

ARCHAEOLOGICAL RESOURCES
TECHNICAL MEMORANDUM

FOR THE

Federal Boulevard Improvements between
West 7th Avenue and West Howard Place
Environmental Assessment

Prepared for

CITY AND COUNTY OF DENVER

COLORADO DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

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CONTENTS

Introduction	1
Federal Regulations and Policies	1
PEL Study Summary	2
Proposed Action	3
No-Action Alternative	5
Methodology	6
Existing Conditions.....	6
Impact Assessment	6
Mitigation Measures.....	7
Required Permits	7
Future Stakeholder Coordination	7
References.....	8

FIGURES

Figure 1. EA Project Area	1
Figure 2. Proposed Action	3
Figure 3. No-Action Alternative between West 7 th Avenue and West 10 th Avenue	5
Figure 4. No-Action Alternative between West 10 th Avenue and West Howard Place.....	6

TABLES

Table 1. Archaeological Resources Impacts	6
Table 2. Archaeological Resources Mitigation Measures.....	7

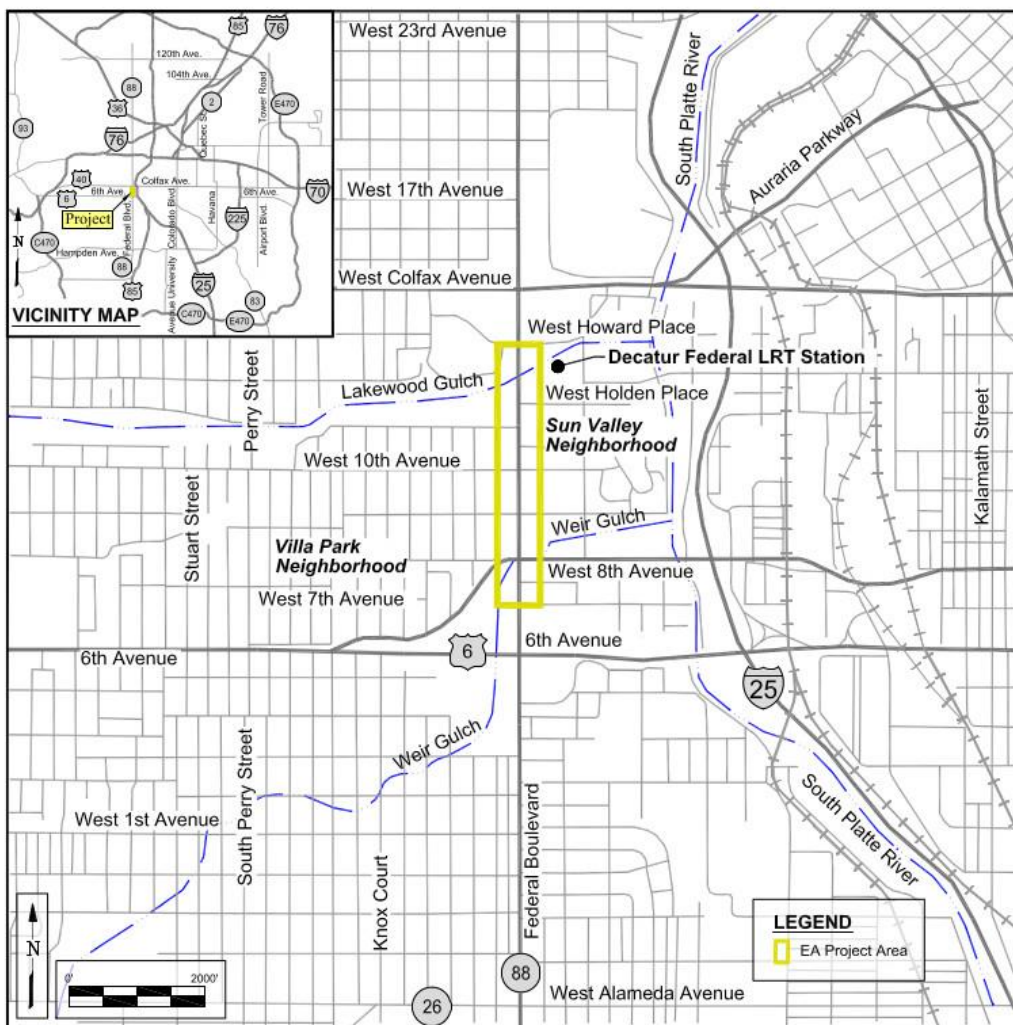
ACRONYMS

APE	Area of Potential Effect
AASHTO	American Association of State Highway and Transportation Officials
CDOT	Colorado Department of Transportation
EA	Environmental Assessment
FHU	Felsburg Holt & Ullevig
FHWA	Federal Highway Administration
NHPA	NATIONAL HISTORICAL PRESERVATION ACT OF 1966
NRHP	National Register of Historic Places
OAHP	Office of Archaeology and Historic Preservation
PEL	Planning and Environmental Linkages
SHPO	State Historic Preservation Officer
US	United States

