Source: Massachusetts DOT

U.S. Department of Transportation
Federal Highway Administration

WORK ZONE MANAGEMENT PROGRAM

FACTSHEET

INNOVATIVE HIGHWAY PROJECT DELIVERY METHODS: Safety Contingency Funding

Change orders are the traditional mechanism used to address unforeseen conditions that arise during construction. Unfortunately, when unexpected traffic safety concerns are identified during the project, the time and labor required for processing and approving a change order may impede efforts to address the safety issues quickly and efficiently. Establishing a safety contingency fund on a project can significantly reduce these impediments and improve safety much more quickly.

Examples of Safety Contingency Funding Initiatives

For the past several years, the Texas Department of Transportation (TxDOT) has been incorporating safety contingency funding into its projects.[1] More recently, the Michigan Department of Transportation (MDOT) pilot tested the establishment and use of safety contingency funds on a sample of projects.[2] The Washington State Department of Transportation (WSDOT) has also started including a new bid item labeled "work zone safety contingency" into its plans, specifications, and estimates (PS&E) packages.[3] **Table 1** summarizes some of the key differences between the three initiatives.

Table 1. Comparison of the TxDOT, MDOT, and WSDOT Safety Contingency Funding Initiatives.

Parameter	TxDOT[1]	MDOT[2]	WSDOT[3]
What is the status of the initiative?	• The initiative is integrated into TxDOT workflows and processes.	• A pilot program effort was designed to encourage innovative thinking of ways to improve safety on a project.	• Integrated into WSDOT workflows and processes.
How is the initiative administered?	• A State force account item designated "Safety Allowance" is required for all construction contracts, unless reasons not to include are explicitly provided. • Funds do not need to be spent if they are not needed.	• Project engineers/managers prepare a special provision for safety contingency proposal form about the innovation to be deployed on the project.	• A new bid item "work zone safety contingency" is included on contracts and will be paid as a force account. • Funds do not need to be spent if not needed.
How is the amount of funding determined?	• TxDOT guidance is to provide 2–5 percent of the overall contract amount in the force account. • Districts determine the actual amount to include in the bid package for each project.	• The project engineer/ manager determines the needed funding amount to deploy the proposed innovation.	• Based on the Engineer's estimate of the total project: Engineer's Project Estimate / Amount of Contingency Funding < $5 million / $25,000 $5–$10 million / $50,000 >$10 million / $75,000

[1]See *Using Safety Contingency Funding to Address Unforeseen Safety Needs During Construction in Texas*, FHWA-HOP-20-009, for more information. Accessible at https://ops.fhwa.dot.gov/publications/fhwahop20009/index.htm.
[2]"Work Zone Safety Task Force" (WZSTF). MDOT. Accessible at https://workzonesafety-media.s3.amazonaws.com/workzonesafety/files/documents/SWZ/MichSafetyContFund.pdf.
[3]*Work Zone Safety Contingency*, Construction Bulletin #2022-04. WSDOT. November 2, 2022. Accessible at https://wsdot.wa.gov/sites/default/files/2022-11/ConstructionBulletin2022-04.pdf.

Parameter	TxDOT	MDOT	WSDOT
How are project engineers/ managers made aware of the program?	• It is included in the bid item checklist in TxDOT Plans, Specifications, and Estimates Preparation Manual (PS&E) Manual.[4]	• MDOT's Work Zone Safety Task Force (WZSTF) reaches out to project managers for potential projects.	• Statements have been included in the agency's General Special Provisions (GSPs)[5] and a construction bulletin has been developed.
How are decisions made on the need to use the funding?	• They are mutually agreed upon by project engineer/ manager and the contractor.	• The submitted proposal is reviewed by MDOT's WZSTF to determine whether to authorize the funds to be added to the project.	• Mutually agreed upon by project engineer and the contractor.

The TxDOT and WSDOT approaches are to allocate funds as part of the project bid package without specifying exactly how the funds will be used. Conversely, the MDOT approach reviews proposals to add an innovation (and associated funding) to a project once it is underway. The process for deciding whether to utilize safety contingency funds for an innovation is more extensive in the MDOT approach, requiring preparation of a proposal and review by the Statewide WZSTF.[4] With the TxDOT and WSDOT approaches, decisions on using the contingency funding are made via mutual agreement by the Department's project engineer or manager and the contractor.

These types of funds have been, and can be, used for a wide range of unforeseen or innovative safety-related needs on a project. For example, a project in Michigan was experiencing frequent queues and, as a direct result, an increase in crashes. A proposal to add a queue warning (i.e., a stopped traffic advisory) system was prepared and submitted for review and approved. The cost of the system, approximately $225,000, including the cost of operating the system for 3 years, was then added to the project contract.

Other examples of safety improvements added to projects via safety contingency funding in Texas include:

- Deploying additional portable changeable message signs and speed trailers
- Making changes to lane or road closure layout to improve traffic safety
- Hiring additional off-duty police officers to deal with unexpected situations
- Procuring smart work zone technology not initially envisioned to be needed on the project
- Shifting traffic onto the shoulder to better separate workers from traffic
- Procuring nighttime lighting due to a need to move work activities to nighttime hours to reduce traffic congestion and queuing

All the expenditures for safety contingencies in Texas were paid using 100 percent State funds, since not all of the safety improvements implemented were eligible for Federal participation.

