Appendix C
Agency Coordination and Correspondence
Agency Concurrence
June 2, 2015

Mr. Edward C. Nichols  
State Historic Preservation Officer  
Colorado Historical Society  
1200 Broadway  
Denver, Colorado 80203

Re: Initiation of Section 106 Consultation; RTD 16th Street Mall Transit-way Rehabilitation Project

Dear Mr. Nichols:

This letter is sent to initiate the Section 106 consultation process and invite consultation under 36 CFR 800.3 for the proposed 16th Street Mall transit-way rehabilitation project. The 16th Street Mall (OAHP# 5DV.7044), which includes the transit-way and adjacent pedestrian areas, is an I.M. Pei design that was constructed in 1982, and was previously determined to be eligible for inclusion in the National Register. A project location map is attached. Since its construction nearly 30 years ago, the Mall’s aging infrastructure has reached its design life span and updates and maintenance are needed to ensure the Mall’s continued success.

Paver rehabilitation along the pedestrian areas adjacent to the transit-way, as well as rehabilitation of lighting, fountains, street trees, and utilities along the 16th Street Mall between Market Street and Broadway was determined to have no adverse effect (letter of concurrence from State Historic Preservation Officer dated July 25, 2013). FTA does not propose to change the scope of or materials proposed for these elements of the rehabilitation project.

Ongoing concerns with both pedestrian and mall vehicle safety, along with the significant cost of maintenance, have led to the consideration of replacing the transit-way (bus travel lanes only) with an alternative surface. This alternative was not considered in the July 25, 2013 finding of no adverse effect. The Federal Transit Administration (FTA) proposes that the area of potential effect (APE) for direct effects for the proposed undertaking include the limits of the 16th Street Mall resource as detailed in the OAHP survey form and shown in the area shaded in green of the attached project location map.

Concurrent with this letter, an invitation to consult is being sent to Consulting Parties inviting their participation. A list of the potential Consulting Parties and Tribal Consulting Parties is attached. We anticipate scheduling an initial consulting parties meeting in summer of 2015.
Thank you in advance for your assistance. If you require additional information to complete your review, please contact Tracey MacDonald at FTA at 720-963-3309.

Sincerely,

DAVID L
BECKHOUSE

David L. Beckhouse
Deputy Regional Administrator

Enclosures: Project Location Map
Potential Consulting Parties List

cc: Liz Telford, RTD
    Susan Wood, RTD
    File
16th Street Mall Consulting Parties

Mr. Brad Buchannan, Executive Director, City and County of Denver
Mr. George Gause, Denver Landmark Preservation Commission
Ms. Barbara Stocklin-Steely, Denver Landmark Preservation Commission
Mr. John Olson, Director of Preservation Programs, Historic Denver, Inc.
Ms. Annie Levinsky, Executive Director, Historic Denver, Inc.
Mr. John Desmond, Executive Vice President, Denver Downtown Partnership
Ms. Roxanne Elfin, Executive Director, Colorado Preservation, Inc.
Mr. Lane Ittelson, Assistant Director, Colorado Historical Foundation
Mr. Ryan King, Executive Director, Lower Downtown District, Inc.

16th Street Mall Tribal Consulting Parties

Mr. Lyman Gui, Chairman, Apache Tribe of Oklahoma
Mr. Eddie Hamilton, Governor, Cheyenne & Arapaho Tribes of Oklahoma
Mr. Max Bear, Director, Cheyenne & Arapaho Tribes of Oklahoma
Mr. Henry Little Bird, Sr., Arapaho NAGPRA Representative, Cheyenne & Arapaho Tribes of Oklahoma
Mr. Wallace Coffey, Chairman, Comanche Nation of Oklahoma
Ms. Amber Toppah, Chairwoman, Kiowa Tribe of Oklahoma
Mr. Dean Goggles, Chairman, Northern Arapaho Tribe
Mr. Llevando Fisher, President, Northern Cheyenne Tribe
Mr. Manuel Heart, Chairman, Ute Mountain Ute Tribe
Mr. Terry Knight, Sr., NAGPRA Representative, Ute Mountain Ute Tribe
Mr. Shaun Chapoose, Chairman, Ute Indian Tribe
19 June 2015

David L. Beckhouse
Deputy Regional Administrator
Federal Transit Administration
12300 W. Dakota Ave., Suite 310
Lakewood, CO 80228

RE: Initiation of Consultation, 16th Street Mall Transit Way Rehabilitation Project, Denver,
Denver County

Dear Mr. Beckhouse:

Thank you for your recent correspondence dated 2 June 2015, concerning the proposed rehabilitation of the 16th Street Mall (5DV.7044) in Denver. Our office has reviewed the submitted materials. The Mall was determined to be eligible for listing on the National Register of Historic Places in 2013.

We concur that the Area of Potential Effect for Direct Effects should encompass the entirety of the Mall as depicted in OAHP’s records (there is no official site/inventory form for this property). This area extends the length of the Mall and to the intersection between building and sidewalk. The Area of Potential Effect for Visual Effects extends beyond this boundary to encompass the buildings on each side of the Mall, given the close (as designed and implemented) physical and visual relationship between the commercial buildings along 16th Street and the actual Mall itself.

We look forward to working with your office and with other consulting parties as this project moves forward.

If you have any questions, please contact Joseph Saldibar, Architectural Services Manager, at (303) 866-3741.

Sincerely,

Edward C. Nichols
State Historic Preservation Officer, and
President, Colorado Historical Society

OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION
303-866-3392 * Fax 303-866-2711 * E-mail: oahp@state.co.us * Internet: www.historycolorado.org

History Colorado, 1200 Broadway, Denver, CO 80203

HistoryColorado.org
June 23, 2017

Mr. Steve Turner  
State Historic Preservation Officer  
Office of Archaeology & Historic Preservation  
History Colorado Center  
1200 Broadway  
Denver, CO 80203

Re: Re-Initiation of Consultation (HC #68388)  
The Future of Denver’s 16th Street Mall: Alternatives Analysis and Environmental Clearance Project

The Federal Transit Administration (FTA), in cooperation with the Regional Transportation District (RTD), is preparing an Environmental Assessment (EA) for the Future of Denver’s 16th Street Mall: Alternatives Analysis and Environmental Clearance Project (Project) in Denver, Denver County, Colorado. This Project is an undertaking, requiring consultation under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. 470f). Therefore, in accordance with Section 106 and its implementing regulation (36 CFR §800), FTA, in coordination with the RTD and the City and County of Denver (CCD), hereby initiates consultation regarding the proposed Project.

In accordance with 36 CFR 800.8(a)(1), this consultation will be carried out in coordination with the National Environmental Policy Act (NEPA) environmental review process. FTA, RTD and CCD will conduct ongoing coordination with the Colorado State Historic Preservation Office (SHPO) and consulting parties for the Project EA.

Description of Undertaking

In 2013, FTA awarded $7,978,998 in Federal funding under 49 USC 5309 to RTD for improvements to the foundation and pavers for the 16th Street Mall Transitway. At that time, the scope of the Project included rebuilding up to 3 ½ blocks of the Mall, through paver rehabilitation, sub-base reconstruction to stabilize the foundation, replacement at intersecting street “bulb-outs”, wet and dry utility upgrades, fountain rehabilitation, tree pit improvements and tree replacement, and upgrades to urban design furnishings. In June 2015, FTA and RTD entered into Section 106 consultation (HC #68388) with the SHPO and consulting parties to evaluate the potential alternatives to the existing transitway surface materials of the 16th Street Mall as an eligible historic resource (Office of Archaeology and...
Historic Preservation (OAHP) #5DV.7044) – previously known as “16th Street Mall Transitway Rehabilitation Project”.

Under the revised undertaking, FTA, in coordination with RTD, CCD, and interested stakeholders and consulting parties under this Section 106 process, is now proposing improvements to approximately 12 blocks of the Mall – from Market Street to Broadway, rather than the 3 blocks in the original Project. Moreover, the proposed Project area now includes the transitway, as well as the sidewalks and pedestrian areas along both sides of the Mall, from building face to building face. As such, FTA is re-initiating the Section 106 consultation process to consider the revised scope, type and extent of activity under this Project, including but not limited to:

- Consideration of long-term livability factors and uses of the Mall
- Location and width of the transit lanes within the Mall footprint
- Evaluation of the transitway surface materials

The purpose of the proposed Project is to develop and implement a sustainable plan for the 16th Street Mall to facilitate its evolution as a safe and appealing high-quality public destination; continue reliable and safe two-way transit shuttle service along the Mall; and provide for reasonable long-term costs associated with maintaining the Mall, while honoring the Mall’s past and future. Subsequent to further development of the Project purpose and need, as well as Project selection criteria, provided in the course of ongoing public involvement activities and consultation under the Section 106 process, a reasonable range of Project alternatives will be defined in the following months.

**Area of Potential Effects**

Moving forward, Section 106 consultation for the Project will reconsider the Area of Potential Effects (APE) to make it consistent with the development of a revised scope, and purpose and need for the Project.

Previously, the APE was developed to include the entire 12 blocks of the 16th Street Mall, as well as immediately adjacent parcels. The SHPO provided concurrence on the previous APE boundary in a letter dated June 19, 2015 (see attached, SHPO Letter).

**Identification and Evaluation of Historic Properties**

Once the APE has been defined, the Section 106 process will include the identification and evaluation of potentially eligible cultural, historic and archeological resources.

At present, however, FTA, RTD and CCD offer to supplement the records of the SHPO and OAHP, and submit the attached OAHP Architectural Inventory Form (Form 1403) for the 16th Street Mall (OAHP# 5DV.7044). The Mall, which includes the transit-way and adjacent pedestrian areas, as well as other features, was determined eligible for listing in the National Register of Historic Places in 2013, but the OAHP Form 1403 was not completed at that time. Attached is Form 1403 for the 16th Street Mall, which includes a property description,
historical background, the property boundary, criteria for eligibility, and statement of significance. Other historic properties could be identified during the consultation process.

**Consulting Parties**
This invitation to participate in Section 106 consultation is being sent to all parties invited to participate in Section 106 consultation for the 16th Street Mall Transitway Rehabilitation Project in June 2015 (SHPO reference, HC #68388) (see attached, List of Consulting Parties). If you identify additional consulting parties who may have been inadvertently absent from this initial consultation list, please advise at your earliest convenience.

Once we have received responses from consulting parties, we will determine a date and time for a Section 106 consulting party “kick-off” meeting. At this meeting, we will discuss the Section 106 process and the schedule, as well as the scope of the revised undertaking, and develop the proposed purpose and need, and APE.

If you require additional information, please contact Larry Squires with FTA at 303-362-2394 or Larry.Squires@DOT.GOV or Susan Wood with RTD at 303.299.2467 or Susan.Wood@RTD-Denver.com.

Sincerely,

Cindy Terwilliger
Regional Administrator

Enclosure:
- June 19, 2015 SHPO Letter
- 16th Street Mall Architectural Inventory Form (Form 1403)
- List of Consulting Parties
19 June 2015

David L. Beckhouse
Deputy Regional Administrator
Federal Transit Administration
12300 W. Dakota Ave., Suite 310
Lakewood, CO 80228

RE: Initiation of Consultation, 16th Street Mall Transit Way Rehabilitation Project, Denver, Denver County

Dear Mr. Beckhouse:

Thank you for your recent correspondence dated 2 June 2015, concerning the proposed rehabilitation of the 16th Street Mall (SDV.7044) in Denver. Our office has reviewed the submitted materials. The Mall was determined to be eligible for listing on the National Register of Historic Places in 2013.

We concur that the Area of Potential Effect for Direct Effects should encompass the entirety of the Mall as depicted in OAHPS's records (there is no official site/inventory form for this property). This area extends the length of the Mall and to the intersection between building and sidewalk. The Area of Potential Effect for Visual Effects extends beyond this boundary to encompass the buildings on each side of the Mall, given the close (as designed and implemented) physical and visual relationship between the commercial buildings along 16th Street and the actual Mall itself.

We look forward to working with your office and with other consulting parties as this project moves forward.

If you have any questions, please contact Joseph Salchbar, Architectural Services Manager, at (303) 866-3741.

Sincerely,

Edward C. Nichols
State Historic Preservation Officer, and
President, Colorado Historical Society

OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION
303-866-3392 * Fax 303-866-2711 * E-mail: oahp@state.co.us * Internet: www.historycolorado.org
I. IDENTIFICATION

1. Resource number: 5DV7044

2. Temporary resource number: OAHP1403

3. County: Denver

4. City: Denver

5. Historic building name: 16th Street Transitway | Mall (structure)

6. Current building name: 16th Street Mall (structure)

7. Building address: Broadway northwest to Market Street, 80202

8. Owner name and address: City/County of Denver

   Department of Public Works
   201 West Colfax Avenue
   Denver, Colorado 80202

II. GEOGRAPHIC INFORMATION

9. P.M. 6th Township 3S Range 68W

   │ ¼ of NE ¼ of SE ¼ of NE ¼ of Section 33
   │ ¼ of SW ¼ of SW ¼ of NW ¼ of Section 34
   │ ¼ of NE ¼ of NW ¼ of SW ¼ of Section 34
   │ ¼ of SW ¼ of NE ¼ of SW ¼ of Section 34
   │ ¼ of NE ¼ of SE ¼ of SW ¼ of Section 34

10. UTM reference (center point of structure)

    Zone 1 35 0 0 5 4 2 mE 4 3 9 9 5 9 4 mN

11. USGS quad name: Englewood, CO

    Year: 1980 Map scale: 7.5 feet X 15.0 feet

    Attach photo copy of appropriate map section.

12. Lot(s): __________ Block: __________

    Addition: _______ Year of Addition: _______

13. Boundary Description and Justification: **Description:** Full width of 16th Street (adjacent building lines on the northeast side to building lines on the southwest side, typically 80 feet) from Broadway at its west line of intersection with 16th Street, northwest 12 blocks to Market Street at its southeast line of intersection with 16th Street, plus the small triangular block bounded by Broadway, 16th Street, and Cleveland Place. **Justification:** This boundary encompasses the original design limits of the 1980 Transitway and Mall design by I.M. Pei and Partners, and Hanna/Olin landscape architects.
III. Architectural Description (Structural Description)

14. Building plan (footprint, shape): Rectangular (Denver Street Right-of-Way)

15. Dimensions in feet: Length c. 4,300 feet x Width 80 feet

16. Number of stories: N/A

17. Primary external wall material(s): Granite units in two shades of gray, and one of red.

18. Roof configuration: N/A

19. Primary external roof material: N/A

20. Special features: Ornamentation (See 21)

21. General architectural description: Designed landscape/streetscape. The primary and consistent pavement design is carried by polychrome granite units, generally 1-foot 5-inch by 1-foot 5-inch square granite pavers—charcoal gray, light gray, and “Colorado red” (Cultural Landscape Foundation 2009)—with special curb, ramp, drain, circular, and other units from the same granite color palette. The streetscape also features custom-designed and -built light fixtures, signage, telephone stands, planter and trash receptacles, drinking fountains, and pavement fountains. Consistent tree plantings of 220 oaks and honey locusts are rooted in special underground structural-concrete chambers, 5 feet 5 inches deep, supported by a "suspended pavement system," with custom tree gratings at the pavement plane (deeproot 2014).

22. Architectural style/building type: Modern Movement (See 42)

23. Landscaping or special setting features: See 17, 21, 42

24. Associated buildings, features, or objects: The flanking 1980 block faces of buildings, and their evolution throughout the function of the Transitway and Mall after 1980, were accommodated with the landscape/streetscape design, but are not part of the structure. The project incorporated and re-designed the triangular block hosting “United Nations Square” at Cleveland Place and Broadway.

IV. ARCHITECTURAL HISTORY

25. Date of Construction: Estimate: Actual: 1982 (original); 1992 (extension from Blake Street to Union Station, later modified northeast of Wynkoop Street, not considered to be part of this evaluation) Source of information: Historic Denver, Inc.


29. Construction history (include description and dates of major additions, alterations, or demolitions): Following general plans and public input throughout the 1970s (Sixteenth Street Mall Corporation 1973–1974; Regional Transportation District [RTD] 1977–1979), construction began in early 1981 based on the approved 1980 design from the architects/landscape architects team (Historic Denver, Inc. 2012a). Funding of $76 million came from the Urban Mass Transit Administration (UMTA, after 1991 the Federal Transit Administration [FTA])
and RTD, operator of the Mall buses (deeproot 2014). The project began on the northeast end at Market Street and proceeded southeast in increments along the entire 80-foot-wide 16th Street right-of-way. The design cross section specified a transitway concrete base sloping to each curb from an apex centered between the transit lanes (I.M. Pei & Partners 1980). Subsequent maintenance and replacement of the granite pavers indicates this concrete base was not built with slopes, or with inadequate slopes and disposition of surface water that permeates into the base through deteriorated paver joints (Harvey 2015). Oral histories of workers and designers (Historic Denver, Inc. 2012b) described how pedestrian passage, business access, and as much vehicular traffic as possible continued during construction. The contractor encountered and re-located or moved deeper several uncharted steam pipes and water mains as construction progressed. Tree placement in specially designed, irrigated, and drained concrete root chambers under the Mall surfaces presented challenges, especially when completed and paved to match the continuous pavement of the transit lanes and sidewalks (Historic Denver, Inc. 2012b). Construction concluded with a public dedication attended by 200,000 on October 4, 1982. Subsequent to opening, design and construction issues, which resulted in separation of the granite pavers from the joint mortar causing the pavers to sink into the setting bed space, were noted. A civil suit was filed (RTD, et al v. Weaver, et al, Civil Action No. 83-CV-8819) as a result of paver failure on the transitway. The agreement reached was documented in a settlement agreement on September 29, 1986 that released the litigants from future liability and awarded RTD a total amount of $4.07 million to be dispersed over a period of 25 years. RTD separately contracted designs and construction for its Civic Center Transfer Facility (later named Station) as the southeastern Mall-bus terminal, and the Northwest Transfer Facility (later named Market Street Station) as the northwestern terminal including Mall-bus dropoff and turnaround in the block between Market and Blake Streets. In 1992 following removal of the 16th Street viaduct across the Union Station railyard, RTD and FTA extended the 16th Street Transitway | Mall from Blake Street to the north side of Union Station and the new Light-Rail terminal there. After 2010 that Transitway | Mall and Light-Rail terminal underwent further reconfiguration to their current services north of the intersection of 16th Street and Chestnut Place in the former Union Station railyard. RTD performs continual maintenance with FTA assistance on the Transitway, including replacing broken granite pavers and special units. The City/County of Denver has subsequently rebuilt most cross-streets, resulting in a loss (if so installed originally as planned) of the scored concrete intersection surfaces between block lengths of the original 1980 Pei/Olin 16th Street Transitway | Mall design.

30. Original location __Yes____ Moved ____ Date of move(s):
V. HISTORICAL ASSOCIATIONS

31. Original use(s): Government, Public Works; Landscape, Street Furniture/Object; Transportation, Road-Related (vehicular)

32. Intermediate use(s):

33. Current use(s): Government, Public Works; Landscape, Street Furniture/Object; Transportation, Road-Related (vehicular)

34. Site type(s): Structure (Designed Landscape)

35. Historical background: Denver leaders, downtown merchants, and the RTD (organized in 1969) considered numerous plans and solutions to the post-World War II decline of downtown business and recreation, loss of longtime streetcar public transportation once centered on 16th Street, and the simultaneous rise of automobile congestion on city streets. Following popular trends but also lessons of what worked and did not work in other cities with similar challenges in the 1960s and 1970s, the City/County of Denver, business groups such as the 1970s Sixteenth Street Mall Corporation (1973–1974), RTD, and federal planners decided to convert the city’s longtime downtown retail-commercial street to a pedestrian mall with frequent and free transit buses. By 1977 RTD’s review of design proposals resulted in commissioning the New York architectural firm of I.M. Pei & Partners teamed with Philadelphia landscape architecture consultant Laurie Olin of Hanna/Olin, and ultimately the Denver landscape architecture firm of Phillip E. Flores Associates, Inc. (RTD 1977; I.M. Pei & Partners 1977). Olin related in later interviews (Historic Denver, Inc. 2012b) that he admired public streets in Europe, specifically Rome and Barcelona, with their common and timeless use of stone for pavement in artful patterns. Olin and Pei’s principal designer, Henry Cobb, discussed a design approach of Southwestern geometric patterns early in their separate processes, then their collaborative program, including Navajo Chief’s-style blankets with polychrome diamond motifs. While still discussing the final design, Olin visited a souvenir shop along 16th Street Mall and encountered trouser belts decorated with diamondback rattlesnake skins. From those inspirations the architects and landscape architects crafted the Mall’s overall design, precisely interwoven within three shades of granite pavers and unified by the tree plantings (see 21), signage, and street furniture. Following the Mall’s completion in October 1982, the project won the University of Colorado’s 1983 “Honor Award for Excellence in Urban Design,” the Associated Landscape Contractors of America’s 1984 “Environmental Improvement Award of Distinction” (Historic Denver, Inc. 2012a), and the American Society of Landscape Architects’ 1985 “Professional Award, Design Category” (Cultural Landscape Foundation 2009). The Urban Land Institute named the Mall in 2008 “public art of the highest international quality” (Historic Denver, Inc. 2012a). Henry Cobb is now a Fellow of the American Institute of Architects; Laurie Olin is now a Fellow of the American Society of Landscape Architects, and recognized as a “Pioneer” by the Cultural Landscape Foundation (2009); the 16th Street Transitway | Mall is designated by that organization as a signature “Landslide” and “At-Risk Landscape.”
36. Sources of information:

Cultural Landscape Foundation

deeproot

Denver Downtown Partnership, et al.

Denver Post

Harvey, Donald, Jr., P.E.

Historic Denver, Inc.

Historic Denver, Inc.

I.M. Pei & Partners


Pei Cobb Freed & Partners

Regional Transportation District (RTD)


Sixteenth Street Mall Corporation
VI. SIGNIFICANCE

37. Local landmark designation: Yes ___ No X ___ Date of designation: _________
    Designating authority:

38. Applicable National Register [of Historic Places, NRHP] Criteria:
   X A. Associated with events that have made a significant contribution to the broad pattern of our history;
   ___ B. Associated with the lives of persons significant in our past;
   X C. Embodies the distinctive characteristics of a type, period, or method of construction, or represents
      the work of a master, or that possess high artistic values, or represents a significant and
      distinguishable entity whose components may lack individual distinction; or
   ___ D. Has yielded, or may be likely to yield, information important in history or prehistory.
   
   G. Qualifies under Criteria Considerations A through G (see Manual)
   ___ Does not meet any of the above National Register criteria

39. Area(s) of significance: Criterion A: Transportation, Community Planning and Development; Road-Related (vehicular); Criterion C: Engineering; Landscape Architecture; Criteria Consideration G: Properties That Have Achieved Significance Within the Last Fifty Years.


41. Level of significance: National ___ State ___ Local X ___

42. Statement of significance: Denver’s 16th Street Mall, originally called a “Transitway | Mall” to acknowledge its dual users of buses and pedestrians, is stylistically at an intersection of the post-World War II Modern Movement—geometric shapes and space-age light fixtures—and later twentieth century Post-Modern (Lexicon: Other Style) design—using an organic pattern that evokes a diamondback rattlesnake skin. Although the Mall is not yet 50 years old, it meets NRHP Criteria Consideration G as exceptionally important for its enduring transitway design now old enough to be considered for replacement by simplified engineering, and for its celebrated role in helping to revitalize downtown Denver at a critical time for the city/county when it struggled with urban flight, insensitive urban renewal, and the decline of its mining and petroleum image and economy.
   The Mall is for those same characteristics and events significant at the local level, time period 1980–1982 spanning its design and construction, under NRHP Criterion A in the areas of Transportation and Community Planning and Development. It is also significant under Criterion C in the area of Landscape Architecture, as an award-winning design by masters, built of labor-intensive granite units in a dazzling and enduring pattern consistent along 12 blocks, and the area of Engineering for its largely hidden but sophisticated matrix of drainage, irrigation, wiring, and “suspended pavement system” that accommodates large and deep root chambers for its 220 shade trees. (See 43 for the correlated review of historic integrity.)
   Character-Defining Features (see I.M. Pei & Partners 1980):
   - “Diamondback rattlesnake” pattern consistent throughout the Transitway | Mall, between major cross streets, from Broadway northwest 12 blocks to Market Street.
   - Granite paver units/modules, 1-foot 5-inch by 1-foot 5-inch, in three shades: charcoal gray, light gray, and “Colorado red” (specified as White, Black, and Red on the 1980 plans).
- Granite special units of charcoal and light gray for curbs, cuts, drains, and other applications.
- Original oak and honey locust trees planted in special under-pavement concrete root boxes and ringed at the surface with custom-designed and -cast iron trunk grates.
- Street furniture of custom-designed and -built metal streetlights, fiberglass trash and flower-planter receptacles, metal utility covers, and original metal street signs on traffic signals and overhead lights.

43. Assessment of historic physical integrity related to significance: The 16th Street Transitway | Mall retains strong integrity of location, design, materials, workmanship, setting, feeling, and association, in its abilities to convey the resource’s significance under NRHP Criteria A and C, and Criteria Consideration G. Some integrity of design has been lost with subsequent repaving of cross-street intersections by the omission of scoring—called "sawcut joints" in the plans—their concrete pavement to match the original granite pavers and general diagonal hash-pattern otherwise along the Mall. Some integrity of materials has been lost with frequent replacement of granite pavers damaged by vehicular wear and harsh weather (see Harvey 2015); however, the transitway’s designers likely intended for the needed replacement of individual units rather than major reconstruction for localized damage. Some integrity of materials and feeling has been lost through subsequent removal of most custom-designed telephone stands and the inactivity of below-pavement fountains.

VII. NATIONAL REGISTER ELIGIBILITY ASSESSMENT (See also 42)

44. National Register eligibility field assessment:
   Eligible X Not Eligible ___ Need Data ___

45. Is there National Register district potential? Yes ___ No X___
   Discuss: For the evaluated property: Although the Transitway | Mall is a linear resource, which would typically be classified as a site or district, this property is a consistently designed, constructed, and continuous structure, not a district or site. For the encompassing host of downtown Denver: A number of commercial districts have been considered for NRHP registration, but never designated in areas that would include the 16th Street Mall between Broadway and Market Street as a Contributing resource.

If there is National Register district potential, is this building: Contributing ___ Noncontributing ______

46. If the building is in existing National Register district, is it: Contributing ___ Noncontributing ______
VIII. RECORDING INFORMATION

47. Photograph numbers:
   Negatives filed at: SWCA Environmental Consultants (digital files)


49. Date(s): June 2016

50. Recorder(s): James Steely and Jennifer Moon

51. Organization: SWCA Environmental Consultants

52. Address: 295 Interlocken Boulevard, Suite 300, Broomfield, Colorado 80021

53. Phone number(s): 303-487-1183

NOTE: Please include a sketch map, a photocopy of the USGS quad map indicating resource location, and photographs.
Figure 1. Location map.
Figure 2. Sketch map, showing resource boundary of 1982–1992 16th Street Transitway | Mall.
Figure 3. Original I.M. Pei / Hanna/Olin Block Plan as presented in 1980 drawings.
Figure 4. Original I.M. Pei / Hannan/Olin design for Planters and Trash Receptacles in 1980 drawings.

Figure 5. Original I.M. Pei / Hanna/Olin design for Post Lanterns in 1980 drawings.
• Overview of 16th Street Mall from Civic Center Station at Broadway.
• Facing northwest.
• Photographed by James Steely.
• Photo taken 06-06-2016.
• Image has not been altered.

• Overview of 16th Street Mall from Larimer Street.
• Facing southeast.
• Photograph courtesy of the Denver Post (2012).
• Photo taken in 1987.
• Image has not been altered.
- Overview of 16th Street Mall from Market Street.
- Facing southeast.
- Photographed by James Steely.
- Photo taken 06-06-2016.
- Image has not been altered.

- Close up of the original street sign at 16th Street Mall and Market Street.
- Facing west.
- Photographed by James Steely.
- Photo taken 06-06-2016.
- Image has not been altered.
- Overview of block design used on 16th Street Mall flanked by two original colored planters.
- Facing northeast.
- Photographed by James Steely.
- Photo taken 06-06-2016.
- Image has not been altered.

- Overview of block design used on 16th Street Mall.
- Facing unknown direction.
- Photograph courtesy of the Denver Post (2012).
- Photo taken in 1981.
- Image has not been altered.
- Overview of 16th Street Mall, including original colored planters, post lanterns, tree configuration, and the last remaining telephone booth in the project area (center background).
- Facing northwest.
- Photographed by James Steely.
- Photo taken 06-06-2016.
- Image has not been altered.

- Overview of a typical 16th Street Mall original post lantern.
- Close up.
- Photographed by James Steely.
- Photo taken 06-06-2016.
- Image has not been altered.
- Example of a Navajo diamond weaving pattern on a Phase III chief blanket from the 1930s.
- Photograph courtesy of the University of Colorado Museum of Natural History.
- Image has been cropped.

- Eastern diamondback rattlesnake.
- Photograph courtesy of Google Images (http://1.bp.blogspot.com/-bDG6zbjosXc/UFGBBKe5wI/AAAAAAAAMEc/8ra53cOJgxM/s1600/Eastern+Diamondback+Rattlesnake+Crotalus+adamanteus+September+2011+Phillip's+Natural+World+ready+to+strike.jpg).
- Image has not been altered.
### 16th Street Mall Consulting Parties

<table>
<thead>
<tr>
<th>Title</th>
<th>First Name</th>
<th>Last Name</th>
<th>Company</th>
<th>Region or Office</th>
<th>Address 1</th>
<th>Address 2</th>
<th>City</th>
<th>State</th>
<th>Zip Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr.</td>
<td>Brad</td>
<td>Buchanan</td>
<td>Executive Director</td>
<td>City and County of Denver</td>
<td>Community Planning and Development</td>
<td>201 W. Colfax Avenue</td>
<td>Dept. 205</td>
<td>Denver</td>
<td>CO</td>
</tr>
<tr>
<td>Mr.</td>
<td>John</td>
<td>Olson</td>
<td>Director of Preservation Programs</td>
<td>Historic Denver, Inc.</td>
<td></td>
<td>1420 Ogden Street</td>
<td>Suite 202</td>
<td>Denver</td>
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</tr>
<tr>
<td>Ms.</td>
<td>Annie</td>
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<td>Executive Director</td>
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<td>1420 Ogden Street</td>
<td>Suite 202</td>
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<td>Lower Downtown District, Inc.</td>
<td></td>
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<td>Mr.</td>
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<td>Turner</td>
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### 16th Street Mall Tribal Consulting Parties

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CC: Karen Little Coyote, Cheyenne NAGPRA Representative
CC: Anthony Marks, THPO Director
CC: James Walks Along, THPO Director
May 9, 2018

Mr. Steve Turner  
State Historic Preservation Officer and Executive Director  
History Colorado, Office of Archaeology and Historic Preservation  
1200 Broadway  
Denver, CO 80203

Re: 16th Street Mall Alternatives Analysis and Environmental Clearance Project, Denver, Denver County  
Determination of Eligibility and Finding of Effect  
HC No. 68388

Dear Mr. Turner:

The Regional Transportation District (RTD), in cooperation with the Federal Transit Administration (FTA), the City and County of Denver (CCD), and the Downtown Denver Partnership (DDP), is evaluating potential effects of making improvements to the 16th Street transit and pedestrian mall in downtown Denver, Colorado (the Project). The proposed Project is located in downtown Denver, along the 16th Street Mall between Market Street and Broadway. An Environmental Assessment (EA) is currently being prepared for the proposed Project, with an anticipated publication date of summer 2018.

Because federal funds are proposed to be used for the Project, it is an undertaking requiring consultation under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. 470f). In accordance with Section 106 of the NHPA, FTA, coordinating with RTD, has been consulting with your office and the consulting parties, which has included establishing the Area of Potential Effect (APE), identifying historic properties, evaluating their historic significance and evaluating effects. Documentation of the work locations and properties within the APE, per 36 CFR §800.11, is provided in the attached Cultural Resources Technical Report (Report), which will also be included as an appendix to the EA.

The 16th Street Mall (OAHP# 5DV.7044), which includes the transit-way and adjacent pedestrian areas, as well as other features, was determined to be eligible for listing in the National Register of Historic Places in 2013. The Architectural Inventory Form (Form 1403) was not completed in 2013. Now, however, FTA, in coordination with RTD has completed Form 1403, which includes a description of the property, historical background, the property boundaries, criteria for eligibility, and an expanded statement about the 16th Street Mall’s significance. The attached version of Form 1403, which was sent to you on April 17, 2018, incorporates feedback we have received both verbally in consulting party meetings and in writing over the course of consultation for the Project.

The draft Report, which was also transmitted to you on April 17th, contains detailed information about the 16th Street Mall and other historic properties in the APE and the effects from the proposed Project on these resources. The updated Report, attached, incorporates minor revisions to the version originally distributed on April 17th.
Pursuant to 36 CFR 800.4(c)(2), FTA requests confirmation whether the SHPO agrees with the assessment and conclusions in Form 1403, including the characteristics of 16th Street Mall that qualify it for inclusion in the National Register. Further, as we discussed in our correspondence of April 17th, we would appreciate your comments on the enclosed Report. The Form 1403 and the Report, along with the feedback provided by the Consulting Parties, were used to develop the proposed Determination of Eligibility and Finding of Effect presented herein.

Description of Undertaking
RTD, CCD and DDP, with funding support from the FTA, propose to implement improvements to the Mall to address infrastructure, mobility, safety, and public use. The proposed Project extends the length of the 16th Street Mall from Market Street to Broadway, the 80-foot width of the Mall from building face to building face, and portions of cross streets intersecting the Mall (see Figure 1). The light rail stations in the corridor will remain as is.

Figure 1 Project Location

Area of Potential Effects
The Project APE was established in consultation with your office and consulting parties. The Project APE, which includes the 16th Street Mall from Market Street to Broadway and one parcel on each side of the corridor (Figure 2), was discussed at the first consultation meeting on July 7, 2017 and at the third consultation meeting on September 27, 2017. Small revisions to the APE were discussed at another meeting on November 11, 2017; the
revised APE did not encompass any additional properties, rather, parcels and property lines were updated based on a site visit and additional research. No objections were received from the consulting parties at any of these meetings regarding the appropriateness of the APE or the revised APE.

The Project APE includes 33 properties listed on or eligible for listing on the NRHP: 9 NRHP-listed properties, 15 NRHP-eligible properties, 3 districts, and 6 properties that contribute to districts. Attachment 4 of the enclosed Report contains a map book showing the locations of the historic properties within the APE and Attachment 5 of the Report is a summary table of the historic properties in the APE.

![Figure 2: Area of Potential Effects (red) and Boundary of the 16th Street Mall Historic Property (blue)](image)

**Determination of Eligibility**

The 16th Street Mall (OAHP# 5DV.7044), was determined to be eligible for listing in the National Register of Historic Places in 2013. An Architectural Inventory Form (Form 1403) identifying the character-defining features, statement of significance, period of significance, and criteria for eligibility was not completed at that time.

In consultation with the SHPO and the consulting parties, FTA, in coordination with RTD, evaluated the historic significance of the 16th Street Mall. Based upon this evaluation, FTA determined the character-defining features of the 16th Street Mall, as identified in the current draft of the 2018 Form 1403 (OAHP, 2018) are as follows:

- Consistent paving pattern design
• Granite paver units/modules, 1-foot 5-inch by 1-foot 5-inch, in three shades: charcoal gray, light gray, and “Colorado red” (specified as White, Black, and Red on the 1980 plans)
• Granite special units of charcoal and light gray for curbs, cuts, drains, and other applications
• Red oak and honey locust trees planted in specially-designed under-pavement concrete root boxes and ringed at the surface with custom-designed grates
• Custom-designed and -built light standards
• Street furniture of custom-designed and -built fiberglass trash and flower receptacles
• Custom metal street signs on traffic signals and overhead lights

As a result of this evaluation, FTA, in coordination with RTD has determined that the 16th Street Mall meets NRHP eligibility Criterion Consideration G as a property that is identifiable as historically significant at less than 50 years old. Further, FTA, in coordination with RTD has determined that the 16th Street Mall is eligible for listing in the NRHP under Criterion A at a local level and Criterion C at the state and local level of significance. Its period of significance is 1980 through 1982, the period of its final design and construction. In meeting the Criterion Consideration G, the original design and construction elements from 1982 transformed Denver’s downtown streetscape, when the transit way and mall opened, and best represent the exceptional conceptualization of its architects. The attached Report and Form 1403 give greater detail on these findings.

The vast majority of the other properties within the APE, i.e., other than the 16th Street Mall, have previously been surveyed. However, some of those surveys were completed in the 1980s and 1990s, which suggests a reevaluation of their NRHP eligibility is required. RTD met with your staff in January 2018 to discuss how to treat the properties within the APE that will not be directly impacted by the proposed Project. FTA and RTD proposed treating properties as NRHP-eligible in the following cases:

• Assessment status of Needs Data or No Assessment – Built before 1975
• Assessment status of Not Eligible – Field surveyed before 2015, built before 1975
• Assessment status of Noncontributing – Field surveyed before 2000, built before 1975

For the purposes of the proposed Project, properties that meet one of these criteria are treated as NRHP-eligible for the purposes of the Section 106 analysis. We coordinated with Jennifer Bryant and Joe Saldibar of your office on these assumptions via telephone prior to the January 11, 2018 consultation meeting, and they concurred verbally with this approach for the determination of eligibility. These eligibility assumptions were presented to the consulting parties, with no objections, at the January 11th and May 3rd consultation meetings.

As stated above, in accordance with 36 CFR 800.4(c)(2), FTA requests confirmation whether the SHPO agrees with the determinations set forth in Form 1403.

Findings of Effect for Individual Resources

Adverse Effect
FTA has determined that the undertaking would have an Adverse Effect on the 16th Street Mall because of the following aspects of the proposed Project: alterations to the pavement pattern and materials, removal of existing trees, replacing existing trees with additional tree species, increasing the total number of trees along the 16th Street Mall, removal and replacement of the original tree boxes, installing additional lighting, removal of the median in the center-running blocks, removal of the small median with the light standards in the asymmetrical blocks, and changes to the alignment in the proposed asymmetrical and center-running blocks.

While the original features would be replaced with those that mimic the original design and would be positioned to replicate the original design to the extent possible, no individual features of the 16th Street Mall would be preserved. The integrity of materials, design, and workmanship would be lost through these changes. Some association could remain, but the final product, while striving to honor the original design, would no longer be
an I.M. Pei and Olin designed landscape, and thus would lose its association with those designers. The Mall would retain its setting, feeling, and location as the footprint would not change, the surrounding buildings would not change, and it would continue to be a 12.5-block pedestrian and transitway mall.

**No Adverse Effect**

FTA has determined that the undertaking will result in *No Adverse Effect* on the historic properties within the APE other than the 16th Street Mall, which are adjacent to the Mall, as listed in Table 1 attached to this letter. These properties, which date from the early twentieth century, were present when the Mall was installed in the 1980s, and are not from the period of significance of the Mall. The Mall is not from the period of significance of the majority of the historic properties in the APE. There would be no new effects on historic properties along the Mall beyond those that occurred from the original Mall construction in the 1980s. The current location, setting, feeling and association of these buildings would not be altered by the proposed Project, as it will continue to be a transit and pedestrian corridor with two lanes of public transit, parallel rows of trees and pole lighting, and pedestrian walkways directly adjacent to the structures. The conversion of the alignment of the transit lanes would not affect the historic significance of these structures. The basic form, massing, use, and general appearance of the 16th Street Mall would remain unchanged; therefore, there would be no visual or atmospheric changes to the historic properties along the length of the 16th Street Mall. Because there would be no direct impacts to these historic properties, the design, materials, and workmanship of the historic structures within the APE would not be adversely affected by the proposed Project.

In addition, FTA has determined that the undertaking will result in *No Adverse Effect* to the two historic districts in the APE (the Lower Downtown Historic District and the 16th Street Historic District).

In summary, the FTA has determined that the proposed Project would have an Adverse Effect on the 16th Street Mall because of alterations to character-defining features of the property, including the granite pavers, pavement pattern, tree species and locations, tree boxes, additional trees, additional lighting, removal of the median in the center-running blocks, and changes to the alignment. Therefore, the undertaking would have an **Adverse Effect** on historic properties under Section 106 of the NHPA.

We request your concurrence with our Finding of Effects along with comments on the enclosed materials as we continue to consult in the Section 106 process. Please provide your written concurrence to me, with a cc to Kristin Kenyon via email at kristin.kenyon@dot.gov. If you have any questions regarding this matter, please contact Kristin at 303-362-2391.