INTRODUCTION

This Technical Memorandum has been prepared in support of *the Federal Boulevard Improvements Environmental Assessment (EA)*. The general project area extends from West 7th Avenue to West Howard Place along Federal Boulevard (“Project Area”, Figure 1). This Memorandum evaluates the effects of the Federal Boulevard Improvement Project (the Proposed Action) and the No-Action Alternative with respect to archaeological resources in the Project Area. The study area used in this assessment encompasses the actual limits of disturbance, including areas that would be impacted as a result of right-of-way acquisitions (“Study Area”).

Figure 1. EA Project Area



Federal Regulations and Policies

Significant archaeological resources are considered by Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, as well as Section 4(f) of the U.S.

Department of Transportation Act of 1966. Significant archaeological resources are those that are listed, or may be eligible to be listed, on the National Register of Historic Places (NRHP). Sites qualifying for inclusion on the NRHP must retain 1) sufficient integrity (of location, design, setting, materials, workmanship, feeling, and association) and 2) meet one or more of the eligibility criteria specified in 36 *Code of Federal Regulations* (CFR) 60.4. To merit NRHP-eligibility or listing, a site must meet one or more of the following specific eligibility criteria from 36 CFR 60.4:

- A. Be associated with events that have made a significant contribution to the broad patterns of our history
- B. Be associated with the lives of persons significant in our past
- C. Embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction
- D. Have yielded, or may be likely to yield, important information for our knowledge of prehistory or history

Important archaeological resources must be identified and considered during planning for Federally-assisted transportation projects, in accordance with Section 106 of the NHPA. The Section 106 review process consists of the following steps:

1. Define an Area of Potential Effect (APE)
2. Identify archaeological resources through a file search and field surveys
3. Evaluate the significance of archaeological resources by applying the NRHP criteria
4. Assess impacts to significant (i.e., NRHP-eligible or listed) resources by applying the criteria of adverse effects
5. Consult with the State Historic Preservation Officer (SHPO) and consulting parties concerning NRHP-eligibility findings and determinations of effect
6. Resolve adverse effects, in consultation with the SHPO, consulting parties, and the Advisory Council on Historic Preservation

PEL STUDY SUMMARY

A Planning and Environmental Linkages (PEL) Study was completed for the area in 2009 (FHU, 2009). At that time, a file search with the Office of Archaeology and Historic Preservation (OAHP) determined that no prehistoric or historic archaeological sites had been identified within the APE and a field survey indicated that there were no undisturbed, vacant parcels within the PEL Study's project area that might have the potential to contain archaeological resources. The Proposed Action and the No-Action Alternative would consequently have no impacts to archaeological resources.

The PEL Study stated that if any archaeological resources, such as artifacts, faunal remains, or features, were to be encountered or unearthed during project construction, such work would be immediately halted in the vicinity of the resource, and the Colorado Department of Transportation (CDOT) senior archaeologist and the Colorado SHPO would be promptly notified. The site of the resource would be secured and work would remain halted until it could be evaluated and/or removed by a qualified professional archaeologist. If warranted, additional archaeological testing or data recovery could be accomplished before work resumed in the vicinity of the resource.

