stand on their own merit.<sup>23</sup>

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<sup>22</sup> Per FHWA’s Construction Management and Inspection Guide, August 2004 (page 3-5), there are several types of construction inspections that vary depending on the time at which it is conducted, the objective of the inspection, and the FHWA-State stewardship agreement criteria.

<sup>23</sup> FHWA Construction Program Management and Inspection Guide, August 2004 (page 4-5).

Without guidance establishing enhanced quality controls for the Division inspection process, FHWA does not have assurance that designating a project as full oversight actually increases the level of compliance with Federal requirements. Nor does it provide the scrutiny required for ARRA funding or for future projects designated as high risk. In our opinion, enhanced tools for monitoring inspections can be put in place while still maintaining needed flexibility across the full oversight projects overseen by the Division offices.

## **CONCLUSION**

FHWA is responsible for the effective stewardship and oversight of \$27.5 billion in ARRA funds and approximately \$34 billion in annual Federal-aid funding provided to States in 2009. Full oversight is a key tool that FHWA has designed to safeguard project delivery on selected ARRA and non-ARRA projects. While ARRA is expiring, the lessons learned from our review of ARRA full oversight as outlined in this report could help FHWA enhance construction inspections on other Federal-aid projects for which it will retain prime responsibility through MAP-21. These improvements would help FHWA use its limited resources in the most efficient and effective manner possible in its future oversight of MAP-21 high risk projects.

## **RECOMMENDATIONS**

We recommend that the Federal Highway Administrator:

1. Establish minimum oversight guidance and procedures that must be performed to complete oversight inspections for the current full oversight program or any successor programs. The guidance should include provisions to:
  - a. develop formal inspection plans, which consider FHWA-wide priorities and project-specific risks;
  - b. document evidence of procedures performed;
  - c. formally justify when a project activity is excluded from review based upon individual project risks; and
  - d. establish the levels of documentation required for each project report and file.
2. Require Division Office supervisors to:
  - a. work with the Division Office engineers to develop project-specific review plans, which address key risks, and

- b. review the resulting inspection reports.
3. Establish quality control review procedures—based on a select sample of inspection reports at either the FHWA Headquarters or DFS level—to ensure that Division Office supervisors conduct appropriate quality reviews of project-based inspection reports.
4. Require that the Florida, Michigan, and Pennsylvania Division Offices sample additional ARRA projects to further mitigate other similar instances of noncompliance with Federal requirements. In particular, ensure that the types of compliance issues similar to those used to project the \$125.6 million in unsupported progress payments are mitigated.

## **AGENCY COMMENTS AND OIG RESPONSE**

We provided FHWA with our draft report on January 17, 2013, and received its response on April 5, 2013. For recommendations 1, 2, and 3, FHWA partially concurred and cited its decision to discontinue use of full oversight and develop an alternative oversight approach to address our recommendations and new MAP-21 requirements. FHWA's planned actions to be implemented by June 1, 2013, meet the intent of recommendations 1, 2, and 3. FHWA has committed to issuing a set of review guides to the division offices that clarify inspection and documentation requirements. It will also require division offices to use a risk-based approach in identifying areas that need enhanced review and randomly select and review projects. The agency also plans to establish a quality control process that will include spot checks requiring documentation of the individual conducting them as well as a national Program Management Improvement team that will review division offices' reports. For recommendation 4, FHWA concurred and provided an acceptable plan of action to be completed by September 30, 2013. We consider all four recommendations resolved but open pending completion of the planned actions. FHWA's complete response is included as an appendix to this report.

## **ACTIONS REQUIRED**

FHWA's planned actions for all four recommendations are responsive. In accordance with the follow-up provisions in Department of Transportation Order 8000.1C, we request that FHWA provide us with information demonstrating completion of its planned actions within 10 days of completion. All four recommendations will remain resolved but open pending receipt of this information. If you have any questions concerning this report, please call me at (202) 366-5630 or Anthony Zakel, Program Director, at (202) 366-0202.