Sincerely,

Cindy Terwilliger
Regional Administrator

Enclosures:

*Table 1 Historic Properties within the Area of Potential Effects*
*16th Street Mall Architectural Inventory Form 1403*
*16th Street Mall Cultural Resources Technical Report*

cc: Mark Rodman; Deputy SHPO for History
    Joseph Saldivar; Architectural Services Manager
    Section 106 Consulting Parties
    Susan Wood, RTD
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</tr>
<tr>
<td>Madison Hotel; Harris Hotel</td>
<td>1544 - 1546 Cleveland Place</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Walgreens</td>
<td>801 16th Street</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>16th Street Mall</td>
<td>1-1300 16th Street</td>
<td>NRHP-eligible</td>
<td>Adverse Effect</td>
</tr>
<tr>
<td>Skyline Park</td>
<td>1500-1800 Arapahoe Street</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>16th Street Historic District</td>
<td>Multiple</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
</tbody>
</table>

Notes:
FOE = Finding of Effect
NRHP = National Register of Historic Places
5 June 2018

Cindy Terwilliger
Regional Administrator
Federal Transit Administration
Region VIII
1961 Stout St., Suite 13301
Denver, CO 80294

RE: 16th Street Mall Alternatives Analysis, 16th Street, Denver, Denver County

Dear Ms. Terwilliger:

Thank you for your recent correspondence received 9 May 2018, concerning the proposed use of FTA funding to assist in the remodeling of Denver’s 16th Street Mall. Our office has reviewed the submitted materials. The Mall was determined to be eligible for listing on the National Register of Historic Places in 2017.

The proposed alternative will result in changes that will significantly alter the materials, design, and character of the Mall. As such, we concur with your assessment that the proposed alternative will have an adverse effect on historic properties.

Historically, 16th Street has served as the main commercial corridor of downtown Denver for more than a century. Today, a variety of commercial and mixed-use buildings line the length of the Mall. Some of them are listed, or eligible for listing on the National Register. However, the changes proposed as part of this Undertaking will not have a direct adverse effect on these historic properties. There is a possibility that historic properties along 16th Street could be indirectly affected by the Undertaking. Road closures for construction and vibration damage from heavy equipment could cause economic or physical harm to the surrounding buildings.

Because the project, as designed, will have an adverse effect on historic properties, we encourage FTA to consider alternatives that will avoid an adverse effect. We note that some of the alternatives presented in the Cultural Resources Technical Report, such as “partial repair,” would address the most pressing issues whilst avoiding the significant alterations necessitated by the preferred alternative. In this scenario, remaining issues such as enhanced safety could still be accommodated without creating an adverse effect situation (indeed, we note that similar safety measures have been proposed in the past).

For example, the Technical Report cites the Mall’s “8-foot pedestrian walking areas” as a safety issue; 10-foot sidewalks are preferred for the volume of pedestrian traffic the Mall attracts during busy periods. However, we note that the Mall’s sidewalks, as designed and as currently in place,
are actually 17 feet wide, and that the reduction in available pedestrian space is caused not by the Mall’s design but by the Downtown Denver Partnership and the City of Denver, who have allowed sidewalk cafes to intrude upon the pedestrian space (we also note that both the DDP and the City of Denver’s guidelines and regulations currently prohibit sidewalk cafes from narrowing the pedestrian area below ten feet, or from creating congestions in public space). As such, we note that the Mall’s “narrow sidewalk” problem could be solved by better implementing and enforcing existing regulations, which would not have an adverse effect on historic properties.

Because this project has the potential to have an adverse effect on historic properties, Section 4(f) of the USDOT Act of 1966 likely applies to this Undertaking. Your letter did not discuss the project’s purpose and need, or discuss how alternatives fit/did not fit the purpose and need. The submitted Technical Report makes allusions to this process, and our staff attended meetings where the details of 4(f) were discussed. We recommend that Section 4(f) issues be summarized and provided for formal comment.

Mitigation measures were not included in the text of your letter; however, as with Section 4(f), our staff has attended meetings with FTA and other consulting parties in which mitigation of adverse effects has been discussed. It is our understanding that mitigation of adverse effects will occur, but that the final form and extent of this mitigation has not been determined. We look forward to working with other consulting parties in developing (should the project result in an adverse effect) mitigation measures.

If you have any questions, please contact Joseph Saldivar, Architectural Services Manager, at (303) 866-3741.

Sincerely,

[Signature]

Steve Turner, AIA
State Historic Preservation Officer
March 14, 2019

Mr. Steve Turner  
State Historic Preservation Officer and Executive Director  
History Colorado, Office of Archaeology and Historic Preservation  
1200 Broadway  
Denver, CO 80203  

Re: 16th Street Mall Alternatives Analysis and Environmental Clearance Project, Denver  
Response to SHPO Letter dated June 5, 2018  
HC No. 68388

Dear Mr. Turner:

The Federal Transit Administration (FTA) received your letter dated June 5, 2018, which concurred with our proposed Determination of Eligibility and Finding of Effect (DOE/FOE) for the proposed 16th Street Mall transit and pedestrian improvements project in downtown Denver, Colorado (the Project), submitted to the SHPO on May 9, 2018. We met with Joe Saldibar and Jason O’Brian on July 26, 2018 to discuss your letter and other aspects of the project. This letter is a response to your letter, the July meeting, and includes an updated historic property table.

As you are aware, the proposed Project is located in downtown Denver, along the 16th Street Mall between Market Street and Broadway. In accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. 470f), FTA, in coordination with RTD, has been consulting with your office and the consulting parties on the Project, because federal funds are anticipated to be used.

We are currently in the process of preparing an Environmental Assessment (EA) and Draft Section 4(f) Evaluation for the proposed Project and will be transmitting these documents to you and the consulting parties for review and comment, as you have requested.

Attached to this letter is a matrix of our responses to the comments made in your letter dated June 5, 2018. After you have reviewed our responses in the matrix, we welcome the opportunity to meet with you to discuss in more detail, if desired.

Also, we would like to take this opportunity to provide you with the updated list of properties. As shown on Table 1 (attached), there are a total of 32 historic properties, including one archaeological resource, located in the APE that are listed on or eligible for listing on the NRHP. This table has been updated to reflect that we discovered one historic property, the Madison Hotel, has been demolished. The Adverse Effect determination on the 16th Street Mall is unchanged. The No Adverse Effect
determination remains for all other historic properties as reported in our original DOE/FOE, with the exception of the Madison Hotel which has been removed. In addition, we have noted the Denver Tramway Trolley lines archaeological site on the table that is within the APE but unaffected by the Project.

We appreciate your continued involvement with this project, and thank you for your recent attendance at the December 6th Consulting Parties meeting (#10) and as we continue to consult in the Section 106 process. Please continue to contact Kristin Kenyon via email at kristin.kenyon@dot.gov if you have any questions regarding this matter, or at 303-362-2391.

Sincerely,

Cindy Terwilliger
Regional Administrator

Enclosures:
- Table 1: Historic Properties within the Area of Potential Effect
- Table 2: Responses to SHPO Comments

cc:  Mark Rodman; Deputy SHPO for History
     Joseph Saldibar; Architectural Services Manager
     Susan Wood, RTD
Table 1. Historic Properties within the Area of Potential Effects (updated)
16th Street Mall - Determination of Eligibility and Finding of Effect

<table>
<thead>
<tr>
<th>Historic Property Name</th>
<th>Address</th>
<th>NRHP Eligibility Status</th>
<th>Section 106 FOE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waters Building – Market Center</td>
<td>1642 - 1644 Market Street</td>
<td>Contributes to Lower Downtown Historic District</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Hitchings Block</td>
<td>1620 Market Street</td>
<td>Contributes to Lower Downtown Historic District</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Liebhardt-Linder Building – Market Center</td>
<td>1624 Market Street</td>
<td>Contributes to Lower Downtown Historic District</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>McCrary Block – Market Center</td>
<td>1628 Market Street</td>
<td>Contributes to Lower Downtown Historic District</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Steel Building; Fontius Building; Sage Building</td>
<td>1555 Welton; 600 16th Street</td>
<td>Listed on NRHP</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Liebhardt Building; Cottrell Clothing Company</td>
<td>601 16th Street</td>
<td>Listed on NRHP</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Daniels &amp; Fisher Tower</td>
<td>1101 16th Street; 1601 Arapahoe Street</td>
<td>Listed on NRHP</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Denver Dry Goods Company Building</td>
<td>702 16th Street; California Street; and 16th Street</td>
<td>Listed on NRHP</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Masonic Temple Building</td>
<td>1614 Welton Street; 535 16th Street</td>
<td>Listed on NRHP</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Kittredge Building</td>
<td>511 16th Street</td>
<td>Listed on NRHP</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>A.C. Foster Building; University Building</td>
<td>910-918 16th Street</td>
<td>Listed on NRHP</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Joslin Dry Goods Company Building; Tritch Building; Savoy Grille</td>
<td>934-938 16th Street</td>
<td>Listed on NRHP</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>A.T. Lewis and Son Department Store; Holtzman and Appel Block</td>
<td>800-816 16th Street</td>
<td>Listed on NRHP</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Neusteter Building</td>
<td>720-726 16th Street</td>
<td>Listed on NRHP</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>McClintock Building</td>
<td>1554 California Street</td>
<td>Listed on NRHP</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Independence Plaza; Prudential Plaza</td>
<td>1001 16th Street; 1050 17th St.</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Bridgepoint Plaza; Park Central</td>
<td>1110 16th Street; 1515 Arapahoe Street; 1111 15th Street</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Security Life Building; 1600 Glenarm Place</td>
<td>1616 Glenarm Place</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Hilton Hotel; Radisson Hotel; Adams Mark Hotel</td>
<td>1550 Court Place</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Historic Property Name</td>
<td>Address</td>
<td>NRHP Eligibility Status</td>
<td>Section 106 FOE</td>
</tr>
<tr>
<td>------------------------------------------------------------</td>
<td>--------------------------</td>
<td>-------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Dome Tower; Great West Plaza; World Trade Center</td>
<td>1625 Broadway</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Zeckendorf Plaza; May D &amp; F Plaza; Hyperbolic Paraboloid</td>
<td>350 16th Street; 1550 Court Place</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Colorado Federal Savings</td>
<td>200 16th Street</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Petroleum Club Building; Petroleum Building; 110 Building</td>
<td>110 16th Street</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Federal Reserve</td>
<td>1020 16th Street</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Lower Downtown Denver Historic District</td>
<td>Multiple</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Symes Building; F.W. Woolworth Company</td>
<td>820 16th Street</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Hayden, Dickinson &amp; Feldhauser Building; Colorado Building</td>
<td>1609-1615 California Street</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>Madison Hotel; Harris Hotel</td>
<td>1544 - 1546 Cleveland Place</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
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<tr>
<td>Walgreens</td>
<td>801 16th Street</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>16th Street Mall</td>
<td>1-1300 16th Street</td>
<td>NRHP-eligible</td>
<td>Adverse Effect</td>
</tr>
<tr>
<td>Skyline Park</td>
<td>1500-1800 Arapahoe Street</td>
<td>NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
<tr>
<td>16th Street Historic District</td>
<td>Multiple</td>
<td>Originally assumed NRHP-eligible</td>
<td>Not Adverse</td>
</tr>
</tbody>
</table>
| Denver Tramway Trolley Lines  
archaeological site                                          | Broadway                 | NRHP-eligible           | No Effect       |

Notes:
FOE = Finding of Effect
NRHP = National Register of Historic Places
Table 2: 16th Street Mall - FTA Responses to SHPO Comments

<table>
<thead>
<tr>
<th>Comment #</th>
<th>Paragraph #</th>
<th>Comment</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Thank you for your recent correspondence received 9 May 2018, concerning the proposed use of FTA funding to assist in the remodeling of Denver's 16th Street Mall. Our office has reviewed the submitted materials.</td>
<td>Thank you for your review and comments on the letter and the Cultural Resources Technical Report.</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>The Mall was determined to be eligible for listing on the National Register of Historic Places in 2017.</td>
<td>The Mall was determined to be eligible for listing on the NRHP in 2013, as part of the Categorical Exclusion for the 16th Street Mall Rehabilitation projects. OAHIP Form 1403 was not completed at that time, but was recently submitted to your office in the May 9, 2018 letter.</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>The proposed alternative will result in changes that will significantly alter the materials, design, and character of the Mall. As such, we concur with your assessment that the proposed alternative will have an adverse effect on historic properties.</td>
<td>The date of this letter will be used in the EA and tech report and the date of concurrence on the finding of effect.</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>Historically, 16th Street has served as the main commercial corridor of downtown Denver for more than a century. Today, a variety of commercial and mixed-use buildings line the length of the Mall; Some of them are listed on, or eligible for listing on the National Register. However, the changes proposed as this Undertaking will not have a direct adverse effect on these historic properties.</td>
<td>Correct. Thank you for agreeing to our proposed No Adverse Effect finding on the adjacent historic properties.</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>There is a possibility that historic properties along 16th Street could be indirectly affected by the Undertaking. Road closures for construction and vibration damage from heavy equipment could cause economic or physical harm to the surrounding buildings.</td>
<td>We are reflecting this comment in the Cultural Resources section of the EA. Also, language is being drafted to include in the MOA to address these concerns.</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>Because the project, as designed, will have an adverse effect on historic properties, we encourage FTA to consider alternatives that will avoid an adverse effect.</td>
<td>The draft Section 4(f) evaluation discusses several avoidance alternatives to avoid and reduce the effect on the 16th Street Mall.</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>We note that some of the alternatives presented in the Cultural Resources Technical Report, such as “partial repair”, would address the most pressing issues whilst avoiding the significant alterations necessitated by the preferred alternative. In this scenario, remaining issues such as enhanced safety could still be accommodated without creating an adverse effect situation (indeed, we note that similar safety measures have been proposed in the past).</td>
<td>The Partial Repair Alternative would not meet the project purpose and need for the following reasons: - As with the No Build Alternative, it would not improve safety for pedestrians and vehicles. Undersized pedestrian walkways located immediately adjacent to the transit way, with no clear visual or physical delineation between them, other than short 4” curbs of the same material and color as the adjacent surfaces would remain. Pedestrian-vehicle conflicts and near-misses would continue to occur. - As with the No Build Alternative, pedestrian walkways would remain undersized for peak hour pedestrian traffic and would remain narrower than CCD standard sidewalk widths, impeding pedestrian mobility. - Although the pavement system would be improved to reduce maintenance frequency, the underlying concrete subslab would not be replaced and thus would not correct the drainage problem nor fully address the maintenance issues with the infrastructure. - The spatial configuration of the Mall would continue to inhibit public use of the Mall in some locations. The medians would remain too small to provide both adequate and comfortable gathering space and also pedestrian circulation around the gathering space in between the transit lanes. The isolation and lack of natural surveillance of the medians would persist, contributing to a lack of positive public use. The outer sidewalks on the median blocks and the narrow sidewalks on the asymmetrical blocks would remain too narrow for both a standard 10-foot pedestrian walkway and a 9-foot patio/gathering space.</td>
</tr>
</tbody>
</table>
Table 2: 16th Street Mall - FTA Responses to SHPO Comments

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<th>Response</th>
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<tbody>
<tr>
<td>8</td>
<td>5</td>
<td>For example, the Technical Report cites the Mall’s “8-foot pedestrian walking areas” as a safety issue; 10-foot sidewalks are preferred for the volume of the pedestrian traffic the Mall attracts during busy periods. However, we note that the Mall’s sidewalks, as designed and as currently in place, are actually 17 feet wide, and that the reduction in available pedestrian space is caused not by the Mall’s design, but by the Downtown Denver Partnership and the City of Denver, who have allowed sidewalk cafes to intrude upon the pedestrian space (we also note that DDP and the City of Denver’s guidelines and regulations currently prohibit sidewalk cafes from narrowing the pedestrian area below ten feet, or from creating congestions in public space). As such, we note that the Mall’s “narrow sidewalk” problem could be solved by better implementing and enforcing existing regulations, which would not have an adverse effect on historic properties.</td>
<td>The width for patios along the Mall are specified in standards established and enforced by the Downtown Denver Business Improvement District. The edge of cafe enclosures must be a minimum of 10 feet from adjacent driveways, alleys, and crosswalks (16th Street Mall Sidewalk Cafe Design Standards, Downtown Denver Business Improvement District, July 21, 2014). The configuration of the Mall is such that transit lanes are only 10 feet wide below the curb, and 2 feet of space above the curb is used for transit and safety purposes, accommodating the bus mirror overhang and occasional furnishings such as planter pots to help provide a buffer between pedestrians and buses. Additionally, 9-foot-wide patios meet architectural standards for dining space of 300 square inches per diner. Common industry table sizes that meet this standard are 30” X 42” and 30” X 48” for four-person tables and 30” x 24” for two-person tables. The standard aisle width is 36”-42” using the smallest industry standards of 42”-wide four-top table, 36” aisle, and 24”-wide two-top table results in a patio width of 8.5’ without a barrier railing and 9’ with a barrier railing. Supporting the need to increase public use of the Mall, the 2016 CCD study 16th St Mall: Small Steps Towards Big Change concluded patio seating has the largest positive effect on people spending time on the Mall. Decreasing the width of the patios would require removing patio seating and would affect existing leases in place with tenants. Patios and café seating have been a part of the Mall’s design since its inception, with the pedestrian areas closest to the buildings intended to be “quasi-private spaces – adjuncts to the shops themselves” with “ample space provided for sidewalk cafes, kiosks, vending carts and displays” (The Transit way/Mall: A Transportation Project in the Central Business District of Metropolitan Denver, I.M. Pei &amp; Partners, 1977).</td>
</tr>
<tr>
<td>9</td>
<td>6</td>
<td>Because this project has the potential to have an adverse effect on historic properties, Section (4)(f) of the USDOT Act of 1966 applies to this Undertaking.</td>
<td>Yes, thank you - FTA is currently drafting the Section 4(f) evaluation.</td>
</tr>
<tr>
<td>10</td>
<td>6</td>
<td>Your letter did not discuss the project’s purpose and need, or discuss how alternatives fit/did not fit the purpose and need. The submitted Technical Report makes allusions to this process, and our staff attended meetings where the details of Section 4(f) were discussed.</td>
<td>The EA has more detailed information on both the purpose and need and the alternatives analysis.</td>
</tr>
<tr>
<td>11</td>
<td>6</td>
<td>We recommend that Section 4(f) issues be summarized and provided for formal comment.</td>
<td>Yes, thank you. The project team is working on completion of the Draft Section 4(f) Evaluation and EA. Documents will be provided to SHPO and consulting parties as soon as possible for their review.</td>
</tr>
<tr>
<td>12</td>
<td>7</td>
<td>Mitigation measures were not included in the text of your letter; however, as with Section 4(f), our staff has attended meetings with FTA and other consulting parties in which mitigation of adverse effects has been discussed.</td>
<td>Yes. At the 6/14/2018 Consulting Parties meeting, FTA and the design team reviewed the requests and recommendations they have received to date throughout consultation.</td>
</tr>
<tr>
<td>13</td>
<td>7</td>
<td>It is our understanding that mitigation of adverse effects will occur, but that the final form and extent of this mitigation has not been determined.</td>
<td>Correct. Mitigation has been discussed at the last three Consulting Parties meetings (on 6/14/2018, 10/18/2018 and 12/6/2018). One element of the mitigation, a possible façade/lighting program, is being further investigated by a subcommittee which includes the CCD and Historic Denver. The draft MOA is being reformatted into a Programmatic Agreement, at the request of the SHPO. The PA will include design commitments as well as commitments the project team will enforce during construction.</td>
</tr>
<tr>
<td>14</td>
<td>7</td>
<td>We look forward to working with other consulting parties in developing (should the project result in an adverse effects) mitigation measures.</td>
<td>Thank you for attending CP Meetings #9 and #10 at which time mitigation measures were initially discussed. We appreciate your involvement in developing mitigation measures.</td>
</tr>
</tbody>
</table>
The ACHP has received your submission to e106@achp.gov. If your submission is to:

- notify the ACHP of a finding that an undertaking may adversely affect historic properties, and/or
- invite the ACHP to participate in a section 106 consultation, and/or
- propose to develop a project Programmatic Agreement (project PA) for complex or multiple undertakings,

and you are enclosing the completed e106 form, this is your official dated receipt of your submission (in accordance with 36 CFR Part 800.6(1)). The ACHP has 15 working days to determine if it will participate in consultation to resolve adverse effects to historic properties. If the ACHP does not participate in consultation, the agency will still need to file the final agreement document and related documentation with the ACHP at the conclusion of the consultation process. This filing is required in order for the agency to complete its compliance responsibilities under Section 106 of the National Historic Preservation Act.

On behalf of the Federal Transit Administration, please find attached the ACHP Electronic Section 106 Documentation Submittal Form with attachments, for notification that the 16th Street Mall Alternatives Analysis and Environmental Clearance Project (HC No. 68388) in Denver, Colorado may adversely affect historic properties. The Section 106 initiation letter is also attached as it could not be combined with the other pdfs.

The attachments include: a table of the identified historic properties, a selection of pertinent Section 106 correspondence, a Map Book showing the Area of Potential Effects and the historic properties identified therein, and the Colorado Architectural Inventory Form for the 16th Street Mall. The Draft Cultural Resources Technical Report is sent separately due to its size.

Please contact Kristin Kenyon, Community Planner, Federal Transit Administration, Region 8 at (303) 638-8168 or kristin.kenyon@dot.gov to confirm receipt of the form or with any questions.

Thank you.

Sara S. Orton | Jacobs | Cultural Resources Specialist | 504.810.0017 | 504.849.2237 | sara.orton@jacobs.com |

3330 W. Esplanade Avenue
Suite 612
New Orleans, LA 70002
www.jacobs.com
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July 31, 2018

Ms. K. Jane Williams  
Deputy Administrator  
U.S. Department of Transportation  
Federal Transit Administration  
1200 New Jersey Avenue, SE  
Washington, DC 20590

Ref: 16th Street Mall Project  
City of Denver, Denver County, Colorado

Dear Ms. Williams:

In response to a notification by the Federal Transit Administration (FTA), the Advisory Council on Historic Preservation (ACHP) will participate in consultation regarding the 16th Street Mall Project. Our decision to participate in this consultation is based on the Criteria for Council Involvement in Reviewing Individual Section 106 Cases, contained within the regulations, “Protection of Historic Properties” (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act. The criteria are met for this proposed undertaking because the project could have substantial impacts on important historic properties and has the potential for presenting procedural problems.

Section 800.6(a)(1)(iii) of these regulations requires that we notify you, as the head of the agency of our decision to participate in consultation. By copy of this letter, we are also notifying Ms. Cindy Terwilliger, FTA Regional Administrator for Region VIII, and Ms. Kristin Kenyon, Community Planner, of our decision to participate in consultation.

Our participation in this consultation will be handled by Sarah Stokely who can be reached at 202-517-0224 or via e-mail at sstokely@achp.gov. We look forward to working with your agency and other consulting parties to consider alternatives to this undertaking that could avoid, minimize, or mitigate potential adverse effects on historic properties and to reach a resolution.

Sincerely,

John M. Fowler  
Executive Director
Section 106 Consultation
June 2, 2015

Ms. Amber Toppah  
Chairwoman  
Kiowa Tribe of Oklahoma  
P.O. Box 369  
Carnegie, OK 73015

Re: Invitation to Consult: RTD 16th Street Mall Transit-way Rehabilitation Project

Dear Ms. Toppah:

The Federal Transit Administration (FTA), in cooperation with the Regional Transportation District (RTD), wishes to invite your organization to serve as a historic consulting party under Section 106 of the National Historic Preservation Act for the RTD 16th Street Mall Transit-way Rehabilitation Project.

The agencies are seeking the participation of regional tribal governments, as described in Section 106 of the National Historic Preservation Act implementing regulations 36 CFR 800 et seq. As a consulting party, you are offered the opportunity to identify traditional cultural and religious properties, evaluate significance of these properties and how the project might affect them. If you have interest in this project and in cultural resources that may be of religious or cultural significance to your tribe, we invite you to be a consulting party.

Attached is a letter sent to the State Historic Preservation Officer (SHPO) to initiate the 106 consultation process that provides brief project information and a map of the location. As part of your participation, you will be invited to attend and participate in consulting party meetings. It is likely that the first of these will occur in summer 2015.

Please reply to Susan Wood, Planning Project Manager – FasTracks at (303) 299-2467 or by email at susan.wood@rtd-denver.com within thirty (30) days of receipt of this letter, with information on whether your organization will or will not accept the invitation to act as a historic consulting party and with any comments or questions regarding the information presented in the attached letter.
Sincerely,

DAVID L BECKHOUSE

David L. Beckhouse
Deputy Regional Administrator

Enclosures:  Letter to Mr. Edward C. Nichols, State Historic Preservation Officer; June 2, 2015

cc:  Amie Tah-bone, NAGPRA Representative
     Liz Telford, RTD
     Susan Wood, RTD
June 2, 2015

Mr. Edward C. Nichols
State Historic Preservation Officer
Colorado Historical Society
1200 Broadway
Denver, Colorado 80203

Re: Initiation of Section 106 Consultation; RTD 16th Street Mall Transit-way Rehabilitation Project

Dear Mr. Nichols:

This letter is sent to initiate the Section 106 consultation process and invite consultation under 36 CFR 800.3 for the proposed 16th Street Mall transit-way rehabilitation project. The 16th Street Mall (OAHP# 5DV.7044), which includes the transit-way and adjacent pedestrian areas, is an I.M. Pei design that was constructed in 1982, and was previously determined to be eligible for inclusion in the National Register. A project location map is attached. Since its construction nearly 30 years ago, the Mall’s aging infrastructure has reached its design life span and updates and maintenance are needed to ensure the Mall’s continued success.

Paver rehabilitation along the pedestrian areas adjacent to the transit-way, as well as rehabilitation of lighting, fountains, street trees, and utilities along the 16th Street Mall between Market Street and Broadway was determined to have no adverse effect (letter of concurrence from State Historic Preservation Officer dated July 25, 2013). FTA does not propose to change the scope of or materials proposed for these elements of the rehabilitation project.

Ongoing concerns with both pedestrian and mall vehicle safety, along with the significant cost of maintenance, have led to the consideration of replacing the transit-way (bus travel lanes only) with an alternative surface. This alternative was not considered in the July 25, 2013 finding of no adverse effect. The Federal Transit Administration (FTA) proposes that the area of potential effect (APE) for direct effects for the proposed undertaking include the limits of the 16th Street Mall resource as detailed in the OAHP survey form and shown in the area shaded in green of the attached project location map.

Concurrent with this letter, an invitation to consult is being sent to Consulting Parties inviting their participation. A list of the potential Consulting Parties and Tribal Consulting Parties is attached. We anticipate scheduling an initial consulting parties meeting in summer of 2015.
Thank you in advance for your assistance. If you require additional information to complete your review, please contact Tracey MacDonald at FTA at 720-963-3309.

Sincerely,

DAVID L BECKHOUSE

David L. Beckhouse
Deputy Regional Administrator

Enclosures: Project Location Map
            Potential Consulting Parties List

cc: Liz Telford, RTD
    Susan Wood, RTD
    File
16th Street Mall Consulting Parties

Mr. Brad Buchannan, Executive Director, City and County of Denver
Mr. George Gause, Denver Landmark Preservation Commission
Ms. Barbara Stocklin-Steely, Denver Landmark Preservation Commission
Mr. John Olson, Director of Preservation Programs, Historic Denver, Inc.
Ms. Annie Levinsky, Executive Director, Historic Denver, Inc.
Mr. John Desmond, Executive Vice President, Denver Downtown Partnership
Ms. Roxanne Elfin, Executive Director, Colorado Preservation, Inc.
Mr. Lane Ittelson, Assistant Director, Colorado Historical Foundation
Mr. Ryan King, Executive Director, Lower Downtown District, Inc.

16th Street Mall Tribal Consulting Parties

Mr. Lyman Gui, Chairman, Apache Tribe of Oklahoma
Mr. Eddie Hamilton, Governor, Cheyenne & Arapaho Tribes of Oklahoma
Mr. Max Bear, Director, Cheyenne & Arapaho Tribes of Oklahoma
Mr. Henry Little Bird, Sr., Arapaho NAGPRA Representative, Cheyenne & Arapaho Tribes of Oklahoma
Mr. Wallace Coffey, Chairman, Comanche Nation of Oklahoma
Ms. Amber Toppah, Chairwoman, Kiowa Tribe of Oklahoma
Mr. Dean Goggles, Chairman, Northern Arapaho Tribe
Mr. Llevando Fisher, President, Northern Cheyenne Tribe
Mr. Manuel Heart, Chairman, Ute Mountain Ute Tribe
Mr. Terry Knight, Sr., NAGPRA Representative, Ute Mountain Ute Tribe
Mr. Shaun Chapoose, Chairman, Ute Indian Tribe
Welcome:

Attached is the agenda for the 16th Street Mall Alternatives Analysis and Environmental Clearance Workshop #1. The workshop begins Wednesday, June 28th at noon with lunch, continues on Thursday, June 29th from 8:00 am to 5:00 pm, and concludes on Friday, June 30th from 8:00 am to noon.

Thank you for your commitment to this process. The 3 planned workshops represent approximately 48 hours of your time over the next 6 months. The work we will accomplish during these hours will be equivalent to 1 year of monthly meetings. This process will allow, if a preferred alternative is selected, for design and construction to proceed and be completed within the next 5 years. Your insights are critical to success.

Many of you have responded that you will be attending. We have a well-rounded group of participants and are looking forward to hearing your ideas on the future of the Mall. We would appreciate hearing back from those of you who haven’t yet responded, this will give us the best information for planning the workshop details.

Thank you again for your commitment. We look forward to seeing you next Wednesday.

The 16th Street Mall Project Leadership Team
Day 1 - June 28, 2017 – How we got here and Mind Expansion

Workshop 1 – Defining the Next 35 Years for the Mall
Outcomes: Direction for Alternatives

<table>
<thead>
<tr>
<th>Time</th>
<th>Task</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td>1:00-1:15</td>
<td>Problems on the mall</td>
<td>Large</td>
</tr>
<tr>
<td></td>
<td>Process</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Workshops / Public input</td>
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<tr>
<td></td>
<td>NEPA</td>
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<td></td>
<td>Historic Preservation</td>
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<tr>
<td></td>
<td>Roles</td>
<td></td>
</tr>
<tr>
<td>1:15-2:00</td>
<td>The 16th Street Mall and 35 Years of Transformation and Success</td>
<td>Large</td>
</tr>
<tr>
<td>2:00-3:15</td>
<td>Trends affecting 16th Street Mall</td>
<td>Small</td>
</tr>
<tr>
<td></td>
<td>Demographics (Residential / Public Spaces)</td>
<td>Groups</td>
</tr>
<tr>
<td></td>
<td>Economics (Events / Businesses)</td>
<td></td>
</tr>
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<td></td>
<td>Mobility (Modes / Technology)</td>
<td></td>
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<tr>
<td></td>
<td>Social Evolution (Preservation / Technology)</td>
<td></td>
</tr>
<tr>
<td>3:15 -3:30</td>
<td>BREAK</td>
<td></td>
</tr>
<tr>
<td>3:30-4:30</td>
<td>Report out of small group discussions on trends</td>
<td>Large</td>
</tr>
<tr>
<td>4:30 – 5:00</td>
<td>Tomorrow’s agenda</td>
<td>Large</td>
</tr>
</tbody>
</table>
## Alternative Analysis and Environmental Clearance

### Workshop 1 – Defining the Next 35 Years for the Mall

**Outcomes: Direction for Alternatives**

Day 2 – June 29, 2017 – Discovering the Mall’s Ideal Future

<table>
<thead>
<tr>
<th>Time</th>
<th>Task</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 – 8:30</td>
<td>Review conclusions from yesterday</td>
<td>Large</td>
</tr>
<tr>
<td>8:30 – 9:00</td>
<td>Develop Ideal Futures through description and graphics</td>
<td>Large</td>
</tr>
<tr>
<td>9:00 – 1:00</td>
<td>Develop Ideal Future Statements</td>
<td>Small (multi-issu)</td>
</tr>
<tr>
<td></td>
<td>BREAK</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mall Walk and photo log (guided)</td>
<td></td>
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<tr>
<td></td>
<td>LUNCH (on Mall)</td>
<td></td>
</tr>
<tr>
<td>1:00 – 2:00</td>
<td>Groups Present their Ideal Futures</td>
<td>Large</td>
</tr>
<tr>
<td></td>
<td>(Each group gets 15 minutes)</td>
<td></td>
</tr>
<tr>
<td>2:00 – 2:45</td>
<td>Presentation of the required design criteria (i.e. lane widths), transit operations, events and programming, pedestrian and edge spaces, tree health and needs, maintenance logistics</td>
<td>Large</td>
</tr>
<tr>
<td>2:30 – 2:45</td>
<td>BREAK</td>
<td></td>
</tr>
<tr>
<td>2:45 – 4:00</td>
<td>How to achieve the requirements of the Mall within the described Ideal Futures</td>
<td>Small (multi-issu)</td>
</tr>
<tr>
<td>4:00 – 4:45</td>
<td>Report out on Ideal Futures with requirements considered</td>
<td>Large</td>
</tr>
<tr>
<td>4:45 – 5:00</td>
<td>Tomorrow’s agenda</td>
<td>Large</td>
</tr>
</tbody>
</table>
## Alternative Analysis and Environmental Clearance

### Workshop 1 – Defining the Next 35 Years for the Mall
**Outcomes:** Direction for Alternatives

### Day 3 – June 30, 2017 – Planning the Next Steps

<table>
<thead>
<tr>
<th>Time</th>
<th>Task</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 – 9:00</td>
<td>Review yesterday’s conclusions</td>
<td>Large</td>
</tr>
<tr>
<td>9:00 – 9:30</td>
<td>Present the Purpose and Need</td>
<td>Large</td>
</tr>
<tr>
<td></td>
<td>Discuss and refine based on the last 2 days</td>
<td></td>
</tr>
<tr>
<td>9:30 – 10:00</td>
<td>Discuss Possible Evaluation Criteria</td>
<td>Large</td>
</tr>
<tr>
<td>10:00 – 10:15</td>
<td>BREAK</td>
<td></td>
</tr>
<tr>
<td>10:15 – 11:00</td>
<td>Discuss challenges to the ideal futures identified and assign group/task force to tackle</td>
<td>Large</td>
</tr>
<tr>
<td></td>
<td>Define Action items for participants</td>
<td></td>
</tr>
<tr>
<td>11:00 – 11:45</td>
<td>Review yesterday’s Ideal Futures with requirements addressed and agree on Common Elements</td>
<td>Large</td>
</tr>
<tr>
<td>11:45 – 12:00</td>
<td>Next Steps and Workshop #2</td>
<td></td>
</tr>
</tbody>
</table>
Regarding the Section 106 consultation for the 16th Street Mall project, please find attached materials for the consulting party meeting next Tuesday, 7/25/17. The 16th Street Mall itself is the only historic property thus far identified; please refer to Form 1403 for information on the 16th Street Mall historic property. The Area of Potential Effects (APE) map that is attached is from the previous consultation on this property. The proposed APE for this project will be discussed at the meeting on Tuesday.

Meeting materials attached:
- Agenda
- Proposed APE
- 16th Street Mall historic property boundary

Thank you for your interest and participation in this process.

Sent on behalf of Susan Wood/RTD and Larry Squires/FTA
Section 106 Consulting Parties Meeting #1
RTD/Civic Center
July 25, 2017
10:30 am - 12:00 am

1. Welcome and Introductions
2. Review prior consultation
3. Define Undertaking
   a. Purpose and Need
   b. Goals
4. Review Proposed Area of Potential Effects
5. Review 16th Street Mall historic property
6. Describe current process and schedule
7. Feedback
8. Questions
From: Annie Levinsky [mailto:alevinsky@historicdenver.org]
Sent: Thursday, July 27, 2017 11:18 AM
To: Squires, Larry (FTA) <Larry.Squires@dot.gov>; Wood, Susan <Susan.Wood@RTD-Denver.com>
Cc: John Olson <jolson@historicdenver.org>; Kim Grant <kgrant@coloradopreservation.org>
Subject: RE: July 25, 2017 Consulting Party Meeting Materials

Larry & Susan,

Larry, thank you for your note last night. Yesterday John Olson, Kim Grant and I sat down, and as recommended at the Consulting Party meeting Tuesday we have taken a close look at the proposed problem statement, purpose and need and would like to offer the following thoughts and suggestions for consideration.

We understand your comments regarding the relationship between the problem statement and the purpose/needs. The problem statement, specifically in the final sentence, discusses the current Mall and its configuration when describing the problems related to lingering and congestion, although it does not mention other contributors to those same problem (i.e. frequency of shuttle traffic, quality of adjacent building façades, the perception of security, etc.). While we aren’t entirely comfortable with that characterization, if that sentence remains as it is we believe there is reasonable grounds to also acknowledge historic (i.e. design) of the Mall in the subsequent statements through a couple options.

One option is to alter the final phrase in the Purpose Statement to read: while continuing reliable two-way transit shuttle service within the Mall and honoring the Mall’s iconic design. This is the language that was used by all the Stakeholder groups and around which there was significant consensus at the June workshops.

An additional or alternative option would be to amend the first need bullet to read: Increase opportunities for public use of the Mall as an iconic civic space for leisure, commerce and tourism.

We are sending this along to you per the instructions in last night’s e-mail, but of course please share with other members of the team. Happy to discuss this further as needed in advance of the next meeting.

Thanks-

Annie
Good afternoon,

I wanted to follow-up after yesterday’s consulting parties meeting. I think it’s important (as do many of you) that there is an open and direct line of communication amongst all. In the event anyone has any follow-up comments or questions or concerns after any consulting parties meeting, or workshop, or open house (which is tomorrow!) … please feel free to reach out to Susan Wood and/or I – as the points of contact for the Section 106 process.

We appreciate those who were able to attend and participate yesterday (as well as during Workshop #1). We value your time, as well as the thought and consideration given the meaningful exchange of ideas towards problem-solving for the Future of the 16th Street Mall.

Please let us know if we may provide any additional information or be of any further assistance. I believe someone is working on the meeting notes/minutes, which should be available to all – ASAP.

Be well,

Larry Squires
303-362-2394
Subject: July 25, 2017 Consulting Party Meeting Materials

Regarding the Section 106 consultation for the 16th Street Mall project, please find attached materials for the consulting party meeting next Tuesday, 7/25/17. The 16th Street Mall itself is the only historic property thus far identified; please refer to Form 1403 for information on the 16th Street Mall historic property. The Area of Potential Effects (APE) map that is attached is from the previous consultation on this property. The proposed APE for this project will be discussed at the meeting on Tuesday.

Meeting materials attached:

- Agenda
- Proposed APE
- 16th Street Mall historic property boundary

Thank you for your interest and participation in this process.

Sent on behalf of Susan Wood/RTD and Larry Squires/FTA

Sara S. Orton
Cultural Resources Planner
National Governments Client Sector
Direct 1 504 832 9520 x59520
Cell 1 504 810 0017

CH2M
1515 Poydras Street, Suite 1550
New Orleans, LA 70112
www.ch2m.com | LinkedIn | Twitter | Facebook

Upcoming PTO: July 07-11
On behalf of RTD and FTA, you are being invited and will shortly be receiving meeting invitations for two upcoming 16th Street Mall Section 106 consulting parties meetings. Based on your insights and interest, we would like to have two meetings in the next eight weeks.

Attached you will find the most current Purpose and Need. It has been modified to include your suggested language of "honoring the Mall’s iconic design”.

The meetings, planned for September 6th and September 27th, will allow us to first discuss the details and measures of iconic design for the evaluation criteria and then to follow-up with discussions of how that iconic design might be realized in the alternatives.

You will receive agenda’s and materials in advance of the meeting. We hope these meetings will fit into your calendars. Please contact either Larry Squires at larry.squires@dot.gov or Susan Wood at susan.wood@rtd-denver.com if you any questions.

Thank you,
Colleen

Colleen Kirby Roberts, AICP
Environmental Planning Manager, Transportation
Office 720-286-0914
Mobile 303-218-0746

CH2M
9189 S Jamaica St
Englewood, CO 80112
www.ch2m.com | LinkedIn | Twitter | Facebook
16th Street Mall
Alternatives Analysis and Environmental Clearance.

PROBLEM STATEMENT AND PURPOSE AND NEED. August 9, 2017

Problem Statement
The 16th Street Mall has failing and outdated infrastructure and limited space for safe and engaging placemaking opportunities. The design, construction, and deteriorating infrastructure causes safety hazards for both pedestrians and vehicles and requires frequent and costly maintenance. The Mall attracts large numbers of people but a low percent stop to spend time. The current configuration of the Mall creates a condition where pedestrian corridors are constrained, creating frequent pedestrian and shuttle conflicts. Sufficient area for the safe placement of high-quality permanent and temporal public gathering installations are lacking along the Mall, contributing to the perception of a low-quality space.

Purpose and Need
Purpose of the Proposed Action
The purpose of the project is to develop and implement a flexible and sustainable plan for the 16th Street Mall to address deteriorating infrastructure, provide equitable and sufficient space for high-quality public gathering opportunities, improve pedestrian and vehicle safety, and continue reliable two-way transit shuttle service on the Mall while honoring the Mall’s use and iconic design.

Need for the Proposed Action
The 16th Street Mall has failing and outdated infrastructure and limited space for safe and engaging placemaking opportunities. The design, construction, and deteriorating infrastructure causes safety hazards for both pedestrians and vehicles and requires frequent and costly maintenance. The Mall attracts large numbers of people but a low percent stop to spend time. The current configuration of the Mall creates a condition where pedestrian corridors are constrained, creating frequent pedestrian and shuttle conflicts. Sufficient area for the safe placement of high-quality permanent and temporal public gathering installations are lacking along the Mall, contributing to the perception of a low-quality space.

