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# **COLORADO STATEWIDE HISTORIC BRIDGE INVENTORY**

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16. Abstract <p>The purpose of the Colorado statewide historic bridge inventory was to document and evaluate the National Register of Historic Places eligibility all on-system highway bridges and grade separation structures built in Colorado between 1959 and 1968. The results of this study were to be documented in a searchable database, in individual historic bridge site forms, and in Multiple Property Documentation Form (MPDF), a report that includes a historic context and provides guidance for evaluating historic properties. The project scope also included an update to information about the listed, eligible, or possibly eligible bridges identified in CDOT's previous bridge inventories from 1983, 1987, and 2000. The project was not completed during the contract period, so all of the data is in draft form and there are no results to report.</p> <p>Implementation: The results of the inventory will be used by the history staff at CDOT Headquarters and Regions 4 and 6 in coordinating compliance with Section 106 of the National Historic Preservation Act for projects involving bridge replacement and repair. It will be distributed to each of the CDOT transportation regions for use in project planning. The survey will also be used by the Colorado Office of Archaeology and Historic Preservation (OAHP) and local historical societies, preservation groups, certified local governments, and other organizations interested in historic bridges. The results of the study will be distributed to agencies and groups and once the study has been completed, a copy of the inventory will be housed at the Colorado OAHP for use by historians, consultants, preservation groups, and members of the public.</p>					
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The authors of this report also wish to acknowledge the capable assistance of Steve White, Bridge Management EP Tech III with the CDOT Staff Bridge Branch.

## **EXECUTIVE SUMMARY**

The purpose of the study was to evaluate for National Register of Historic Places (NRHP) eligibility the on-system highway bridges in Colorado built during the 1959 - 1968 period. The scope of work also involved an update to CDOT's three previous bridge inventories (completed in 1983, 1987, and 2000) to evaluate the condition of NRHP-listed, eligible, and possibly eligible bridges from those studies and re-evaluate their NRHP eligibility status.

The study is needed to assist CDOT in its compliance with Section 106 of the National Historic Preservation Act, which requires federal agencies to assess the effect of their undertakings on historic properties. CDOT historians will be able to use the results of the inventory to streamline the Section 106 review of projects involving bridges determined not eligible in the survey, and will know when to budget more time for the clearance process for replacement projects involving bridges determined eligible.

Because this study was not completed in the contract period, and all materials submitted were in draft form, there are no research results. CDOT's Environmental Programs Branch plans to complete the study in the next year and a link to the final report will be posted on the Research Branch's website.

### **Implementation Statement**

The results of the inventory will be used by the history staff at CDOT in coordinating compliance with Section 106 of the National Historic Preservation Act for projects involving bridge replacement and repair. It will be distributed to each of the CDOT transportation regions for use in project planning. The survey will also be used by the Colorado Office of Archaeology and Historic Preservation (OAHP) and local historical societies, preservation groups, certified local governments, and other organizations interested in historic bridges. The results of the study will be distributed to agencies and groups, and a copy of the inventory will be housed at the Colorado OAHP for use by historians, consultants, preservation groups, and members of the public.

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# INTRODUCTION

## Background

For all of its construction projects, CDOT is responsible for ensuring compliance with Section 106 of the National Historic Preservation Act of 1966 (Section 106) and Section 4(f) of the Department of Transportation Act of 1966. Section 106 requires that federal agencies evaluate the effect of their undertakings on historic properties. CDOT carries out the Section 106 compliance process on behalf of the Federal Highway Administration (FHWA). The Section 106 process involves identifying historic properties, evaluating effects to properties, and mitigating adverse effects to historic properties. In order to determine if a property is significant, historians evaluate it against the National Register of Historic Places (NRHP) criteria. To qualify for eligibility to the NRHP, properties must be significant for association with events, significant people, or must be an example of architecture or engineering. Typically, properties that are 50 years or older are evaluated for eligibility. Once CDOT historians have identified properties and assessed effects, they are required by Section 106 to consult with the State Historic Preservation Officer (SHPO) and other interested or consulting parties, about those findings. Concurrence on eligibility and effects is sought from SHPO and consulting parties in order to move forward with the Section 106 process and ultimately, to clear the project for construction. CDOT is also responsible for compliance with Section 4(f), a substantive law that applies to properties listed in or eligible to the NRHP. Because the process of going through Section 4(f) is lengthy, it is important for CDOT to know which properties are eligible and will be impacted by projects.