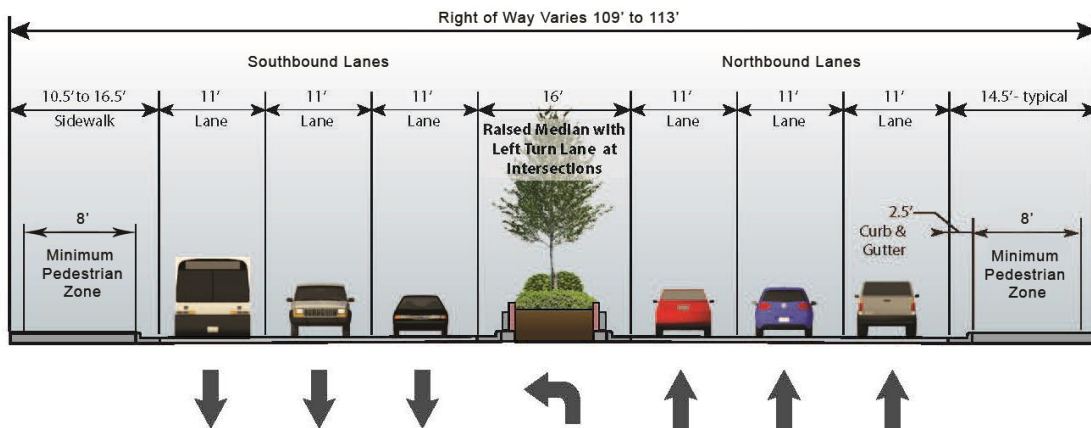
If bones of potential human origin are discovered during construction, ground-disturbing work would be halted in the vicinity of the discovery immediately, and the CDOT senior archaeologist will be promptly notified. The CDOT senior archaeologist would assess the find, and the Denver County Coroner would be summoned, as necessary, to determine the relative age and ethnicity of the respective individual(s). Work would not resume in the vicinity of the find until clearance is granted by CDOT.

PROPOSED ACTION

The Proposed Action is to add a third northbound lane between West 7th Avenue and West 10th Avenue and a raised median throughout the Project Area to improve mobility and safety (Figure 2). North of West 10th Avenue, the width of the existing three northbound lanes would be brought up to standard (11 feet). The existing southbound lanes would also be brought up to standard width in areas where they are currently substandard. The widening of Federal Boulevard as a part of the Proposed Action will meet AASHTO and CDOT standards.

Note that this Project Area differs from that of the PEL Study as the portion of Federal Boulevard to the south of West 7th Avenue, including the interchange with United States Highway 6 (US 6), is being addressed by the US 6 Bridges Design-Build project. However, the proposed improvements are consistent with the Proposed Action in the PEL Study.

Figure 2. Proposed Action



The widening of Federal Boulevard during the Proposed Action will meet American Association of State Highway and Transportation Officials (AASHTO) and CDOT standards. Access will be limited by controlling left-turns at non-signalized points. In the Proposed Action, the existing signalized crosswalks at the intersections of Federal Boulevard with West 8th Avenue and West 10th Avenue will be upgraded with new traffic and pedestrian signal indications and enhanced concrete crosswalks. Sidewalks on the west and east sides of the street will be brought up to Americans with Disabilities Act (ADA) standards; this will match the existing sections of Federal Boulevard to the north and south.

Access to bus service, which connects to local and regional destinations as well as the greater transit system, including the nearby West Line of RTD's LRT system, will be improved by upgrading the sidewalk to be consistent and compliant with ADA standards. Additionally, connectivity to the Weir Gulch Trail would be enhanced with better signage for the trail, reducing the curvature of the "T" intersection where the trail and sidewalk connect along West 8th Avenue, signage for the Trail, and a wider sidewalk along West 8th Avenue, all of which support the City and County of Denver's (CCD's) Bicycle Master Plan (CCD, 2001) and Denver Moves (CCD, 2011). These improvements are anticipated to improve mobility, safety, and enhance multi-modal options within the Project Area.

In summary, the Proposed Action consists of the following elements:

- Federal Boulevard roadway alignment and improvements
 - Widening Federal Boulevard from the ROW boundary on the west side of Federal Boulevard toward the east between West 7th Avenue and approximately West 10th Avenue with an additional 11-foot northbound lane
 - Restriping and widening the three northbound lanes on Federal Boulevard between approximately West 10th Avenue to approximately West Howard Place to be 11 feet wide
 - Restriping and widening the three southbound lanes on Federal Boulevard between approximately West 7th Avenue and West 10th Avenue to be 11 feet wide
- Bicycle and pedestrian improvements
 - Improving the sidewalks on the east side of Federal Boulevard between West 7th Avenue and West 10th Avenue to meet ADA standards and better accommodate pedestrians
 - Standardizing inconsistent sidewalk widths on both the east and west sides of Federal Boulevard with an 8-foot pedestrian zone consisting of either a detached 5-foot sidewalk with a 3-foot buffer or an attached 8-foot sidewalk with ADA-compliant curb ramps and driveway cuts
 - Enhancing access to the Decatur-Federal LRT station through improved multi-modal connectivity by improving the sidewalks throughout the Project Area