Improvements are needed to:

- Increase opportunities for public use of the Mall as an iconic civic space for leisure, commerce, tourism, and use by residents
- Address deteriorating infrastructure to allow reasonable maintenance frequency and costs to businesses and taxpayers
- Improve safety for pedestrians and vehicles
- Maintain mobility for desired transit operations and for all users
Goals
The lead agencies and stakeholders have identified desired goals that the project should address to the extent possible. Goals were determined by meeting with agencies and stakeholders during project scoping activities, which included small group interviews, a stakeholder workshop, a meeting with historic preservation organizations, a set of public open houses, and meetings with the project’s Project Leadership Team. Goals comprise the following:

- Maintain and improve economic viability of businesses on the Mall and on adjacent streets
- Provide a balance of amenities fronting properties on both sides of the Mall
- Maintain and improve a sense of security on the Mall
- Enhance the public image of the Mall as one of Denver’s primary identity elements
- Provide a flexible, dynamic space over time of day, season, and year
- Provide a cost-effective solution over the total life cycle of the Mall
Consulting Parties – On behalf of Susan Wood at RTD and Larry Squires with FTA, the materials for the next 16th Street Mall consulting party meeting on September 6, 2017 at 10:00 a.m. are being provided 2 weeks prior to the meeting. Below is the meeting agenda and attached are the materials to be reviewed and discussed at the meeting. The materials are too large to send in a single email, so there will be one additional email with an attachment.

Meeting materials:
- Agenda (below)
- Purpose and Need and problem statement (attached)
- Iconic Pavement presentation (attached)
- 16th Street Mall Sketches (following email)

At our previous meeting, we said we would investigate project examples where a project is contained entirely within a historic property. The links below are for 2 projects in Washington, DC at St. Elizabeths Hospital, an NHL. The last link is the document center that contains the EA and historic preservation documentation.

https://www.gsa.gov/portal/category/100799
http://stelizabethsdevelopment.com/history.html
http://stelizabethsdevelopment.com/document_center.cfm (NEPA and Historic Preservation)

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Section 106 Consulting Parties Meeting #2
RTD/Civic Center, Express Conference Room
September 06, 2017
10:00 am - 12:00 pm

1. Welcome and Introductions
2. Review updated Problem Statement and Purpose and Need
3. Iconic Pavement Design Presentation
   Cindy Sanders, CEO and partner, The Olin Studio
4. Discuss definition of “iconic design”
5. Schedule/Next Steps
   a. Consulting Party meeting 9/27
   b. Workshop 10/02
c. Identify Preferred Alternative
d. Determination of Effects
e. EA/Section 4(f) evaluation

6. Feedback

7. Questions

Thank you for your interest and participation in this process.

Sara S. Orton  
Cultural Resources Planner  
National Governments Client Sector  
Direct 1 504 832 9520  x59520  
Cell 1 504 810 0017

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1515 Poydras Street, Suite 1550  
New Orleans, LA 70112  
www.ch2m.com  |  LinkedIn  |  Twitter  |  Facebook
16th Street Mall
Alternatives Analysis and Environmental Clearance.

PROBLEM STATEMENT AND PURPOSE AND NEED. August 23, 2017

Problem Statement
The 16th Street Mall has failing and outdated infrastructure and limited space for safe and engaging public gathering activities. The deteriorating infrastructure causes safety hazards for both pedestrians and vehicles and requires frequent and costly maintenance. The Mall attracts large numbers of people but a low percent stop to spend time on the Mall. The current configuration of the Mall creates a situation in which pedestrian corridors are constrained, creating frequent pedestrian and shuttle conflicts.

Purpose and Need
Purpose of the Proposed Action
The purpose of the project is to develop and implement a flexible and sustainable plan for the 16th Street Mall to address deteriorating infrastructure, provide equitable and sufficient space for high-quality public gathering opportunities, improve pedestrian and vehicle safety, and continue reliable two-way transit shuttle service on the Mall while honoring the Mall’s use and iconic design.

Need for the Proposed Action
The 16th Street Mall has failing and outdated infrastructure and limited space for safe and engaging public gathering activities. The deteriorating infrastructure causes safety hazards for both pedestrians and vehicles and requires frequent and costly maintenance. The Mall attracts large numbers of people but a low percent stop to spend time on the Mall. The current configuration of the Mall creates a situation in which pedestrian corridors are constrained, creating frequent pedestrian and shuttle conflicts.

Improvements are needed to:

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- Improve safety for pedestrians and vehicles
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• Maintain and improve economic viability of businesses on the Mall and on adjacent streets
• Provide a balance of amenities fronting properties on both sides of the Mall
• Maintain and improve a sense of security on the Mall
• Enhance the public image of the Mall as one of Denver’s primary identity elements
• Provide a flexible, dynamic space over time of day, season, and year
• Provide a cost-effective solution over the total life cycle of the Mall
• Honor the Mall’s design, building upon its character-defining features
EL CAMINO DE SANTIAGO | Spain | Constructed: Prior to 900 BC
HOLLYWOOD BOULEVARD | Holywood, CA | Constructed: 1960
JERSEY SHORE | Seaside Heights, NJ | Constructed: 1915
PIAZZA DEL CAMPO | Sienna, Italy | Constructed: 1413
COPACABANA | Rio de Janeiro, Brazil | Constructed: 1970
EXHIBITION ROAD | South Kensington, London | Constructed: 2011
SUPERKILEN | Copenhagen, Denmark | Constructed: 2012
SUPERKILLEN | Copenhagen, Denmark | Constructed: 2012
THE HIGH LINE | New York, NY | Constructed: 2014
DEWEY SQUARE | Boston, MA | Constructed: 2012
16th STREET | Denver, CO | Constructed: 1982
Hi Everyone,

We are preparing for tomorrow’s meeting and want to make sure we have all the updated information. Are there any additional updates or materials in advance beyond this August 23rd e-mail and the follow-up Olin sketches that were provided?

Thanks-

Annie
Meeting materials:
- Agenda (below)
- Purpose and Need and problem statement (attached)
- Iconic Pavement presentation (attached)
- 16th Street Mall Sketches (following email)

At our previous meeting, we said we would investigate project examples where a project is contained entirely within a historic property. The links below are for 2 projects in Washington, DC at St. Elizabeths Hospital, an NHL. The last link is the document center that contains the EA and historic preservation documentation.

https://www.gsa.gov/portal/category/100799
http://stelizabethsdevelopment.com/history.html
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Section 106 Consulting Parties Meeting #2
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   Cindy Sanders, CEO and partner, The Olin Studio
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   a. Consulting Party meeting 9/27
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   c. Identify Preferred Alternative
   d. Determination of Effects
   e. EA/Section 4(f) evaluation
6. Feedback
7. Questions

Thank you for your interest and participation in this process.

Sara S. Orton
Cultural Resources Planner
National Governments Client Sector
Direct 1 504 832 9520  x59520
Cell 1 504 810 0017
Annie and all – The agenda is attached; there are just a few small changes to this. All the other materials should be up-to-date. Cindy is not going to present the Olin sketches at the meeting tomorrow, but we have set aside time to discuss them if you have any questions or comments on them.

Thank you.

Sara S. Orton
ch2m
Cultural Resources Planner
Direct 1 504 832 9520 x59520
Cell 1 504 810 0017
Hi Everyone,

We are preparing for tomorrow’s meeting and want to make sure we have all the updated information. Are there any additional updates or materials in advance beyond this August 23rd email and the follow-up Olin sketches that were provided?

Thanks-

Annie

---

From: Orton, Sara/NWO [mailto:Sara.Orton@CH2M.com]
Sent: Wednesday, August 23, 2017 7:05 PM
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Cc: Susan.Wood@RTD-Denver.com; Squires, Larry (FTA) <Larry.Squires@dot.gov>; Roberts, Colleen/DEN <Colleen.Roberts@CH2M.com>
Subject: 16th Street Mall, Consulting Party Meeting, 09/06/17

Consulting Parties – On behalf of Susan Wood at RTD and Larry Squires with FTA, the materials for the next 16th Street Mall consulting party meeting on September 6, 2017 at 10:00 a.m. are being provided 2 weeks prior to the meeting. Below is the meeting agenda and attached are the materials to be reviewed and discussed at the meeting. The materials are too large to send in a single email, so there will be one additional email with an attachment.

Meeting materials:
- Agenda (below)
- Purpose and Need and problem statement (attached)
- Iconic Pavement presentation (attached)
- 16th Street Mall Sketches (following email)
At our previous meeting, we said we would investigate project examples where a project is contained entirely within a historic property. The links below are for 2 projects in Washington, DC at St. Elizabeths Hospital, an NHL. The last link is the document center that contains the EA and historic preservation documentation.
https://www.gsa.gov/portal/category/100799
http://stelizabethsdevelopment.com/history.html
http://stelizabethsdevelopment.com/document_center.cfm (NEPA and Historic Preservation)

Section 106 Consulting Parties Meeting #2
RTD/Civic Center, Express Conference Room
September 06, 2017
10:00 am - 12:00 pm

1. Welcome and Introductions
2. Review updated Problem Statement and Purpose and Need
3. Iconic Pavement Design Presentation
   Cindy Sanders, CEO and partner, The Olin Studio
4. Discuss definition of “iconic design”
5. Schedule/Next Steps
   a. Consulting Party meeting 9/27
   b. Workshop 10/02
   c. Identify Preferred Alternative
   d. Determination of Effects
   e. EA/Section 4(f) evaluation
6. Feedback
7. Questions

Thank you for your interest and participation in this process.

Sara S. Orton
Cultural Resources Planner
National Governments Client Sector
Direct 1 504 832 9520 x59520
Cell 1 504 810 0017

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New Orleans, LA 70112

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Reminder for the 16th Street Mall Section 106 Consulting Parties Meeting #3 on Wednesday, September 27th from 10:30 – 12:30 at RTD’s Civic Center Regional Conference Room.

The agenda and meeting materials will be sent to you next week. Please contact either Larry Squires at larry.squires@dot.gov or Susan Wood at susan.wood@rtd-denver.com if you any questions.

Thank you,
Colleen

Colleen Kirby Roberts, AICP
Environmental Planning Manager, Transportation
Office 720-286-0914
Mobile 303-218-0746

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Consulting Parties:

Attached for your review is a pdf of the meeting notes from the September 06, 2017 consulting party meeting. The pdf also contains the sign-in sheet and the meeting materials (agenda and presentation).

Also attached is the agenda for the upcoming consulting party meeting on September 27, 2017. We are still pulling together the materials for this meeting and will get them to you this week.

Please contact either Larry Squires at larry.squires@dot.gov or Susan Wood at susan.wood@rtd-denver.com if you any comments or questions on either of these documents.

Thank you.

Sara S. Orton
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New Orleans, LA 70112
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Meeting Notes

Attendees: See attached Sign-in sheet

Introductions Larry Squires with the Federal Transit Administration (FTA) and Susan Wood with Regional Transportation District (RTD) welcomed the group and thanked them for their participation in the process. The attendees (shown on the attached sign-in sheet) introduced themselves and identified their affiliated organizations.

Problem Statement and Purpose and Need The updated Problem Statement and Purpose and Need were briefly reviewed. There were no additional comments on the finalized Problem Statement and Purpose and Need.

Presentation Cindy Sanders, CEO and partner with The Olin Studio, gave a presentation about Iconic Pavement Design (attached). Participants received Olin Studio sketches and drawings from 1977 – 1982 of the 16th Street Mall project (attached). These were not discussed with the group.

There was a comment that the photos comparing the pavers from bird’s eye view versus down at street level and uncleaned was an unfair comparison, and disagreement with the notion that people don’t see the pattern easily and that it no longer has design integrity. Cindy clarified that she was not intending to refer to integrity but rather legibility of the design. The Downtown Denver Partnership noted that the pavers were clean in the street-level photo because they are continually cleaned by the Partnership.

Discussion The group discussed their ideas and definitions of ‘iconic design’. The following are summaries of the comments made at the meeting. The comments do not represent consensus among the group, but are summarizing the input received.

- Iconic Design
  - All the elements and details culminated into the iconic design of the Mall. Honoring iconic design means honoring I.M. Pei and all the Mall’s elements.
  - Iconic design is more than just aesthetics.
  - If you take an old iconic design by an established architect, and you design a new iconic building by a new architect, it’s no longer the iconic design by the original architect.
  - The entire design of how everything works together, the whole vision, is the iconic design. If you change out one part of the design, it affects the whole design.

- 16th Street Mall Design Components
The foundational language includes the intricate and intentional relationships between the design elements (placement of the trees, paver design, light standard locations) and the strong linearity of the design.

Elements of this iconic design are: the carpet (meaning the pavement and pattern), the lights, and the trees, as well as the inter-relationship between these elements. The design has respected, recognized patterns and rhythms within its foundational language.

The color palette is an integral and intentional part of the design. The presence of colors, muted or strong, doesn’t diminish its level of iconic strength.

The spatial relationships between the carpet, trees, lighting and buildings are the key design elements; the moveable furniture would be less important.

The Mall is made up of modular pieces. There is an elegance and precision in the math of the design.

The condition/appearance of the mall has eroded over time, which also threatens the design. But the pattern ought to be respected. The design retains a high level of integrity.

The locations of the transit lanes are not necessarily ‘iconic’; the vast row of trees and the linear view are what are iconic and the modularity of the design (it is not identical along the whole length of the mall).

There is a distinction between movable/changeable elements (like the furniture) and permanent design elements. So the exact trees in place today are not what are significant. It is understood that natural elements of a design become obsolete or die. The importance is in the tree canopy and the spatial relationships between the placement of the trees and the other design elements.

A mix of uses is messy and the messiness of the mall is part of its character.

- **Design Considerations for this Project**
  - **Pattern and Design**
    - It would be dangerous to change the proportions of the design; the pattern in its current configuration is what is significant. Recommend leaving the pattern in the current design where possible and maybe using additive elements to achieve the project goals.
    - The scale and proportion are very important. Instead of changing the whole mall, use additive pieces in areas where changes are necessary. Breaks in the pattern are not part of the design, but if updates are needed, select an area where it would be less noticeable, less discernable (at the edges, for example).
    - Are intersections being considered? The pattern could be continued into the existing intersections. The intersections are an integral part of the design, so the project should carefully consider the intersections.
    - In looking at the design sketches, there were various ideas that were not realized in the final design (for example, the texture of the pavement changed). It is important to consider the design intentions that were not realized.
    - There are 7 aspects of integrity (setting, feeling, location, association, design, materials, and workmanship) related to the identified character-defining features of the property. Materials and design would be the most important of these integrity features. It would be of concern if both of these aspects of integrity were impacted by the project.
    - To change a little bit of everything would be the worst-case scenario. Keeping the design, but changing the materials would not be OK. We shouldn’t look at this and say, the top 3 elements are the most important and everything else can go.
o Open Street Concept
  ▪ The open streets concept introduced by this project in the 1980s was 35 years ahead of its time. Cities are now redesigning their streets to this open concept, but Denver already has this, so we should protect it. The streets and sidewalks were designed to intentionally be less delineated.
  ▪ Lower profile cross sections for city streets is a trend in street design the US. This street profile is already low, so little reason to change that.

o Adaptation and Re-use
  ▪ Ideally, any changes to the mall would not harm the historic resource. Adaptive reuse is preferred over redesign or replacement. Changes to the historic property should stay within the existing dynamic of the property and leave the recognizable design in place.
  ▪ The question is: How do you take the best pieces of the iconic Mall design and make it better for the future.
  ▪ The light standards are a good example of updating a design feature without changing the element itself: the mechanics of the lights were outdated and technology had evolved from the mid-1980s. The mechanical, interior elements were updated, but exterior design remained unchanged. This would be the ideal for the mall itself, to make upgrades with minimal changes to the design, but include advances in technology and address current needs.
  ▪ Instead of changing existing elements, the design team should look at additive pieces such as: bollards, bulb outs, mechanical elements, under street lighting or other elements to make visual delineations.
  ▪ In all cases, the ideal should be to repurpose and reuse original design elements (either static or moveable. The goal should be to maximize what is kept of the original design and materials. The design philosophy should be respected.
  ▪ There may be a hierarchy of elements that can be reused. The new design won’t be able to reuse everything.

o Additional Comments
  ▪ Functionally, the historic property ought to go from Broadway to the Highlands. The viewshed should include the views out toward the Highlands and the visual layers of the bridges.
  ▪ The experience of the mall is a staccato experience, a 3-D experience, so we need to remember these experiences when updating this space.
  ▪ The current trash cans are not functioning; they are not cost effective to maintain and because of their design and shape are a Homeland Security safety issue. Recycle bins are needed.

- Denver Union Station Example
  ▪ The success of Denver Union Station was referenced. It was not a replacement but an adaptive re-use. Changes can happen with an adaptive quality. New uses can then be possible. Can’t honor the original design by replacing it. Possibly new materials and possibly new locations for things. Replacing the design would not honor it.
  ▪ There are components of the Mall that are iconic, but places and spaces should have an opportunity to breathe and evolve as society changes. Denver Union Station was and is an iconic place. We added a plaza and fountains and made it better.
- Materials
  o Due to their age and use, some of the materials are deteriorating, which affects the integrity of the materials.
  o Granite is a strong material that weathers well; it was chosen for its longevity. From a historic preservation standpoint, the materials are significant.
  o Granite is an enduring material. Enduring, iconic, timeless, legacy, longevity were words used over and over in the first workshop. The material is part of what makes the design iconic. They were selected for more than just performance.
  o Question regarding the underlying design issues: if the design problems below the street surface were remedied, would the original materials perform better? Response: a paver study has been conducted; the setting bed could be improved, but it would not impact the performance of the surface materials.
  o A comparative cost study was requested on the various costs of the different surface materials being considered. This would include initial costs as well as lifecycle, maintenance, and replacement costs.
  o There is a hierarchy of treatment of historic materials. The National Park Service has guidelines for the preservation of materials. When replacing historic materials, they recommend using like materials; concrete would be a non-starter.

- Costs
  o Remember that cost effectiveness is also a goal. There is an expense associated with replacing the pavers in an ad hoc fashion.
  o We all want to have an iconic mall. Since it is iconic, it deserves more financial investment than a regular street. Cost savings are a factor, but the lifecycle costs of other materials needs to be considered. The materials may be cheaper, but they may have to be replaced more frequently.

Schedule and Next Steps
Consulting Party meeting 9/27
Workshop 10/02
Identify Preferred Alternative
Determination of Effects
EA/Section 4(f) evaluation

The next meeting will describe what we have heard from stakeholders at the workshop and at the public open houses that leads to the development of a reasonable range of alternatives, and how that will be used as a jumping off point for the evaluations. The Section 106 schedule will adapt to align with the other NEPA and public engagement activities. There will be additional Section 106 Consulting Parties meetings and the agencies will strive to send the meeting materials prior to the meeting for participant review prior to discussion.

Action Items
- Submittal of paver study to those who don’t have it
- Investigate the possibility of a comparative cost analysis for different paving materials
- Meeting materials will be posted
- Meeting notes will be sent out for review
Alternative Analysis and Environmental Clearance

Section 106 Consulting Parties Meeting #2
RTD/Civic Center, Express Conference Room
September 06, 2017
10:00 am - 12:00 pm

1. Welcome and Introductions
2. Review Problem Statement and Purpose and Need
3. Iconic Pavement Design Presentation
   Cindy Sanders, CEO and partner, The Olin Studio
4. Discuss definition of “iconic design”
5. Schedule/Next Steps
   a. Consulting Party meeting 9/27
   b. Workshop 10/02
   c. Identify Preferred Alternative
   d. Determination of Effects
   e. EA/Section 4(f) evaluation
6. Feedback/Questions
Alternatives Analysis & Environmental Clearance

Section 106 Consulting Parties Meeting #2
September 6, 2017, 10:00 – 12:00

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<tr>
<th>Attended</th>
<th>Name</th>
<th>Organization</th>
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<tr>
<td>□</td>
<td>Trevor Lee</td>
<td>Olin</td>
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EL CAMINO DE SANTIAGO | Spain | Constructed: Prior to 900 BC
FREEDOM TRAIL | Boston, MA | Constructed: 1953
HOLLYWOOD BOULEVARD | Holywood, CA | Constructed: 1960
JERSEY SHORE | Seaside Heights, NJ | Constructed: 1915
PIAZZA DEL CAMPO | Sienna, Italy | Constructed: 1413
COPACABANA | Rio de Jenaro, Brazil | Constructed: 1970
CITY HALL PLAZA | Boston, MA | Constructed: 1968
EXHIBITION ROAD | South Kensington, London | Constructed: 2011
SUPERKILLEN | Copenhagen, Denmark | Constructed: 2012
SUPERKILLEN | Copenhagen, Denmark | Constructed: 2012
THE HIGH LINE | New York, NY | Constructed: 2014
1. Welcome and Introductions

2. Section 106 Consultation Status
   a. Area of Potential Effects
   b. Identify historic properties within the APE
   c. 16th Street Mall eligibility consistent with Form 1403

3. Alternatives Development and Evaluation
   a. Alternatives evaluation criteria
   b. Alternatives developed
   c. Evaluation process

4. Input on Section 106 Next Steps
   a. Workshop 10/02
   b. Identify Preferred Alignment
   c. Discuss design details with stakeholders
   d. Identify Preferred Alternative
   e. Evaluation of Eligibility and Effects
   f. EA/Section 4(f) evaluation

5. Additional Feedback/Questions
We hope you are able to join us for the upcoming 16th Street Mall Workshop planned for October 2nd. You will be receiving an agenda next week in preparation for the meeting.

Attached to this email are items resulting from the first workshop:

- During our first workshop, you asked us to research sizes and specifications about urban design features and furniture that intrigued you. Attached are drawings showing the room needed for the amenities you identified in our mind expansion exercise.
- All of your comments and those from our public outreach with an indication of how your comments will be incorporated into the ongoing work on the 16th Street Mall. *
- A DRAFT Future Statement derived from you work at the workshop.

*The Framework Plan and the Implementation Plan referenced in this document will be discussed at the October workshop.

If you haven’t done so already, please RSVP for our October workshop!

The 16th Street Mall Project Leadership Team
Program Studies
<table>
<thead>
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<th>Input</th>
<th>Resolution</th>
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<td>Economic life of 16th Street will remain linked to transit and its ridership</td>
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<td>Flexibility/fluidity – blurring boundaries of time &amp; space</td>
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<td>Extension of retail experiences/opportunity into public space/side streets</td>
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<td>Retail is changing – may go away</td>
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<td>Important to recognize that shopping can’t save Mall</td>
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<td>Experiential environment/retail: great design</td>
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<td>Why are some of the new, popular businesses not coming to Denver?</td>
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<td>There may not be a need for huge retail spaces, may have to chop them up for more boutiques, food halls, booth space (Best Buy, Amazon, etc.)</td>
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<td>Experiences may replace retail. Experience the retail brand &amp; then go home and order it for home delivery. Don’t have to carry the packages around.</td>
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<td>Urban design</td>
</tr>
<tr>
<td>The Mall is a neutral zone – can’t design for trends. Can’t curate retail – too many property owners</td>
<td>P&amp;N and Urban design</td>
</tr>
<tr>
<td>Curating example – Santa Monica: Owning body review tenants; aesthetics, etc.</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>How palatable is the idea of governance over which type of retail can come in? Some areas lend themselves better to this (e.g. that’s how Pavilions works)</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Ways to incentivize this? Market in Seattle that has association to help with storefront, signage, tenants.</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Full spaces. Everything is leased so it makes turnaround hard,</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Pop-up shop possibilities? Carts? Ribs? More vacancy here, may be able to generate interest in curation.</td>
<td>Urban design</td>
</tr>
<tr>
<td>The mall is public space – privatization would be tough</td>
<td>Urban design</td>
</tr>
<tr>
<td>Transit on the mall is an economic generator. Easier to get off the bus than park your car.</td>
<td>Urban design</td>
</tr>
<tr>
<td>1% of transit riders interact with the mall</td>
<td>Urban design</td>
</tr>
<tr>
<td>Housing density is a good tax generator</td>
<td>Urban design</td>
</tr>
<tr>
<td>LoDo/DUS/Cherry Creek have a vision. Can we use this project to have to one to incentivize the Mall?</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Experience impacts economic development</td>
<td>Urban design</td>
</tr>
<tr>
<td>You can have access to goods online and immediate</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Micro housing impacts – shared spaces &amp; experiences</td>
<td>Urban design</td>
</tr>
<tr>
<td>Nicollet Mall – no anchor stores (not on 16th Street Mall either)</td>
<td>Urban design</td>
</tr>
<tr>
<td>Evolution of retail – no anchors</td>
<td></td>
</tr>
<tr>
<td>Experience the street, or looking into the store (Apple store)</td>
<td></td>
</tr>
<tr>
<td>Experience – unique brands; local stores</td>
<td>Urban design</td>
</tr>
</tbody>
</table>
### Authentic retail experiences – The Denver experience. History exists on Mall but does not feel authentic with chain stores

- Urban design

### Need diversity of customers to support transit – regional tourism

- Urban design and Framework Plan

### RTD has data of ridership demographics

- P&N

### The new Mall shuttles are too silent

- Urban design

### Changing experiences in public space that are unique to Denver. Programming; Meet in the Street

- Urban design and Framework Plan

### Opportunity in alleys (Fort Collins retail alley programming) & side streets that are unused

- Urban design and Framework Plan

### Connect side streets

- Urban design and Framework Plan

### 14th Street more active

- Framework Plan

<table>
<thead>
<tr>
<th>Social/Human Experience Break-out Session Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input</strong></td>
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<tr>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Today, people want to “do”, interactive. Selfies, photographs doing things.</td>
</tr>
<tr>
<td>Innovation – green space/infrastructure; utilities; sustainability</td>
</tr>
<tr>
<td>Moving away from brick &amp; mortar – community Wi-Fi; businesses advertise on mobile devices/opportunity</td>
</tr>
<tr>
<td>Homogenous businesses/chains: larger stores can afford rent</td>
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<tr>
<td>Local businesses – celebrate uniqueness</td>
</tr>
<tr>
<td>Experience the uniqueness</td>
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<tr>
<td>Tactile</td>
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<tr>
<td>Interactive experience leads to lingering</td>
</tr>
<tr>
<td>Mix of retail</td>
</tr>
<tr>
<td>Destination retail brings people together &amp; they stay longer</td>
</tr>
<tr>
<td>Unique retail</td>
</tr>
<tr>
<td>Walkability – walk to variety of retail</td>
</tr>
<tr>
<td>Services/retail for residents? Limited currently, but need higher residential density to support chicken/egg</td>
</tr>
<tr>
<td>Opportunities for farmer’s market? Has been discussed but never executed, why? Perhaps this fits in weekend CBD area.</td>
</tr>
<tr>
<td>Parking lots/in-fill areas that are now lots</td>
</tr>
<tr>
<td>Less people driving now</td>
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<tr>
<td>Driverless cars – less parking needed</td>
</tr>
<tr>
<td>Reactivate current parking structures/surface lots. Allow greater variety (retail uses more space)</td>
</tr>
<tr>
<td>Food/food trucks/variety of eateries. Competition: small, medium, large eateries – enough people for all?</td>
</tr>
<tr>
<td>Non-traditional hours for retail</td>
</tr>
<tr>
<td>Transit – operates like an elevator: stops at all stops</td>
</tr>
<tr>
<td>Ridership roughly even throughout the length</td>
</tr>
<tr>
<td>Great public space is missing (Federal Reserve Bank: transform to open space/plaza)</td>
</tr>
<tr>
<td>Like the pianos on the Mall</td>
</tr>
<tr>
<td>Time management of space</td>
</tr>
<tr>
<td>LoDo moveable chairs to address sun/shade. But night time locked up for security issues.</td>
</tr>
<tr>
<td>Topic</td>
</tr>
<tr>
<td>-------</td>
</tr>
</tbody>
</table>
| Buskers/musicians: | Manage it or not?  
Do some management in high traffic areas  
NYC example – painted tones |
| Halprin Skyline Park: Overdesigned | 16th Street Mall: blank slate; flexibility of design |
| Flexibility of shared streets | Pedicabs  
Horses  
Pedestrians |
| Flexibility for the future | P&N |
| Funnels of transportation impacts programming | P&N |
| Opportunities for minor adjustments | Liquor laws/tables on/off options  
One sidewalk café in 1982 – 70 sidewalk cafes  
Creates “cages”. Opposite – feel like you are in an uncontrolled environment  
What if flexible of on/off mall |
| Lincoln Road Mall in Miami Beach: ped feel in restaurant | Advanced technology for visitor support: Holograms (like Disney World)  
In 20 years, we won’t have retail as we know it now. Stores will be very small. Building use will change.  
Millennials will have families – will they want to live on the mall? Yards, good schools, shared green spaces retain families.  
The human experience trend – people will pay more for this than “stuff”  
Need to feel safe to have a positive experience  
Hour & time of day impacts different areas of the city  
Need to change perception  
More people = safer  
Perception of safety in Mall (perception is reality)  
Patio 16 is piping in nature sounds. People want authenticity – real animals and birds.  
Larimer Square & Union Station are authentic  
“Gamification” of downtown – tracking experiences – win something  
City can make goals for what desired social mix is  
Is there opportunity for Civic Center end of the Mall?  
Temporal differences a common theme  
Seasonal differences should be considered  
Winter on the Mall experience  
If there is always something cool going on, then people will just go  
Ownership of curatorship? BID has some of this but it is an economic burden  
Performance space |
| Urban design | Urban design |
| Urban design and Framework Plan | Urban design |
| Framework Plan | Framework Plan |
| Framework Plan | Framework Plan |
| Urban design | Framework Plan |
| Framework Plan | Framework Plan |
| Framework Plan | Framework Plan |
| Framework Plan | Framework Plan |
| Framework Plan | Framework Plan |
Technology in the public realm (phones, Wi-Fi) is changing how people interact | Framework Plan
Interactive design | Urban design
In Sydney, Australia entire blocks engage in festivals or activities (ice festival, light festival) | Urban design
Interject experiential aspect – authentic, maker space, raw feeling (e.g. RiNo) | Urban design
Interjecting more into empty first floor/lobbies | Framework Plan
How do zones with different objectives keep Mall relevant? Does not have to be everything to everyone, everywhere | Implementation Plan
Activity on numbered streets – previously; linear/corridor | Implementation Plan

<p>| <strong>Mobility Break-out Session Notes</strong> |
| <strong>Input</strong> | <strong>Resolution</strong> |
| Trends: | Urban design and Framework Plan |
| Districts are developing | |
| More people-place development in adjacent districts | |
| Migration of business to LoDo | |
| More residential downtown | |
| People living downtown have different transportation needs | |
| Connectivity | |
| Multi-modal | |
| Tapestry vs. corridor | |
| Central hub no longer spine; reach tentacles outward | |
| Walkability | |
| Social evolution of demographics | |
| Does it need to all things to all people all the time? | |
| Union Station – diversity in people, uses, retail | |
| Demand for walkable communities | Urban design |
| Residents demand it | |
| Need high quality walking environment | |
| More transit options – focused, less vehicular desire | Framework Plan |
| TNCs | |
| Mobile apps | |
| Autonomous vehicles | |
| What types of technology advances can control shuttles to alleviate buffer between shuttles and pedestrians? | Framework Plan |
| RTD looking at autonomous vehicles | Framework Plan |
| Shared spaces trend: Woonerf | Urban design |
| All modes welcomed | |
| Pedestrians prioritized first | |
| Auto traffic slowed | |
| Flexibility of mobility uses &amp; infrastructure &amp; design – plan for the future | Urban design |
| Connectivity – wayfinding of transportation options | Engineering |</p>
<table>
<thead>
<tr>
<th>Topic</th>
<th>Responsible Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disruptions interrupt shuttle route</td>
<td>Urban design and engineering</td>
</tr>
<tr>
<td>Lighting to bus lane to show where the pedestrians should go</td>
<td>Engineering.</td>
</tr>
<tr>
<td>Has downtown residential transit users changed?</td>
<td>P&amp;N. Urban design</td>
</tr>
<tr>
<td>Residents are walking/biking – not transit</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Bike access needed: Not allowed Monday-Friday on Mall. Nicollet Mall you can.</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Family friendly mobility options</td>
<td>Urban design</td>
</tr>
<tr>
<td>Autonomous vehicles</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Smaller but more shuttles?</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Worth the investment?</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Large buses take up more space</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Electric buses are quieter. Harder for vision impaired to detect</td>
<td>P&amp;N and Urban design</td>
</tr>
<tr>
<td>Residents in adjacent districts: bike or walk to Mall; not using cars</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Less car ownership</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>13 cross streets</td>
<td>Implementation Plan</td>
</tr>
<tr>
<td>Repurpose rib streets (all but one is one-way)/connectivity to districts</td>
<td>Implementation and Framework Plan</td>
</tr>
<tr>
<td>Traffic IN previously – now not used this way primarily. Need changed/focus changed</td>
<td>Urban design and Implementation</td>
</tr>
<tr>
<td>Places to load/un load people &amp; delivery</td>
<td>Urban design</td>
</tr>
<tr>
<td>Lyft/Uber – ride share</td>
<td>Urban design and Framework Plan</td>
</tr>
<tr>
<td>Places to get in and out of vehicles</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Carriages in evenings/lower bus service. No complaints about move service</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>No major nodes/gathering places</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Late night uses (post restaurant; post night out) less bus, more other transport (Lyft, Uber, pedi-cab)</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Other nodes for public activity – plazas Off Mall</td>
<td>Urban design and Framework Plan</td>
</tr>
<tr>
<td>Transverse opportunities</td>
<td>Implementation Plan and Framework Plan</td>
</tr>
<tr>
<td>Bike/pedestrian connection to transport</td>
<td>Urban design</td>
</tr>
<tr>
<td>Flexible mobility</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Mobility nodes</td>
<td>Urban design</td>
</tr>
<tr>
<td>Mobility hubs integral to Mall</td>
<td>Urban design</td>
</tr>
<tr>
<td>Build on what the shuttle does</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Access: bike share, golf cart, pedi-cabs</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Gold Line, Northwest Rail and Denver Union Station will increase demand. Need to address additional ridership</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Denver is now a 24/7 city, not just AM &amp; PM. This creates more demand.</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>More people are choosing to live downtown. A new school was just built.</td>
<td>Urban design and Framework Plan</td>
</tr>
<tr>
<td>The Mall is a different experience when masses are there</td>
<td>Urban design</td>
</tr>
<tr>
<td>The Mall is a go-to place, not just move through</td>
<td>Urban design</td>
</tr>
<tr>
<td>Tourism creates different uses. Longer use period from people coming from different time zones</td>
<td>Urban design</td>
</tr>
<tr>
<td>Millennials don’t want cars</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Build the Mall for the next generation</td>
<td>Urban design</td>
</tr>
<tr>
<td>Live in city center, won’t own a car. how does that change planning?</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Less need for parking with autonomous vehicles but potential for pullouts</td>
<td>Urban design</td>
</tr>
<tr>
<td>Will autonomous vehicles affect transit use?</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Autonomous vehicles will make city more pedestrian friendly (less traffic in downtown)</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>How multi-modal should the Mall and ribs be?</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Will autonomous shuttles be future of Mall transit? Do these need to be the same fleet? Allow for bikes, pedi-cabs, smaller vehicles/shuttles</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Ribs/intersections – curb dimensions will be important</td>
<td>Implementation</td>
</tr>
<tr>
<td>Live/work/play in Denver will reduce traffic &amp; convert mobility needs</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Pedestrian Mall is priority, transit secondary. However, it was built as a transit way Mall.</td>
<td>Urban design and Framework Plan</td>
</tr>
<tr>
<td>Trend: buildout of transit system increases usage of shuttle</td>
<td>P&amp;N</td>
</tr>
<tr>
<td>How do we accommodate more people on the Mall? Is it possible?</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Remind people that they don’t have to ride the shuttle</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>In Portland biking felt safe, not so much in Denver</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Vehicular access to mountains may impact autonomous vehicles</td>
<td>Framework Plan</td>
</tr>
</tbody>
</table>

**Demographics Break-out Session Notes**

<table>
<thead>
<tr>
<th>Input</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher concentration of residents – need economic diversity – smaller scale living</td>
<td>Urban design</td>
</tr>
<tr>
<td>Mall becomes a key public space for social interaction</td>
<td>Urban design</td>
</tr>
<tr>
<td>Authenticity comes from affordability and diversity</td>
<td>Urban design</td>
</tr>
<tr>
<td>Changes to Mall won’t change demographics</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Provide diverse environments along Mall and elsewhere downtown</td>
<td>Urban design and Framework Plan</td>
</tr>
<tr>
<td>Family residential amenities need to be incorporated on &amp; off the Mall</td>
<td>Urban design</td>
</tr>
<tr>
<td>Adjacent buildings affect comfort/scale of experience on Mall</td>
<td>Implementation and Framework Plan</td>
</tr>
<tr>
<td>Affordability is a big problem. Need housing for everyone, not just the rich. There are lower income workers on the mall.</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Cultural/economic diversity – live where you work &amp; can afford</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Build smaller units to be more affordable</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Older/smaller/better = more livable spaces</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Need community spaces to support smaller housing options</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Turn parking garages into housing?</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Eliminate parking requirements</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Zoning isn’t the issue</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Need amenities i.e. grocery store, parks</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Work spaces/environment are changing</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Workers less mobile/work at home</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Changing expectations on what kind of home to live in</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Household size is dropping; Percentage of married people is less: condos will be more desirable</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Genxers may want loft type nursing homes in downtown (when they need them)</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Residents seem to be millennials &amp; retirees</td>
<td>Framework Plan</td>
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<tr>
<td>Topic</td>
<td>Framework Plan</td>
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<tr>
<td>----------------------------------------------------------------------</td>
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</tr>
<tr>
<td>LoDo – younger audience. Redefining “spine” businesses</td>
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<tr>
<td>Empty nesters may want to move downtown when they retire</td>
<td></td>
</tr>
<tr>
<td>Study showing that older/boomers are returning to cities</td>
<td></td>
</tr>
<tr>
<td>Who are we defining this for? One generation; flexible; multi-modal</td>
<td></td>
</tr>
<tr>
<td>Welcome everyone. Build for all generations</td>
<td></td>
</tr>
<tr>
<td>An older population will change pedestrian types</td>
<td></td>
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<tr>
<td>Tie Auraria/Denver Performing Arts area together with Mall with something big to draw people (big Starbucks)</td>
<td>Implementation</td>
</tr>
<tr>
<td>Investment high in LoDo, perhaps has neglected other end</td>
<td></td>
</tr>
<tr>
<td>CBD, buildings are more single purpose. Mall is more transit focused.</td>
<td></td>
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<tr>
<td>Rent prices – businesses gravitate towards LoDo</td>
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<tr>
<td>Attract families:</td>
<td></td>
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<tr>
<td>School issues</td>
<td></td>
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<tr>
<td>Do we have options? Yes, social acceptance/diverse populations</td>
<td></td>
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<tr>
<td>Vancouver recruited families</td>
<td></td>
</tr>
<tr>
<td>Shopping is key to attracting/retaining families</td>
<td></td>
</tr>
<tr>
<td>Providing educational facilities is key.</td>
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<tr>
<td>Playground in LoDo has been well used. It’s safe, clean &amp; well maintained.</td>
<td></td>
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<tr>
<td>Family living options</td>
<td></td>
</tr>
<tr>
<td>More now but cost a deterrent to families</td>
<td></td>
</tr>
<tr>
<td>Perception of safety</td>
<td></td>
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<tr>
<td>Lot of activity in daytime</td>
<td></td>
</tr>
<tr>
<td>Night time conflicts</td>
<td></td>
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<tr>
<td>Need more people at night to appear safe</td>
<td></td>
</tr>
<tr>
<td>Family Amenities</td>
<td></td>
</tr>
<tr>
<td>DUS plaza fountains</td>
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<tr>
<td>Pearl Street Mall kids areas</td>
<td></td>
</tr>
<tr>
<td>On &amp; off the Mall opportunities</td>
<td></td>
</tr>
<tr>
<td>Need sidewalks to accommodate strollers</td>
<td></td>
</tr>
<tr>
<td>16th Street Mall: Different retail, more office. Transit not welcoming to families.</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Daytime vs. nighttime uses/areas</td>
<td></td>
</tr>
<tr>
<td>Financial district: booming during day; quiet at night</td>
<td></td>
</tr>
<tr>
<td>LoDo: Busy. Didn’t used to be at night.</td>
<td></td>
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<tr>
<td>Entertainment areas</td>
<td></td>
</tr>
<tr>
<td>Family attraction requires special programming to achieve</td>
<td></td>
</tr>
<tr>
<td>Should downtown Denver be the place that attracts young families?</td>
<td></td>
</tr>
<tr>
<td>Should we compete with the suburbs?</td>
<td></td>
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<tr>
<td>Potential to create family friendly pockets</td>
<td></td>
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<tr>
<td>Buy in coming from breaking down into smaller zones or communities.</td>
<td></td>
</tr>
<tr>
<td>Acknowledging the zones.</td>
<td></td>
</tr>
<tr>
<td>Should be a civic space that welcomes all</td>
<td></td>
</tr>
<tr>
<td>Downtown Denver provides 60% of tax revenue from hotels</td>
<td></td>
</tr>
<tr>
<td>There were 17 million overnight visitors in downtown last year</td>
<td></td>
</tr>
<tr>
<td>Input</td>
<td>Resolution</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>How does retail curation/governance work?</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Landscaping brings life</td>
<td>Urban design</td>
</tr>
<tr>
<td>Intersections (across &amp; through)</td>
<td>Implementation</td>
</tr>
<tr>
<td>Green infrastructure</td>
<td>Urban design</td>
</tr>
<tr>
<td>Transportation as an “attraction”</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Fun needs to be reintroduced</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Mall = commerce. Is this the right branding?</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>How do you make the interruptions additive rather than interruptive?</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>How do these take on the character?</td>
<td>Urban design</td>
</tr>
<tr>
<td>Can we brand districts or experiences?</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Are there retail free zones?</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Pocket parks</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Toronto – Colfax (?) Street</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Side streets</td>
<td>Implementation</td>
</tr>
<tr>
<td>30% of the mall are the side streets.</td>
<td></td>
</tr>
<tr>
<td>Always been viewed as a liability.</td>
<td></td>
</tr>
<tr>
<td>How do we turn these into an asset?</td>
<td></td>
</tr>
<tr>
<td>Shuttle</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>As an agency, pedestrians are the number one priority</td>
<td></td>
</tr>
<tr>
<td>Can they be designed to be more engaging? Open air?</td>
<td></td>
</tr>
<tr>
<td>Bus procurement is difficult and so is maintenance (clean, change oil, etc.)</td>
<td></td>
</tr>
<tr>
<td>Crime rate at night</td>
<td>Urban Design and Framework Plan</td>
</tr>
<tr>
<td>Too many people at times</td>
<td>Urban Design</td>
</tr>
<tr>
<td>The Mall as a whole is good. But when it comes to maintenance work the shuttle it would be nice if they did it at nights</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Panhandlers, street people, survey (Greenpeace etc); urine smell! Dirty; Mall pavers – running joke for people visiting us – “Oh, they are still tearing up the mall?”</td>
<td>Urban Design and Framework Plan</td>
</tr>
<tr>
<td>Panhandlers – extremely rude, eyesores, loiter and damage Meet in the Streets equipment, trash their areas of occupancy, etc.</td>
<td>Urban Design and Framework Plan</td>
</tr>
<tr>
<td>RTO drivers to be more helpful for new bus riders</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Crime rate, especially at night</td>
<td>Urban Design and Framework Plan</td>
</tr>
<tr>
<td>The I.M. Pei pavers are a problem because they are slippery when wet, BUT concrete is not a solution because shoddy concrete work happens so often, i.e., the recent DIA runway that now costs about 3 million to repair</td>
<td>Urban Design and Engineering</td>
</tr>
<tr>
<td>4-8 police huddled doesn’t help, need to spread out &amp; not scanning; private security are better; by light rail and the McDonalds drug deals; homeless smoking in Zen garden</td>
<td>Framework Plan</td>
</tr>
<tr>
<td>Skycline Park is under-utilized, under-patrolled, “fenced off” for various issues, + not nearly as well-maintained (watered, planted, weeded, etc.) as city parks outside of downtown</td>
<td>Framework Plan</td>
</tr>
</tbody>
</table>