[4]See *PS&E Preparation Manual*. TxDOT. October 2017. "Chapter 3: Specifications," "Section 6: General Notes Checklist." Accessible at **http://onlinemanuals.txdot.gov/txdotmanuals/pse/general_notes_checklist.htm**.
[5]See WSDOT *General Special Provisions,* "Division 1 General Requirements" (Items 1-10.2.OPT1.GR1, !-10.4(3).OPT1.FR1, 1-10.5(2) OPT7.GR1). Accessible at **https://wsdot.wa.gov/engineering-standards/all-manuals-and-standards**.

WSDOT has explicitly identified seven items that will be eligible for contingency funding using State funds:

- Additional Class A or B signing
- Additional portable changeable message signs or arrow boards
- Automated flagger assistance devices
- Radar speed display trailers
- Temporary rumble strips
- Mobile barriers or additional truck-mounted attenuators
- Smart work zones or queue warning systems

Meanwhile, WSDOT has identified three items that will not be eligible and so will still require a change order if additions or changes to these items are needed:

- Hiring uniformed police officers or Washington State Patrol
- Proposed changes to staging plans
- Changes to work hours

Increased Federal Share for Innovative Technologies and Practices

Section 120 of title 23, United States Code (U.S.C.) defines the Federal share generally payable on Federal-aid projects. Section 11107(1)(C) of the Infrastructure Investment and Jobs Act (Public Law 117-58), also known as the Bipartisan Infrastructure Law, amended 23 U.S.C. 120(c)(3) to include contractual provisions that provide safety contingency funds to incorporate safety enhancements to work zones prior to or during roadway construction activities as an example of an innovative project delivery activity that may qualify a project for an increased Federal share. (23 U.S.C. 120(c)(3)(B)(vi)). Under 23 U.S.C. 120(c)(3), the increased Federal share is available only on funds from the National Highway Performance Program (NHPP), the Surface Transportation Block Grant Program (STBGP), or the Metropolitan Planning Program (MPP).[6]

The added language does not increase a State Department of Transportation's (State DOT's) apportionment of Federal funding. Thus, State DOTs must decide how best to assign their apportioned funds between project delivery and work zone safety-related costs. In addition, a State DOT project using this increased Federal share provision must be determined to qualify under 23 USC 120(c)(3) and must conform with all requirements under 23 U.S.C. 120(c)(3).[7] For instance, in each fiscal year, a State DOT may only use its authority for increased Federal share up to 10 percent of its combined apportionments for the NHPP, STBGP, and MPP (23 U.S.C. 120(c)(3)(C)(i)). In addition, the overall Federal share payable on account of a project, program, or activity described under the 23 U.S.C. 120(c)(3) may be up to 100 percent but may only be increased up to 5 percent of the total project cost (23 U.S.C. 120(c)(3)(C)(ii)). This means that for projects that are funded at the standard 80 percent Federal/20 percent State funds proportion under 23 U.S.C. 120(b), the costs for innovative safety improvements could be paid with 85 percent Federal/15 percent State funds. As an example, the Federal share payable on a State DOT's project is $225,000. If the use of contractual provisions that provides safety contingency funds to incorporate safety enhancements to work zones is determined to meet the requirements in 23 U.S.C. 120(c)(3), then the Federal share could increase from $180,000 under the 80/20 split to $191,250 under an 85/15 split, reducing the State DOT's share of the cost by $11,250.

[6] *Bipartisan Infrastructure Law: Federal Share* fact sheet. FHWA. Accessible at https://www.fhwa.dot.gov/bipartisan-infrastructure-law/fedshare_fact_sheet.cfm.
[7] *Increased Federal Share for Innovative Project Delivery Questions & Answers*, FHWA. Accessible at https://www.fhwa.dot.gov/innovation/resources/increased_federal_share.cfm.

Safety Contingency Funding Helps Elevate the Importance of Safe Work Zones

The safety of highway workers and the traveling public is a top priority for the USDOT. In fact, improving work zone safety is now an explicit action item in the USDOT's National Roadway Safety Strategy.[8] In addition, a number of States have adopted a safe system approach toward achieving a vision zero goal of zero roadway fatalities and serious injuries, including in work zones (see **figure 1**).

Source: Federal Highway Administration.
Figure 1. *United States Department of Transportation's Safe System Approach.*

As illustrated in **table 1**, there are multiple ways of administering safety contingency funding. The two identified approaches that States have used to date have been:

- Automatically include safety contingency funding as a force account bid item in each contract to be accessed if needed to address an unforeseen safety issue.
- Establish centralized oversight and funding for innovations that project engineers propose to use to address unforeseen safety issues.

Adopting a safety contingency funding approach to address unmet work zone safety needs can reduce the time required to address those needs. Likewise, the increased Federal participation of safety contingency funding as an innovative project delivery method under 23 U.S.C. 120(c)(3) can be an important incentive to States that may be aware of a new strategy or technology that appears to have potential safety benefits but has not yet been previously tried in that State.

Finally, there are likely other ways in which a safety contingency fund can be administered in addition to the above examples. Regardless of how such funds are administered, it is important to make the process relatively easy for contracting agencies and contractors to utilize. At the same time, it would be valuable for States to monitor and evaluate how well the use of such a method appears to reduce work zone safety issues.

[8] *2023 Progress Report on the National Roadway Safety Strategy*. 2023. U.S. Department of Transportation, Washington, DC. Accessible at https://www.transportation.gov/sites/dot.gov/files/2023-02/2023-Progress-Report-National-Roadway-Safety-Strategy.pdf.

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