- Upgrading existing pedestrian signals and constructing enhanced concrete crosswalks at the signalized intersections of Federal Boulevard with West 8th Avenue and West 10th Avenue
- Enhancing bicycle and pedestrian connectivity to the Weir Gulch Trail with better signage, wider sidewalks, and access ramps
- Enhancing bicycle connectivity to Routes D-10 and D-12 by adding signage in the Project Area that meets CCD and CDOT standards

NO-ACTION ALTERNATIVE

The No-Action Alternative would leave Federal Boulevard as it currently is configured and would not provide any improvements beyond typical maintenance activities. The roadway would remain the same, with 3 southbound and 2 northbound lanes (each 9.5 to 11 feet in width) and a continuous two-way, center, left-turn median between West 7th Avenue and West 10th Avenue (Figure 3). The segment of Federal Boulevard from West 10th Avenue to West Howard Place has three southbound and three northbound lanes, and a continuous two-way left-turn median over Lakewood Gulch (Figure 4). The existing sidewalks along the both sides of Federal Boulevard in the Project Area are either narrow or not well-defined, and the curb ramps at intersections do not meet current ADA or CDOT standards. As part of State Highway, normal maintenance of Federal Boulevard would continue to be performed by CDOT. This includes the current direct discharge of stormwater to the nearby gulches.

Figure 3. No-Action Alternative between West 7th Avenue and West 10th Avenue

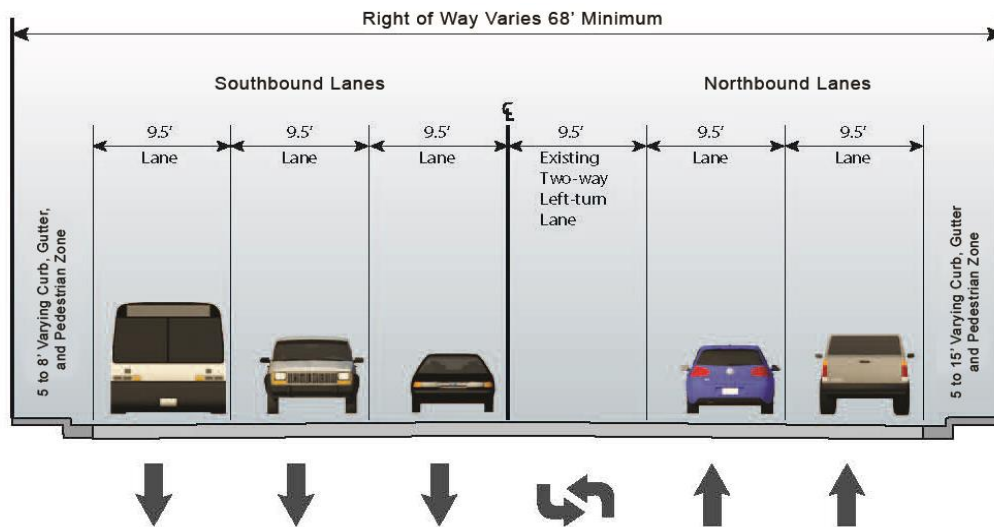
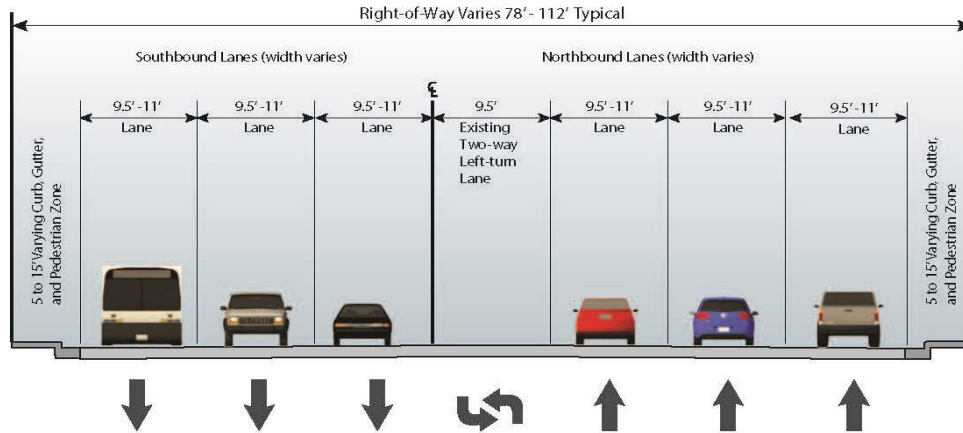


Figure 4. No-Action Alternative between West 10th Avenue and West Howard Place



METHODOLOGY

An updated file search was conducted on January 23, 2014, to determine if any new archaeological sites or individual discoveries have been recorded since the original field survey was conducted.