**Open House Public Comments**

<table>
<thead>
<tr>
<th>Input</th>
<th>Resolution</th>
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</thead>
<tbody>
<tr>
<td>Also consider public restrooms</td>
<td>Urban Design</td>
</tr>
<tr>
<td>I think it should be a Pedestrian and bike access. The Mall shuttles should be moved to 15th and 17th. This will reduce the wear on the Mall and maintain the great granite design add to the vibrancy and increase the use of the Mall by peds and bikes</td>
<td>Urban Design</td>
</tr>
<tr>
<td>I.M. Pei design elements a little dated, stronger anchor retail</td>
<td>Urban Design</td>
</tr>
<tr>
<td>Run bus line through center of Mall and leave sides for pedestrians, businesses, buskers</td>
<td>Urban Design</td>
</tr>
<tr>
<td>more of security presence &amp; emergency buttons. visually more trees, public art, interaction, etc. Cleaning &amp; holding businesses accountable for broken windows, buildings in disrepair, etc. I also love the interactive IKE boards</td>
<td>Urban Design and Framework Plan</td>
</tr>
<tr>
<td>The homeless are a huge deterrent. The amount of panhandlers asking for money makes me not want to visit the Mall. Get them off the Mall</td>
<td>Urban Design and Framework Plan</td>
</tr>
<tr>
<td>I'd like to see a creative solution with 2 mix of suitable materials, such as colored concrete for the shuttle travel paths, but perhaps retaining granite pavers (or adding clay brick) in pedestrian areas. Slip hazards might be addressed with a rough finish to the granite.</td>
<td>Urban Design</td>
</tr>
<tr>
<td>Visuals - increase green spaces, more trees; Economic - attract local business/ authentic Denver; Rec - increase usable space for events and recreation by putting transit closer together. Middle section is currently not user-friendly</td>
<td>Urban Design and Framework Plan</td>
</tr>
<tr>
<td>16th Street Mall is not safe. Especially after dark. Shuttles don't run as often at night and on the weekends. People are harassed by panhandlers for spare change. Don't make the 16th St Mall a giant frat party.</td>
<td>Urban Design and Framework Plan</td>
</tr>
<tr>
<td>There is significant value in historic preservation and the iconic design and architecture. It is a destination and the design is a large reason for that. The design is critical to the success of the Mall and needs to be a critical component in moving forward</td>
<td>Urban Design</td>
</tr>
<tr>
<td>Mall feels unsafe - I've been harassed and yelled at by people panhandling. I've seen drug use and drug paraphernalia. Visitors to town don't want to come to the Mall, because it is &quot;dirty&quot; and &quot;scary.&quot; In addition, I wish there were more trees and more plants on the Mall. It would be nice if the planters contained more than just petunias - native flowers and plantings would create a more unique space and enhance biodiversity downtown. More trees would encourage the linger factor, especially when it's so hot in the summer. As the design phase gets closer, the City should add recycling receptacles and maybe have more trash cans along the corridor. More secure trash cans and more frequent trash collection would also be great, since sometimes the cans overflow. The pattern of the pavers is very pretty and should be maintained even if the type of pavers need to be changed. The pavers themselves are slick in the winter and cause people to slip and fall. It would</td>
<td>Urban Design and Framework Plan</td>
</tr>
</tbody>
</table>
be nice if there was a way for bicycles to safely commute on the Mall. As a downtown resident, it would be nice if there were more entertainment options on the Mall. It seems that the majority of businesses on the Mall are chain restaurants and retail. It would be a more vibrant location if there were more options that spoke to the unique character of Denver. The City should try to channel the characteristics of the re-development of Union Station (which is amazing!) into design of the Mall. Encouraging more residential development downtown may also help with the linger factor. Also ban smoking on the Mall.

I am concerned with the proposal to extend the "asymmetric" pattern with buses adjoining each other in the middle and trees only on one side. The existing blocks in this pattern are FAR less pleasant, due to lack of shade/canopy. The trees are on the wrong side for casting much helpful shadow. The great number of missing trees of course compounds this issue, but even if filled in they would never give the same canopy as the symmetric blocks with trees in the middle. If the center-adjoining transit approach is pursued in order to unlock the largely-unused center space, please do so in a SYMMETRIC way, with the busway 2-directions in the middle and trees on the sidewalk on BOTH sides. I can't emphasize strongly enough how deficient the experience on the current asymmetric blocks are, on both sides of the Mall, compared with the symmetric blocks, during our "300" sunny days, due to this shade/canopy issue. Don't confuse putting the buses next to each other with symmetric/asymmetric choices -- they are separate decisions.

Finding as balance where it is comfortable to commute via and linger on the Mall

- more public restrooms open late (until midnight) - using old info buildings for police/ security substations along the mall - have dedicated police to cover Mall: we get to know police - they know community + problem makers & homeless

A green, eco-friendly, fun area to work & play. Use Mall to commute to work & more seating for lunches or hanging out, shade, etc.

A center promenade with more outdoor relaxation areas and places to eat under shade. Also the amount of kiosks only open a few hours a day makes the afternoon/ evenings look dull and empty. Perhaps a canopy that is interactive like the Freemont street in Las Vegas. Fun and engaging.

I'd like to see the treatment not stop at the 16th street ROW, but "spill over" into the cross-streets - even as far as the 14th street bike path + 19th st. Free Metro ride stations, subtle clues could help remind visitors, on, I'm near Curtis + Champa Sts versus I'm in LoDo or I'm at CCS. Would also like to see long-distance transit users stop at Mall destinations to buy coffee or whatever.

Stop paying 2 Million dollars a year to replace pavers. Remove pavers, some tinted concrete (different colors) with paver like imprints. Go and train those who want to get off the streets, bring the thousands of trailers/modular from Louisiana (if necessary) to provide temporary housing, No more planning discussions! Action

More higher-end, local establishments. More diversity and opportunities to use the Mall as a gathering space that residents want to use

Fewer police. Those who are downtown take crime reports from variety class and black people.

Mall shuttles need to run more frequently at night and on the weekend. There are no public restrooms. Have somewhere for the homeless people, "urban travelers" to go hang out. Change public perception.

adding bikes 7 days a week and removing the Mall shuttles. Adding more kiosks and art to the Mall

A place that is uniquely Denver, that feels safe, and that contains a lot of vegetation.

Increased walking, lingering, and transit use. Increased movement between 16t St along the named streets (too much of the positive activity huddles only along 16th and the city's life ends up be far too "linear")
Defining the 16th Street Mall’s Future

“Denver’s timeless destination connecting everyone with an engaging, dynamic and safe experience”

The 16th Street Mall is challenged by ever-changing retail, surrounding demographics, mobility choices, and societal desires.

A sustainable future for the Mall must afford users optimal flexibility of the space, over the day, over the week, over the year, and over the decades. The mall should connect users to adjacent destinations, such as the Denver Center for the Preforming Arts and Skyline Park. The continued evolution of the Mall from an occasional destination toward a retail magnet and a nationally renowned place, will require a walkable public space with a mosaic of experiences, spots to linger, and places for fun.

Honoring the history of the Mall and its original intent is a requirement for all endeavors. While focused management and maintenance will ensure a safe, clean experience and promote economic vitality.

Built for generations to enjoy an authentic Denver encounter, the 16th Street Mall is our joy and our responsibility.
GROUP BLUE STATEMENT

“Unlock the dynamic and timeless destination that is the connective tissue of Denver’s best known place”

GROUP GREEN STATEMENT

“A universally recognized experience”

“A (connecting) place that breathes the essence of the shared Denver experience”

“Welcoming all people to a safe place to have a memorable and authentic experience”

GROUP RED STATEMENT

“Denver’s iconic multimodal urban pathway connecting diverse people, engaging places and vibrant experiences”

GROUP YELLOW STATEMENT

“The 16th street mall is the welcoming and iconic heart of Denver providing a dynamic mosaic (a combination of diverse elements forming a coherent whole) of places, mobility and experience for everyone”
Consulting Parties – Thank you for your patience. Attached is the presentation for our meeting next Wednesday and the Level 1 Alternatives Analysis for Alignment Alternatives, which will be a handout.

Please contact either Larry Squires at larry.squires@dot.gov or Susan Wood at susan.wood@rtd-denver.com if you any comments or questions on these materials.

Thank you.

Sara S. Orton
Cultural Resources Planner
National Governments Client Sector
Direct 1 504 832 9520  x59520
Cell 1 504 810 0017

Attached for your review is a pdf of the meeting notes from the September 06, 2017 consulting party meeting. The pdf also contains the sign-in sheet and the meeting materials (agenda and presentation).

Also attached is the agenda for the upcoming consulting party meeting on September 27, 2017. We are still pulling together the materials for this meeting and will get them to you this week.

Please contact either Larry Squires at larry.squires@dot.gov or Susan Wood at susan.wood@rtd-denver.com if you any comments or questions on either of these documents.

Thank you.

Sara S. Orton
Cultural Resources Planner
National Governments Client Sector
Direct 1 504 832 9520  x59520
### Level 1 Alternatives Analysis - Alignment Alternatives

<table>
<thead>
<tr>
<th>Category</th>
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<th>No Build</th>
<th>Median and Asymmetrical Blocks</th>
<th>Center Running Transit</th>
<th>Center Running Transit and Asymmetrical Blocks</th>
</tr>
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<tbody>
<tr>
<td>Infrastructure</td>
<td>Replacement of failing and outdated infrastructure</td>
<td>No replacement of failing and outdated infrastructure.</td>
<td>Full replacement of failing and outdated infrastructure (e.g., pavement system, tree boxes, fountains) and potential addition of needed utilities (fiber, communications, electric).</td>
<td>Full replacement of failing and outdated infrastructure (e.g., pavement system, tree boxes, fountains) and potential addition of needed utilities (fiber, communications, electric).</td>
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<tr>
<td></td>
<td></td>
<td><em>Does not meet Purpose and Need: does not replace failing and outdated infrastructure.</em></td>
<td>Potential ability to maintain infrastructure with reasonable remaining service life.</td>
<td>Potential ability to maintain infrastructure with reasonable remaining service life.</td>
<td>Potential ability to maintain infrastructure with reasonable remaining service life.</td>
</tr>
<tr>
<td>Effect of tree location on tree health</td>
<td>No change to tree location. Trees remain close to travel way and can be damaged by vehicles. Trees remain adequate distance from buildings and other trees.</td>
<td></td>
<td>On asymmetrical blocks, tree location is away from travel way, minimizing vehicle damage, and adequate distance from buildings and other trees. Tree location can be optimized to provide shade and use current best management practices for under-ground structure for health.</td>
<td>Tree location is away from travel way, minimizing vehicle damage, and adequate distance from buildings and other trees. Tree location can be optimized to provide shade and use current best management practices for under-ground structure for health.</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>On median blocks, trees remain close to travel way, in order to maintain adequate distance from other trees, resulting in potential damage by vehicles.</td>
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Alternatives illustrated on page 9
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>Separation / delineation of transit and pedestrians</td>
<td>Constrained pedestrian walking areas (less than 10’ clear pedestrian space) remain immediately adjacent to transit lanes on median blocks and narrow sides of asymmetrical blocks.</td>
<td>Tree location separates pedestrian walking areas from transit lanes on wider sides of asymmetrical blocks.</td>
<td>Tree location separates pedestrian walking areas from transit lanes on both sides of block.</td>
<td>Tree location separates pedestrian walking areas from transit lanes on center running blocks and on wider sides of asymmetrical blocks. Pedestrian walking areas on narrow sides of asymmetrical blocks remain immediately adjacent to transit lanes, but are wider than in No Build and provide 10’ clear pedestrian space to accommodate pedestrian volumes.</td>
</tr>
<tr>
<td>Pedestrian / vehicle conflicts</td>
<td>4 conflict points on median blocks. Pedestrians cross single-width one-way transit lane.</td>
<td></td>
<td>4 conflict points on median blocks. Pedestrians cross single-width one-way transit lane.</td>
<td>2 conflict points; pedestrians cross double-width two-way transit lanes.</td>
<td>2 conflict points; pedestrians cross double-width two-way transit lanes.</td>
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<tr>
<td></td>
<td>2 conflict points on asymmetrical blocks. Pedestrians cross double-width two-way transit lanes.</td>
<td></td>
<td>2 conflict points on asymmetrical blocks. Pedestrians cross double-width two-way transit lanes.</td>
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</table>

*Does not meet Purpose and Need: does not address safety of pedestrians and transit.*
<table>
<thead>
<tr>
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<th>Evaluation Criteria</th>
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<tbody>
<tr>
<td>Incorporation of RTD safety criteria, including incorporation of Crime Prevention Through Environmental Design (CPTED), lighting, and receptacle design</td>
<td>Does not meet some RTD safety criteria, such as lighting and receptacle design.</td>
<td>Ability to meet RTD safety criteria.</td>
<td>Ability to meet RTD safety criteria.</td>
<td>Ability to meet RTD safety criteria.</td>
<td></td>
</tr>
<tr>
<td>Mobility</td>
<td>Clear space for reliable two-way transit operations</td>
<td>Transit lane width meets current design requirements.</td>
<td>Transit lane width meets current design requirements.</td>
<td>Transit lane width meets current design requirements.</td>
<td></td>
</tr>
<tr>
<td>Accommodation of pedestrian volumes</td>
<td>Pedestrian areas on outer edges of median blocks, and narrow sides of asymmetrical blocks, do not provide 10' clear pedestrian space when 9' patio space is provided.</td>
<td>Pedestrian areas on outer edges of median blocks do not provide 10' clear pedestrian space when 9' patio space is provided.</td>
<td>Both sides of block can provide 10' clear pedestrian space with a variety of adjacent gathering opportunities.</td>
<td>Both sides of asymmetrical blocks provide at least 10' clear pedestrian space when 9' patio space is provided, if narrow sides of blocks are 19' minimum width.</td>
<td></td>
</tr>
<tr>
<td>Ease of transit shuttle operations: number of shifts shuttles make from block to block</td>
<td>2 shifts over length of Mall</td>
<td>2 shifts over length of Mall</td>
<td>No shifts</td>
<td>2 shifts over length of Mall</td>
<td></td>
</tr>
<tr>
<td>Category</td>
<td>Evaluation Criteria</td>
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</tr>
<tr>
<td>Safety</td>
<td>Ability to adhere to ADA accessibility requirements</td>
<td>Mall does not fully adhere to ADA requirements. Median block promenades have physical obstructions to ADA accessibility.</td>
<td>Ability to adhere to ADA requirements.</td>
<td>Ability to adhere to ADA requirements.</td>
<td>Ability to adhere to ADA requirements.</td>
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<tr>
<td>(continued)</td>
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<tr>
<td>Public use</td>
<td>Space for both pedestrian use and gathering opportunities for leisure, commerce, and tourism</td>
<td>Outer sides of median blocks and narrow sides of asymmetrical blocks provide limited gathering space and configurations when pedestrian use is accommodated with 10’ clear pedestrian circulation. Medians are underutilized because transit lanes physically separate median from pedestrian walking areas and because space constraints limit gathering opportunities along with pedestrian access between trees in the medians. Wide sides of asymmetrical blocks allow for a variety of configurations of gathering opportunities, including patios, and 10’ clear pedestrian circulation. Does not meet Purpose and Need: does not provide adequate gathering and patio space and accommodate pedestrian volumes.</td>
<td>Outer sides of median blocks and narrow sides of asymmetrical blocks provide limited gathering space and configurations when pedestrian use is accommodated with 10’ clear pedestrian circulation. Medians are underutilized because transit lanes physically separate median from pedestrian walking areas and because space constraints limit gathering opportunities along with pedestrian access between trees in the medians. Narrow sides of asymmetrical blocks do not have room for trees. Wide sides of asymmetrical blocks allow for a variety of configurations of gathering opportunities, including patios, and 10’ clear pedestrian circulation. Does not meet Purpose and Need: does not provide adequate gathering and patio space and accommodate pedestrian volumes on median blocks.</td>
<td>Provides 28’ of usable public space on both sides of blocks to allow for a variety of configurations of gathering opportunities, including patios, and 10’ clear pedestrian circulation. Offers opportunity for trees along both sides of blocks.</td>
<td>Center running blocks provide 28’ of usable public space on both sides of blocks to allow for a variety of configurations of gathering opportunities, including patios, along with 10’ clear pedestrian circulation. Narrow sides of asymmetrical blocks do not have room for trees. Wide sides of asymmetrical blocks do not have room for trees. Wide sides of asymmetrical blocks allow for a variety of configurations of gathering opportunities, including patios, and 10’ clear pedestrian circulation.</td>
</tr>
<tr>
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</tr>
<tr>
<td>Public Use (continued)</td>
<td>Long-term adaptability: ability to allow for spatial reconfiguration for events or other changes, such as building use, over the next 40 years</td>
<td>Asymmetrical blocks provide consolidated spaces to allow for future changes in space allocation.</td>
<td>Asymmetrical blocks provide consolidated spaces to allow for future changes in space allocation.</td>
<td>All blocks provide consolidated spaces to allow for future changes in space allocation.</td>
<td>All blocks provide consolidated spaces to allow for future changes in space allocation.</td>
</tr>
<tr>
<td></td>
<td>Ability for spatial reconfiguration is limited in median blocks due to space constraints for gathering opportunities along with pedestrian access between trees in the medians.</td>
<td>Ability for spatial reconfiguration is limited in median blocks due to space constraints for gathering opportunities along with pedestrian access between trees in the medians.</td>
<td>Ability to reconfigure restaurant patios away from buildings and maintain 10’ clear pedestrian space along both sides of all blocks.</td>
<td>Ability to incorporate innovative technology and infrastructure to easily adapt to future changes in building use, Mall operations, bus technology and operations, and user expectations.</td>
<td>Ability to incorporate innovative technology and infrastructure to easily adapt to future changes in building use, Mall operations, bus technology and operations, and user expectations.</td>
</tr>
<tr>
<td></td>
<td>Ability to reconfigure restaurant patios away from buildings and maintain 10’ clear pedestrian space along one side on five asymmetrical blocks.</td>
<td>Ability to reconfigure restaurant patios away from buildings and maintain 10’ clear pedestrian space along one side on five asymmetrical blocks.</td>
<td>Ability to incorporate innovative technology and infrastructure to easily adapt to future changes in building use, Mall operations, bus technology and operations, and user expectations.</td>
<td></td>
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<tr>
<td></td>
<td>Restaurant patios in medians infeasible due to need to cross transit lanes for service.</td>
<td>Restaurant patios in medians infeasible due to need to cross transit lanes for service.</td>
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<td></td>
<td>Lack of modern communications technology infrastructure.</td>
<td></td>
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<tr>
<td>Short-term flexibility for gathering opportunities and programming variety</td>
<td>Requires removal of buses from Mall to reconfigure space on a larger scale on median blocks.</td>
<td>Requires removal of buses from Mall to reconfigure space on a larger scale on median blocks. Consolidated spaces on asymmetrical blocks provide contiguous space for public use and</td>
<td>Consolitates public gathering space from three areas to two, to provide more contiguous space for public use and activities, and changes in amenities and types of use. Opportunity to combine public use and</td>
<td>Consolitates public gathering space from three areas to two, to provide more contiguous space for public use and activities, and changes in amenities and types of use.</td>
<td></td>
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<tr>
<td></td>
<td>No fiber, communications, or widespread electrical utilities.</td>
<td></td>
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<tr>
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<tr>
<td>Social and Environmental Impacts</td>
<td>Economic impacts: balance of opportunities and amenities along the Mall to benefit the public, residents, and adjacent property owners</td>
<td>Asymmetrical blocks do not have similar opportunities for trees, gathering space, pedestrian circulation, or other amenities on both sides of the street.</td>
<td>Asymmetrical blocks do not have similar opportunities for trees, gathering space, pedestrian circulation, or other amenities on both sides of the street.</td>
<td>Provides the same opportunities for trees, gathering space, pedestrian circulation, and other amenities on both sides of the street.</td>
<td>Provides the same opportunities for trees, gathering space, pedestrian circulation, and other amenities on both sides of the street on center running blocks. Asymmetrical blocks do not have similar opportunities for trees, gathering space, pedestrian circulation, or other amenities on both sides of the street.</td>
</tr>
<tr>
<td>Construction impacts:</td>
<td>effects on businesses, residents, and transit operations</td>
<td>Continued maintenance activities generate noise and limit transit mobility, and will continue to increase in frequency.</td>
<td>Construction activities generate noise and dust, and limit business access and transit and pedestrian mobility.</td>
<td>Construction activities generate noise and dust, and limit business access and transit and pedestrian mobility.</td>
<td>Construction activities generate noise and dust, and limit business access and transit and pedestrian mobility.</td>
</tr>
<tr>
<td>Land use impacts:</td>
<td>consistency with local plans and policies</td>
<td>Inconsistent with recommendations for infrastructure repair and upgrades.</td>
<td>Consistent with recommendations for transit service and infrastructure repair and upgrades.</td>
<td>Consistent with recommendations for transit service and infrastructure repair and upgrades.</td>
<td>Consistent with recommendations for transit service and infrastructure repair and upgrades.</td>
</tr>
<tr>
<td>Water quality</td>
<td></td>
<td>Does not meet current water quality treatment requirements.</td>
<td>Ability to incorporate water quality treatment features into design.</td>
<td>Ability to incorporate water quality treatment features into design.</td>
<td>Ability to incorporate water quality treatment features into design.</td>
</tr>
<tr>
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<tr>
<td>Historic resource impacts:</td>
<td>ability to honor original Mall design</td>
<td>Mall would retain its original design.</td>
<td>Ability to retain current locations of trees and lights on median blocks. Ability to retain current locations of trees and lights on wider sides of asymmetrical blocks. Small median with lights in between transit lanes on asymmetrical blocks would be removed. Ability to accommodate existing paving pattern with some adjustments.</td>
<td>Trees and lights would be moved into rows on each side of transit lane in a linear alley. Ability to maintain design element of double rows of alternating trees and lights. Ability to accommodate existing paving pattern with some adjustments.</td>
<td>On center running blocks, trees and lights would be moved into rows on each side of transit lane in a linear alley. Ability to maintain design element of double rows of alternating trees and lights. Ability to accommodate existing paving pattern with some adjustments.</td>
</tr>
<tr>
<td>Degree of public and agency support for the alternative</td>
<td>TBD after stakeholder meetings</td>
<td>TBD after stakeholder meetings</td>
<td>TBD after stakeholder meetings</td>
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1 Applicable CPTED strategies recommended by RTD include: maximizing visibility of people and patron flow areas; providing adequate lighting minimizing shadows; landscape plantings that maximize visibility; elimination of structural hiding places; open lines of sight; and painting with light. (RTD, 2016)

2 Local plans and policies assessed for consistency: 2005 Denver Multimodal Access Plan (CCD et al., 2005), 2007 Denver Downtown Area Plan (CCD et al., 2007), 2008 Urban Land Institute 16th Street Mall Study (Urban Land Institute, 2008), 2010 16th Street Urban Design Plan (CCD et al., 2010), 2011 Denver Moves (CCD, 2011), and 2015 Downtown Denver 16th Street Mall: Small Steps Towards Big Change (Gehl, 2016).

Abbreviations:
ADA = Americans with Disabilities Act
CPTED = Crime Prevention Through Environmental Design
RTD = Regional Transportation District
TBD = To Be Determined

References:


PROPOSED ALIGNMENTS

NO BUILD

MEDIAN & ASYMMETRICAL

CENTER RUNNING TRANSIT

CENTER RUNNING TRANSIT & ASYMMETRICAL
Section 106
Consulting Party Meeting

September 27, 2017
Welcome!

Alternative Analysis and Environmental Clearance
Meeting Agenda

• Introductions
• Section 106 Consultation Status
  • Area of Potential Effects
  • Identify Historic Properties
  • 16th Street Mall Eligibility
• Alternatives Development and Evaluation
  • Alternatives evaluation criteria
  • Alternatives developed
  • Evaluation process
• Section 106 Next Steps
• Additional Feedback/Questions
Proposed Project Limits and Study Area
Area of Potential Effects
Historic Properties within the APE
Historic Properties within the APE
Historic Properties within the APE
Historic Properties within the APE
Historic Properties within the APE
16th Street Mall Historic Property

National Register eligible under Criterion A, C and G

Property Boundary
• 12 blocks of 16th Street, Broadway northwest to Market Street

Character-defining features
• Tile pattern
• Granite paver units/modules (sizes, colors)
• Granite special units (curbs, cuts, drains, and other applications)
• Oak and honey locust trees in root boxes with matching grates
• Street furniture
  • Streetlights
  • Trash receptacles
  • Planter receptacles
  • Utility covers
  • Metal street signs
Alternatives Development and Evaluation

Two levels of evaluation

• Level 1: evaluate alignment alternatives
• Level 2: evaluate design options within alignment alternative(s)
Section 106 Next Steps

- Workshop, October 2, 2017
- Public Meetings, October 18, 2017
- Identify Preferred Alignment
- Discuss design options with stakeholders
- Identify Preferred Alternative
- Evaluation of eligibility and effects
- Draft Cultural Resources Technical Report
  - Includes eligibility determinations and effect findings
  - 30-day review by SHPO and consulting parties
- If Adverse Effect, develop Memorandum of Agreement to address adverse effect
- Section 4(f) Evaluation
- Environmental Assessment
Questions?
As a follow-up to the previous consulting parties meeting, attached is the 2014 16th Street Pilot Repair final report that was mentioned at the meeting, for those of you who don’t already have it.

A couple of people also asked about a comparative cost analysis for various pavement materials. This sort of study has not been done yet, but the project team has indicated they are aiming to have it completed in November.

Thank you.

Sara S. Orton
ch2m
Cultural Resources Planner
Direct 1 504 832 9520  x59520
Cell 1 504 810 0017

Consulting Parties – Thank you for your patience. Attached is the presentation for our meeting next Wednesday and the Level 1 Alternatives Analysis for Alignment Alternatives, which will be a handout.

Please contact either Larry Squires at larry.squires@dot.gov or Susan Wood at susan.wood@rtd-denver.com if you any comments or questions on these materials.

Thank you.

Sara S. Orton
ch2m
Cultural Resources Planner
Direct 1 504 832 9520  x59520
Cell 1 504 810 0017
Consulting Parties:

Attached for your review is a pdf of the meeting notes from the September 06, 2017 consulting party meeting. The pdf also contains the sign-in sheet and the meeting materials (agenda and presentation).

Also attached is the agenda for the upcoming consulting party meeting on September 27, 2017. We are still pulling together the materials for this meeting and will get them to you this week.

Please contact either Larry Squires at larry.squires@dot.gov or Susan Wood at susan.wood@rtッドenver.com if you any comments or questions on either of these documents.

Thank you.

Sara S. Orton
Cultural Resources Planner
National Governments Client Sector
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1515 Poydras Street, Suite 1550
New Orleans, LA 70112
www.ch2m.com  LinkedIn  Twitter  Facebook
Final Report

16th Street Mall Pilot Repair
Block 11
Denver, Colorado

April 15, 2014

Prepared by:
Atkinson-Noland & Associates, Inc.
2619 Spruce Street
Boulder, CO 80302
(303) 444-3620

Prepared for:
Regional Transportation District (RTD)
1600 Blake Street
Denver, Colorado 80202

RTD RFP: 11FH021
ANA Job No. 11-104

Donald W. Harvey, Jr., P.E.
INTRODUCTION

This Final Report is the culmination of the Pilot Repair Project at Block 11 of the 16th Street Mall in Denver, Colorado (between Tremont Place and Court Place). This project included design, construction, and maintenance activities that began in 2011. The Technical Assessment and Rehabilitation Study of 2009 included investigation of granite paver conditions by ANA was completed in 2009 and described in a separate report. During the design phase of this project, Atkinson-Noland & Associates (ANA) and Gallegos Corporation (Gallegos) worked with RTD to develop multiple granite paver installation materials and methods that would be evaluated by trial installation at various portions of Block 11. The construction phase of the project was conducted by Gallegos and involved removing existing pavers at both ends of Block 11 and installing existing and replacement granite pavers using the methods developed in the design. Construction was completed in November 2011. Finally, these installations were evaluated during a two-year inspection and reporting period with inspections by ANA and maintenance by Gallegos.

The result of the design phase of the work was the implementation of five distinct repairs at Block 11. A diagram showing the locations and descriptions of each type of repair is shown in Figure 1. The primary distinctions between the five repair types can be summarized as follows:

- **Repair Area A1**: Polymer-modified setting bed mortar with cementitious joint mortar.
- **Repair Area A2**: Regular setting bed mortar with stainless steel joining plates in one direction and cementitious joint mortar.
- **Repair Area A3-I**: Regular setting bed mortar with bottom-mounted corrugated straps and sanded epoxy joint mortar.
- **Repair Area A3-II**: Regular setting bed mortar with stainless steel joining plates in one direction and sanded epoxy joint mortar.
- **Repair Area A4**: Polymer-modified setting bed mortar with sanded epoxy joint mortar.

All of the replaced cementitious mortar included an integral water repellent additive. All pavers in the Pilot Repair areas received a shot blast surface treatment/cleaning at the end of the construction process. The construction process removed the existing pavers and setting bed material down to the level of the concrete deck. Generally, the existing pavers were cleaned and reinstalled using the materials and procedures described above. However, due to the tight construction timeframe, all of the pavers installed in Repair Area A1 were replaced with new granite pavers. This resulted in tighter joints and a more uniform, attractive appearance in this Area. Part of the construction process included shot blast resurfacing of all of the pavers both for appearance and to enhance slip resistance.

The two-year inspection and reporting period incorporated bi-weekly inspections that included evaluation of the Pilot Repair Area appearance, slip-resistance, and stability. ANA performed these bi-weekly inspections and noted any loose or damaged pavers that required maintenance. ANA published Site Visit Reports describing the results of each site visit, including the results of visual, slip-resistance, and stability observations and testing. These reports also included photographs and diagrams of locations of all observed loose and damaged pavers. These reports were used by Gallegos to perform regular maintenance repairs. ANA has also documented the location and nature of the observed maintenance, regularly visiting the site during repairs to note the nature and mechanism of the paver failures. These observations helped to form the basis for the conclusions and recommendations provided in this report.
Figure 1. Diagram of each block, showing the locations of various types of reports. The report descriptions are provided in the table.
This report includes discussion of the findings of Pilot Repair Project, with a focus on the findings of the two-year inspection and reporting period. We believe that the patterns and mechanisms observed during this two-year period provide not only feedback on the efficacy of the various repair types, but also guidance on further improvements that can be made to reduce future maintenance costs. The remainder of this report is organized into the following sections (based on the sections described in the original RFP and proposal by ANA):

- Mortar Joint Findings
- Expansion Joint Findings
- Paver Stability Findings
- Slip Resistance Findings
- Aesthetics Findings
- Recommended Future Maintenance and Repairs

The Pilot Repair Project provided informative feedback on each component of the paving system, and the maintenance records provide interesting patterns that should be useful in guiding future maintenance.

**MORTAR JOINT FINDINGS**

ANA evaluated the mortar joints specifically at 20 selected locations throughout the two-year inspection and reporting period. Due to the good general performance of the Pilot Repairs, none of the joints specifically designated for observation experienced significant deterioration or distress during the two-year inspection period. It is our opinion that the primary cause of surface mortar joint deterioration is paver movement. The typical sequence of distress involves the development of minor gaps in the surrounding mortar joint as the stone begins to loosen (Figure 2). This gap allows more moisture into the subsurface, which accelerates distress. The joint deteriorates further as the stone continues to move, ultimately resulting in complete surface joint mortar loss (Figure 3). Finally, the stone setting bed erodes and deteriorates, usually with the aid of moisture trapped under the stone, resulting in completely loose (and often broken) pavers (Figure 4).

![Figure 2. Overall (left) and close-up (right) view of early separation in a surface mortar joint within the Pilot Repair Area.](image)
Figure 3. View of mortar loss at a loose stone. Note that the joint on the right is a flexible expansion joint.

Figure 4. View of loose and displaced paver (outside of the Pilot Repair Area).
Other than gaps and separations in mortar joints created by stone movement, both cementitious and sanded epoxy joint mortars appeared to perform well, with minimal deterioration. The slight flexibility of the sanded epoxy mortar generally appeared to provide slightly more durability than the cementitious mortar. The number of loose pavers in the two areas that were identical other than surface mortar material (Areas A1 and A4) was almost exactly the same. Our overall impression was that the sanded epoxy mortar maintained the initial appearance and geometry slightly better than traditional cementitious mortar (with latex polymer modifier and integral water repellent) and may provide slightly improved moisture resistance. Note that sanded epoxy was used only near the surface of paving joints, with cementitious mortar squeezed up into the bottom portion of joints. The sanded epoxy has a somewhat higher material cost, but the installation labor is less expensive. Also, the epoxy has the benefit of a very rapid set time, which is very beneficial in repair applications.

**EXPANSION JOINT FINDINGS**

The Pilot Repairs used polyurethane sealant and compressible foam backer material at expansion joints in the paving. The expansion joints at the level of the granite pavers generally align with the expansion joints in the concrete deck below (Figure 5a). There were indications during the summer months that these joints were being squeezed tightly together, as evidenced by bulging sealant at the surface (Figure 5b). The joints in the winter months may also be stretched slightly, but this behavior is not obvious.

![Sealant Joint Diagram](Image)

**Figure 5a. Schematic section through paver assembly and substrate showing typical expansion joint configuration.**
In general, the sealant joints performed well during the two-year inspection period, and there were very few sealant failures. However, the failures that did occur generally happened during the warm spring and summer months. It is our opinion that this is likely due to the combination of the bulging sealant profile and wheel loads. At joints where the expansion joints are squeezed together, the sealant will tend to bulge up above the surface of the paving slightly in some cases. When tires travel over these bulges, it can place very high stresses on the sealant that can lead to debonding and failure of the sealant. One possible approach to address this behavior is to recess the top surface of expansion joints slightly so that the sealant does not tend to bulge above the surrounding paver surface. Also, maintenance operations for expansion joints would generally be most effective near the end of summer, when these failures are most common and easily observed. It would also be beneficial to install sealant in expansion joints when they are fairly tight to help prevent bulging.

PAVER STABILITY FINDINGS

Perhaps the most important aspect of the Pilot Repair project was the investigation of paver stability. The movement of the pavers is, by far, the most costly and damaging aspect of 16th Street Mall granite paver behavior. The Pilot Repair project was intended not only to evaluate the effectiveness of various materials and methods to prevent paver movement, but the two-year inspection period provides an opportunity to study the mechanisms and patterns of this type of paver failure under controlled and uniform conditions.

The performance of the various types of repairs at the Pilot Repair Project can be evaluated in a number of ways. Table 1 is a tally sheet showing the number of loose pavers observed during the two-year inspection period. There were approximately 125 loose pavers repaired over the
course of the two-year inspection period. This comprises roughly 5% of the total number of pavers in the transit lane portion of the Pilot Repair Area. The loose pavers are tallied in two different ways in the table. The left side of the table shows failures by Repair Area (A1, A2, A3-I, A3-II, and A4), which correspond to the various repair materials and configurations in the Pilot Repair. The right side of the table is a tally of failures near and away from "expansion joints". For the purpose of this Table, "expansion joints" include all soft joints such as diagonal expansion joints, joints around storm drains, and joints behind curb stones. This portion of the table will be discussed in further detail later in this section.

As shown at the bottom of Table 1, the Areas with the most loose paver failures were Areas A2 and A3-I. Area A3-II also had a relatively high occurrence of failures since this Area was smaller than the others. The common characteristic of Areas A2, A3-I, and A3-II is that all of these areas included a traditional cementitious mortar setting bed that did not contain polymer modifier admixture. Polymer modifiers are generally used to enhance bond of cementitious materials, and the use of polymer modifier in this setting bed application appeared to have a significant positive impact on paver performance during the two-year inspection period. This positive impact was more pronounced in the first year following construction, when there were almost no loose pavers observed in the Areas with polymer-modified setting bed mortar (Areas A1 and A4). However, some failures were observed during the second year of service. All of the Pilot Repair Areas performed significantly better than the portion of Block 11 between the Pilot Repairs. The center of the block that was not included in the Pilot Repairs was repaired.

Areas A2 and A3-II implemented stainless steel plates or "biscuits" that were inserted into slots on the vertical faces of the stone joints in the transit lanes. This type of connection is similar to stone anchorage systems that are used on vertical stone veneers. Biscuits were installed along two faces of the stone, in the direction parallel to the expansion joints. No biscuits were installed across expansion joints. In stone failures at locations with biscuits installed, maintenance activities revealed that the biscuits generally remained intact (Figure 6). However, the biscuits were not sufficiently stiff to prevent slight movement of the stone as the setting bed and surrounding joints deteriorated. Additionally, the biscuits made removal of stones for maintenance very challenging. It was determined that reinstallation using stainless steel dowel pins was much more feasible than plates at failed stones. This method was used at a few trial repair locations within Areas A2 and A3-II.
Table 1. Tally of loose stones observed in Pilot Repair Area during two-year inspection period.

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Area A3-I implemented corrugated veneer ties that were adhered in slots in the bottom surface of granite transit pavers and extended into the setting bed. This type of repair performed very poorly. The veneer tie assembly did not appear to have enough strength or stiffness to limit paver movement. Maintenance activities revealed that corrugated ties typically pulled free of the setting bed mortar or failed in tension where pavers became loose (Figure 7). The use of bottom-mounted ties also complicated maintenance activities. However, the ties could generally be broken or pulled free once an edge of the stone was exposed.
Loose pavers in Areas A1 and A4 failed in the same manner previously observed at other locations. All failures at the Pilot Repair were frequently accompanied by splatter on the surrounding paving surface, indicating that standing water in the setting bed was being squeezed up and out of the paver joints, eroding mortar along the way.