Among the many resources that CDOT historians evaluate in the field are vehicular bridges. Highway projects can involve a variety of effects to bridges, including everything from minor maintenance and rehabilitation, to replacement. Like other resources along project corridors, bridges that are 50 years or older must be evaluated to determine if they are eligible to the NRHP. Since 1983, CDOT has conducted three statewide bridge surveys to aid in streamlining the Section 106 process. Each survey resulted in the evaluation of hundreds of on and off-system bridges statewide. The most recent survey—completed in 2000—documented bridges constructed up to 1958. In the next few years, bridges that were not covered in the 2000 survey will reach the 50-year age requirement and will need to be evaluated as part of the Section 106

review process. An inventory of bridges constructed between 1959 and 1968 is necessary to save time and streamline Section 106 review. The bridge inventory will also save time with regard to field work. When a project involves impacts to a bridge, the CDOT historians can check the bridge inventory and if the bridge has already been evaluated, a field survey of the structure is not necessary.

The bridge inventory will be an invaluable tool for CDOT historians and will save countless hours of field survey and Section 106 consultation time, which expedites project delivery for transportation projects involving bridges. The inventory will also provide a wealth of historical background information about the state's historic bridges and bridge development in Colorado.

### **Study Objectives and Scope of Study**

The objective of the study was to evaluate for NRHP eligibility the vehicular bridges and grade separations currently maintained in CDOT's Structure Inventory and Appraisal (SI&A) listing as having been built between 1959 and 1968, and to document this effort through a Multiple Property Documentation Form (MPDF), a searchable database, and bridge inventory forms for each structure. The scope also included an update of CDOT's three previous historic bridge inventories to ascertain and document any changes in condition of all bridges identified as listed, eligible, or possibly eligible for the NRHP, and to determine if the eligibility status for those bridges had changed based on changes to the structure.

The following tasks were undertaken to meet these objectives. None of these tasks were finalized and remain incomplete.

\*A customized computer database was developed based on CDOT Staff Bridge's SI&A general database. The database included locational, structural and historical information for all of the structures.

\*A draft MPDF was prepared. This document was formatted according to National Park Service requirements and included a historic context, associated property types, geographical data, evaluation methods, a bibliography, and tables and figures. Several drafts of this document were



reviewed by CDOT staff and staff from the Colorado Historical Society and the Office of Archaeology and Historic Preservation (OAHP). The document is still in draft form and needs to be revised.

\*CDOT inspection photographs of every bridge built between 1959 and 1968 were reviewed to eliminate bridges with obvious integrity problems. For every bridge in the inventory, a six-page Bridge Inventory Form was prepared, presenting locational, structural and historical information, as well as a location map and photographs. NRHP eligibility for each bridge was evaluated according to the registration requirements developed as part of the draft MPDF. Using these criteria, 20 structures were preliminarily identified as eligible for the NRHP. These forms are still in draft form and will need to be revised.

\*The three previous statewide historic bridge inventories from 1983, 1987, and 2000 were evaluated to identify which bridges would require additional evaluation. Combining the structures from these previous inventories and updates, 712 bridges and grade separations were identified for further evaluation. A Microsoft Access database was produced that includes data about all of these structures. The consultant reviewed photographs and data from the previous inventories and compared them with photographs and data provided by the CDOT's Staff Bridge to ascertain which of the structures have been altered or demolished. Of the structures evaluated in that effort, it was determined 151 have been demolished and 152 had alterations of note. Most of these alterations involve changes to or replacement of guardrails. Draft forms were produced for all of the 712 bridges in the database, regardless of change of status. The forms are in draft form and will need to be revised.

## **CONCLUSIONS AND RECOMMENDATIONS**

The tasks associated with the historic bridge inventory project were not finalized during the contract period and all of the associated deliverables for this project are incomplete. CDOT's Environmental Programs Branch is in the process of re-evaluating the project scope and planning the completion of the study. When the study is complete, a link to the report will be provided on the Research Branch's website.

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