EXISTING CONDITIONS

The file search completed on January 23, 2014, revealed that no prehistoric or historic archaeological sites have been identified to date within the APE. Site conditions have not changed since a field survey was conducted in 2009 for the PEL Study; no undisturbed, vacant parcels with the potential to contain archaeological resources are present in the Study Area.

IMPACT ASSESSMENT

As there are no known archaeological resources in the Study Area, neither the Proposed Action nor the No-Action Alternative would anticipated to impact any archaeological resources (Table 1).

Table 1. Archaeological Resources Impacts

Resource	Proposed Action	No-Action Alternative
A file search completed in January 2014, revealed that no prehistoric or historic archaeological sites have been identified to date within the APE.	<p>Permanent Impacts:</p> <p>No permanent impacts to archaeological resources are anticipated to occur if the Proposed Action were to be implemented. However, it is unknown whether archaeological resources are present underground. If archaeological resources are</p>	<p>Permanent Impacts:</p> <p>No permanent impacts to archaeological resources would occur if the No-Action Alternative is implemented.</p> <p>Temporary Impacts:</p>

	<p>present, they could be impacted during construction.</p> <p>Temporary Impacts:</p> <p>No temporary impacts to archaeological resources are anticipated to occur if the Proposed Action is implemented.</p>	<p>No temporary impacts to archaeological resources would occur if the No-Action Alternative is implemented.</p>
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MITIGATION MEASURES

Once construction begins, if any subsurface archaeological resources are encountered or found (e.g., artifacts such as [but not limited to] historic trash [such as bottles, dishware, household or industrial items], prehistoric stone tools [such as projectile points or other flaked stone items], or historic or prehistoric features [such as foundations, stone wall remains, and hearths]), work should be immediately halted in the vicinity of the find, and the CDOT senior archaeologist should be promptly notified (Table 2). The site of the find should be secured and work should remain halted until the discovery can be evaluated and/or removed by a qualified professional archaeologist. If warranted, additional archaeological testing or data recovery could be necessary before work would be resumed in the vicinity of the find. If bones of potential human origin are discovered during construction, ground-disturbing work must be stopped immediately in the vicinity of the discovery, and the Denver County Coroner, the Denver County Sheriff, the SHPO, the Colorado State Archaeologist, and the CDOT senior archaeologist will be promptly notified. Work cannot resume in the vicinity of the discovery until clearance is granted by the cognizant officials (Table 2).

Table 2. Archaeological Resources Mitigation Measures

Resource	Proposed Action
Archaeological Resources Discovered during Construction	<p>If any subsurface archaeological resources are found, work will be immediately halted in the vicinity of the find, and the CDOT senior archaeologist will be promptly notified.</p> <p>If bones of potential human origin are discovered during construction, ground-disturbing work must be stopped in the vicinity of the discovery, and the Denver County Coroner, the Denver County Sheriff, the Colorado SHPO, the Colorado State Archaeologist, and the CDOT senior archaeologist will be promptly notified. Work cannot resume in the vicinity of the find until clearance is granted. The Contractor shall comply with CDOT standard specification 107.23 (Archaeological and Paleontological Discoveries).</p>

REQUIRED PERMITS

No permits are required as part of the Proposed Action.

FUTURE STAKEHOLDER COORDINATION

The CCD has continued to provide opportunities for public involvement between the PEL Study in 2009 and initiation of this EA. A public meeting was held in August 14, 2014 prior

to the completion of this EA to solicit further comment on and discussion of the Project. A Spanish-speaking translator was present at the open house, and materials were presented in both English and Spanish; Korean translation was available upon request. Stakeholder coordination will continue to take place throughout the Project's development and construction.

REFERENCES

- CCD, 2001. "Bicycle Master Plan Update 2001," City and County of Denver (CCD), adopted March 2002. Website accessed March 2014: <http://www.denver.gov/bikeprogram/bicyclingindenver/streetsandtrails/planning/tabid/438250/default.aspx>.
- CCD, 2011. "Denver Moves: Making Bicycle and Multi-Use Connections in the Mile High City," prepared by CCD, adopted May 2011. Website accessed March 2014: <http://www.denvergov.org/bikeprogram/bicyclingindenver/streetsandtrails/planning/tabid/438250/default.aspx>.
- FHU, 2009. "Federal Boulevard (5th Avenue to Howard Place) Planning Environmental Linkage Study," Felsburg, Holt & Ullevig (FHU), October 2009.