Perhaps the most significant finding of the Pilot Repair project was the role of expansion joints and other soft joints in paver failures. As shown in the right side of Table 1, over 90% of all loose stones occurred adjacent to expansion joints or other soft joints. This is also illustrated by the cumulative distress location diagrams shown in Figure 8 and Figure 9. In many cases, the stone immediately adjacent to an expansion joint along a bus wheel path would become loose first, and then the surrounding stones would subsequently become loose. Distress typically spread along the bus wheel path from the initial distress. It is our opinion that the primary reason for the concentration of loose stones at soft joints is the lack of lateral and rotational support for the “free” edge at a soft joint. To some extent, this lack of support is unavoidable. If expansion joints were to be filled with a stiff, supporting material, they would no longer be functional as expansion joints. Since ANA observed significant movement at the expansion joints, it is not advisable to eliminate the functionality of these joints. However, it is possible that some rotational support of the stones can be provided across expansion joints through the use of greased dowels or similar device. ANA is working with Gallegos to evaluate various options to enhance paver performance at soft joints. Since the concentration of failures at joints is so high, an improvement in joint performance could result in a significant reduction in maintenance.
Another phenomenon similar to soft joint behavior involves failure observed at bumps or depressions in the paving system, such as at storm water drains (Figure 10). There were repeated instances of loose pavers adjacent to the storm drain that appeared to be caused in part by the recessed nature of the drain surface. This configuration would cause both severe rotational stresses on the stones when bus tires rolled over the free edges of the stone as well as dynamic impacts as tires bump on and off of the drain. These dynamic effects can cause stresses many times higher than normal rolling loads.

![Image of pavers near a stormwater drain]

Figure 10. Overhead view of pavers near a stormwater drain following repairs.

In order to minimize the effects of unbalanced and dynamic tire loading, ANA worked with Gallegos to taper the top surfaces of stones adjacent to the recessed drain. The initial taper extended approximately 2 inches from the drain edge (Figure 11). However, this taper did not result in significantly improved performance, so the taper was made more gradual, to extend approximately 6 inches from the drain edge, creating a slope of approximately 1 inch per foot. This taper has proven to be effective, and no failures have occurred at this location since the gradual taper was installed. This location revealed the importance of flat, smooth surfaces with only gradual inclines for reliable performance of the pavers. Similar behavior was observed outside the Pilot Repair Area at slightly elevated man hole covers.
Figure 11. View of slightly tapered edge of granite pavers adjacent to storm drain. First repair, approximately 2 in. wide. Final repair was more gradual.

SLIP RESISTANCE FINDINGS
In order to evaluate the slip resistance of pavers over the two-year inspection period, ANA tested the same 21 stones every two weeks for the entire inspection period. During some site visits, slip testing was not possible due to inclement weather. Tests were performed using the Brungraber Mark III tribometer, calibrated to the reference surfaces defined in ASTM F2508. Figure 12 is a summary graph showing the average slip test index measured by ANA for the two-year inspection period.

As part of the Pilot Repair project, all pavers were resurfaced using shot blasting. Then, a high-pressure water spray was used to remove any loose or “shocked” crystals at the surface. Overall, the slip-resistance performance of the granite pavers remained fairly constant over the first two years of service. There was a slight reduction in slip resistance from the freshly shot-blasted pavers over time, but not a significant deterioration in performance. The most significant factor in slip-resistance performance appeared to be the cleaning of pavers. Tests performed shortly after paver cleaning tended to perform better. Pedestrian walkway pavers averaged slightly better slip resistance than transit pavers, likely due to the additional soiling and oil deposits that occur at the transit lanes. Granite color did not appear to be a major factor in slip resistance. Red pavers initially had a slightly higher slip resistance, and white pavers had slightly higher slip resistance at the end of the two-year inspection period. However, the differences between pavers of different colors were very small (usually less than 5%).
Figure 12. Graph showing average slip test values over the two-year inspection period. The coefficient of friction before repairs (dash line) is based on test results from the initial field investigation conducted in 2009. The 2009 testing was conducted on different paver units.

**AESTHETICS FINDINGS**

As mentioned previously, the Pilot Repair Project included shot blast and water jet cleaning of all repaired paver surfaces in November 2011. The two-year inspection period included grading of individual paver color and appearance. However, this did not prove to be a very effective way of evaluating the overall appearance of the repaired pavers. The overall appearance of the pavers is more readily evaluated with overall views. A view of the recently completed construction is shown in Figure 13. Staining and soiling of transit pavers after 6 months is shown in Figure 14. Finally, a street-level view of repaired areas after two years is shown in Figure 15. Unfortunately, the current cleaning and maintenance practices did not keep the repaired pavers in the same condition observed at the completion of repairs.
Figure 13. Overall view of completed Pilot Repair Area pavers immediately prior to re-opening of transit lanes (Westbound lane looking east).
ANA also performed regular observations of the Pilot Repair area from the roof of the adjacent Republic Plaza Office Tower. This vantage point provided an "aerial view" of the repair area. Photographs of the west end of the Pilot Repair Area at various times throughout the two-year inspection period are provided in Figure 16. Note that different lighting conditions affect the appearance and color of the pavers. The first and final observations only are shown in Figure 17.
Figure 16. Compilation of overhead photos of Pilot Repair Area from various dates.
RECOMMENDED FUTURE MAINTENANCE AND REPAIRS

The initial ANA investigation (prior to the Pilot Repair Project) concluded that the primary causes of paver distress were wheel loads and moisture-related distress. The findings of the Pilot Repair Project reinforce these findings. However, the concentration of failures near soft joints and irregular surface features illustrates the primary influence of wheel loads on paver failures.

By far, the most immediate and dramatic improvement to paver performance in the future would be achieved by mitigating tire loads. Preferably, this would include spreading out bus loads over additional tires. However, some improvement in performance might be possible with even minor changes to wheel loads, such as using slightly wider tires. Unless the extremely high bus wheel loads are reduced significantly or eliminated, it is likely that paver maintenance will continue to be significant. Note that this would be true with almost any paving material, as is evidenced by the prevalence of crushed concrete in the bus wheel paths at intersecting streets.

Since modifying wheel loads is likely not immediately practical, maintenance should be conducted using the most durable materials and methods available. The Pilot Repair illustrated that the use of polymer modifier admixture in the setting bed mortar significantly increases durability and performance. Future maintenance should include polymer modifier. Similarly, the type of sanded epoxy mortar joints used at the surface of the repairs performed well, and it should be considered for continued use in maintenance projects.

The biscuit and corrugated strap repairs did not appear to provide significant improvements in performance as installed, and these repairs complicated maintenance. Therefore, it is not recommended that either of these approaches be continued.

The loose pavers at the Pilot Repair Project occurred predominantly at expansion joints and other soft joints. These locations clearly constitute weak points in the paving system that are more susceptible to damage than pavers in the field of the transit lane. ANA is working with Gallegos to evaluate possible ways to stabilize and enhance the performance at soft joints while maintaining joint function. This might include the use of greased dowels across soft joints or other types of interlocking joint geometry.

The Pilot Repair Project illustrated that bumps or depressions in the transit lanes can cause dynamic wheel loads that are capable of quickly loosening pavers. Based on the results of the project, ANA recommends that any vertical transitions in the transit lanes have a slope of no more than 1 inch per foot. This would include drains, manhole covers, ramps, and end conditions at intersections.

The expansion joint sealant performance observed at the Pilot Repair Project suggests that there may be benefit in slightly recessing the sealant surface in joint areas that receive wheel traffic. Additionally, the most efficient joint maintenance timeframe is near the end of the hot summer months.

The overall color and appearance of the Pilot Repair Area worsened significantly over two years. This is likely due primarily to the cleaning methods and chemicals used. Proper removal of oil and tire staining requires pre-treating stains, allowing several minutes for the pretreatment to absorb, and scrubbing the surface aggressively. ANA understands that there are significant environmental and logistical challenges with this type of cleaning regimen. However, the appearance of the Mall is unlikely to be sustainable without regular, aggressive cleaning. The use of a surface sealant on the granite is not recommended. On a very dense, non-absorbent
stone like granite, sealers tend to form a film at the surface that alters the surface appearance. As this surface layer becomes unevenly worn and weathered, it will require regular reapplication, and it will not provide a significant cleaning or staining benefit.

We appreciate the opportunity that RTD and all of the 16th Street Mall Stakeholders have given us to work on the Pilot Repair Project. We also greatly appreciate the partnership and cooperation provided by Gallegos throughout this project. We hope that we can answer any questions that you have regarding this report and this project, and we look forward to working with RTD on other future projects.
Consulting Parties – Attached are the meeting notes from the consulting party meeting on 9/27/17. This pdf includes the agenda and the sign-in sheet. The final presentation was distributed on 9/27/17, directly after the meeting, so it is not included in this attachment. Please let me know if you did not receive the presentation and I will resend.

We are setting up a Drop Box location for delivery of the other requested materials (listed on the last page of the notes). I will let you know shortly how to access that site.

Please contact either Larry Squires at larry.squires@dot.gov or Susan Wood at susan.wood@rtd-denver.com if you have any comments or questions on these materials. You can also respond directly to me and I can pass on any questions or concerns to them.

Thank you.

Sara S. Orton
ch2m
Cultural Resources Planner
Direct 1 504 832 9520 x59520
Cell 1 504 810 0017

-----Original Appointment-----
From: LaRiviere, Loretta/DEN
Sent: Friday, August 11, 2017 12:27 PM
To: LaRiviere, Loretta/DEN; Annie Levinsky; Bar Chadwick; Brad Buchanan; Brian Pinkerton; Carole Brown; Eddie Hamilton (ehamilton@c-a-tribes.org); Jason Whitlock; Jennifer Bryant; Jennifer Orrigo Charles; Jim Graebner; Joe Saldibar; John Desmond; John Olson; Lyotsna Vishwakarma (Lyotsna.Vishwakarma@RTD-Denver.com); Kara Hahn; Karen Little Coyote; Kim Grant; Larry Squires; Lucinda Sanders; Lyman Guy (chairman@apachetribe.org); Max Bear; Roberts, Colleen/DEN; Scott Hergenrader; Susan Wood; Tami Dorr; Vobejda, Mary Jo/DEN; William Nelson (williamn@comanchenation.com)
Cc: Lang, Bill/DEN; Siedlecki, Tim/DEN; Matt Shawaker
Subject: Change in Room for 16th Street Mall Section 106 Consulting Parties Meeting #3
When: Wednesday, September 27, 2017 10:30 AM-12:30 PM (UTC-07:00) Mountain Time (US & Canada).
Where: RTD Civic Center Express Conference Room

The meeting has been changed to the Express Conference Room.
Meeting Notes

Attendees: See attached Sign-in sheet

Welcome and Introductions

Section 106 Consultation Status
The Area of Potential Effects (APE) will be redistributed to the consulting parties for a final review and comment. The team is working with Compass and parcel data to locate and map previously identified historic properties within the APE. A map with preliminary data was distributed as a handout.

The 16th Street Mall has been determined eligible for listing in the National Register, but concurrence with Form 1403 did not occur at the time eligibility was determined. FTA will request concurrence on eligibility of 16th Street Mall, consistent with Form 1403.

Alternatives Development and Evaluation
The project team presented the proposed evaluation criteria, proposed alternatives, and alternatives evaluation and requested input from the consulting parties. The attached presentation and Level 1 Alternatives Evaluation table were followed for reference.

Comments/Input/Discussion:

Patio Café Space
- Concern over dimension of 9' for café space on both sides. This would indicate 18’ of café space. Concern about the privatization of public space through these patios and the large percentage of space dedicated to private use.
- Private patio café space was not programmed in the original design, so 18’ seems like a large accommodation and is almost as wide as the transit lanes in these alternatives.
  - The design is not intended to have café space on every block. There could be other uses besides what is shown in a single cross section.
• Changing existing law to remove the railings around patios would open more space and provide more flexibility and would minimize effects under Section 106.
• Recommend additional alternatives that include partial upgrades to the Mall in its current configuration with minimal rehabilitation. Infrastructure improvements like fountain upgrades could be part of one of these alternatives. These types of upgrades would benefit the historic property and minimize impacts.
• Recommend more interaction/utilization and less patio coral space, which is not flexible since it is closed at all times to other users.
• Since increased pedestrian use is a goal, less dedicated patio/café space would achieve that goal. Less patio space would increase flexibility and would be less of an impact to the setting and feeling of the historic property. Recommend taking into account the possibility of bigger, smaller, or no café space.
• Perhaps show a block-by-block plan of patio space currently and under the alternatives.
  o There is a document showing existing café space which will be distributed.

Buses
• Question about the width of the new buses on the mall. How wide are they: the width of the body of the bus and the width with the mirrors.
• Question also about the width of the previous buses.
• Recommendation to use cameras instead of mirrors in order to reduce the width of the buses and the amount of feet needed for the transit lanes.

Infrastructure
• Will full replacement of infrastructure really solve the problems with maintenance, drainage, paver cracking, etc.?
  o Installing a new pavement system with drainage under pavement would allow water to drain and reduce/prevent water damage from freeze/thaw cycles
• The evaluation assumes that all build alternatives (which are all full reconstruction) would have the same maintenance requirements. It is not clear that the alternatives would solve all of the structural and maintenance problems.
• Recommend an analysis of how different materials would perform and how maintenance costs would vary with the different materials.

Pedestrian use and safety
• Question about the pedestrian volume on the mall; the average number of pedestrians per linear feet, as well as surge numbers.
  o The Gehl report Small Steps Towards Big Change measured pedestrian volumes on the Mall on different days and times. The data is provided in Chapter 2 and in the appendix of the report. Average weekday pedestrian volumes between 10:00 am and 4:00 pm vary along the length of the Mall. Within the project limits, the highest use location is between Champa and Stout, averaging 2,522 pedestrians per hour; the lowest use location is between Court and Tremont, averaging 1,544 pedestrians per hour. Weekday peak volumes occur at lunchtime, and reach 3,870 pedestrians per hour between Champa and Glenarm.
• Question about ADA requirements.
RTD has a report regarding ADA conditions on the Mall which will be transmitted to this group.

- Pedestrian permeability should remain on the Mall—pedestrians should be able to continue to cross the transit lanes without impediments at all points throughout a block. Permeability was a prime feature of the original design and must be retained in some way. Moving public space, particularly patios and particularly if they require railings, against the transit lanes would potentially keep pedestrians from crossing the transit lanes and decrease permeability. Limiting permeability across the Mall limits its function as a pedestrian Mall and starts to resemble a regular vehicle-priority street.

- Discussion of the median space and how it’s currently used. Feeling that the median alternative is at least as safe as the center-running transit lanes and should not be eliminated from consideration based on pedestrian safety.

- The Mall is a pedestrian priority location. The buses go 5-6 mph. It has the safety conditions of a shared street rather than a major traffic street.

- Does RTD want to maintain Mall shuttle service during large events? Does this create a safety issue?
  - RTD wants to maintain levels of service that serve current and future ridership during large events such as Meet in the Street, but understand that the shuttles may be rerouted during certain events like major parades.

- There were several questions regarding the background data for the suggestion that the mall is unsafe for pedestrians or that certain areas less safe than others.
  - RTD will investigate the data available regarding pedestrian safety and accidents.

Alternatives Evaluation Criteria

- There is no indication of bicycles in any of these alternatives. Have bicycles been eliminated?
  - 16th Street Mall is defined as a “fixed guideway” and under federal regulations, a fixed guideway does not permit bicycle use.

- Phased construction is being considered, but the details have not been determined at this time.

- Intersections should be included in the evaluation, as well as possible circulation changes to the streets that cross the mall. Operations needs to be included.

- The criteria talk about separation of mobility and clearer delineation, while the original design did the opposite.

- Trees don’t necessarily impact safety, so this should be reconsidered in the evaluation.

Pattern/Design

- A visual study of 5 preliminary potential pavement designs was presented on a plot sheet on the table to illustrate possibilities for the pavement design with the alternatives.
  - These designs were refined further for the workshop on 10/02 with 9 studies. These studies will be distributed to this group.

- How does the pattern relationship between one block type to another block type look like with the proposed new cross sections and alignments?

- The current tree location between the asymmetrical and median blocks is in a line. How would that look in the proposed different cross sections?
• Tree and light locations would change in the center-running alignment, which changes their current placement, but would retain the allee design.
• Patterns define transit lanes and should remain in the transit lanes.
• Is there a cost implication to the pattern colors, e.g., if concrete pattern in the transit lanes, how does 3 colors versus fewer colors affect the cost?
  o The cost comparison has not been completed, but will be completed in the next level of evaluation and will be presented to this group.
• There is no alternative that shows some blocks that remain the same; designers and planners should not preclude preserving at least some blocks in their current configuration.
• Recommend showing an alternative that would include partial changes and showing what could be preserved in which areas. Goal should be to try to preserve as much as possible, rather than assuming a full reconstruction under all alternatives.

General comments/feedback

• Everything changes; there is not an alternative that shows anything being preserved.
• There should be some trade-offs; the bulk of the impacts should not be just to the historic property.
• The pattern, linearity, trees, and lights all change in the Center Running and Center Running/Asymmetrical alternatives; all of the design elements change. Would like to see some elements preserved, such as leaving one of the lines of trees in its current location.
  o The trees and lights remain in their same location in the asymmetrical cross section.

Section 106 Next Steps
Workshop 10/02
Public Meeting 10/18
Identify Preferred Alignment
Discuss Design Details with Stakeholders
Identify Preferred Alternative
Evaluation of Eligibility and Effects
EA/Section 4(f) Evaluation

Requested Items/Documentation
• 16th Street Mall Form 1403
• Map showing existing café spaces
• ADA study
• Pedestrian safety study (block-by-block data)
• Pavement Pattern studies
• Width of buses with and without mirrors
Alternative Analysis and Environmental Clearance

Section 106 Consulting Parties Meeting #3
RTD/Civic Center, Regional Conference Room
September 27, 2017
10:30 am - 12:30 pm

Meeting Agenda

1. Welcome and Introductions

2. Section 106 Consultation Status
   a. Area of Potential Effects
   b. Identify historic properties within the APE
   c. 16th Street Mall eligibility consistent with Form 1403

3. Alternatives Development and Evaluation
   a. Alternatives developed
   b. Alternatives evaluation criteria
   c. Evaluation process

4. Input on Section 106 Next Steps
   a. Workshop 10/02
   b. Public Meeting 10/18
   c. Identify Preferred Alignment
   d. Discuss design details with stakeholders
   e. Identify Preferred Alternative
   f. Evaluation of Eligibility and Effects
   g. EA/Section 4(f) evaluation

5. Additional Feedback/Questions
# Alternatives Analysis & Environmental Clearance

## Section 106 Consulting Parties Meeting #3
September 27, 2017, 10:30 – 12:30

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**Note:**
- The table above lists the attending parties for the Section 106 Consulting Parties Meeting #3.
- Each party is represented by their name, organization, and email address.
- The meeting took place on September 27, 2017, from 10:30 to 12:30.
- The image includes additional hand-written notes at the bottom, indicating attendance and other relevant details.
Alternatives Analysis & Environmental Clearance

Cindy Sanders / Olin
Michael Miller / Olin  via phone
Sara,

Thanks for sending the notes. We would particularly like to have the graphics for the various paver pattern studies. Can you let me know when you might be able to send those?

Annie

Consulting Parties – Attached are the meeting notes from the consulting party meeting on 9/27/17. This pdf includes the agenda and the sign-in sheet. The final presentation was distributed on 9/27/17, directly after the meeting, so it is not included in this attachment. Please let me know if you did not receive the presentation and I will resend.

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Please contact either Larry Squires at larry.squires@dot.gov or Susan Wood at susan.wood@rtddenver.com if you have any comments or questions on these materials. You can also respond directly to me and I can pass on any questions or concerns to them.
Thank you.

Sara S. Orton
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Cultural Resources Planner
Direct 1 504 832 9520 x59520
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-----Original Appointment-----
From: LaRiviere, Loretta/DEN
Sent: Friday, August 11, 2017 12:27 PM
To: LaRiviere, Loretta/DEN; Annie Levinsky; Bar Chadwick; Brad Buchanan; Brian Pinkerton; Carole Brown; Eddie Hamilton (ehamilton@c-a-tribes.org); Jason Whitlock; Jennifer Bryant; Jennifer Orrigo Charles; Jim Graebner; Joe Saldibar; John Desmond; John Olson; Jyotsna Vishwakarma (Jyotsna.Vishwakarma@RTD-Denver.com); Kara Hahn; Karen Little Coyote; Kim Grant; Larry Squires; Lucinda Sanders; Lyman Guy (chairman@apachetribe.org); Max Bear; Orton, Sara/NWO; Roberts, Colleen/DEN; Scott Hergenrader; Susan Wood; Tami Dorr; Vobejda, Mary Jo/DEN; William Nelson (williamn@comanchenation.com)
Cc: Lang, Bill/DEN; Siedlecki, Tim/DEN; Matt Shawaker
Subject: Change in Room for 16th Street Mall Section 106 Consulting Parties Meeting #3
When: Wednesday, September 27, 2017 10:30 AM-12:30 PM (UTC-07:00) Mountain Time (US & Canada).
Where: RTD Civic Center Express Conference Room

The meeting has been changed to the Express Conference Room.
Consulting Parties – We have set up a Drop Box location to transmit the requested documentation and the meeting materials from our September 27th meeting. An additional alternative was requested at that meeting. The design and planning teams developed a build alternative that addresses the infrastructure and drainage updates below the surface of the mall, but retains the existing spatial configuration. The pdf titled 20171010_ALT 4 ANALYSIS contains cross sections of this alternative and the same Level 1 screening as the other build alternatives. We will present this alternative with the other alternatives at the public open house next week.

The following requested items are at the Drop Box link below.

- ADA accessibility report
- Maps showing café and kiosk locations
- New alternative evaluation
- Mall crime data map
- Paver pattern studies (updated 10/02 version)

https://ch2m.app.box.com/folder/40381399358

RTD is still working on the claims data to provide more information on pedestrian and transit incidents.

We are investigating available dates for a consulting party meeting in November. When the date has been established, we will send you a meeting invitation.

Please contact either Larry Squires at larry.squires@dot.gov or Susan Wood at susan.wood@rtd-denver.com if you have any comments or questions on these materials. You can also respond directly to me and I can pass on any questions or concerns to them.

Thank you.

Sara S. Orton
ch2m
Cultural Resources Planner
Direct 1 504 832 9520  x59520
Cell 1 504 810 0017
Consulting Parties – Attached are the meeting notes from the consulting party meeting on 9/27/17. This pdf includes the agenda and the sign-in sheet. The final presentation was distributed on 9/27/17, directly after the meeting, so it is not included in this attachment. Please let me know if you did not receive the presentation and I will resend.

We are setting up a Drop Box location for delivery of the other requested materials (listed on the last page of the notes). I will let you know shortly how to access that site.

Please contact either Larry Squires at larry.squires@dot.gov or Susan Wood at susan.wood@rtd-denver.com if you have any comments or questions on these materials. You can also respond directly to me and I can pass on any questions or concerns to them.

Thank you.

Sara S. Orton
ch2m
Cultural Resources Planner
Direct 1 504 832 9520 x59520
Cell 1 504 810 0017

-----Original Appointment-----
From: LaRiviere, Loretta/DEN
Sent: Friday, August 11, 2017 12:27 PM
To: LaRiviere, Loretta/DEN; Annie Levinsky; Bar Chadwick; Brad Buchanan; Brian Pinkerton; Carole Brown; Eddie Hamilton (ehamilton@c-a-tribes.org); Jason Whitlock; Jennifer Bryant; Jennifer Orrigo Charles; Jim Graebner; Joe Saldibar; John Desmond; John Olson; Jyotsna Vishwakarma (Jyotsna.Vishwakarma@RTD-Denver.com); Kara Hahn; Karen Little Coyote; Kim Grant; Larry Squires; Lucinda Sanders; Lyman Guy (chairman@apachetribe.org); Max Bear; Orton, Sara/NWO; Roberts, Colleen/DEN; Scott Hergenrader; Susan Wood; Tami Dorr; Vobejda, Mary Jo/DEN; William Nelson (williamn@comanchenation.com)
Cc: Lang, Bill/DEN; Siedlecki, Tim/DEN; Matt Shawaker
Subject: Change in Room for 16th Street Mall Section 106 Consulting Parties Meeting #3
When: Wednesday, September 27, 2017 10:30 AM-12:30 PM (UTC-07:00) Mountain Time (US & Canada).
Where: RTD Civic Center Express Conference Room

The meeting has been changed to the Express Conference Room.
Sara,

At our last 106 meeting you mentioned we could comment on the 1403 form, and we have now had a chance to go through it in some detail and offer the following input:

1) In section 21 the design details are covered but not some of the more global design characteristics. We think there should be further discussion of spatial arrangements and the placement of fixed features (i.e. the linearity of elements like the lights and the trees) as well as discussion of the cross-sections shifting. Those are key elements of the original design and were done very intentionally. They also relate to things like where which kind of tree was planted, etc.

2) In section 26 we are surprised to see that I.M. is not directly mentioned as a designer. Based on our research and oral histories from the time he was involved in planning and decision-making, including advocating for the use of granite. It was also in part his relationship with past Denver projects that drew the firm back here. Henry Cobb is certainly worthy of credit as a lead designer, but both should be named.

3) In section 29 the construction history focuses a lot of the issues that arose related to installation, but does not discuss some of the detailed topics related to why it was constructed in the way it was, with three cross-sections, the choice of certain trees for certain block styles, the relationship to sun exposure, the careful placement of the granite pavers from building face to building face, etc.

4) In section 35 the light standards get lumped in with “street furniture” and we don’t think this adequately describes their important role in the design. They are not moveable like other furniture elements, are certainly larger, and play an important role in the pattern and overall design so we believe they should be called out as a feature on their own.

5) In section 41 we believe the Mall has more than local significance given the national and international prominence of its designers, and its status as one of the few successful Mall’s of its kind from a period of prolific mall building. Analysis should be done to place it in that national context.

6) In section 42 some of these same comments about character defining features mentioned in my first and 3 point should also be discussed, and there could be more detail in the description of the organic pattern, which was inspired by more than the rattlesnake and was intended to really ground the Mall in a western identity. Also, the sentence about “old enough to be considered for replacement by simplified engineering” seems out of place. That is not what makes the Mall significant - it’s just part of why we’re discussing the future of the Mall, and we don’t even know whether the ultimate proposals will be simplified or even more complex.

7) Finally, while it’s already been removed there is no mention of the turn-around at Civic Center. If that is not considered part of the form should explain why not. This could be discussed in construction history.
There are a few places where Historic Denver is cited as a source, including in reference to the phrase “public art of the highest international quality.” This did not come from us but from the 2008 Urban Land Institute Report on the Mall.

If you have any questions on this input feel free to get in touch-

Thanks-

Annie

Annie Robb Levinsky
Executive Director
Historic Denver, Inc
1420 Ogden St.
Denver, CO 80218
303-534-5288 ext. 1
www.historicdenver.org

Thank you very much, Annie. While this email simply confirms receipt of comments from Historic Denver, we do look forward to further discussion and dialogue regarding the matter.

Thanks again for your review and feedback.

Be well,

Larry Squires

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From: Annie Levinsky [mailto:alevinsky@historicdenver.org]
Sent: Wednesday, October 18, 2017 9:52 AM
To: Orton, Sara/NWO <Sara.Orton@CH2M.com>
Cc: Squires, Larry (FTA) <Larry.Squires@dot.gov>; Susan.Wood@RTD-Denver.com; John Olson <jolson@historicdenver.org>
Subject: Comments on Form 1403

Sara,

At our last 106 meeting you mentioned we could comment on the 1403 form, and we have now had a chance to go through it in some detail and offer the following input:

1. In section 21 the design details are covered but not some of the more global design characteristics. We think there should be further discussion of spatial arrangements and the placement of fixed features (i.e. the linearity of elements like the lights and the trees) as well as discussion of the cross-sections shifting. Those are key elements of the original design and were done very intentionally. They also relate to things like where which kind of tree was planted, etc.

2. In section 26 we are surprised to see that I.M. is not directly mentioned as a designer. Based on our research and oral histories from the time he was involved in planning and decision-making, including advocating for the use of granite. It was also in part his relationship with past Denver projects that drew the firm back here. Henry Cobb is certainly worthy of credit as a lead designer, but both should be named.

3. In section 29 the construction history focuses a lot of the issues that arose related to installation, but does not discuss some of the detailed topics related to why it was constructed in the way it was, with three cross-sections, the choice of certain trees for certain block styles, the relationship to sun exposure, the careful placement of the granite pavers from building face to building face, etc.

4. In section 35 the light standards get lumped in with “street furniture” and we don’t think this adequately describes their important role in the design. They are not moveable like other furniture elements, are certainly larger, and play an important role in the pattern and overall
design so we believe they should be called out as a feature on their own.

5. In section 41 we believe the Mall has more than local significance given the national and international prominence of its designers, and its status as one of the few successful Mall’s of its kind from a period of prolific mall building. Analysis should be done to place it in that national context.

6. In section 42 some of these same comments about character defining features mentioned in my first and 3 point should also be discussed, and there could be more detail in the description of the organic pattern, which was inspired by more than the rattlesnake and was intended to really ground the Mall in a western identity. Also, the sentence about “old enough to be considered for replacement by simplified engineering” seems out of place. That is not what makes the Mall significant- it’s just part of why we’re discussing the future of the Mall, and we don’t even know whether the ultimate proposals will be simplified or even more complex.

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If you have any questions on this input feel free to get in touch-

Thanks-

Annie

Annie Robb Levinsky
Executive Director
Historic Denver, Inc
1420 Ogden St.
Denver, CO 80218
303-534-5288 ext. 1
www.historicdenver.org

Consulting Parties – please see Historic Denver’s comments on Form 1403 for the 16th Street Mall.

Thank you.

Sara S. Orton
ch2m
Cultural Resources Planner
Direct 1 504 832 9520 x59520
Cell 1 504 810 0017

From: Annie Levinsky [mailto:alevinsky@historicdenver.org]
Sent: Wednesday, October 18, 2017 10:52 AM
To: Orton, Sara/NWO <Sara.Orton@CH2M.com>
Cc: Squires, Larry (FTA) <Larry.Squires@dot.gov>; Susan.Wood@RTD-Denver.com; John Olson <jolson@historicdenver.org>
Subject: Comments on Form 1403 [EXTERNAL]

Sara,

At our last 106 meeting you mentioned we could comment on the 1403 form, and we have now had a chance to go through it in some detail and offer the following input:

1. In section 21 the design details are covered but not some of the more global design characteristics. We think there should be further discussion of spatial arrangements and the placement of fixed features (i.e. the linearity of elements like the lights and the trees) as well as discussion of the cross-sections shifting. Those are key elements of the original design and were done very intentionally. They also relate to things like where which kind of tree was planted, etc.

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If you have any questions on this input feel free to get in touch-

Thanks-

Annie

Annie Robb Levinsky
Executive Director
Historic Denver, Inc
1420 Ogden St.
Denver, CO 80218
303-534-5288 ext. 1
www.historicdenver.org

Susan, Brad, Tami & Larry,

I sent the attached letter to Dave Genova, since RTD hosted the most recent set of community meetings, but obviously wanted to include the management team. Our board believes it is important to provide clear written feedback on the alternatives as part of the public process as well as through the smaller, consulting parties meetings.

Please feel free to contact me with any questions, and we will look forward to discussing the current status next week.

Thanks-

Annie

Annie Robb Levinsky  
Executive Director  
Historic Denver, Inc  
1420 Ogden St.  
Denver, CO 80218  
303-534-5288 ext. 1  
www.historicdenver.org

November 7, 2017

Dave Genova
Regional Transportation District
1600 Blake Street
Denver, CO 80202

Dear Mr. Genova,

Historic Denver has had the opportunity to review the proposed alternatives for the 16th Street Mall put forward at the September 27, 2017 Consulting Parties meeting, the October 2, 2017 stakeholder workshop, and the October 18, 2017 public meetings. Given the fast-paced schedule for this project we want to provide written comments on the alternatives prior to the next set of meetings.

The 16th Street Mall is among the most iconic places in Denver, recognized for its high quality design, enduring materials, and value as a civic space. Officially recognized as eligible for the National Register of Historic Places due to the exceptional caliber of its design and designers, including I.M. Pei, Henry Cobb and Laurie Olin, the ULI called it “public art of the highest international quality.”

Over the last decade Historic Denver has consistently advocated for the rehabilitation of the Mall, including addressing its infrastructure needs while maintaining its character-defining features. We consider the following features to be most significant to the integrity and iconic design:

1) The granite pavers in their intricate pattern, which support a spatial arrangement that is human-scaled and a designed diagonal orientation that encourages free pedestrian flow
2) The unique, now replicated globe lights with several light functions
3) The 200+ trees, which are interspersed with the lights in an intentional linear pattern along the length of the original Mall
4) The subtle shift in alignment between symmetrically designed blocks and asymmetrically designed blocks that ensures the Mall is a truly shared street, rather than a conventional street

We believe it is essential to retain these core elements in any proposed alternative. We are therefore concerned about the central running transit alternative because it involves a total redesign, and at minimum, alteration to all the items listed above. In addition, we believe that it is too much a standard street, strictly separating the pedestrian and vehicles. While we remain open to more conversation about the alignment of the transit lanes on some blocks, we do not endorse the elimination of the medians, especially not before more detailed analysis and certainty regarding the impacts to items 1-4 above, including the specifics of the pavement material and pattern, the location of trees and lights, etc.

Furthermore, we want to emphasize the importance of exploring all reasonable and feasible alternatives to adversely impacting the historic resource, as is stressed in the Section 106 process and required in Section 4(f). We appreciate that you have recently added the rehabilitation alternative. We would also strongly encourage the project team to consider opportunities in the existing alternatives or in new alternatives to retain and preserve as much as possible even if some adjustments are included, as would likely be possible with further
refinement of the proposed median and asymmetrical option or possibly the center-running and asymmetrical option. The integration of a preservation approach on some blocks is highly preferable to a plan that involves alteration to every single element along the entire length of the original Mall.

Additionally, the proposed alternatives focus only on the physical design of the Mall. We believe the process has neglected to fully explore operational options that might achieve many of the needs and goals with significantly less cost and disruption. For example:

- The new, larger buses could be retro-fitted with cameras for rear-view functions to reduce concerns about the impact of the mirrors on the pedestrian walkway.
- The alternatives could also explore cost and operational impacts of smaller vehicles to reduce the wear-and-tear factor.
- The process could identify the pros and cons of a reduction in shuttle frequency while adding capacity to the Free Metro Ride.
- Adjustments in the size and regulation of outdoor patios or amenity zones along the Mall could meet the place-making goals and expand pedestrian space on many blocks.

We further feel it is essential for stakeholders and the general public to have a much clearer sense of the cost of each of the proposed alternatives before a preferred alternative is selected. This is important because the costs come with trade-offs. For example, the cost of the selected alternative could impact the availability of funds to address the Mall’s cross streets from 15th to 17th, long identified as critically important to the Mall’s success but never completed.

In 2010 the community, through the work of the 16th Street Mall planning process that involved more than 3,500 people, found consensus that the design of the Mall mattered, and that rehabilitation of this special place was the best way forward. This rehabilitation plan was ultimately put on hold because of cost. If the resources were not available for rehabilitation, why will they now be available for a redesign? Although any of the alternatives, including rehabilitation, will be costly it is important to weigh the relative cost against the perceived value of each alternative.

While in need of repairs and reinvestment in both its infrastructure and the surrounding environment, the Mall is recognized nationally as a success. It welcomes tens of thousands of users every day, ties the downtown community together, and provides a distinctive downtown identity that is uniquely Colorado. Making untested changes to its widely admired core design comes with great cost and we urge the process to dig deeper into the options for truly honoring the very important design.

Sincerely,

Annie Levinsky
Executive Director

Cc: Brad Buchanan, City & County of Denver
    Tami Door, Downtown Denver Partnership
    Susan Wood, Regional Transportation District
    Larry Squires, Federal Transit Administration
Consulting Parties – Attached are the meeting notes and meeting materials from the November 14, 2017 consulting parties meeting held at RTD. Attached to the notes are the sign-in sheet, the PowerPoint presentation, the pattern and geometry studies, and the summary of public comments. The cost comparison materials are included in the PowerPoint.

Please review these materials and contact either Larry Squires at larry.squires@dot.gov or Susan Wood at susan.wood@rtd-denver.com if you any comments or questions.

Thank you.

A separate email will be sent with the agenda, materials, and presentation for the December 14, 2017 meeting.

Sara S. Orton
ch2m
Cultural Resources Planner

Direct 1 504 832 9520 x59520
Cell 1 504 810 0017
Consulting Parties – Attached are the materials for our upcoming Consulting Party Meeting on November 14, 2017. The APE has been modified to align to current parcel boundaries, which have been confirmed in the field.

Please review the revised APE, list of historic properties, and map of properties. If you have comments, please provide them before or at the next meeting where we will discuss potential inclusion/exclusion of these properties, any other unidentified properties, and/or other potentially eligible properties. We will also discuss comments on the 16th Street Mall Form 1403. Both the comments received (Historic Denver) and the revised Form 1403 are attached. Please send any additional comments you have and they will be distributed to the group.

Attached you’ll find the following meeting materials for the meeting. Please review these items and bring comments with you.

- Meeting Agenda
- Area of Potential Effects map
- Spreadsheet of identified Historic Properties
- Map book showing identified Historic Properties
- Form 1403 with Historic Denver comments in track changes
- Email from Historic Denver with comments on Form 1403

We will also provide materials for the community input summary, the initial cost comparisons, and the updated pattern studies when they are completed next week.

Please contact either Larry Squires at larry.squires@dot.gov or Susan Wood at susan.wood@rtd-denver.com if you any comments or questions on these materials.

Thank you.
Subject: 16th Street Mall Consulting Parties Meeting #4

When: Tuesday, November 14, 2017 2:00 PM-5:00 PM (UTC-07:00) Mountain Time (US & Canada).
Where: RTD - Conference Room TBD

An agenda and meeting materials will be sent in advance of the meeting.

Please contact either Larry Squires at larry.squires@dot.gov or Susan Wood at susan.wood@rtd-denver.com if you have any questions in advance of the meeting.

Sara S. Orton
ch2m
Cultural Resources Planner
Direct 1 504 832 9520 x59520
Cell 1 504 810 0017
Alternative Analysis and Environmental Clearance

Section 106 Consulting Parties Meeting #4
RTD/Civic Center, Regional Conference Room
November 14, 2017
2:00 pm – 5:00 pm

Meeting Notes

Attendees: See attached Sign-in sheet

Welcome and Introductions
Susan Wood/RTD welcomed the group and reviewed the steps of the Section 106 consultation process started and completed to this point.

Section 106 Consultation Status
The Area of Potential Effects (APE) and updates to it were reviewed on handouts and in the presentation. There are a few areas where the APE has been expanded to align with the parcel boundaries. The consulting parties pointed out some properties that need to be updated or reconsidered:

- 5DV.1854 should be revisited for eligibility, IM Pei design, 1958-60
- 5DV.1856, built in 1980, designed by SOM; should be revisited for eligibility
- Slide 5: 600 16th Street, Steele Building, Listed, in Downtown Historic District
- Slide 8: 5DV.1760, 1515 Arapahoe, built 1975, shown as Needs Data; should be revisited for eligibility
- SHPO noted that the LoDo District is an NPS-Certified District, which is considered the same as National Register eligible
- SHPO typically recommends reevaluation of buildings surveyed more than 5 years ago. Many of the properties in the APE were last surveyed in the 1980s and 90s.

The 16th Street Mall has been determined eligible for listing in the National Register, but concurrence with Form 1403 did not occur at the time eligibility was determined. Historic Denver comments on the updated form were inserted into the form for review by consulting parties and additional comments and input were solicited from the group. Any additional comments on the Form 1403 are due to FTA and/or RTD by Wednesday, 11/22. The form will be updated based on these comments and the consulting parties will review the updates during a two-week review and comment period. After this review, the form will be submitted to SHPO for their 30-day review and concurrence. The 16th Street Mall Form 1403 may be submitted individually or it may be submitted as part of the Cultural Resources Technical Report. Historic Denver has done some additional research on the Mall and is open to a conversation on its findings with RTD and FTA.

Community Input Summary
CH2M summarized the community input from public meetings, workshops and the online comment tool.

Alternatives Development and Evaluation
CH2M reviewed identified problems on the mall, discussed the additional alternative – Rebuild in Existing Configuration, and went over inputs to the Level 2 Alternatives Evaluation.

Review of problems on the Mall

• Tree discussion
  o Historic Denver noted a pest hit the red oak trees, so the number of dead trees is not due solely to outdated tree infrastructure.
  o Olin noted that today’s industry standard tree practices are greatly advanced from those in the early 1980s, and a 30% failure rate for trees is substandard by current standards.
  o Historic Denver recommended that Denver and RTD consider phasing the tree replacement so that portions of the canopy are maintained while other portions are being replaced. Denver and RTD noted this could be considered as part of construction phasing.
  o Historic Denver noted that if the trees are to be grown ahead of time to provide larger trees for replacement, they need to be planted now, given the proposed construction timing.

• Underground utilities and infrastructure
  o Historic Denver noted the trees were placed where they are because of the need to avoid abandoned underground trolley tracks. Have Denver and RTD considered tree placement in regards to underground utilities and structures?
    ▪ CH2M noted that the design assumes utilities are being replaced or repaired as part of the project, and can be relocated if needed to accommodate the design.