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cc: DOT Audit Liaison (M-1)

## **EXHIBIT A. SCOPE AND METHODOLOGY**

We conducted this performance audit from June 2011 through January 2013 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 determine whether FHWA's full oversight inspections detected instances of noncompliance with selected Federal requirements, we selected a four-stage statistical sample with probability proportional to expended amounts dated February 16, 2011, with replacement as follows:

- For Stage 1 we selected 3 out of 53 states and territories (Florida, Michigan, and Pennsylvania).
- For Stage 2 we selected 3 projects from each of these 3 states for a total of 9 out of 125 full oversight ARRA projects.
- For Stage 3, we selected a total of 80 progress payment line items from the 9 projects.
- For Stage 4, we selected a simple random sample of 2 line item transactions from each of the 80 progress payment line items unless only 1 transaction existed, for a total of 141 progress payment line item transactions.

On these nine projects, we performed a detailed review of the States' management of Federal requirements. We also evaluated FHWA's full oversight inspection reports prepared on 15 projects—the 9 projects noted above plus 6 other ARRA-funded full oversight projects. These six were the highest funded ARRA projects located in Florida, Michigan, New Jersey, Pennsylvania, Washington State, and Washington, DC. In each of the six Divisions we reviewed, we interviewed the FHWA engineers responsible for overseeing the selected projects and their supervisors. For the 9 projects subjected to a detailed review, we also interviewed State project managers and staff, and obtained pertinent documentation related to the projects.

Table 2 below lists the FHWA Division Offices and related States we reviewed. See exhibit B for a list of projects we reviewed.

**Table 2. ARRA Projects Selected for Review**

<b>Division Offices and Related States</b>	<b>Projects OIG Selected for Review of States' Management of Federal Requirements</b>	<b>Projects OIG Selected for Evaluation of FHWA Inspection Reports</b>
Florida	3	4
Michigan	3	4
Pennsylvania	3	4
Washington, DC	0	1
New Jersey	0	1
Washington State	0	1
<b>Total</b>	<b>9</b>	<b>15</b>

Source: OIG analysis

When conducting detailed reviews on the nine sampled projects, we evaluated construction progress payments, labor compliance and DBE participation, change orders and claims, quality control and quality assurance activities, and project closeout.

- For progress payment line items, we statistically sampled up to 14 line item transactions in each of the 9 projects. We examined available field records including the States' resident inspector calculation sheets and daily diaries to establish that the amounts paid on materials delivered or installed were supported by engineer calculations or diary postings.
- For construction change orders, labor compliance, DBE participation, and quality assurance, we requested the relevant records related to these Federal requirements. For example, we sampled up to four negotiated changes and/or time and material (T&M) for each project. We reviewed available field records for negotiated changes including contractors' proposed change estimates and requested resident inspectors' independent cost estimates and negotiation documents used to establish the final price. These documents provide some assurance that a fair price was negotiated. We validated the T&M change orders by reviewing the resident inspector's daily diaries and calculations showing the final costs. We looked for evidence in the daily diaries documenting the labor hours expended and the equipment used to do the work. We also reviewed project documentation to determine whether appropriate wage and equipment rates were used in calculations. For labor compliance and DBE participation on the nine projects, we interviewed project staff and reviewed the certified payrolls submitted by contractors and subcontractors and the wage rate interviews conducted by project staff. We also determined

whether project staff was monitoring the DBE participation rate and conducting commercially useful function reviews. For quality control and quality assurance, we reviewed available field documents including material testing reports and logs, including any exception reports, and inquired as to subsequent resolutions. We also determined whether the project was following a quality assurance program prescribing testing frequencies.

To assess whether FHWA's oversight guidance is fully defined and implemented to ensure a comprehensive assessment of full oversight projects during construction, we evaluated applicable FHWA construction oversight and inspection guidance, including the Code of Federal Regulations and FHWA's Construction Program and Management and Inspection Guide and the Area Engineer's Manual.

We also interviewed FHWA Headquarters officials and the Directors of Field Services to determine their level of oversight and management of the Division Offices' full oversight procedures on ARRA funded projects. We obtained documentation from the Division Offices, including FHWA inspection reports prepared on 15 full oversight projects and related project files. We reviewed the inspection reports' narratives to determine the procedures that FHWA's engineers used and to determine the level of review that these reports had received from FHWA management. We interviewed each of the FHWA engineers associated with the 15 projects to determine their procedures when conducting an inspection and their supervisors to determine if reviews of the engineers work were conducted.