• Pedestrian Volumes
  CH2M discussed the slides related to existing and future pedestrian volumes and capacity of existing and proposed sidewalk widths.
  o Consulting parties noted the walks are 17’ wide if patios are not present. Minimization of effects to the historic resource should include consideration of removing the patios.
  o Consulting parties voiced concern about the privatization of public space when patios are included in the design.
  o The Gehl study showed that patios are the highest driver of public use and activation on the Mall.
  o The question was asked why couldn’t the patio space be reduced from 9 feet to 7 feet to free up space for the pedestrian volume needs? The 9’ patio width is both the width currently used by restaurants and the minimum width to support four-top and two-top tables with an aisle in between.

• Safety and Security
  A slide showing crime volumes by block adjacent to the 16th Street Mall was reviewed.
  o SHPO stated they found 104 violent crimes occurred on the Mall in the last two years.
  o SHPO requested a graphic showing crime data be more specific to the Mall, and not include 15th and 17th Streets.
    ▪ The team has subsequently reviewed the data and this request. The data is geolocated in a manner that prevents identifying crimes occurring directly on the Mall versus in adjacent buildings, alleys, or cross streets. The data will continue to be presented for the entirety of the blocks adjacent to 16th Street to maintain accuracy.
  o SHPO noted if the alternatives design is intended to address crime, panhandling, etc., the impacts analysis must be explicit in linking the design to effects on reducing crime.

Rebuild in Existing Configuration – Additional Alternative
CH2M described this additional alternative and the evaluation summary, provided in the PowerPoint presentation.

Level 2 Alternatives Evaluation

• Level 2 evaluation criteria
Downtown Denver Partnership noted there are three different types of construction impacts: impacts on pedestrian and transit mobility, noise and dust impacts on adjacent uses including residents, and impacts on business operations. What is the relative value of each of these types of impacts?

- CH2M noted they are all impacts that must be considered and discussed.
- Colorado Preservation Inc. asked how many buildings have secondary entrances that can help minimize business disruption during construction?
  - This information was not available at the meeting, and the project team can study this as part of the construction impacts analysis in the EA.

### Cost comparisons
These comparisons are dependent on the materials used and not on the spatial configuration of the design elements.

- The concrete annual cost should be higher than for roadway concrete maintenance because of the need to maintain a much higher level of aesthetic integrity for the Mall.
- CH2M noted a maintenance plan would be required and would address the aesthetic values desired for each material.
- Historic Denver requested that the team consider the idea of salvaging the existing pavers to reduce costs.
  - CH2M and John Desmond noted the cost evaluations have concluded it’s less expensive to use new pavers than salvage the existing ones because the construction duration increases greatly to salvage the existing pavers.

### Pattern and Geometry Studies

- What is being assumed for tree grates/openings.
  - The team assumes a silva cell system, and a detailed study will be conducted to determine how the tree openings on the Mall will work to fit in with the pattern and design and still allow better access to the tree root ball than the current design allows.
- Maintaining, or staying as close as possible, to the existing pattern is the most important element of the pattern design, and is preferable to, for example, keeping the medium-sized diamonds in the transit lanes regardless of where the transit lanes are located.
- Relaying the pattern exactly as it is today would allow people to see the original design of the Mall.

### General comments/feedback

- Historic Denver stated the purpose and need has been written too narrowly if the historic resource can’t be preserved.
- SHPO noted the team must consider Section 4(f) requirements early in the process; the project team should tell the consulting parties when we will be discussing Section 4(f) analysis or tell them why it isn’t possible. Section 4(f) requires minimization and avoidance, so alternatives and solutions must consider these.
- In discussion and in the upcoming reports and presentations, include how project actions or elements of the design alternatives relate to the importance of the historic resource.
- The consulting parties would like more detail on why some alternatives don’t meet the purpose and need and why the patio space has to be 9 feet instead of 7 feet.
- SHPO requested report documentation for the alternatives analysis and minimization measures to the resource.
- SHPO requested the team look at each element of the existing design of the Mall to determine how minimization measures could be incorporated so that the existing design meets the Purpose and Need.
• SHPO requested that Denver provide the backup data for the success of existing programming, for example, how many people do the chess tables, pianos, etc. on the Mall today draw.
• Historic Denver suggested the recent no smoking ban be considered an operational design element and to study the effects of these types of operational decisions on safety and security on the Mall

Section 106 Next Steps
  Conduct Level 2 Alternatives Evaluation
  Identify Proposed Preferred Alternative
  Discuss Design Details with Stakeholders
  Identify Preferred Alternative
  Evaluation of Eligibility and Effects
  EA/Section 4(f) Evaluation

Requested Items/Documentation
• Summary of comments
  o Attached to these meeting notes.
• Cost comparison materials
  o This is included in the attached PowerPoint presentation.
• Backup data for the success of existing Mall programming
• 16th Street Mall Form 1403 comments from consulting parties by November 22.
• Graphic showing crime data specific to the Mall
Alternative Analysis and Environmental Clearance

Section 106 Consulting Parties Meeting #4
RTD/Civic Center, Regional Conference Room
November 14, 2017
2:00 pm - 5:00 pm

Meeting Agenda

1. Welcome and Introductions

2. Section 106 Consultation Status
   a. Area of Potential Effects (APE)
   b. Identified historic properties within the APE
   c. 16th Street Mall Form 1403

3. Community Input Summary

4. Alternatives Development and Evaluation
   a. Alternative Design Elements
   b. Proposed Level 2 Evaluation Criteria
   c. Pattern Design Studies

5. Input on Section 106 Next Steps
   a. Propose Preferred Alternative
   b. Discuss design details with stakeholders
   c. Identify Preferred Alternative
   d. Evaluation of Eligibility and Effects
   e. Environmental Assessment & Section 4(f) evaluation

6. Additional Feedback/Questions
<table>
<thead>
<tr>
<th>Attended</th>
<th>Name</th>
<th>Organization</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Max Bear</td>
<td>Cheyenne and Arapaho Tribes</td>
<td><a href="mailto:mbear@c-a-tribes.org">mbear@c-a-tribes.org</a></td>
</tr>
<tr>
<td>✓</td>
<td>Jennifer Bryant</td>
<td>OAHP</td>
<td><a href="mailto:Jennifer.bryant@state.co.us">Jennifer.bryant@state.co.us</a></td>
</tr>
<tr>
<td>✓</td>
<td>Brad Buchanan</td>
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<td><a href="mailto:Brad.buchanan@denvergov.org">Brad.buchanan@denvergov.org</a></td>
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<tr>
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<tr>
<td>✓</td>
<td>John Desmond</td>
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<td><a href="mailto:jdesmond@downtowndenver.com">jdesmond@downtowndenver.com</a></td>
</tr>
<tr>
<td>✓</td>
<td>Tami Door</td>
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<td><a href="mailto:tdoor@downtowndenver.com">tdoor@downtowndenver.com</a></td>
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<tr>
<td></td>
<td>Perry Edman</td>
<td>RTD</td>
<td><a href="mailto:Perry.edman@rtd-denver.com">Perry.edman@rtd-denver.com</a></td>
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<tr>
<td></td>
<td>Dorit Fischer</td>
<td>NAI Shames Makovsky</td>
<td><a href="mailto:dfischer@shamesmakovsky.com">dfischer@shamesmakovsky.com</a></td>
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<tr>
<td></td>
<td>Jim Graebner</td>
<td>Lower Downtown District</td>
<td><a href="mailto:carbarn@aol.com">carbarn@aol.com</a></td>
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<tr>
<td>✓</td>
<td>Kim Grant</td>
<td>Colorado Preservation, Inc.</td>
<td><a href="mailto:kgrant@coloradopreservation.org">kgrant@coloradopreservation.org</a></td>
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<tr>
<td></td>
<td>Lyman Guy</td>
<td>Apache Tribe</td>
<td><a href="mailto:chairman@apachetribe.org">chairman@apachetribe.org</a></td>
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<tr>
<td>✓</td>
<td>Kara Hahn</td>
<td>City &amp; County of Denver</td>
<td><a href="mailto:Kara.hahn@denvergov.org">Kara.hahn@denvergov.org</a></td>
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<td></td>
<td>Eddie Hamilton</td>
<td>Cheyenne and Arapaho Tribes</td>
<td><a href="mailto:ehamilton@c-a-tribes.org">ehamilton@c-a-tribes.org</a></td>
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<td>Scott Hergenrader</td>
<td>City &amp; County of Denver</td>
<td><a href="mailto:Scott.hergenrader@denvergov.org">Scott.hergenrader@denvergov.org</a></td>
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<td>✓</td>
<td>Annie Levinsky</td>
<td>Historic Denver</td>
<td><a href="mailto:alevinsky@historicdenver.org">alevinsky@historicdenver.org</a></td>
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<td>Karen Little Coyote</td>
<td>Cheyenne and Arapaho Tribes</td>
<td><a href="mailto:klittlecoyote@c-a-tribes.org">klittlecoyote@c-a-tribes.org</a></td>
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<td></td>
<td>William Nelson</td>
<td>Comanche Nation</td>
<td><a href="mailto:williamn@comanchenation.com">williamn@comanchenation.com</a></td>
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<td>✓</td>
<td>John Olson</td>
<td>Historic Denver</td>
<td><a href="mailto:jolson@historicdenver.org">jolson@historicdenver.org</a></td>
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<td>✓</td>
<td>Sara Orton</td>
<td>CH2M</td>
<td><a href="mailto:Sara.orton@ch2m.com">Sara.orton@ch2m.com</a></td>
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<tr>
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<td>Brian Pinkerton</td>
<td>City &amp; County of Denver</td>
<td><a href="mailto:Brian.pinkerton@denvergov.com">Brian.pinkerton@denvergov.com</a></td>
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<tr>
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<td>Colleen Kirby Roberts</td>
<td>CH2M</td>
<td><a href="mailto:Colleen.roberts@ch2m.com">Colleen.roberts@ch2m.com</a></td>
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<tr>
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<td>Joseph Saldivar</td>
<td>OAHP</td>
<td><a href="mailto:Joseph.saldivar@state.co.us">Joseph.saldivar@state.co.us</a></td>
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<tr>
<td>✓</td>
<td>Lucinda Sanders</td>
<td>The Olin Studio</td>
<td><a href="mailto:lsanders@theolinstudio.com">lsanders@theolinstudio.com</a></td>
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<tr>
<td></td>
<td>Larry Squires</td>
<td>FTA</td>
<td><a href="mailto:Larry.squires@dot.gov">Larry.squires@dot.gov</a></td>
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<tr>
<td>✓</td>
<td>Jyotsna Vishwakarma</td>
<td>RTD</td>
<td><a href="mailto:Jyotsna.vishwakarma@rtd-denver.com">Jyotsna.vishwakarma@rtd-denver.com</a></td>
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<tr>
<td>✗</td>
<td>Mary Jo Vobejda</td>
<td>CH2M</td>
<td><a href="mailto:Marvjo.vobejda@ch2m.com">Marvjo.vobejda@ch2m.com</a></td>
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<tr>
<td>✗</td>
<td>Jason Whitlock</td>
<td>City &amp; County of Denver</td>
<td><a href="mailto:Jason.Whitlock@denvergov.org">Jason.Whitlock@denvergov.org</a></td>
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<tr>
<td>✗</td>
<td>Mandy Whorton</td>
<td>CH2M</td>
<td><a href="mailto:Mandy.whorton@ch2m.com">Mandy.whorton@ch2m.com</a></td>
</tr>
<tr>
<td>✗</td>
<td>Susan Wood</td>
<td>RTD Denver</td>
<td><a href="mailto:Susan.wood@rtd-denver.com">Susan.wood@rtd-denver.com</a></td>
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## Alternatives Analysis & Environmental Clearance

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<tr>
<td>X</td>
<td>Angela Wollard</td>
<td>GBSM</td>
<td><a href="mailto:angelawouldley@gbsm.com">angelawouldley@gbsm.com</a></td>
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<tr>
<td>X</td>
<td>Don Uprich</td>
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<td><a href="mailto:harryrich@outlook.com">harryrich@outlook.com</a></td>
</tr>
<tr>
<td>Y</td>
<td>Matt Shawaker</td>
<td>RV</td>
<td><a href="mailto:matt.shawaker@ntdesign.com">matt.shawaker@ntdesign.com</a></td>
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<tr>
<td>Y</td>
<td>Tim Siedlecki</td>
<td>CH2M</td>
<td><a href="mailto:tim.siedlecki@ch2m.com">tim.siedlecki@ch2m.com</a></td>
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<tr>
<td>Y</td>
<td>Bill Lang</td>
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<td><a href="mailto:bill.lang@ch2m.com">bill.lang@ch2m.com</a></td>
</tr>
<tr>
<td>Y</td>
<td>Harry Stephens</td>
<td>RTD</td>
<td><a href="mailto:harry.stephens@rtddenver.com">harry.stephens@rtddenver.com</a></td>
</tr>
<tr>
<td>Y</td>
<td>Michael</td>
<td>Glen</td>
<td></td>
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Section 106
Consulting Party Meeting

November 14, 2017
Meeting Agenda

• Introductions
• Section 106 Consultation Status
  • Area of Potential Effects
  • Identify Historic Properties
  • 16th Street Mall Form 1403
• Community Input Summary
• Alternatives Development and Evaluation
  • Additional Alternative
  • Level 2 Alternatives Evaluation
• Input on Section 106 Next Steps
• Additional Feedback/Questions
Area of Potential Effects
Historic Properties within the APE
Historic Properties within the APE
Historic Properties within the APE
Historic Properties within the APE
Historic Properties within the APE
Historic Properties within the APE
16th Street Mall Form 1403

III. Architectural Description (Structural Description)

1420. Special features: Ornamentation (See 21)

21. General architectural description: Designed landscape/streetscape. The primary and consistent pavement design is carried by polychrome granite units, generally 1-foot 5-inch by 1-foot 5-inch square granite pavers—charcoal gray, light gray, and “Colorado red” (Cultural Landscape Foundation 2009)—with special curb, ramp, drain, circular, and other units from the same granite color palette. The streetscape also features custom-designed and -built light fixtures, signage, telephone stands, planter and trash receptacles, drinking fountains, and pavement fountains. Consistent tree plantings of 220 oaks and honey locusts are rooted in special underground structural-concrete chambers, 5 feet 5 inches deep, supported by a “suspended pavement system,” with custom tree gratings at the pavement plane (deeproot 2014).

Add further discussion of spatial arrangements and the placement of fixed features; the linearity of elements like the lights and the trees; discussion of the cross-sections shifting; key elements of the original design and were done very intentionally; relate to things like where which kind of tree was planted.
Community Input Summary
Alternatives Development and Evaluation
Alternatives Development and Evaluation

- Review of problems on the Mall
- Additional alternative – Rebuild in Existing Configuration

Level 2 Alternatives Evaluation
- Alternative design elements
- Follow up on questions from last meeting
- Proposed Level 2 evaluation criteria
- Cost and materials comparison
- Pattern design studies
PROBLEMS ON THE MALL

Failing and Outdated Infrastructure Causes Frequent, Disruptive Maintenance

A poorly constructed and failing pavement system is unable to handle the wheel loads (weight of buses) and lacks drainage under the pavers.

The outdated underground tree structure does not allow for conditions which support tree health.

- 28% Of trees have died and not been replaced
- 23% Of trees are not in good health
- Root boxes 300% smaller than current best practices
PROBLEMS ON THE MALL

Safety Issues Due to Layout & Surface

Pedestrian walks are narrow and immediately adjacent to transit lanes, causing pedestrian/vehicle conflicts.

The slick paver surface causes pedestrian slips/falls and lack of traction.
PROBLEMS ON THE MALL

Mobility Inefficiencies Caused by Sidewalk Size, Maintenance

*Over capacity sidewalks* are unable to accommodate current and projected pedestrian volumes on weekdays. By 2040, downtown employment will grow by 32% and population by 137%.

*Frequent maintenance disrupts transit shuttle operations.* Shuttle ridership will nearly double by 2035.

3,840 people/hour on two 8-foot walks

8’ walks narrower than 10’ recommended width for pedestrian volumes and individuals with disabilities
PROBLEMS ON THE MALL

Lower Public Use than Desired

*Median spacing, size, and frequent shuttle service on either side discourages public use.* Lower public use draws undesirable activity (panhandling, loitering, crime).

*Less than 1% of weekday users stop to spend time on the Mall*  
If pedestrian walking areas were widened within the current layout, there would not be enough room for patios—which draw more people to gather on the Mall than any other activity.

Less than 3’ clear at median fountain
### ADDITIONAL ALTERNATIVE - REBUILD IN EXISTING CONFIGURATION

#### Alignment Alternative

![Alignment Alternative Diagram]

#### Evaluation Summary

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Existing Median</th>
<th>Existing Asymmetrical</th>
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</thead>
<tbody>
<tr>
<td>Infrastructure</td>
<td>Failing infrastructure replaced</td>
<td>Failing infrastructure replaced</td>
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<tr>
<td>Safety</td>
<td>No pedestrian/transit safety improvement*</td>
<td>No pedestrian/transit safety improvement on narrow sidewalk*</td>
</tr>
<tr>
<td>Mobility</td>
<td>• Transit mobility maintained</td>
<td>• Transit mobility maintained</td>
</tr>
<tr>
<td></td>
<td>• Doesn't provide enough pedestrian mobility (10' walk)*</td>
<td>• Doesn't provide enough pedestrian mobility (10' walk) on narrow side*</td>
</tr>
<tr>
<td>Public Use</td>
<td>• Not enough room for 9’ gathering/ patio space and 10’ pedestrian space*</td>
<td>• Not enough room for 9’ gathering/ patio space and 10’ pedestrian space on narrow side*</td>
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<tr>
<td></td>
<td>• Medians underutilized</td>
<td></td>
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<tr>
<td>Economics</td>
<td>Equal opportunities and amenities fronting buildings</td>
<td>Unequal opportunities and amenities fronting buildings</td>
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<tr>
<td>Historic Resources</td>
<td>Same spatial configuration</td>
<td>Same spatial configuration</td>
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</tbody>
</table>

*Does not meet the project Purpose and Need
Level 2 Alternatives Evaluation

• Alternative Design Elements
• Follow up on questions from last meeting
  • Crime and safety data
  • Pedestrian volumes
• Proposed Level 2 evaluation criteria
• Cost and materials comparison
• Pattern design studies
Alternative Design Elements

• Spatial configuration of pedestrian areas, patio/gathering space, transit lanes
• Pavement system
• Other infrastructure, e.g., trees, utilities, water quality, security
• Options to delineate pedestrian/transit areas
• Materials
• Bus operations elements
Safety Data

RTD Claims data under analysis
Denver Traffic Accident data 1/1/12 – 10/9/17

- 181 traffic accidents in project limits
- 15 involved bicyclists
- 28 involved pedestrians
- Data not granular enough to determine intersection vs mid-block locations
## Existing and Future Pedestrian Volumes

<table>
<thead>
<tr>
<th>Category</th>
<th>Welton to Glenarm (CBD)</th>
<th>Lawrence to Arapahoe (DUS)</th>
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<tr>
<td>Existing (2015) peak weekday volumes</td>
<td>3,900 ped/hr</td>
<td>3,000 ped/hr</td>
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<tr>
<td>Existing capacity</td>
<td>3,840 ped/hr</td>
<td>5,280 ped/hr</td>
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<tr>
<td>Existing sidewalk size</td>
<td>Two 8’ walks</td>
<td>8’ and 14’ walks</td>
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<tr>
<td>Future (2040) peak weekday volumes</td>
<td>4,600 ped/hr</td>
<td>4,000 ped/hr</td>
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Future volumes listed are considered a minimum, based on employment growth of 18% in CBD, 32% in DUS neighborhood. Transit ridership approximately doubles by 2040.
# Evaluation of Pedestrian Capacity by Proposed Cross Section

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<tr>
<th>Cross Section</th>
<th>Walkway Width</th>
<th>Pedestrians/Hour</th>
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<tr>
<td>Ex. Median</td>
<td>Two 8’ walks</td>
<td>3,840</td>
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<tr>
<td>Ex. Asymmetrical</td>
<td>8’, 14’ walks</td>
<td>5,280</td>
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<tr>
<td>New Asymmetrical</td>
<td>10’, 14’ walks</td>
<td>5,760</td>
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<tr>
<td>Center Running</td>
<td>Two 10’ walks</td>
<td>4,800</td>
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</table>

Future (2040) peak weekday volumes:
- 4,600 ped/hr Welton to Glenarm
- 4,000 ped/hr Lawrence to Arapahoe
Proposed Level 2 Evaluation Criteria

Economics and Cost
- Costs of alternatives
- Ability to provide/modernize tree, water quality, utility infrastructure

Safety and Security
- Pedestrian/transit delineation
- Pedestrian walk width
- Ability to address accident locations
- Pavement surface reduction of slip, trip, fall risk
- Ability to accommodate increased surveillance and security measures
Proposed Level 2 Evaluation Criteria

Mobility

• Transit connectivity and operations
  • Bus operations efficiency and requirements
  • Connectivity between Union Station, Civic Center Station, cross routes
  • Endorsement by RTD bus operations
  • Minimize disruption during construction

• Pedestrian mobility
  • Sidewalk capacity
  • Ability to meet accessibility guidelines
Proposed Level 2 Evaluation Criteria

Public Use Functionality

• Ability to improve surveillance, activation, public use of pedestrian and gathering areas
• Width of patio/gathering space and walkways

Community and Environment

• Minimize community and construction impacts
• Effects to historic resources
• Minimize long term environmental impacts
• Level of public and agency support
• Satisfies Purpose and Need
16th Street Mall
Comparative Cost Estimates
General Assumptions – Capital Costs

• Project Limits
  • Building face to building face
  • All 12 ½ blocks

• Materials
  • All the existing materials will be replaced
  • New pavement materials
  • Recycled earthwork on-site (assumes no contaminated soils)
  • Value Engineering opportunities for materials are available in final design

• Intersections
  • Replace the concrete with concrete at the intersections and add bulb-outs
  • No changes to intersections with Light Rail Lines
General Assumptions – Capital Costs

• Drainage
  • Approach is generally the same regardless of surface material. This consists of surface flows with the recognition that some water will infiltrate the joints
  • The previous design assumed water would not enter the joints

• Utilities
  • All utilities will be replaced
  • Technology improvements included
  • Upgrades or additions could be paid by utility companies
  • Value Engineering opportunities for utilities are available in final design

• Construction
  • Increase Construction Management estimate due to the need to observe quality craftsmanship
  • Consider Best Value bidding process, it has proven to bring quality craftsmanship on projects

“The fundamental design mistake ... was the adoption of a solution which allowed the accumulation of water within the system, but disallowed its drainage.” - Dr. Albert W. Knott and Gene R. Stevens, “A Failure Analysis of the Masonry Pavement of the Sixteenth Street Mall”
Alternatives Analysis and Environmental Clearance

General Assumptions – Life Cycle Costs

• Assume a 40 year life for the life cycle cost analysis
• Annual
• There will need to be a maintenance plan
• Future Reconstruction
• Different paving materials have different lifespans
• It is assumed granite pavers would last the entire 40 years before needing full replacement
• It is assumed concrete (whether concrete pavers, cast in place, or precast panels) would need to be fully reconstructed every 10 to 20 years depending on the acceptable quality of the surface
• Additional reconstruction during the 40 years would result in additional disruption to businesses and transit operations

Proposed Alignments

PRELIMINARY UNDER REVIEW
## Action Alternatives

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<th>Category</th>
<th>No Build</th>
<th>Median &amp; Modified Asymmetrical</th>
<th>Center Running Transit</th>
<th>Center Running Transit and Asymmetrical</th>
<th>Rebuild in Existing Configuration</th>
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<td>Initial Investment</td>
<td>NA</td>
<td>$75M - $140M</td>
<td>$75M - $140M</td>
<td>$75M - $140M</td>
<td>$75M - $140M</td>
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<td>40 year maintenance</td>
<td>$103M - $156M*</td>
<td>Under development</td>
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* Based on DPP and RTD current maintenance costs over 40 years. Transitway = $12/SF and the entire mall = $5/SF. Does not include critical infrastructure upgrades nor failure repairs. Range from No escalation to 2% escalation.

Costs do not change based on the Action Alternatives. Costs change based on the pavement materials chosen.
Pavement Options Investigated

• Granite pavers with a mortar setting, full width of Mall
  • Material would be granite
  • Mortar setting is recommended for pavers greater than 12”
• Size
  • Could match existing size
  • Could match existing pattern
• Pavement Section
  • 4” thick pavers (2” thick in pedestrian areas)
  • 2” thick drainable bedding
  • 8” thick concrete slab

PRELIMINARY UNDER REVIEW
Pavement Options Investigated

- Unit pavers with a sand setting, full width of Mall
  - Material could be granite, clay, or concrete
  - Sand setting is recommended for pavers of less than 12”
  - Size
    - Likely 8” by 4” dimension
    - Can have a similar pattern to existing
    - Can have a smaller pattern (herringbone)
- Pavement Section
  - 1/8” joints
- Clay has less absorption. Won’t fade. Stay truer to their original color. Could be more readily available.
- Sand setting can limit the ability to power wash the surface
Pavement Options Investigated

- Precast concrete slabs in the transit way, pavers in the sidewalks
  - Could replicate existing pattern
  - Can include snow melt
  - Concrete will crack, chip, spall, and polish
  - Small repairs are difficult
Pavement Options Investigated

- **Cast in Place Concrete in the transit way, pavers in the sidewalks**
  - Cannot replicate existing pattern
  - Can include snow melt
  - Concrete will crack, chip, spall, and polish
  - Small repairs are difficult
## Construction Cost Elements

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PRELIMINARY UNDER REVIEW
## Project Costs

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<thead>
<tr>
<th>Category</th>
<th>Granite Pavers Full Width</th>
<th>Unit Pavers in Sand Bedding Full Width</th>
<th>Precast Concrete Panels in Transit way – Sidewalks Pavers</th>
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<td>Construction</td>
<td>$95M</td>
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**Market Fluctuations**

- Low End: $100M, $95M, $80M, $75M
- High End: $140M, $130M, $110M, $105M

PRELIMINARY UNDER REVIEW
## Pavement and Project Cost Comparisons

<table>
<thead>
<tr>
<th>Category</th>
<th>Granite Pavers Full Width</th>
<th>Unit Pavers in Sand Bedding Full Width</th>
<th>Precast Concrete Panels in Transit way – Sidewalks Pavers</th>
<th>Cast in Place Concrete in Transit way – Sidewalks Pavers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pavement Cost/SF</td>
<td>$100</td>
<td>$80</td>
<td>$30</td>
<td>$15</td>
</tr>
<tr>
<td>Comparison to CIP Concrete</td>
<td>600%</td>
<td>400%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Pavement Material Cost</td>
<td>$26M</td>
<td>$24M</td>
<td>$18M</td>
<td>$17M</td>
</tr>
<tr>
<td>Comparison to CIP Concrete</td>
<td>50%</td>
<td>40%</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>Total Project Cost</td>
<td>$120M</td>
<td>$115M</td>
<td>$100M</td>
<td>$95M</td>
</tr>
<tr>
<td>Comparison to CIP Concrete</td>
<td>20%</td>
<td>15%</td>
<td>1%</td>
<td>0%</td>
</tr>
</tbody>
</table>

PRELIMINARY UNDER REVIEW
# 40 Year Cost Comparisons

<table>
<thead>
<tr>
<th>Category</th>
<th>Granite Pavers Full Width</th>
<th>Unit Pavers in Sand Bedding Full Width</th>
<th>Precast Concrete Panels in Transit way – Sidewalks Pavers</th>
<th>Cast in Place Concrete in Transit way – Sidewalks Pavers</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Project Cost</td>
<td>$120M</td>
<td>$115M</td>
<td>$100M</td>
<td>$95M</td>
<td></td>
</tr>
<tr>
<td>Annual Up Keep</td>
<td>$1.5M</td>
<td>$1.5M</td>
<td>$1.5M</td>
<td>$1.5M</td>
<td>Includes cleaning and routine maintenance of pedestrian pavement and amenities</td>
</tr>
<tr>
<td>Annual Transitway Pavement Maintenance</td>
<td>$315,000</td>
<td>$315,000</td>
<td>$1,000</td>
<td>$1,000</td>
<td>Pavement maintenance and repairs. Concrete maintenance is $.01/SF and Granite pavers maintenance is $3.5/SF</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40 years of Up Keep</td>
<td>$60M</td>
<td>$60M</td>
<td>$60M</td>
<td>$60M</td>
<td></td>
</tr>
<tr>
<td>40 years of Transitway Pavement</td>
<td>$13M</td>
<td>$13M</td>
<td>$40,000</td>
<td>$40,000</td>
<td></td>
</tr>
<tr>
<td>Total Investment Over 40 Years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PRELIMINARY UNDER REVIEW
Pattern and Geometry Studies
Section 106 Next Steps
Section 106 Next Steps

• Level 2 alternatives evaluation
• Propose Preferred Alternative
• Discuss design details with stakeholders
• Identify Preferred Alternative
• Evaluation of eligibility and effects
• Draft Cultural Resources Technical Report
  • Includes eligibility determinations and effect findings
  • 30-day review by SHPO and consulting parties
• If Adverse Effect, develop Memorandum of Agreement to address adverse effect
• Section 4(f) Evaluation
• Environmental Assessment
Questions?
**Pattern & Geometry Studies**

### Existing Configuration

#### Existing Median
- Large diamonds and trees define pedestrian promenade
- Medium diamonds define the transit way
- 2' wide bands visually define transit way
- Pattern dissipates at edges

#### Existing Asymmetrical
- Large diamonds and trees define pedestrian promenade
- Medium diamonds define the transit way
- 2' wide bands visually define transit way
- Pattern dissipates at edges

### Revised Asymmetrical

#### Existing Asymmetrical
- Trees align at 32' from building edge

#### New Asymmetrical A
- Large diamonds and trees define pedestrian promenade
- Medium diamonds define the transit way
- 2' wide bands visually define transit way
- Pattern dissipates at edges
- 4' median removed and sidewalk area expanded

### Trees
- Trees align at 32' from building edge
- Trees maintain existing alignment and spacing
- Trees spaced 4' from transit lane: does not meet requirements
- Pedestrian lights moved from median
- 4' median removed and sidewalk area expanded
Maintain Spatial Relationships

**Option 1: Prioritize Allee Alignment**

**New Asymmetrical**

- Large diamonds define the transit lane.
- Medium diamonds define the public realm/amenity area.
- Paving band defines transit lane.
- Pattern dissipates at edges.
- Elongated diamond in paving band moved to accommodate tree planting, 2x2 diamond added.

**Center Running Transit**

- Pedestrian Zone splits around tree.
- Amenity zone at edge reduced.
- Proximity of tree to building edge will reduce potential canopy.

**Pubic Use**

- Amenity areas less shaded by trees.
- 48' spacing across street will be difficult to close with tree canopy.

**Option 2: Prioritize Pattern Consistency**

**New Asymmetrical**

- Large diamonds define the transit lane.
- Medium diamonds define the public realm/amenity area.
- Paving band defines transit lane.
- Pattern dissipates at edges.
- Tree moved to elongated triangle in paving band. No other changes to pattern.

**Center Running Transit**

- Pedestrian Zone splits around tree.
- Pedestrian Zone defined by trees.

**Pubic Use**

- Amenity areas under trees.
- Spacing provides potential for 40' tree canopy, which could close above transit lanes.
Maintain Programmatic Relationships

Option 1: Prioritize Allee Alignment

New Asymmetrical

Center Running Transit

Large diamonds define pedestrian promenade
Medium diamonds define transit lane
Paving band defines transit lane
Pattern does not dissipate at edge

4x4 diamond at edge of transit lane removed, replaced by 2x2 diamond

Pedestrian Zone splits around tree
Amenity zone at edge reduced
Proximity of tree to building edge will reduce potential canopy

Amenities are less shaded by trees
48' spacing across street will be difficult to close with tree canopy

Option 2: Prioritize Pattern Consistency

New Asymmetrical

Center Running Transit

Large diamonds define pedestrian promenade
Medium diamonds define transit lane
Paving band defines transit lane
Pattern dissipates less at edges

4x4 diamond at edge of transit lane removed, replaced by 2x2 diamond

Pedestrian Zone splits around tree
Pedestrian Zone defined by trees

Spacing provides potential for 40' tree canopy, which could close above transit lanes.
Open House #2 Summary

On October 18, 2017 the 16th Street Mall Alternatives Analysis and Environmental Clearance project team held a second public Open House during two separate sessions at Regional Transportation District (RTD) headquarters. Nearly 50 community members attended the first session from 12-1 p.m., while close to 35 attended the 5-6 p.m. session. The same information was provided at each session.

There was a brief presentation where project team members provided the public with a process update and presented the screening criteria, the proposed alternatives and the evaluation of the current alternatives. The presentation was followed by a short Q & A. The Open House stations allowed stakeholders and the community an opportunity to engage with the project team. Stations provided a baseline understanding of the project schedule, environmental process and current alignment options.

Below are the current alignment options:

**Center**

Reconstruct Mall for buses to run directly down the center, with no median and with symmetrical pedestrian areas for the length of the Mall.

**Center Asymmetrical**

Reconstruct Mall for buses to run directly down the center on some blocks, with no median, and some blocks with asymmetrical pedestrian areas.
The meeting gave attendees the opportunity to provide input on additional screening criteria to consider, what they see as opportunities and challenges with the current proposed alternatives (including the no-build) and if there are additional alternatives they think should be considered. Comments collected during the Open House sessions as well as 143 comments submitted in-person and online, are included at the end of this document.

Below are the themes that emerged from public input collected during the Open House and from the presentation Q & A:

- **Center Running Alternative** – Over 40 percent of community members were in favor of the center running alternative. Many people state the center running is ideal from both a safety and programming perspective. The wider sidewalk(s) is viewed as more pedestrian-friendly, allows extended patio space, creates more opportunity for special events and features large public spaces including Denver Energy Center, Republic Plaza and Independence Plaza.

- **Pedestrian vs Transit Mall** – Community members continued to express an interest in converting 16th Street to a pedestrian only mall. Some would like to see it evolve into something more like a European plaza and/or promenade.
• **Paver Material/Design** – Several comments remarked on the historic preservation of the IMPEI design and its current design configuration. Many recognize it's outdated and needs to be updated and is dangerous due to its slippery pavers, but also stressed the importance of honoring the historic design and possibly extending the diamond pattern the length of the entire mall (to Union Station). Others suggested replacing the material with high quality concrete.

• **Trees/Shade** – Many attendees had questions about the tree health and plans to preserve the existing canopy. Some attendees were concerned with the amount of time it would take a new tree canopy to reach the condition of the existing canopy, and the loss of tree canopy downtown during construction of the project. On that note, with the opportunity for a new design, several said they wanted more trees along the mall, creating more shaded gathering areas.

• **Safety/Security** – Several community members expressed concern that the alternatives do not directly address personal safety in terms of the current transient population and police surveillance policy including panhandling, noise ordinance enforcement and loitering outside of businesses. Some suggested improving the conditions for first responders and mall security for example, designating locations where paramedics, fire trucks and patrol cars can be visibly stationed. Some suggested adding structures/barricades between sidewalks and transit to mitigate vehicle and pedestrian accidents. A few also suggested improved traffic signage/signals at cross streets to prevent collisions.

• **Bicycle Access** – A few comments continued to express a desire to add bike lanes to the mall. Several of which stated they would like bicycle access to extend to weekdays.

• **Construction Timeline** – A few community members asked about the construction timeline given the various alternatives. The project team noted that Construction could start as early as late 2019 or early 2020 with completion planned by the end of 2022.

Below are the results collected from the comment forms:

Attendees were given the opportunity to tell the team any additional evaluation criteria to consider, what they see as opportunities and challenges with each of the proposed alternatives (including the no-build), and if there are additional alternatives they think should be considered.

1. **Are there any additional criteria you’d like us to consider?**

While over 40 percent of respondents were in favor of the center running alternatives (see pie chart below), several said relocating the buses to 15th or 17th streets should be considered.
2. What do you see as opportunities and challenges with each of the proposed alternatives including the no-build? Are there additional alternatives you think should be considered?

Of the 143 total comments received, 68 comments addressed specific alternatives. Of those 68 comments, 30 are in favor of the center running option. That option was followed by center asymmetrical and then a rebuild, keeping the mall as-is and updating the city’s asset.

![Pie chart showing alternative percentages]

3. How well have we evaluated the alternatives so far?

Several community members expressed their support of the project and felt that the project team has done a thorough job evaluating the alternatives. Many felt the process was well balanced. At the same time, some community members stated that additional options should be considered, specifically in determining whether the mall should be pedestrian only.
Photos from the Open House and presentation are below:
1. **Are there any additional criteria you'd like us to consider?**

<table>
<thead>
<tr>
<th>Comment</th>
<th>Additional Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>I've seen the buses slide around when the mall is icy. Has this been considered when looking at the options where the buses run in the same corridor? It seems like this could result in accidents. It would also put pedestrians in a position to have to cross 2 bus lanes at once when crossing places other than intersections. What happens when emergency services have to drive on the mall and it has to be temporarily closed or blocked? Buses using the same corridor would most likely be stopped in both directions. Will access points for deliveries and hotels be moved from the mall? This could result in traffic issues too when everything is jammed into one corridor.</td>
<td>Reduce transit time from one end of the mall to the other. Civic Center to Union Station takes 25 minutes to transit and is sometimes faster on foot than on the mall shuttle. When commuting from the west side this adds 50 minutes/day to the commute.</td>
</tr>
<tr>
<td>I like the center asymmetrical, keeping the asymmetry the same all the way down the mall. Of course, the businesses on the side lacking the large amenity space will have less walk-in business. But if you make the less-amenity-space side the primary walking-to-shuttle side, you'll increase their chances of walk-in traffic. Mark that side as the walking side (rather than milling around), create many opportunities to cross the transit lane to catch the shuttle going the other way, including lit safety crossings that trigger the shuttle to stop. Can the shuttle be computerized like the one in the airport?</td>
<td>I like that bikes are not being considered as part of the equation. It is nice to be able to walk down one street and not worry about bikers coming up too fast passing me. Usability and accessibility are big. Currently when I'm on 16th street I don't even look at what is in the median between the buses. It is generally not easy to get to or I just miss it all together.</td>
</tr>
<tr>
<td>Maintain trees! They are vital the success of 16th street. I know you're already aware of this, but the pavement material is also important. I also know people are concerned about maintaining the design/artwork in the current paving stones, but as you know, they are incredibly slippery and dangerous (especially with buses passing every few minutes) when there is even a little rain, snow, or ice. That must be improved, although it would be great to maintain the design/artwork pattern, I suppose.</td>
<td>Keep the scumm sucking free loaders out of there. They make Downtown a horrible place to work.</td>
</tr>
<tr>
<td>No buses. Move buses to a loop on 17th Street and 15th Street with smaller vehicle pass throughs at nin arterial streets. The mall would be entirely for pedestrians, outdoor restaurant seating, vendors, and activity areas.</td>
<td>Move the buses to a dedicated bus lane on 15th and 17th</td>
</tr>
<tr>
<td>If the entire right of way was open for bike, ped and other amenities 16th Street it might be worth visiting rather than just passing thru. What do you see as opportunities and challenges with each of the proposed alternatives including the no-build?</td>
<td></td>
</tr>
</tbody>
</table>
On many days you can walk about as fast as you can ride the SLOW shuttle which makes it painful for commuting. What would be great is a high speed subway under the 16th St mall or on 15 or 17th which would allow it to be much more attractive to commuters. The subway could stop at every 3rd or 4th Street, not every street like the mall shuttle. Regarding the mall it is unclear what are the problems that need solving other than the underground utilities.

The winner is the central idea - absolutely. Both lanes of buses right up the center. Little concerned though of losing trees, planters and lighting aesthetics. Those along with kiosks would be expected of course to be included all along the 'curbs' of the new wider pedestrian walkways. I think relocating what is currently in the center to along the curbs should also help provide much needed demarkation of the bus lanes and will greatly increase pedestrian safety. Right now I see so many people stepping out right into the lanes because there is really nothing to mark them and people gravitate to the center activities. Its quite dangerous.

Prefer center running design with wide sidewalks and amenity zones to side. Consider improved bus stops with shelter, seating and info. Consider bus stops every other block instead of every block to speed trip from east to west. Could be done rush hours only with buses stopping every block off-peak.

Bike lanes.

How about a criterion to remove the mall altogether? It's really just an antiquated idea that's run its course. Get creative! Do something this is a joke.

The consideration that wider areas can be used a plaza like areas with public art/ kinetic installations/ fountains as well as better kiosks up and down the mall. These can be themed differently to create small public squares to break the distance of the mall. This works best with center asymmetrical!

No.

Ample shade on all pedestrian areas. Some of the cross-sections here look MIGHTY sunny on one side of the street.

With regard to "honoring the original mall design" and "maintenance" costs, I'd like to propose using concrete under the transit area of the mall with the colored pavers reserved for the pedestrian areas. I think that would keep the wear and tear on the pavers to a minimum.