## EXHIBIT B. PROJECTS SELECTED FOR REVIEW

<b>Project Name</b>	<b>Location</b>	<b>Federal Identification Number</b>	<b>Onsite Review (OR) or Inspection Report (IR)*</b>
"Selmon"	Florida	ARRA 279	IR
"Okaloosa"	Florida	ARRA 001	OR
"Lakeland"	Florida	ARRA 145B	OR
"Miami"	Florida	ARRA 134	OR
"M-59 Crooks to Ryan"	Michigan	0963199-00	IR
"Lansing"	Michigan	ARRA 0919015	OR
"Port Huron"	Michigan	ARRA 0977044	OR
"Kalamazoo"	Michigan	ARRA 0903321	OR
"Girard Point Bridge"	Pennsylvania	ARRA 86046	IR
"Manheim"	Pennsylvania	ARRA 75766	OR
"Tobyhanna"	Pennsylvania	ARRA 75822	OR
"Philadelphia, I-95 ITS"	Pennsylvania	ARRA 86055	OR
"Route 52 Causeway"	New Jersey	0007109-00	IR
"New York Ave Bridge"	Washington, DC	ARRA-1108027	IR
"Braided Ramps"	Washington State	4053858	IR

\*OR=Onsite review conducted and inspection reports evaluated; IR=Inspection reports evaluated.

**EXHIBIT C. MAJOR CONTRIBUTORS TO THIS REPORT**

<b>Name</b>	<b>Title</b>
Anthony Zakel	Program Director
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Harriet E. Lambert	Writer-Editor
Andrea Nossaman	Senior Writer-Editor

## APPENDIX. AGENCY COMMENTS



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

# Memorandum

Subject: **INFORMATION:** Federal Highway  
Administration (FHWA) Response to  
Office of Inspector General (OIG) Draft  
Report on Full Oversight Projects  
Project No. 11U3008M000

Date: April 5, 2013

From: Victor M. Mendez  
Administrator

In Reply Refer To:  
HCFM-1

To: Calvin L. Scovel III  
Inspector General (J-1)

The FHWA uses systematic internal controls to examine highway project compliance with Federal requirements. While no system of internal controls will realistically detect all instances of non-compliance, the Agency uses a structured, comprehensive, and well-organized approach to mitigate non-compliance risk. Even with the process limitations discussed in the report, we note that the OIG found States it reviewed to be generally compliant with Federal requirements for quality control and quality assurance.

The FHWA employed the “full oversight” approach as one of several ways to further enhance its oversight by targeting resources on projects in need of greater Federal attention and assistance. While not statutorily mandated, full oversight was intended to provide a resource-effective means to provide enhanced oversight on projects in a manner consistent with the sustained movement in statute of increasingly shared oversight responsibilities with the States. Based on our own analysis and consistent with information presented in the OIG’s draft report, we recognize the Agency’s use of full oversight has not been consistently implemented throughout the Agency. The FHWA is phasing out this “full oversight” approach and is developing a more comprehensive, risk-based oversight system.

We recently launched an Agency-wide effort to provide a more risk-based oversight focus across the Agency. This effort will position the organization to implement the Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21), which continues shared oversight responsibilities and introduces performance measures for key aspects of

surface transportation programs. The FHWA will implement those changes that are necessary to comply with new requirements and provide consistent, systematic, and comprehensive oversight across the Nation, while recognizing the unique and differing challenges among States. When fully developed, FHWA's new stewardship and oversight approach will improve existing policies and processes, provide documentable oversight, and position the Agency to address new MAP-21 requirements and performance measures.

The new stewardship and oversight approach is intended to examine Agency priorities at both the national and local level. The FHWA's risk management framework and risk assessment process are at the core of this new stewardship and oversight effort. The risk assessment process enables the Agency to identify corporate and unit risks and focus its efforts on areas that require additional stewardship and oversight. Further, FHWA will identify national project priorities and national program priorities that will result in a National Program Stewardship and Oversight Plan. Beyond these priorities at the national level, FHWA will also provide guidance for a more consistent identification of program and project priorities for Division Offices. Field units will employ a risk-based oversight approach to identify focus areas that require enhanced review or inspection according to program and project priorities.

The Program Management Improvement (PMI) Team will provide a second layer of oversight to help achieve greater national consistency in implementation. It will implement mechanisms such as statistically oriented project sampling (or spot check program) and national program reviews to provide added quality assurance for the Federal-aid highway program (FAHP). The FHWA is evaluating input affecting all aspects of FAHP to ensure that the Agency effectively manages high-risk program areas in a resource constrained environment. Part of this effort is to assess and document performance of lower-risk program areas as well. The FHWA expects that the process to improve upon stewardship and oversight will require continuous improvement and refinements over a period of performance cycles.

The FHWA's revised stewardship and oversight approach will help address OIG's recommendations and continue to provide comprehensive oversight for FAHP.

### **OIG Recommendations and FHWA Responses**

**Recommendation 1:** Establish minimum oversight guidance and procedures that must be performed to complete oversight inspections for the current full oversight program or any successor programs. The guidance should include provisions to: a) develop formal inspection plans, which consider FHWA-wide priorities for project-specific risks; b) document evidence of procedures performed; c) formally justify when a project activity is excluded from review based upon individual project risks; and d) establish the levels of documentation required for each project report and file.

**Response:** Concur in part. As discussed above, FHWA is discontinuing the use of the full oversight process that was the primary subject of the OIG report. The FHWA is developing a more data-driven and consistent approach to project level oversight across the Agency. Along with the PMI Team's national oversight role, FHWA is also developing a set of inspection review guides to be used by the Divisions that will clarify expectations for inspection and documentation requirements as part of the spot check program. These inspection review guides will provide consistent guidance and procedures to review key project development and delivery areas, such as right of way, environment, and contract administration. The results of spot check reviews will be evaluated at both the national and local levels to set baselines for determining potential project risk areas. Upon completion, these guides will fulfill the intent of this recommendation and will be implemented by June 1, 2013.

**Recommendation 2:** Require Division Office supervisors to: a) work with the Division Office engineers to develop project-specific review plans, which address key risks, and b) review the resulting inspection reports.

**Response:** Concur in part. The FHWA's revised stewardship and oversight approach as described above will require that Division Offices use a risk-based oversight approach to identify program or project areas that require enhanced review or inspection. Consistent with the intent of the recommendation, the new risk-based oversight approach will also require FHWA units to use the inspection review guides as part of the spot check program to address unit-specific project priorities and risks. As an added layer of control, completed spot check reports will require documentation of the individual who conducted the review, as well as the individual who reviewed the report. The spot check program will be implemented by June 1, 2013.

**Recommendation 3:** Establish quality control review procedures – based on a select sample of inspection reports at either the FHWA Headquarters or Directors of Field Services level – to ensure that Division Offices supervisors conduct appropriate quality reviews of project-based inspection reports.

**Response:** Concur in part. As described in the response to recommendation 1, to improve quality control consistency across project reviews, FHWA embedded in the new stewardship and oversight approach a spot check program that will be managed by the PMI Team to establish a more uniform inspection and review approach across the Agency. As part of this approach and for projects identified for increased oversight, FHWA is implementing the use of inspection review guides that encompasses key project development and delivery areas. Developed in consultation with headquarters and the Directors of Field Services, inspection review guides will include key areas such as right of way, environment, and contract administration. Division Offices will complete reviews on randomly selected projects, and reports will be submitted to the PMI Team as they are completed throughout the year. The PMI Team will conduct quality assurance reviews for the spot check program annually, which will provide quality control reviews consistent with the intent of this recommendation. The spot check program will be implemented by June 1, 2013.

**Recommendation 4:** Require that the Florida, Michigan, and Pennsylvania Division Offices sample additional American Recovery and Reinvestment Act (Recovery Act) projects to further mitigate other similar instances of noncompliance with Federal requirements. In particular, ensure that the types of compliance issues similar to those used to project the \$125.6 million in unsupported progress payments are mitigated.

**Response:** Concur. The FHWA will require that the three Division Offices conduct a Federal-aid billing transaction review for FY13. These reviews will enhance financial oversight and ensure States have both adequate controls and sufficient supporting documentation for FAHP and remaining Recovery Act projects. The review of a State's billing system will provide focused analysis to help the Division Offices determine if the State project accounting system is tracking financial data properly, accurately, and effectively. This type of review emphasizes an evaluation of internal controls designed to reduce the risk of errors and improper payments. A billing transaction review looks at established processes and procedures used by the State to ensure there are proper controls over authorization and accuracy of data entry. Additionally, samples of transactions are tested against source documentation. The billing transaction review will be completed by September 30, 2013.

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The FHWA appreciates the opportunity to respond to the draft report. If you have any questions or comments regarding this response, please contact Walter C. Waidelich, Jr., Director of Field Services–West, at (801) 955-3530.