Get rid of the buses completely! It will never be a nice, walkable street where people will mingle if you have giant buses flying down it. The buses kill the mall.

Accommodating bikes on the mall throughout the week should be an additional priority!

Please consider giving more space to pedestrians, the busses are too large and the motor-way should be less than 1/3 of the space allocated, closer to 1/4 of the space.

Alternatives to remove the bus lanes completely or schedule a 1 way road with buses every other lane and a bypass (like single alignment rail tracks). With improving GPS technology this can easily be accommodated. Especially with longer articulated buses.

Nope.

I request air quality for pedestrians on the mall be taken into account when locating the buses.
eliminate the buses on the 16th street mall all together! Other cities have made "pedestrian only" areas of the city with great success. I feel like if Denver wants to be a forward thinking city it needs a pedestrian only area. Run the busses on 15th or 17th. Make the mall kid, pedestrian, and bike friendly with more open air restaurant seating, art, playscapes etc. Maybe along the lines of Boulder's Pearl street? Please, please, please consider this option111

I think it's silly to spend money redesigning something that works pretty well. The only thing I would want to see changed is the design of the street surface — there should be a distinct visual difference between the sidewalk and the street so that people are more aware when they're walking into a street with traffic.

Why are bicyclists being excluded? Why not consider an option with bicycle lanes or a cycle track?

I think 'pedestrian place-making' should be considered with priority: wherever possible, the largest contiguous pedestrian areas should be created. This would allow for greater safety and more interesting amenities.

consider the use of pedicabs on the mall. a lot of the pedicabs use the same transport area that the busses do, and often drive in and out of traffic quickly. having a median in the middle and having pedestrian only areas means that there is no where for pedicabs to go.

Walking/ cart pushing on the current crumbling paver sidewalks with their bumpiness is not good but does hide all the gum and other gunk on adjacent concrete sidewalks. The whole district needs a sidewalk power-washing. Could bikes and buses co-exist in the no-median options? I am assuming that pushing amenities to outside the bus lanes does NOT include restaurant dining areas because I would not want to eat next to a bus lane. Taller, bigger trees would really help with the visuals.

I think it is critical that the city consider adding a designated bike lane on 16th St Mall. It would immediately be the best option for navigating through downtown.

Center.

Please force the outdoor restaurant seating into the Amenity space. This is possible under CO law. Simply walking down the mall is too difficult and crowded now with the fence obstructions, etc.

Yes, the buses make the mall experience unpleasant and dangerous.

BTW where is bike access?? Will those on bikes be able to ride along as well? People walking, People on bikes, And slower moving buses.

Center option for safety! My granddaughter and I head the the mall summer months. Current configuration is dangerous! The buses on both sides and traveling too fast to be safe.

Please don't cut down the trees. With out them it will be way too hot and no one will want to use the space.

Having the buses in the middle with amenity on either side will could cause issues between the people waiting on the bus and the people enjoying the amenity. I am for either fixing the existing model (which I find nothing wrong with, it just needs to be updated) or going with the Median Asymmetrical model.

do away with busses. Move all conveyance overhead (mono rail? people mover? covered moving walkway?) handicap access every 2 blocks.
Events. Which works best for events such as 5K runs, protests, Zombie crawl, etc.

Safety. People not paying attention and traffic that may not understand this is a pedestrian street. Emergencies - EMTs, Fire, and Police

Would like to have some shelters so when you wait for the bus in weather, you are protected from the elements.

Would be nice if it included an obvious way to bike down the mall. I think bikes are allowed on certain days on the transit lane, but have no idea what the rules are.

The pavers are SO dangerous when they get wet - I would love to see a solution to this problem. While I love the idea of preserving the integrity of the mall, especially since it was the vision of I.M. Pei, it is truly terrifying to walk when it's raining or snowing.

Have you considered eliminating the Free Mall Ride service, entirely? In all seriousness, a true pedestrian mall would be wonderful. Low stress. In a bustling downtown, a low stress area is priceless. A beautiful area with interesting architecture, mature trees that provide shade in the hot summer is wonderful. With more and more people living downtown, a large pedestrian mall provides quiet relaxing area where children can frolic without fear of being run over by a bus.

Eliminating the bus lanes would create needed cross-sectional space to alleviate the already crowded sidewalks. With all the sidewalk patios taking up the sidewalk space, the overflow of pedestrians is already spilling into the bus lanes - as long as it's safe.

Pearl Street Mall in Boulder. Third Street Promenade in Santa Monica, CA. These are both examples of relaxing and enjoyable pedestrian malls that exist, today.

Downtown streets are full of cars, buses and rails. Why not consider the tranquility and unique charm that a pedestrian mall can provide.

With the recent addition of the Free Metro Ride, losing the Free Mall Ride would be easier to tolerate. Consider increasing the hours of service for the Free Metro Ride for continuous midday usage. Perhaps consider using the Free Mall Ride vehicles for a downtown loop from Union Station to Civic Center Station along 15th (westbound) and 17th (eastbound) instead of the 16th Street Mall.

Really needs a bike lane to promote cycling as transportation in OT Denver.

There are many more qualified than myself to determine safety and environmental best use of the bus and pedestrian walk areas but I do have a suggestion as to the highest and best attraction potential. Add Music venues to the mix use of 16th street mall and extend the pedestrian draw to evening as well. Denver has a thriving and a diverse array of genres including great local musicians. Take the best aspects of big city entertainment and music districts like Austin’s 6th Street, Nashville’ Broadway, Dallas’ Deep Ellis & West End, Ft Worth’s Stockyards, Minneapolis’ Northeast Arts District and several other great examples. This would extend the economic impact and diversify the entertainment value of the mall and secure the location as a top tourist and local hot spot. I have seen this potential and thank you for the opportunity to input the suggestion.

I'm not sure if this falls within #4 under Social and Environmental Impacts, but I'd like to see opportunities to incorporate green infrastructure and low-impact development practices considered.
Undesirable behavior on the streets has tested a sense of security as a mixture of gangs, troubled youth, aggressive panhandlers, transients and rampant vagrancy occupy the 16th Street Corridor with frequency no matter day or night. Downtown issues such as safety and cleanliness is not just perception. It's a scary place which reeks of urine. For people who work Downtown, it's a terrible situation. What must tourists think of Denver given the impression left by the deterioration of the "Spine" of downtown.

A sustainable plan which includes visible uniformed presence or security is needed. It was added a few years ago and made a huge difference. Bike or beat Police or security on a regular, day-to-day basis is needed to enforce the law and ensure safety.

The area surrounding Union Station does not have the same issues. And I do see, on a regular basis, the presence of security - walking around inside and outside.

I am always worried that a walking pedestrian is going to get whacked in the head by the bus mirrors or a pedestrian is going to walk in front of a bus (because the floor tiles are the same color and style) you don't even know you are in the bus lane.

There should be some sort of buffer between the amenities/walking and the buses. See this link: https://streetmix.net/-/580805
The center structure to board, could also be an amenity zone.

The alleys between buildings are where drug dealing, other crimes, vagrancy and filth are occurring. Something must be done to limit access and/or to increase patrolling in these areas.

Important to consider design elements of the mall components to not only be attractive and durable, but also to be interesting to both visitors and regular mall commuters like myself. Should be flexible for future modification.

Sustainability should also be an important criteria, especially from a life cycle standpoint, and from the impacts on "livability".

The criteria is vague. It's impossible to judge its efficacy without further details as to what exactly these things mean.

It seems to me there is a complete lack of criteria based on "What Do the Citizens of Denver Want." Do the citizens feel this is a project worth doing? Do the citizens think all of this is necessary? Where does the project fall on the citizen's list of priorities for the city? The current criteria seems to assume the general public is OK with the whole plan and that it will be undertaken no matter what.

Design must preserve the existing trees. Are they accounted for in these schematics?

Will this impact the police presence at all on the mall. We live downtown and have very much appreciated the increase in police presence on the mall and that has done a lot to improve the atmosphere. Would not be happy if a change in the traffic pattern changed this positive effect.

The formal space for biking on the 16th street mall, either shared with the free mall ride or in its own space.

The aesthetics and sustainability of an new surface for the bus, bike and pedestrian areas, flexibility of amenity instillation, adjustment for seasons and events.

The option of running the free ride up and down 15th and 17th streets and making the mall all pedestrian and bikes.
This is not a helpful survey.
How much is this plan gonna cost? How long will construction last and disrupt businesses and traffic?
Assuming it's pretty expensive and will be time consuming, my gut is that this is a stupid waste of money.

The trees. Mature trees should not be removed in an attempt to fiddle with the design of the mall. Urban trees are difficult to grow and have a low survival rate. The fact that these trees are thriving makes them more valuable than a tree in more hospitable conditions. To replace infrastructure, maybe some trees could/should be removed. Pavement could be changed, but the trees that are now mature enough to provide substantial shade and have grown above the lights (which was a problem in the past) should stay.

What is the actual program of the corridor? Bus transportation, yes. Patio spaces? Pedestrian corridor, yes. Large group gathering area? Small group gathering area? Fairs, games, exhibitors? A more specific program of uses would be helpful in understanding why the options have been presented this way.

I don't see any criteria specific to cyclists. I think there should be a clear indication of how they are supposed to interact with the transit, pedestrian, and amenity uses.

I'm sure you are considering this, but I'd vote for a concerted effort to preserve the old and plant new trees. This is my primary concern with having buses only in the center: wouldn't we lose all existing trees?

Leave 16th St and Colfax alone. Improve what's there already with better lighting and signage and better crosswalks at intersections. Work on attracting local businesses this would add to the destination of the area. Bring back the police on horse back it has gone down hill since then.

Be sure to keep the mall equal to all businesses and the pedestrians for the entire length of the mall. As much as it might look nice in a plan drawing the idea to be asymmetrical. I think it won't be “fair” to the mall and as business come and go - we need - symmetry.

Why not have a super-asymmetrical option whereby some of the streets would have bus directly to the curb, like now, but with all of the amenities one side so you could have a park like feel on certain blocks (maybe adjacent to other parks like Skyline)?

Bicycle lanes

You have a chance to make 16th Street Mall a wonderful destination that would be used by residents and tourist alike ... but you have to CATCH A CLUE | The buses have to go ... there is not a responsible parent out there that feels comfortable taking their family to spend time on the mall with those buses whizzing by within feet of their loved ones ... Look at world class shopping destinations that forbid vehicular traffic...Third Street Promenade in Santa Monica is one example...Turn 16th Street Mall into a vehicle free space and expand the green spaces, landscaping, and outdoor restaurant spaces so that people want to come down and spend the day...

I would like to see the Pei designed granite stay. It is iconic, and an underappreciated and under recognized treasure. We have a beautiful work of art, and we should capitalize on it. If it means moving the buses off the mall, then I think we should. However, I think the real problem is in that we have never worked to get the setting of the stone right.

upgrading the current configuration: I love the diamondback design on the path and now that the trees are older, the shade is wonderful! Just because the Mall is ‘aging’ doesn’t mean it has to
change it's design: think Europe with their wonderful pedestrian areas that have been in existence for centuries!

| The alleyways should be encouraged for business development. Safety comes from eyes on the street. They are used as toilets because there is no reason for people to spend time there or look there. Fill them with cute nook bars and restaurants! Much safer and better for economic development than closing and gating them off. |
| Yes the signs that say 16th street mall are ugly for a mall. I think signs on the 16th st mall should be different from other city signs. Even a different color would signal Denver's main downtown street. |
| The mall needs to refresh some of the store fronts, move outdoor vendors (beer garden, pop-up restaurant, etc) |
| Add bike lanes? |
| I think a monorail should be considered, and if that's not possible, changing buses to trolleys as they are more unique and would add to the 16th Street Mall vibe. I also like the idea of a reroute on the perpendicular streets as opposed to 15th and 17th. The mall could "begin" and "end" at certain points where the buses stop on...say...Wazee or Curtis. |
| I feel like if the goal is to have people linger, this will not be accomplished by keeping the bus running on 16th. I have lived near Downtown Denver for 20 years, I usually go to 16th Street for the purpose to get on a bus to get from point A to B. I do enjoy when there is no bus because it forces me to walk and check things out. I was just in Munich and the pedestrian mall there really is enjoyable and a place you want to linger. |
| keep the buses as they are. |
| Adding additional seating should be a priority, as it increases the amount of time people spend on the mall thereby increasing the amount they spend. |
| I think trees are vital and seem to be ignored. Clearly, trees would have to be removed under all of the redesigns. What are the plans to replace them? And I think it is foolish to even think of keeping the pavers, which are cracked, dirty, a walking hazard to heels and have no grouting. Replace with cast concrete in same pattern. |
My perspectives are based on frequent use of the Mall. I often travel from Union Station to Civic Center both using the Free Mall Ride and by walking the full length of the mall.

1. Pedestrians at Intersections. The major problem I observe when walking the mall is the lack of control of pedestrian traffic at street intersections. Two things may help with this.
   (A). Smart light controllers that would recognize when vehicle traffic is light and would then shorten the green light for cars and extend the time for pedestrian crossing.
   (B). Does the technology exist to embed LEDs into the crosswalk pavement to show a solid red bar crosswalk to indicate that pedestrians should not cross? I recently saw a BBC report on testing such LEDs in London. Since so many people are looking down (at their phones) light signals in the pavement rather than on the corner light pole might be seen and obeyed.
   (C). Hang lighted sign above the streets that warn drivers that pedestrians may be crossing at any time.

2. Sidewalk Seating. There are many areas where the sidewalk seating has reduced the width of the sidewalk area enough to limit pedestrian flow. I suggest that these areas be changed to eliminate seating on the sidewalk but compensate by paying to open the walkways of the buildings to allow open air seating the building.

3. Unify the mall. Extend the I.M Pei design (pavers, lights, trees) to Chestnut street at Union Station to unify both segments of the mall. A possible compromise with the maintenance issue would be to use the granite pavers on the pedestrian areas and a compatible concrete for vehicle lanes. Can the PEI company do this design work to preserve the artistic integrity?

I like the flexibility that the center asymmetrical design offers. Another choice is the real estate bullet.

The existing conditions g-foot cafe is not a hard dimension.

Respondent circled Median Asymmetrical. Please make sidewalks smooth no gaps have some places designated for people who hang out there all day.

Respondent circled Center Asymmetrical. Curbs for Transitway (to promote safety).

Respondent circled Center Asymmetrical. Did not leave comment.

Respondent circled Center Asymmetrical. Get rid of the pavers. Keep the general public away from the buses for safety.

Respondent circled Center Asymmetrical. Colored surface - lower maintenance than pavers.

Respondent circled Center Asymmetrical. Did not leave comment.

Where would the bike rack be located w/ all of the different alts?

Construction impacts don’t seem to be a part of the criteria, however I do feel it should be.

Respondent circled Center. Granite is too slick. Dangerous could there be glass smoking structures like in Tokyo? (we are non-smokers)

Respondent circled Center alternative. The center option seems to best fit me.

Danger from buses having to adjust to new alignment at Arapahoe and Tremont

Would like more light

Would like more vegetation

buses are a hazard and should be removed entirely especially in winter driving

Center Asymmetrical to give the corridor intrigue and allow for better security for the pedestrians so they can’t barrel down the whole length.

Nothing additional

I prefer the Center option.
bikes, downtown is not very bike friendly. I feel like I'm always having close calls with cars and was going to bike on the mall to avoid that. Then I saw the signs for no bikes allowed and was really disappointed.

We just returned from Tokyo, where periodically along the streets in the city are glass structures for smoking. As a person who is allergic to smoke, but also understanding the controversy over smoking from two sides, I would like to see some solution incorporated.

I have always wanted to come to Denver so I was thrilled with the opportunity to attend a summit at The Curtis Hotel this week. My opinion is based on the area surrounding the hotel and the nearby mall area. I hope there are better areas of Denver because my impression has not been as I had hoped. The Denver that I have seen is dirty and I feel like it is a hangout for young adults foregoing employment and college to bounce in and out of dispensaries. While I knew marijuana is now legal here, I didn't expect it to be in my face. I jokingly said that the pot leaf is Colorado's State Leaf.

The souvenir stores are overloaded with "weed" leaf memorabilia. It saddens me to think of Denver as a city that is half asleep and a haven for pot seekers.

Historic preservation and impacts to this designed landscape should be a more significant consideration.

My wife and I watched homeless people urinating and the panhandling was a bit much—never go back.

Accommodating future transit/transportation opportunities such as driverless electric vehicles; smaller, lighter vehicles; and, all pedestrian and bike traffic.

Annual maintenance cost of other paving materials after 30 years.

Water runoff catchment like in Kansas City, diversification of tree species, attractions.

Safety - must have median between buses (east/west). Families/tourists may not look both ways when crossing streets. Lighting on both sides of street - dark areas exist due to old businesses who either don't have good light or turn it off after business closing.

I think maintaining a consistent flow through the entire distance will be better and safer than switching between existing and alternate sections.

My preferred option is "Center running transit". It makes the mall safer by eliminating the median "dead zone" between the transit lanes and increases the width of the sidewalks on both sides equally, allowing for wider sidewalk cafés and more comfortable walking on the mall.

I like the idea of the café having more room, but not at the expense of the buses running to close together. The granite is too slick for walking and the mall buses are sliding to stop and go in winter. I like the one design with a 26 in lane for the buses with a space separating the two.

Currently there are multiple ordinances involving the 16th street mall and Union Station that go uninformed: noise, cross traffic lights and speed, bicycle and skateboard access and safety, and jay walking.

None of these plans will meet their goals unless the scoff law element are made to respect the mall and follow the posted ordinances.

That is unlikely to happen with civil engineering but will require community (walking the beat) policemen and women, security men and women, familiar with the area they serve.

Curbs save lives. Buses slide on the granite in the winter. They need "bumper guards" to keep from sliding into pedestrians and sliding into each other.
a. Criteria is ok... all should not be weighted equally. Historic/social value of this iconic/elegant design and wise management of funds should be highest priority, changing as little of layout, surfacing, trees and lights as necessary. Some small modifications allowed for current tech/best practices but limited to minor surface or subsurface treatments.
b. Keeping 4" curbs is ok.

Minimal tree kill.

Under safety, I think the surface used should be considered. The current pavers, some painted concrete, etc. can be very dangerous when wet or covered in snow.

I would like to see more vocal and visual input from the City of Denver at meetings like today's. It seems to me that the 16th Street Mall ought to be a "vision" for Denver (especially as downtown and the greater Denver area grow) rather than a vision for RTD. The "mall" as a transit corridor ought to focus on becoming a welcoming pedestrian corridor rather than a bus corridor. I fear that with RTD driving (no pun intended) the discussion (as evidenced by today's meeting), the option of a bus-free corridor is not being seriously considered. The appeal of a truly pedestrian gathering place cannot be underestimated. The length of the mall should not be a deterrent, but an incentive. Cities (like Stockholm, for instance) CAN have a vibrant and extensive pedestrian mall that is free of bus traffic and supportive of people traffic.... IF they have the courage to think outside the box and engage in a truly collaborative (businesses, residents, downtown-development organizations, environmental planners) dialogue that leads to action "for the benefit of all," rather than for special transportation interests. See below....

Don't waste tax payer money by completely re-designing the 16th Street Mall! Don't alter the current transit routes on the 16th Street Mall! There are far better ways to spend the millions and billions of tax payer dollars than to waste them on a re-design of the 16th Street Mall. People don't stay away from the mall because of the design and the transit. People stay away because of the conditions down there. #1. It's downtown. In addition to myself, there are a number of people that want nothing to do with downtown. It's dirty, it's crowded, it's unsafe, it's overpopulated, and as far as housing goes; it's completely OVERPRICED! #2. I won't go to the 16th Street Mall because it's unsafe. I don't want to go down there and worry about some transient or homeless person with a psychotic break beating me at random with a pipe! Further, I don't like going down there and having people constantly approach me for handouts, money, etc. #3. It's dirty and nasty. I don't like walking the mall and smelling the fetid, rancid, aroma of urine that emanates from some of the alleyways down there! It's disgusting! #4. A further reference to safety. I don't like riding the mall shuttle or for that matter ANY RTD transportation option with the methamphetamine addicts, the heroin addicts, and the other types of drug addicts that frequent the public transportation system!

As a shuttle bus driver on 16th, pedestrians need to be reminded to obey all traffic laws and that 16th mall is NOT a pedestrian only mall. Trains have friendly reminders for foot traffic, why not the mall???

Reduce cafe seating to 7 ft in the existing rebuild scheme in order to get a 10 ft walking zone.

Thanks for your attempts at improving the 16th St. Mall. The shop owners will have major comments on their challenges-listen to them. I worked at the Republic Plaza—my biggest complaint was walking to the Mall and dodging bicyclists. Some weave in and out of pedestrians and ignore lights. Please do not mix bike riders (professional, tourists, mobile street people) on the Mall. The other reasons I don't like going downtown anymore is poor parking and unmotivated youth enjoying the drug culture.
Thanks for the extensive outreach. I attended yesterday’s meeting at RTD. The criteria are very comprehensive, no need to add more.

Emergency vehicle parking/access. There are times during which the Paramedic Division (as well as the police department and fire department) will need to both access the mall via 16th St and will occasionally need to be able to park our vehicles to attend to patients. Designated locations could potentially facilitate our access and maintain continued mall shuttle operation.

Improve what's there already with better pedestrian crossings at intersections and alleys. Improve lighting and bring back the Mounties.

Historic integrity of the I.M. Pei design including the granite pavers, light and tree design. I value the Mall's detailed and high quality design and believe preservation is an important factor.

The criteria "effect of tree location on health" is ambiguous- what does it mean?

Why isn't "preservation of existing tree canopy" a criteria? Any other street in the City would have this as a top priority.

A dedicated bicycle lane. 2-way, preferred. This is the PERFECT place for tourists to rent a b-cycle and cruise. Sidelining them to 15th or other streets requires that they know where they're going and have looked up how to get there. They should be able and encouraged to slowly cruise 16th, see shops, decide to stop, and spend their tourist dollars on the mall.

Has placing the shuttle system under the Mall been considered?

I think under safety, pedicabs, bicyclists, skateboarders who would use the mall as well. Where would they fit in this equation, or do they not fit?

Very clearly. I understand that trees will need to be replaced, no matter what. After considerable reflection, I prefer the center asymmetrical design as it will provide for more pedestrian interaction without have to cross the bus lanes.

Effective signs at each intersection and along mall informing of mall shuttles/other vehicles. Tourists don't know to stay out of the traffic lanes. Many pedestrians are walking while reading/texting on cell phones. I've been on the shuttles when some just stand in the traffic lane reading/watching their cell phones. They don't even hear the warning bell of the shuttle. Skateboards zoom in front of the shuttles.
While the attached letter of the Denver Architectural Foundation makes a significant case for the retention of the primary design elements of the Sixteenth Street Mall, I believe that there are other issues that should be considered of a more practical nature. Those issues are in the realm of cultural, technical, cross-section design, and functional considerations. I will group my comments into those categories to address those issues.

01. Culture
We, in the United States, seem to have different perceptions of safety issues than the older, more sophisticated cities in Europe and Asia. Cities as diverse as Paris, Vienna, Zurich, Bern, Basel, and Milan seem to be able to have public spaces being comfortably shared between pedestrians, private vehicles, and rail transit. Denver, however, seems to be frightened of liability concerns resulting in the perception of need for strictly separated spaces for vehicles and people. I believe this attitude results from forgetting the innate ability of humans to adapt to perceived conditions.

I remember that, long before the Mall, 16th Street had a very tight mix of pedestrians, cars, and two lanes of marvelous old yellow streetcars. None of us ever gave a second thought to dodging that incredible mix! Now, in the 21st Century, we are implementing a shared economy where vehicles and residences are now viewed as almost community property. I believe that the compulsive concern for separation of pedestrians and vehicles needs to be viewed through the lens of sharing as well.

I am attaching some images of shared spaces that I have taken during my recent travels to illustrate highly successful shared spaces in cities that have more complex mixes of modes of transportation than Denver. Please note that there is no lingering on Zurich's Bahnhofstrasse, the most expensive street in the World, according to the locals.

02. Technical
The granite pavers have become a contentious issue in the consideration of the future of the Mall. The historical issue of the paver pattern has been well documented and still has a prominent call out in the current website of Pei Cobb Freed.

Granite pavers have been historically the choice of many cities throughout the world. The technology does not have to be reinvented. We need to learn the appropriate ways of placing and maintaining them from those cities with hundreds of years of experience. Clearly an impermeable substrate is not the most sustainable way to lay granite pavers.

I have seen a recent recommendation to solve the issue of utility access by boring an accessible tunnel beneath the mall to carry all utility lines. With that concept, the surface no longer has to be torn up to make repairs and upgrades to those systems. Many World-Class cities have had such utility tunnels for hundreds of years.

03. Cross-Section Design
Design within the right-of-way cross-section should be approached with the idea of goals, rather than restrictive regulations. Perhaps too much of the ROW is currently taken up with a median, at the expense of the pedestrian.
way. I believe, however, that the retention of some portion of the median to encourage the concentration of kiosk shops and food stands might be more desirable than spreading them out at street corners. It could provide a respite in the continuous pedestrian flow.

04. Functional
A mix of higher quality restaurants would be better than just the concentration of fast food purveyors that currently exists. Such a mix would add a more cosmopolitan air, as well. Flexibility in width, rather than rigid control of outdoor eating areas would certainly allow for a more relaxed atmosphere.

One more thing, I remember the 16th Street that had a mix of higher end and more economical shops, as well as large department stores. Now that Downtown, the Golden Triangle, LoDo, and RiNo are developing significant concentrations of residents, I believe that another way to diversify the use of the Mall would be to encourage a greater variety of retail within the storefronts. I'm sure many center city dwellers would welcome the possibility of not having to make the inconvenient trip to Cherry Creek to diversify their shopping choices.

More Green Spacel.
To get trees that are represented in these pictures you will need minimum of 1200 cu ft of soil volume/tree and many years of constant care and maintenance.

I wanted to reach out to you as a concerned resident of the central business district neighborhood, and as someone who walks the 16th street mall several times a day.

In light of recent events, I think it would be wise to get some kind of barricade or concrete posts along the curbs and sidewalks to prevent cars from driving on the sidewalk. I am always concerned with the large amount of foot traffic with no blockage from cars and other vehicles. Obviously, there still needs to be a clear path for the buses, but something that would prevent cars from driving up onto the sidewalk would ease my concerns and prevent a tragedy in the future.

If you'd like a quick sketch or diagram for what I am suggesting let me know, I'd be happy to mock something up in Photoshop.
Dear Mayor Hancock,

I hope this email finds you well. I recently moved to Denver from New York and am incredibly happy to call this wonderful city home. As I got off the light rail at Union Station this morning and proceeded on my normal walk up 16th Street to my office, I couldn't help, in light of yesterday's incidents in my home town, but be more aware of my surroundings than usual. One thing that really struck me as I walked up the mall was the lack of structural elements preventing vehicles from getting on the sidewalk. I did notice the large planters, however there are no barricades strategically placed at the corners. These seem to me to be the areas that most people would congregate to wait for a light to change and where it would be most likely that a vehicle could turn off of a side street onto a sidewalk.

Admittedly, I may have been a little on edge this morning, but it is something I thought worth noting. In the course of only a few months, I have seen so many wonderful events take place up and down 16th. I think it would be greatly beneficial to add such structures, as they will only add to the security and safety of this large, pedestrian area within the city.

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2. What do you see as opportunities and challenges with each of the proposed alternatives including the no-build? Are there additional alternatives you think should be considered?

<table>
<thead>
<tr>
<th>Without knowing what types of amenities are planned it is difficult to imagine the use of additional amenity space. All I see is additional space for the homeless and vagrants to set up shop.</th>
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<tbody>
<tr>
<td>The homeless/meth addict problem will not change with any of these so that has to be addressed. Riding the shuttle with homeless people is difficult, more so than in NYC or other big cities. You have to create a place for them that is more attractive than the mall.</td>
</tr>
<tr>
<td>Reduce the number of streets crossing the mall with cars. Provide a public transportation system that is independent of the traffic, traffic lights, and all intersections. Use subway or overhead monorail or run surface rail under the crossover streets with stops at the surface on the mall. Place stops such that they are accessible within 5 minutes walking time. Provide parking garages at strategic locations such as either end. This would reduce downtown traffic congestion, make the mall space a more pedestrian friendly environment, enhance use of public transportation in commuting, and increase accessibility to businesses and restaurants from one end to the other.</td>
</tr>
<tr>
<td>I don't know that changing 16th Street's layout is as big of an issue as cleaning it up and promoting more local businesses. I tend to not go to 16th because of the homeless problem and the fact that most of the restaurants and stores are a chain. I can go to their other locations in the metro and have a much better experience. I would probably go to 16th street more and bring visitors, if it were more of a one stop shop for everything local. Local restaurants and shops that I couldn't find anywhere else.</td>
</tr>
<tr>
<td>Activating median space. Let's get people eating and drinking and playing under the wonderful sunny skies!</td>
</tr>
<tr>
<td>Crossing transit lanes to get to amenities doesn't work. I think we've already seen that. While some go into the middle now to get food, it's unnatural, and the buses are an obstacle. Running transit down the middle seems to offer a great opportunity for more variety and success in the amenities (great for little market-style shops, e.g.).</td>
</tr>
</tbody>
</table>
Why not stop the mall busses from bunching up on each other? Make them stay at least 1 block away from each other. How well have we evaluated the alternatives so far? Horrible when there are 4 plus buses at Colfax and Broadway and none on the mall and more joining them. What idiot is in charge of the knucklehead drivers?

| Buses and pedestrian clashes. Move buses to loop as noted in comment above |
| The no build option would not require months of construction. The realignment options do not appear to provide any new benefit. |
| To me the mall is fine as is except for commuters. The biggest problem of the mall is not the infrastructure but some of the unsavory characters who discourage others from going downtown for entertainment. |
| Must include two-way designated bike lanes - please! Also, just want to have concern to keep the sidewalks from being too cluttered. How well have we evaluated the alternatives so far? One more option...To minimize traffic congestion and to increase pedestrian friendly atmosphere on 16th - why not consider running the shuttles just in one direction on 16th - (From Broadway to Union Station) Then shuttles running the other way - can head up 17th from Union Station to Broadway. This will create a flow 'loop.' |
| Prefer center running design with wide sidewalks and amenity zones to side. Add improved bus stops at major activity, high ridership and transfer points. Provide opportunity for informal gathering, events, public art, street vendors and unplanned/unprogrammed space along mall. |
| Definitely prefer all traffic down the middle and amenities/walking on the sides. Safer for people. |
| The challenge is they preserve the mall. The opportunity to improve other parts of downtown are being lost. |
| Get rid of the mall ride on 16th st mall all together and make it a purely pedestrian area. Offer mall ride services on the flanking streets. |
| put the buses on 15 / 17 or center |
| Thinking of the mall as a series of connected zones each needing a weenie focal point. That a relatively straight path is important but that an absolute straight path is boring and tiring for pedestrians, and makes the walking distance "longer". Again working to provide transitions to the length while maintaining it being variations on one theme is important. |
| I think there's been a lot of research done on this project, and I do agree something needs to be done. Space could be better used along the Mall, the middle is a bit wasted and there's a constant fear of being run over. Concentrating the shuttle lanes provides more room to maneuver. While as a pedestrian, I would prefer the Center Symmetrical, I know there are certain blocks that may work better with Center Asymmetrical. Either way, I believe one of those two are the better options as opposed to Median Asymmetrical or no build. |
| Keeping trees alive and providing shade is a key challenge that must be met |
| With regard to "honoring the original mall design" and "maintenance" costs, I'd like to propose using concrete under the transit area of the mall with the colored pavers reserved for the pedestrian areas. I think that would keep the wear and tear on the pavers to a minimum. |
| Get rid of the buses completely! It will never be a nice, walkable street where people will mingle if you have giant buses flying down it. The buses kill the mall. |
Median Asymmetrical seems to be equally pedestrian and bus friendly with amenities mixed in and this has a more "welcoming" feel. The Center option seems more divided and possibly less safe for pedestrians. But the Center option seems like it would be faster and for the buses.

Seems like no additional space for people has been created... an additional alternative of a one-way larger bus loop should be considered, re-routing one bus to 15th street. No-build is not an option. Asymmetrical is better, so you at least get more than one experience throughout the length of the mall.

I would like to see the bus lanes moved off the mall to 17th and 15th streets.

I like the center asymmetrical design. First, connecting the amenities to the side walk makes them more accessible. Second, the larger areas allow for bigger things. Maybe just art on the more narrow strips.

A median between bus lanes is useless. Who wants to relax between two lanes of moving traffic? With restaurants pushing for outdoor space on the sidewalks, the center and center asymmetrical are much better options.

I like the divided parkway of median asymmetrical. It makes it easier to cross into the amenities in the center (only have to look one way). However, the consequent narrowing of the sidewalks makes it feel like you always being pushed out into the road to be clipped by a bus mirror. Narrower median (parkway), wider sidewalks would be my solution. Barring that, center works, but would make casual jaywalking more dangerous.

I would like the city to consider moving the buses off 16th street to create a true pedestrian zone.

I think by keeping the bus on the 16th street mall (for parents especially) it makes the mall less attractive and safe. Who wants to sit outside at outdoor seating at a restaurant and inhale the exhaust of a bus driving by? What parent can truly relax on the inside "median" watching their kids play knowing that a bus might drive by any second? Think of all the awesome possibilities if the bus was taken out of the equation! Farmer's markets, outdoor art markets, a welcoming hang out spot, an extra PARK - which is something that is significantly lacking downtown.

Another challenge of an asymmetrical set up is that retail on the non bus side might seem more attractive than on the bus side thus making the quality of businesses skewed on the mall. Just a thought?

I think it would be too confusing to have different designs on different blocks. Have one design for the entire length.

Removing the buses from the mall would enable a huge improvement to the public space, far more enjoyment by the public, and much greater pedestrian safety. Just move the buses to 15th and 17th Streets. People need to walk more anyway for their own health.

Yes. Consider space for bicyclists. Please add the transit shelters to the cross sections to understand their relative size and scale.

I think we should consider getting rid of the mall ride, possibly replacing it with busses around the mall. Ideally, it should be pedestrians only, or pedestrians and bikes only. I think the Center Asymmetrical plan is the best of those presented because it provides the largest contiguous pedestrian areas, which seems to increase safety and comfort. Ideally pedestrians should be able to be as far as possible from the bus traffic.
Center asymmetrical has the best chance to break up the too long-linear nature of the mall and make use of selected alleys. It also allows for eventual replacement of buses with smaller, more in scale people-movers, whatever that might be.

As mentioned in the previous comment, any proposal should include bike access in the form of a designated bike lane, perhaps alongside the transit corridor.

Please choose the “Center” option. The opportunity is for a better pedestrian experience.

Yes, remove the buses.

Why can’t you just leave it the way it is? You just can’t replace big tree with little new ones.

I don’t see additional alternatives, but I do believe the buses should stay in the mall area and not be diverted to surrounding streets.

It might be safer if there was some kind of “soft” or partial barrier between transit and pedestrians. I work downtown and frequently see people almost get hit by the shuttles. Maybe low shrub walls or something with a cool, low design.

Opportunities: You’re missing the opportunity to get public feedback on the idea of removing the Mall Ride service from the 16th Street Mall and creating a world class pedestrian mall. The old Mall Ride service is just not as necessary, any more. Yes, ridership is high but that doesn’t mean that it’s needed. Ask the riders if it’s a need or a luxury. Maybe that will sway your ideas on keeping it or not. Most of the people I speak with, who work downtown and use the Mall Ride to get to/from Union Station, often have bad experiences on the Mall Ride - crowded, hot, slow. They often say they choose to walk, instead. That’s actually a great thing - more walking.

As for providing an accessible means of transportation along the mall, that should be discussed with the City. What if it went away? What would be the impacts? Could other services make up for the loss - expanded hours for Free Metro Ride, Free Mall Ride along 15th and 17th? Accessible sidewalks, ramps and crosswalks along the 16th Street Mall already exist but they could be enhanced.

Transit lanes together makes for a wider path to cross and peds need to look both ways. I like the safe space in the middle now because it makes it easier and more casual to cross. I don’t really see a problem with the current layout mostly. Besides a facelift, the main issue is that there are blocks that are dirty/very low-end/empty. The amenities can be great but if they’re in front of an ugly or at least not well groomed curio/souvenir shop, the Mall isn’t going to be better than it is now.

I wonder if the median asymmetrical alternative is really that much different from what exists today. The Gehl study mentioned the fact that 16th Street needs more space for pedestrians, and I don’t really see how that alternative would provide it. I would like to see alternatives that maximize contiguous space for pedestrians. The center and center asymmetrical alternatives seem to achieve this best.

Another alternative that I would like to see considered is for shuttles to run along 17th and 15th Streets, and using the space currently occupied by the shuttles for pedestrians or activity. Perhaps this would not be an appropriate alternative throughout the entire length of 16th Street, but I think should be considered in the highest activity areas. This also would create more pedestrian traffic on the side streets along 16th Street, emphasizing connections with other districts in/near downtown.

Take the shuttles off of the mall. Give the whole thing to the people.

Increase rents and solicit a better variety of retail and services to improve the selection of vendors available to tourists and residents. We need a “Miracle Mile,” like Chicago.
We also need more stores like Target as well as doctors and other support services to sustain the influx of downtown city dwellers.

Favor an asymmetrical alignment over a more static symmetrical one as is more visually interesting and it allows for larger amenity areas on some blocks.

Median asymmetrical alignment retains current relatively narrow pedestrian area which leads to frequent conflicts between mall busses and peds.

Taking the buses off the mall is essential to an enjoyable and safe pedestrian environment. As long as the buses travel up and down the mall every few minutes, the "linger" will never exist. Even if we are able to completely eliminate the possibility of accidents, there will still be the unpleasantness of the exhaust, the horns and the crowds of people waiting or exiting. There are many different ways in which this could be accomplished, and many different options for truly activating the mall space.

There is only so much space and only so many ways it can be configured. The current proposals look as if they have taken into account the most logical configurations.

While it simplifies the circulation, center bus lane remove the charm of the center "garden rooms" which could be enhanced with more native drought-resistant education. A plant heavy design in an urban environment is always appreciated. The existing container plantings are beautiful, but require frequent water. Native plant matrices placed in thoughtful ways throughout the redesign would really take it up another level. Is it possible for stormwater to be preliminarily detained in planted swales?

See: Biophilic Cities http://biophiliccities.org/

Although the no build might save some dollars, I think it is time for a fresher look downtown. And it seems that maybe some of the amenity areas might be better used if they were off to the sides of the mall bus lanes (i.e. with the center design).

How much does any proposal cost?

If this is relatively inexpensive and could be completed quickly with little disruption to the businesses, it could make the great outdoor 16th st Mall better, but it's pretty great as is...

I like the design the way it is, in part because of the trees in the central core, plus the visual interest in having so many different areas provides. Being in the center amenity zone isn't ideal but it also expands the activity across the entire street section instead of isolating it to the sides.

Additional alternative:

I think a center option with the amenities remaining close to the building is a better option than pushing them towards the busses. This would work better for the "amenities" that are primarily restaurant patios, as well as the circulation and movement of the pedestrians up and down the mall and to access the busses. Plus, who wants to sit on a patio with a bus whizzing past your ear?

If the amenities are for the private businesses (patios, all options should include those adjacent to the building, yet none of the amenity zones, except the first one are adjacent to the building. Think about the efficiencies in operating a restaurant with a patio, talk to those stakeholders. If these are public amenities instead of restaurant patios, what type of amenities are we talking about? Do we really need blocks of these public amenities at the expense? In addition to the improvements in Skyline Park? If it is more of the same amenities already provided in the central corridor, why move it?

I think you should consider also utilizing alley-space on either side of 16th Street for additional amenities / pop-ups as well as public art spaces.
THE FUTURE OF DENVER'S 16TH STREET MALL

Leave 16th St and Colfax alone. Improve what's there already with better lighting and signage and better crosswalks at intersections. Work on attracting local businesses this would add to the destination of the area. Bring back the police on horse back it has gone down hill since then.

The transit in the middle makes the most sense for safety. The addition of amenities next to walking makes the mall become visually and maybe physically larger, more like an European plaza.

No build is pretty although the center island is really wasted space. The contiguous iconic IM Pei design would be compromised with a center asymmetrical design. Regardless of re-design, the main factor in the success of the mall is the lack of residents living there. 10,000 new micro-units in the buildings along the mall would transform it into the vibrant space everyone is looking for.

Make this a vehicular free zone...increase the green spaces, landscaping, and make this a space running thru downtown where you want to bring your family and guest and spend the day...

The challenge is always keeping unwitting pedestrians from moving into the path of the buses, and keeping the mall interesting and accessible to regular people, so that it doesn't become a no man's land of druggies and beggars.

problems with changing the design is that all of wonderful trees will be lost - it will take another 25 years to feel inviting; the new schemes will not accommodate any more people than this original one; by putting the buses next to each other, it will create more of a feeling of tightness, rather than openness

Also it should have bright lighting. To be a city that thrives at night people need to feel safe and nothing else makes people feel than a brightly lit MALL.

the biggest challenge would be impact on the day to day commute

In all cases, the infrastructure must be secure. I also like that there is Pei tiling on the street, but it is dangerous. Could safer tiling be put in place by another artist instead of a "cheap" alternative? I like the mall as-is with the median asymmetrical section. It's very different from other cities and really makes pedestrians feel welcome. I don't like the center layout. While it allows for the broadened sidewalk, it really affects visibility to both sides of the street and takes away some of the unique character of the mall. I like trees in the center not just road. For the same reasons as the center layout, I don't like the center asymmetrical layout, although I prefer this to all center. It at least has a tad more creativity than full center. My preference is keeping the current layout with upgrades.

I am torn on the layouts. I like the median asymmetrical or center asymmetrical as the sidewalks will be wider. Currently on a busy day, I feel like I am going to be run over by a bus when sidewalks are packed. On the other hand, I feel the blocks with the larger tree's in the middle are more welcoming and contribute to the linger factor. If everything is going to be torn up for underground work and the tree's all replaced, then maybe it's a moot point.

It's looks well planned currently.

The challenge will be moving landscaping features, which is difficult and expensive as well as environmentally irresponsible. Even more economically and environmentally irresponsible would be to dig up existing landscaping features, trash them, and buy all new ones.

Personally, I would put a rail line in and run trolley cars down the center, which are more interesting and could even be single tracked in some blocks. But even double tracked, rail would be a better "people mover," a horizontal elevator. The cars could be turned in a "y" configuration at each end.

I love the idea of the buses nearly touching, more room to play in! Lersser chance of being hit.
It's not that IMPEL's design should be saved. It's that the mall as it is should be saved because it is there.

No build: pavers are horrible and unsafe. Must comply with FTA transitway funding requirements.

No, Center seems best for the mall.

The public.

I would support the center bus alternative. I think this would deter pedestrian j-walking and reduce vehicle - pedestrian conflict. It's much easier to cross the street anytime now with the median.

I'm most excited about the center option that would create continuous bus lanes the entire length of the mall. Creating opportunities for gathering places should also be prioritized.

Participation of Biz owners/ Restaurant owners. They can be great ambassadors for this project. All of the proposed alternatives are good options/ I am geared towards "Center " all the way along.

No-build- is this the rebuild? Don't support rebuild. And lovely pattern is not obvious at street level, didn't realize pattern, for the first couple of years, (we live downtown and walk the mall everyday).

What will happen to business while construction is ongoing?

remove buses entirely and run buses in loops normal to 16th street mall with drop offs at corners. This would be the most cost effective solution and would not involve destruction of existing center lighting and trees. Loops would allow pick up of people from adjacent streets/parking to drop off on mall. Loop could branch 3 to 4 blocks either side of mall and could extend several blocks parallel to 16th. Ensure bus loops do not overlap and that they stagger in time to pick up riders. This is much safer and does not interfere with the predominant purpose of creating pedestrian space on mall.

GET RID OF THE STINKING BUSES AS PROPOSEDDIII

Center alignment is best, no idea why others would be considered unless there is a significant business case.

They mayor's office should be on the 16th mall so they have to live it/walk it everyday. More government offices on the 16th street mall that directly relate to this and other civic/city planning. Offer homeless education next to the civic leader offices to get homeless some opportunities downtown.

Get Google or Facebook from Boulder to the 16th street mall and blend new technologies on the 16th street mall like Video Walls showing Bronco games, advertising civic volunteer opportunities, charities.

Bring High Tech workshare like Galvenize and others to the 16th street mall.

The opportunities with the center option is the best. It treats property owners on either side fairly, and puts the transit lanes together and out of the way of people and their recreational experiences.

Any alternative that destroys the existing layout or original materials/design should not be seriously considered. Modernist designed landscapes are increasingly under attack - Denver should learn the lessons of Skyline and the inferior public environment that now exists - and do everything possible to protect the 16th Street mall.

Rehabilitation of existing configuration

Retaining the granite pattern

Giving priority to pedestrians rather than transit

Challenge is to make sure these proposals address the issue of attracting people to the mall area and making it easy for people to reach the mall area.
Keep IM Pei design of pavers, trees are very important in the summer for shade. Safety - must have median between buses (east/west). Families/tourists may not look both ways when crossing street(. Lighting on both sides of street - dark areas exist due to old businesses who either don't have good light or turn it off after business closing.

<table>
<thead>
<tr>
<th>Keep IM Pei design of pavers, trees are very important in the summer for shade. Safety - must have median between buses (east/west). Families/tourists may not look both ways when crossing street(. Lighting on both sides of street - dark areas exist due to old businesses who either don't have good light or turn it off after business closing.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The no build/existing just cuts the center area off. I think any of the options getting rid of the center median will be an improvement and increase use of the mall.</td>
</tr>
<tr>
<td>The current mall is Ok with me even after a fall tripping over a paver. The major problem living in the area as a pedestrian and RTD rider is the buzzing done by those on wheeled conveyances.</td>
</tr>
<tr>
<td>The problem. Of public restrooms isn't being addressed. Most. Of the stores that used to allow. Use have stopped. Ross, TJ Max no longer allow use. Starbucks allows but only with purchase. I was in line behind 8 people around 6:00 in the evening the other day. Visitors that were here for the Beer Fest were. Amazed that Denver' didn't feel people needed to go to the restroom.</td>
</tr>
<tr>
<td>a.Challenges: Costs/mall disruption/problem not as large as proposed alternatives suggest... b.Opportunities: embrace iconic/elegant mall fixing only those elements impacting transit maintenance. c.Add Alternative: Rebuild with minor modifications. Gain additional transit/ped space through modification of patio widths. Tree criteria based on optimal not practical.</td>
</tr>
<tr>
<td>If the “no buses on the mall” option is not on the table, there is still a way to preserve, respect, and honor I.M. Pei’s design with the mall corridor envisioned as a public gathering space. This involves taking a risk and daring to do something bold to achieve the safety and mobility concerns that the current mall situation poses. Doing a feasibility study for elevated transport in the center of the mall corridor deserves serious consideration. Consultation with cities like Miami and Seattle that have elevated transport in their center-city environments would be important. Yes, cost for such a plan could appear daunting at first. But the long-term benefits far outweigh the initial financial outlay.... and incentives for businesses along the corridor to become part of the “transport partnership” could be incorporated into the planning and financing. Visually, the new transport delivery mechanism would draw attention to I.M. Pei’s “rattlesnake” design.... Further, buses on the ground would no longer “block” or interrupt the visual image of the pedestrian space. In addition, a raised transport option would bring new perspective to reaching the mall corridor's safety and mobility targets.</td>
</tr>
<tr>
<td>Rather than flushing millions or billions of tax payer dollars down the toilet on re-designs of the mall, spend that money to increase security, to increase safety, to clean up the mall and the nearby alleyways themselves to mitigate the fetid urine smell. Enforce the prohibition against marijuana smoking in public. The smell of marijuana smoke makes me wretch! Stop the panhandling and the begging. Get the drug addicts off of the public transit.</td>
</tr>
<tr>
<td>Bus lanes separated by a median might look nice, but the human space in that median is pretty miserable with the buses running on either side. I wouldn't hang out there.</td>
</tr>
<tr>
<td>Any of the completely new cross sections will not only cost hundreds of millions of dollars, but they will put out of business or severely hurt most of the businesses along the Mall during the construction period.</td>
</tr>
<tr>
<td>I see the “Center Asymmetrical” alternative as having the best combination of wider sidewalks and reducing the bus roadway throughout to 24'. Restoring/adding trees will greatly enhance the Mall experience.</td>
</tr>
<tr>
<td>We see the elimination of the median area as a major improvement from a safety standpoint (both for when we contact patients in the median and, in general, to avoid placing pedestrians in a ‘limbo’</td>
</tr>
</tbody>
</table>
area). We are neutral regarding the center vs center offset models. The rebuild is a maintenance of status quo from a safety/EMS access standpoint.

If anything Extend the free Buses up Colfax or 16th all the way to East High school. Look at what extending into Lodo has done.

The money should be used to maintain the transit-pedestrian Mall as it is and to address the social issues along the mall. A re-design of the mall will not solve the safety issues that are on the forefront of the public's mind.

I don't understand why you would tear out the existing trees to run the busses down the middle. Abandoning 35 years of tree growth to "shuffle the deck" of elements seems foolish. If there are sections of less than healthy trees, figure out the issues at those location, then remove & replace as necessary. If there are "dead zones" of activity, figure out how to improve them and add excitement.

I could see the businesses raising objections to having the buses closer/further from them, particularly since patio seating is becoming so popular. Perhaps then asymmetrical would ruffle feathers. Perhaps allowing patio space in the alleys could be an option. The alleys on the mall are fantastic! Closing them is reducing eyes on them and therefore reducing safety. Opening them and creating interesting space to be and look would increase safety and could be an elegant solution to businesses wanting more patio space or entrances.

None of the surface shuttle options solve the operational and public space options as well as removing the shuttles and placing them underground.

My favorite alternative is the Center alternative all the way down the 16th Street Mall. I think it will bring equal economic ability to both sides of the street. Americans With Disabilities will be satisfied that the criteria they have for sidewalks has been satisfied. The best part is the amenities are between the shuttles and the people. I think this is going to really help the look of the center of the mall. It will not look so cluttered and will keep the people safe. I also appreciate the shade the trees will provide while I wait to catch the shuttle. The history of the mall will be best preserved with this alternative. I was present when the gentleman gave feedback on the history of the mall. The original designer would expect change to occur. I believe the center alternative bears this in mind while keeping the integrity of the mall. It's a modernization of the original concept. Median Asymmetrical alternative, I am not a fan of. I think it allows for safety and economic concerns. Also, the center of the mall will still have the clutter and the congregation points. Center Asymmetrical alternative also has safety and economic concerns. No Build is not an option. The mall needs help, and the people need the help. Rebuild is just giving a band aid to the problem instead of fixing it right the first time. Make the mall a place people will want to visit, not avoid.

The Center Option is a great alternative. It would be great to go the full length of the mall from Civic Center to Union Station. It removes the toys, thimble chairs, skateboards and adults from the medians. A couple of times adults dancing and playing in the median were thrown or fell almost into the side of the shuttles. Everyone on the shuttles jumped thinking we were going to be hit in the side by a body.

It would be unfortunate to see millions or billions of dollars spent in changing the 16th Street Mall when quite frankly I don't think people would stay to eat, shop, visit, etc. There has been too much altered brain function due in part to drunks and high people. It changed downtown drastically when the marijuana stores opened downtown.
As one of the 130,000 downtown workers, it is extremely important to me that I have an unimpeded way from work to the Civic Center or Union Station to catch my bus or train on time. If I miss my Regional bus, I have to wait 45 minutes for the next bus. It’s not only downtown residents that use the 16th Street Mall and 18th-19th shuttles. The workers in the skyscrapers should be remembered and considered before companies move to the Denver Tech Center.

Pedicabs and the rectangle bar on bicycle wheels with people with alcohol/other drinks pedaling like crazy to turn the contraption to get out of the way of the 18th Street RTD articulator shuttle should not be allowed on the streets during rush hour. The rectangle bar delayed our 18th Street shuttle getting to Union Station. Several workers missed their train. In addition, other drivers were visibly upset being delayed too.

No build, Keep healthy trees and remove current pavers, replace with less slick surface.

3. How well have we evaluated the alternatives so far?

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>It is definitely a good start, but I think it will take more than redoing the layout of the street.</td>
<td></td>
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<tr>
<td>Keep the trees!</td>
<td></td>
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<tr>
<td>Looks good.</td>
<td></td>
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<tr>
<td>We already have this.</td>
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<tr>
<td>Ruling out moving the buses to 15th/17th have been ruled out too quickly.</td>
<td></td>
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<tr>
<td>OK but need to retain major elements of design regardless of option selected.</td>
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<tr>
<td>Very well, but would like to consider bikes for safer travel from union station to civic center.</td>
<td></td>
</tr>
<tr>
<td>Poorly, because you’ve wasted time.</td>
<td></td>
</tr>
<tr>
<td>Not imaginative or exciting.</td>
<td></td>
</tr>
<tr>
<td>for the love of god don’t do this up</td>
<td></td>
</tr>
<tr>
<td>Pretty well, but activation is vital. Small plazas allow for a sixteenth street music festival, or a better DPS Shakespeare. An art festival with a bunch of installations. Think as the mall as the Spine. But with hubs. So that there are major hub stops and minor corner stops for the buses.</td>
<td></td>
</tr>
<tr>
<td>This seems to have been a well thought-out process.</td>
<td></td>
</tr>
<tr>
<td>Absolutely no idea from just the three small blue cross-sections here. How are we to know?</td>
<td></td>
</tr>
<tr>
<td>Get rid of the buses completely! It will never be a nice, walkable street where people will mingle if you have giant buses flying down it. The buses kill the mall.</td>
<td></td>
</tr>
<tr>
<td>Not very innovative!</td>
<td></td>
</tr>
<tr>
<td>I like having the bus lanes touching. It makes for more pedestrian areas. I like the proposal to ban smoking on the mall as well. I prefer the side of 16th street closer to union station, where the sidewalks are wider and the bus lanes are touching.</td>
<td></td>
</tr>
<tr>
<td>The pictures work great for a visual person such as myself.</td>
<td></td>
</tr>
<tr>
<td>Missing bus alternatives mentioned in Box 1 (no bus or single bus lane with bypass every other block)</td>
<td></td>
</tr>
<tr>
<td>Looks pretty good to me.</td>
<td></td>
</tr>
<tr>
<td>In my opinion, moving the buses off 16th and onto an adjacent street should be considered.</td>
<td></td>
</tr>
<tr>
<td>very well.</td>
<td></td>
</tr>
<tr>
<td>I think you have only evaluated the alternatives which include buses, and haven’t shown us ALL the alternatives available such as taking the bus off of 16th street mall.</td>
<td></td>
</tr>
</tbody>
</table>
The drawings you’ve provided aren’t very good, in my opinion. What do you mean by “amenities”? Instead of these hard-to-visualize designs, show an actual block, complete with the shops on that block and the existing “amenities,” whatever they are.

OK. Please consider bicyclists and transit patron waiting areas. Please show typical width dimensions for each area. Please also show a typical plan view. Please address intersection features. What is shown is too oversimplified.

Somewhat well. I would like to see a no-bus option, or a single-lane, with reverse travel provided on a street outside the mall. I would also like to see a design that includes a dedicated bike lane.

Good job working with what we have.

Not sure where bikes go?

From what I can tell in my reading, it looks like the important bits have been covered.

You are stuck with the wrong paradigm (ie busses) it should be a pedestrian mall AND a transit corridor it can’t serve both unless they are functionally separated. More expensive but necessary for long term usefulness and efficiency.

Great.

Evaluate the possibility of removing the Mall Ride service from 16th Street.

I’m sure safety is being considered. But if pedestrian vs. bus safety is being evaluated, think of how mush safety with that can be achieved by eliminating the buses from the 16th Street Mall, entirely. Safety would be amazing.

Please think of the possibilities. I know I’m not alone in my thoughts. Please ask your community.

God bless your efforts in this study, regardless the outcome.

Got them all covered, I think.

I may be missing something, but it doesn’t look like there has been any evaluation of these alternatives so far.

I think the shuttle is one of the main reasons that the 16th mall is a dive. People are able to hop from one end to the other, never really looking at what is (could) offer. By moving the shuttle off of the mall, it would allow for full activation, not just of the mall, but also all the cross streets as well. Economic development could triple by doing this. I think that it is a scary thought for RTD to move them, but in the end, it would be a boon for everyone (mainly the humans that would use the mall)!

Hard to tell without more info on the evaluation process.

By not even allowing for the possibility of removing the buses, you have sold the public short.

I think the planning appears to be going forward in a methodical and organized fashion. However, again I feel there are some false assumptions regarding the public’s desire to see this project undertaken.

Based on the simple schematics, they are enough to begin getting feedback from the public.

It looks like a lot of thought has already gone into this, if the buses are moved to the center, will the lighting for the amenity areas be changed and will that impact development costs. The area needs to remain well lit for ease of use as well as for people to feel safe.

Based on this overly simplified page, you may have evaluated plans a lot but you’re not letting constituents evaluate it in an informed way.
I think all of these options aren't entirely necessary to "improve" the corridor. What are the true issues people have with this corridor? What are RTD's (the primary stakeholder's) concerns? The slippery and expensive pavers and the panhandling (just read the comments on the Denver Post article), as well as narrow sidewalks with patios that encroach too far are the primary issues that could be fixed for far less money than a re-design that would be costly and disruptive to "try". What's the end-game here? Maintaining the program as it exists today (transportation/pedestrian corridor and patio spaces) or something to accommodate larger lingering groups of people?

I think that the center bus alignment makes the most sense by separating pedestrians from the vehicles for safety.

Leave 16th St and Colfax alone. Improve what's there already with better lighting and signage and better crosswalks at intersections. Work on attracting local businesses this would add to the destination of the area. Bring back the police on horse back, it has gone down hill since then.

This seems fine. Getting the buses to the center just seems easy and logical. Renderings of the entire mall would be necessary for the asymmetrical design as symmetry is such a strong and beautiful design element of the mall looking up at it.

I think running down the center with the busses makes a lot of sense. As a business owner on the mall, I think this would significantly increase pedestrian traffic, make it safer for pedestrians and allow a more vibrant sidewalk area.

NOT WELL AT ALL 111 The solutions that you are suggesting will cost a significant amount of money... and it WILL NOT CHANGE ANYTHING 111 It will still not be a space that I will bring my family or guests to... to make this successful you have to THINK OUT OF THE BOX... if you can't do that then you have to find someone that can... otherwise leave it as it is and save the money...

I have been watching this debate for as long as I can remember, and honestly, none of the ideas seem to be any more cost effective or desirable than what is there. Why don't we work to accentuate this beautiful piece of art? Honk Kong has made their I.M. Pei building a trademark. I bet most residents and tourists have no idea of what we have. Dana Crawford saved Larimer Square, and it is the gem of Downtown Denver to this day. How about some of the same foresight??

not well enough

Pretty well.

Pretty well, but I think there are other viable options if you think outside the box.

I feel like you have looked at the alternatives, but need to decide if you want 16th street to be a pedestrian mall, or a transit mall. Surely the goal is to increase numbers and get more people visiting the mall (hopefully someday more retail variety will help with this goal), 5, 10, 30 years from now, are people going to be packed on sidewalks competing with busses? RTD's goal is to get get people from point A to B, I feel like the two goals conflict with each other.

Well; it is impressive that you are considering runoff and water.
Who knows? I see no evidence that this is any different than the last big study you did years ago, which despite it seemed to me overwhelming support to go to a center design, you rejected and did nothing. How is this different? It's time to stop talking and someone make a decision (yes it will unpopular with some) but that's what leaders do. The Mall is currently a wreck and filthy disgrace of cracked, dirty, slick pavers without any grouting. And apparently even in the best case scenario, nothing will happen until next Junel And even then, that's just the planning stage. How many times do we need to study the same thing? How is this study different than the last big study? What happened to RTD's study about changing to cast concrete? This new study seems to be nothing we didn't see in the last one.

Loving all the input options and considerations.
Good, except for the lack of discussion of FTA requirements.
I think RTD has done a good job with all the issues.
I haven't.
The presentation coupled nicely with the systematics.
A clear focus on safety is important especially around visibility and slip and fall dangers.
good -Informative.
Seems very well thought out.

not well. The center schemes with buses running as shown is an accident with fatalities. On slippery surfaces or do to other conditions or to avoid other issues such as people stepping out from amenity areas shown, a collision could occur between the buses with the resulting loss of control of either or both buses running into amenity areas and causing havoc. Remove all buses and follow plan noted above.

Not sure. What have other cities done? Minneapolis seemed to make the move in a good way for the "nicollet mall". Resort towns like a Park City blend retail in the street mall with restaurants that can have you totally sitting outside under covered awnings (roofs) to make it a place families feel safe and want to spend money and time in.

Doing nothing or repeating the same design are not good ideas. Should forget about the pavers and reconstruct the mall in a way that makes sense for all users.

Far too much deference is being payed to RTD and their concern over the cost of maintenance. The 16th Street mall is a public asset of the highest order should be a protected historic landscape.

There is no consideration of lighter vehicles that would have less impact on the pavers and make walking or lingering more pleasant
Too much emphasis on creating more outdoor dining space at the expense of pedestrians.

Evaluated the options well but it seems as though the options are just variations of one way of thinking. Anything outside of this thinking?

I was involved with the evaluation done seven years ago and it seems some of the same issues are present. Even though "revenue producing opportunities" are not listed as a goal, how much is this goal involved - if at all, please list it so it can be discussed.

I think it's been pretty will reviewed.

Well, but it is important to communicate that the "existing asymmetrical and existing median" options will not necessarily save money because it will all be torn up and redone anyways so might as well redo it in a better manner. People don't know that and might think that the existing options will save money.
Have not looked at all alternatives very well. Why not consider this mall as a pedestrian zone?

There are man European malls of this length or longer that function well as pedestrian only.

Where is the city's representation in this discussion. I have seen no one from city planning here today.
Meeting was hard to find. Channel 9 news very good coverage. Must note that one must jay walk to get to RTD building since construction both sides closed sidewalk.
Presentation very good.
a. Back to first response - Criteria is ok ... all should not be weighted equally. Historic/social value of this iconic/elegant design and wise management of funds should be highest priority, changing as little of layout, surfacing, trees and lights as necessary.
I think there should be signage regarding transit. For instance, there are signs on the mall saying no bike-riding -- they could say there which parallel streets have designated bike lanes. Maybe this has already been addressed -- it's been many years since I attempted to ride my bike on the mall.
Finally, the health of the canopy -- the trees along the mall -- deserves careful evaluation and consideration. WE NEED THE TREES, and we need to be sure the trees can not just survive -- but THRIVE. Very careful analysis of what kinds of trees will be planted (the current trees are stressed, at best) and how tree-health will be maintained is essential. Denver needs more green space.... Although this does not involve transport, I wonder whether any study has been done to consider how to turn the old "Market Street Station" block into a "hilly, leafy" park on the mall. How welcome that would be... as downtown Denver moves forward "for the benefit of all." Finally, as a downtown Denver resident, I appreciate the opportunity to share these ideas and hope they will truly be heard and seriously contemplated, considered, and discussed. Thank you.

Not well at all You want to throw millions to billions of taxpayer money toward a redesign project for the mall because you think it's the aesthetics that need to be addressed when the items that need to be addressed have very little to do with aesthetics or with the locations of the mall shuttle. VERY POOR thought processes, VERY POOR use of money! Evidence that city government is completely out of touch with the people they govern!
Any of the completely new cross sections will not only cost hundreds of millions of dollars, but they will put out of business or severely hurt most of the businesses along the Mall during the construction period.
You haven't evaluated the rebuild alternative fairly. What can you do to 'tweak' the rebuild to solve the problems rather than throw it away? Can you incrementally solve the tree pit problem? Can you solve the granite setting problems in the moving lanes incrementally? Can you solve the safety problem by slightly reducing the cafe corrals and getting 10 ft sidewalks? Gehl said that few people linger on the Mall. The problem is more about who lingers and why, rather than just places for lingering. Do the residents, workers and visitors in downtown linger outside other than in the corrals of the restaurants and bars? The medians are perfect for lingering. It's just that office workers, residents and visitors don't linger there. Is that a policing issue? A programming / Kiosk issue? A furniture/ landscaping issue? Most of the lingerers are the ones who can't afford the restaurants, cafes and bars - the drifters / travelers/ panhandlers. Won't they still be there after the Mall is completely redesigned?
Half of the Mall (the asymmetrical sections) has ample sidewalk space for outside cafe lingering. Is
that working well? A minor tweak would be to eliminate the lights between the transit lanes to gain more space for pedestrians where you have no medians.

Evaluation process has been well balanced.

From what I have observed, there has been an excellent review of the proposed alternatives.

Stop trying to change 16th Street Mall and Colfax and just improve what is already there and has worked for decades.

You have not considered the preservation of the historic character of the 16th Street Mall design in the alternatives. You are creating alternatives that fit transit requirements and not the historic integrity of Denver and its character.

I can't really tell which alternative is preferred. My preference is to rebuild the infrastructure that needs it in a sustainable way and leave trees alone except where it is necessary for replacements.

I think you're doing great. Although the bicycle aspect has been left out, I look forward to hearing more about it being considered. What an economic opportunity that could be taken advantage of, eh?

You have not considered placing the Mall shuttles underground in any of the alternatives evaluated so far.

I think the project team has done an excellent job of coming up with different alternatives to appease everyone. The team really listened to people and understood the message being conveyed. That shows in the design alternatives that have been presented.

You have done a great job evaluating the alternatives.

All alternatives to no build will require removal of the existing trees, at least one row.

Use structural cells under walk to accommodate needed uncompacted soil volume.
December 15, 2017

Ms. Annie Levinsky  
Executive Director  
Historic Denver  
1420 Ogden Street, Suite 202  
Denver, CO 80218

RE: 16th Street Mall Project; November 7, 2017 Historic Denver Letter

Dear Ms. Levinsky:

We are in receipt of your letter dated November 7, 2017 regarding the 16th Street Mall project. It is clear that you have full knowledge and understanding of the Mall’s origin and history, including the studies and discussions that have occurred over the past decade regarding infrastructure concerns and the need to rehabilitate the Mall. Your letter also notes the features you consider most significant and stresses the importance of analyzing feasible alternatives to adversely impacting the cultural resource.

Thank you for the information provided and for sharing your perspective. We appreciate your comments and requests, and will address these within the context of the Federal Transit Authority’s (FTA’s) Section 106 consultation process and the Environmental Assessment that will be prepared.

In particular, please join us on January 11, 2018 for the next Consulting Parties meeting where we will continue the Alternatives Analysis discussion, which includes: the alternatives considered; their consistency with the Purpose and Need; and the screening process, criteria, and findings. Going forward, we will be discussing eligibility of potential historic properties within the Area of Potential Effects; impacts to the Mall (which has been determined to be eligible for listing in the National Register); and appropriate mitigation measures, if the project is determined to have an adverse effect on historic properties. We value your continued participation and comments throughout the ongoing Section 106 consultation process.

Thank you for your comments and we look forward to continuing to work with you on this important project. Please continue to reach out to Darin Allan, who is the lead agency’s new representative for this undertaking, at darin.allan@dot.gov, and Susan Wood with RTD at susan.wood@rtd-denver.com.
Sincerely,

David A. Genova
General Manager and CEO

cc: Darin Allan, FTA Director of Planning and Program Development, Region VIII
William C. Van Meter, RTD Assistant General Manager, Planning
Henry Stopplecamp, RTD Assistant General Manager, Capital Programs
Jyotsna Vishwakarma, RTD Chief Engineer
Susan Wood, RTD Planning Project Manager
RTD Document Control
Meeting Notes

Attendees: See attached Sign-in sheet

Welcome and Introductions
Susan Wood/RTD welcomed the group and reviewed the steps of the Section 106 consultation process. Colleen Roberts with Peak Consulting Group summarized the project activities to date.

Level 2 Alternatives Evaluation
Alternatives Evaluation
The project team provided an overview of the design elements of the Level 2 alternatives evaluation and the alternatives evaluated in Level 2. In response to a consulting party request, a partial repair alternative was evaluated in Level 2. The presentation (attached) included a cost evaluation summary for the alternatives evaluated in Level 2 and a summary of the safety data collected. After the Level 2 evaluation, the asymmetrical cross section was refined to better meet the needs and goals of the project. More detailed information was included in supporting slides at the end of the presentation as well on in the Level 2 Alternatives Analysis handout (also attached).

The conclusions from the Level 2 Evaluation are to carry forward the Center Running Alternative and the Center Running/New Asymmetrical Alternative, which was refined to provide physical delineation between pedestrians and transit on the narrow sides of the block; to better align the trees; and to provide trees, public amenity space and an equitable distribution of public amenity space.

Pavement Options Evaluation
As part of the Level 2 Alternatives Evaluation, the team evaluated pavement options, the capital costs of each, surface friction, differences in maintenance and reconstruction requirements, and the ability of each to replicate the existing pattern. Under consideration are: granite pavers, unit pavers, precast concrete, and cast in place concrete.

The Section 4(f) evaluation has studied avoidance alternatives and has found there is no avoidance alternative that meets the project purpose and need. Pedestrian mobility, safety, and public use needs are not able to be met with a design that maintains the current median design. The agencies propose moving forward with the Center Running/New Asymmetrical alternative – with the refinements to the asymmetrical design that include the third row of trees – as a proposed preferred alternative for the project. Pavement materials are still being studied.
Comments from Alternatives discussion

- SHPO asked about replacement costs, scheduling, and repair and maintenance costs for the different materials.
  - The four rebuild alternatives would have the same range of costs, depending on the material chosen.
    - Capital costs range from a low of $76M for standard cast-in-place concrete in the transit way and granite pavers on the sidewalk, to a high of $137M for granite pavers on both the transit way and sidewalk.
    - Annual maintenance costs range from a low of $85,000 for standard cast-in-place concrete in the transit way and granite pavers on the sidewalk, to a high of $310,000 for granite pavers on both the transit way and sidewalk.
    - Future replacement costs range from $0 for granite, unit paver, or specialized cast-in-place concrete options – none of which would require replacement within 40 years - to $20M for standard cast-in-place concrete in the transit way, which would likely require two replacements over 40 years.
    - The Partial Repair alternative would have lower capital costs, but higher maintenance and future replacement costs than the rebuild alternatives because the underlying pavement structure would not be replaced.

- SHPO discussed the partial repair option and questioned the costs. If the infrastructure were repaired, would the current problem of replacing tiles ad hoc be corrected?
  - No; the sub-slab still would not drain water that seeps below the pavers.

- Historic Denver asked about how the safety data compares to the pedestrian volumes.
  - This will be analyzed in the EA.

- John Lynch/FTA attorney asked if RTD keeps track of near misses. Jyotsna said RTD’s data for near misses is inconsistent; their claims data includes hard breaking and injuries to riders.

- DDP indicated it would be helpful to have more detailed data regarding percentage of pedestrians using the intersections, the crash data, and more specific locations of the crashes.

- SHPO asked if the additional trees in the refined asymmetrical block design add to project costs.
  - They do not, at the current high level of comparative cost estimates, the additional trees don’t change project costs.

- Historic Denver asked how big is the shift in transit lane location between center running and asymmetrical blocks.
  - The shift is 4’.

- Historic Denver noted that a 4’ shift is too small to provide the variety in cross sections.

- Historic Denver noted that part of the reason for the original design shift was to keep the buses from moving quickly through the Mall, and that the shift slowed them down.
  - Currently, the buses are timed to have one bus per every light cycle during peak hours, and the light cycles control the overall speed down the length of the Mall.

- Downtown Denver Partnership noted the median is too big to ignore and too small to use. The 2010 recommended plan tried to address the median issues, and DDP has tried many programs since then to better activate the median. Examples include installing the botanic garden between Curtis and Champa streets, changing the kiosks, a campaign to encourage people to walk in the median, and hiring someone to stand in the median, but none of these were successful.

- Someone asked how wide buses and transit lanes are.
  - Standard travel lanes are 12’ nationally, and the buses need to operate on standard roads to get to and from their storage and maintenance areas.

- Lower Downtown asked if there will be a curb or not and recommended the team look at a shared curbless street in Halifax as an example.
• Historic Denver noted the existing alignment of the trees provide an intimate space with a feeling of enclosure, which would be lost in the center blocks with the trees on each side of the transit lanes, and thus farther apart from each other. We need to be aware of what is being lost; under these designs, this is not the same mall.
  o With the infrastructure changes, the trees will be able to grow a wider canopy, so hopefully that feeling of enclosure would not be entirely lost.
• Historic Denver stated that both rows of pedestrian lights currently line up from the asymmetrical to the median blocks, and would like the proposed design to keep the two rows of lights aligned in this way.

Section 106 Consultation Status

Historic Properties within the APE
Participants received the updated spreadsheet of historic properties within the APE as well as an updated map book of historic properties showing the NRHP status of each parcel.

National Register Eligibility
In discussion with SHPO, RTD and FTA developed a system for establishing NRHP eligibility for properties within the APE that have not been evaluated for NRHP eligibility or have not been evaluated recently. For the purposes of this project, RTD and FTA will assume a property is eligible for listing in the NRHP if it meets one of the following:
• Properties with Assessment status of Needs Data or No Assessment, built prior to 1975
• Properties with Assessment status of Not Eligible – Field surveyed prior to 2015, built prior to 1975
• Properties with Assessment status of Non-contributing – Field surveyed prior to 2000, built prior to 1975
These assumptions will apply to these properties only for the purposes of this undertaking and these eligibility assumptions will not be entered into the SHPO database as NRHP-eligible properties.

16th Street Mall Form 1403
Updates to the 16th Street Mall Form 1403 based on previous comments were completed and the form was sent out to consulting parties prior to this meeting. RTD and FTA request comments on these updates, to assure previous comments were addressed, by Friday, January 26, 2018. After this final review, the form will be submitted to SHPO for their 30-day review. The 16th Street Mall Form 1403 may be submitted individually or it may be submitted as part of the Cultural Resources Technical Report.

General comments/feedback
• Several parties requested the design include an anchor point somewhere along the Mall that is exactly as it was designed. For example, keep trees on the asymmetrical blocks in the same location as today rather than shifting them 2 feet. The Mall design should remain recognizable as a Pei/Cobb design; if the Mall has the same pattern but everything is in a different location, it’s no longer the same. These designs are all new; everything changes. Request something to remain the same.
• SHPO requested that the design retain the breaks along alignment; this mall has succeeded because of the linear alignment breaks. This is an integral part of the design.
• SHPO stated its preference for the Rebuild in Existing Configuration option as it would address the infrastructure problems, and would maximize the preservation of the historic materials and design.
• City and County of Denver Landmarks Preservation also requested additional safety data used to justify the elimination of the median. Is the safety analysis enough to exclude the Rebuild in Existing Configuration option?
• Historic Denver asked about retaining pedestrian permeability across the Mall while also achieving the safety goal of delineation between sidewalks/pedestrians and transitway/buses.
There is no desire to block or change the existing pedestrian permeability of the mall; this is a key component of the design. There are no plans to wall off or block pedestrian permeability.

- SHPO asked if the team has investigated the possibility of changing the local regulations that require a wall around areas that serve alcohol.
  - Denver plans to investigate this, which would require changing both local and state laws.
- SHPO indicated that they would not be able to give concurrence or comment on the effect analysis until the pavement material is known.
- Historic Denver noted their board would not be able to endorse a preferred alternative until the pavement material is known.
- Historic Denver has detailed questions about operations, such as the bus schedule and frequency of the busses.
- The primary concern for City and County of Denver Landmarks Preservation is the materials.

Section 106 Next Steps

Concurrence on Form 1403
Propose Preferred Alternative
Discuss Design Details with Stakeholders
Identify Preferred Alternative
Evaluation of effects on historic properties
Draft Cultural Resources Technical Report
EA/Section 4(f) Evaluation

Requested Items/Documentation

- Links to the FHWA and NACTO shared streets standards that are being used.

FHWA:

NACTO:
https://secure-web.cisco.com/1EhNzN-x3TvFyuvvc1X5tmos-teZ5auliusPtTC3mD_Yfj9aiGNgwZ4GFbDgWV187TKO_5Qd1n3PJPF6x0pu9j6ZIkSa5DsLOnm5bwsA8ASa8-bdcdESi3CzCcbV__RacAgIK5SgvQQdfrac-PBBAYQrOqzaWE8q6ANckYoRQAzhzJVM248Y0RYkibhZao8w4O4Wly4fP8cOZ670EsNBpclShsecvTWOv3ZRLcvNov25HMrEx3BRGLH9vTkT63GX1rhD8zGpj7bya8KU4wo2GJD_eEXhcMZW_NKPIXIEJ1jcUYeq36ubqwOS1Oaz-SXW6xWUg9QDFie-k1zHsu2Z9U3njmgFjqTjbXzdycD-iWyKAqG4-1xKMZ6-l7HTOnPu8T91jQlilpBvuUr7VZ4NT0vHpiPrhU07b6R5Qp2dlZRgOQyd65E-SAO--qlhkyCAddpSMU-7Pj21EsPeo2vy4UforLgxs2Lwq3qos_g/https%3A%2F%2Fwww.fhwa.dot.gov/environment/bicycle_pedestrian/publications/accessible_shared_streets/fhwahep17096.pdf

and
https://secure-web.cisco.com/1WjGgfPF7wycn5gJNOSIAziLRC3Z7AfjvBCKbdmRueLN_M5f-3fYoa2YYUg00m2_GLDFNiQnten6yPb86v2FEO3h8YfnWD6wuJv-4POOblL_6yjvS8ZotQcfrvkJi6NTXtIsEBOANFGkspT68gK5M2e19N1KDThiiHjCt1by_yk0pwHtzCuevbgUg8Z0U-U3oxZavB97Y9Q7P0XuxzOX3xfPku8IYlXOhEbhK8N3nPS5duuxPFxwyhWssRcFOSRnuQvSk_AuD-o1-fOLVR_7sZfD-XXIO4v4b_80T6TRASjLxV90g8RenNBpl4_sZxAdhBC2_L7ibdTBFqlkW005escTaWUWld_gai_npCXweSUyJr8Jn7WfHqg0wUOCzbjFoKU1rhzS7voYT4418D5HcfSOW_BptDExuVHIzFKL8zVp_m6w9c9omkgo59P0kU2QtdwyFdQAL3k5ODG6Un-d2wckPuxLVS7UFQ/https%3A%2F%2Fwww.fhwa.dot.gov/environment/bicycle_pedestrian/publications/accessible_shared_streets/fhwahep17096.pdf
AGENDA

1. Welcome and Introductions
2. Summary of Project Activities
3. Level 2 Alternatives Evaluation
   a. Partial Repair alternative
   b. Level 2 Evaluation
   c. Alternative refinements
4. Section 106 Consultation Status
   a. Historic properties within the APE
   b. 16th Street Mall Form 1403
5. Input on Section 106 Next Steps
   i. Discuss Proposed Preferred Alternative design details
   ii. Identify Preferred Alternative
   iii. Evaluation of Effects on historic properties
   iv. Cultural Resources Technical Report
   v. Environmental Assessment & Section 4(f) evaluation
6. Additional Feedback/Questions
Alternatives Analysis & Environmental Clearance

**Section 106 Consulting Parties Meeting #5**

January 11, 2018, 2:00 – 5:00

<table>
<thead>
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## Alternatives Analysis & Environmental Clearance

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**Via Phone:**

- Betsy Nemyll / NTNP D.C.
- Candy Sanders / OLIN
- Trent Lee / OLIN
- Jenny Buddenberg / NTNP Denver
- John Lynch / FTA atty
- John Desmond / DDP
Section 106
Consulting Party Meeting

January 11, 2018

Alternatives Analysis and Environmental Clearance
Meeting Agenda

• Introductions
• Summary of Project Activities
• Level 2 Alternatives Evaluation
  • Level 2 evaluation
  • Alternative refinements
• Section 106 Consultation Status
  • Historic Properties
  • 16th Street Mall Form 1403
• Input on Section 106 Next Steps
• Additional Feedback/Questions
• Supporting Information
Summary of Project Activities to Date

Alternatives Analysis and Environmental Clearance
Level 2 Alternatives Evaluation

Alternatives Analysis and Environmental Clearance
Alternatives Evaluation

- Level 2 Alternatives Evaluation
  - Alternative design elements
  - Partial Repair alternative
  - Level 2 evaluation
  - Pavement options evaluation
  - Alternative refinements in response to Level 2 evaluation
Alternative Evaluation - Design Elements

- Spatial configuration of pedestrian areas, patio/gathering space, transit lanes
- Pavement system
- Other infrastructure, e.g., trees, utilities, water quality, security
- Options to delineate pedestrian/transit areas and pedestrian crossings at intersections
- Materials
- Bus operations elements
Alternatives Evaluated in Level 2

- No Build
- Median/New Asymmetrical
- Center Running
- Center Running/New Asymmetrical
- Rebuild in Existing Configuration
- Partial Repair – new alternative

After Level 2 evaluation, refined asymmetrical cross section to better meet needs, goals
Alternatives Evaluated in Level 2

Partial Repair Alternative

• Based on 2010 16th Street Urban Design Plan recommendation
• In transit lanes: improve sub-base; clean, refinish, and reset pavers; upgrade subsurface utilities where needed
• In pedestrian areas: refinish granite pavers, replace failed trees, address ADA deficiencies
• Bulb outs for pedestrian crossings at intersections
## Level 2 Evaluation Summary - Cost

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<th>No Build</th>
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<th>Partial Repair&lt;sup&gt;2&lt;/sup&gt;</th>
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<td>Capital</td>
<td>NA</td>
<td>$76M-$137M</td>
<td>$62-$88M</td>
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<td>Annual Pavement Maintenance</td>
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<td>40-year</td>
<td>$46.6M</td>
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<sup>1</sup> Variation based on pavement material and estimation of market fluctuations.

<sup>2</sup> Variation based on estimation of market fluctuations.
Level 2 Evaluation Summary - Safety

Pedestrian/Bus Crashes 2007-2017 (% of total)

Asymmetrical intersections
Median/asymmetrical intersections
Median intersections

- Broadway
- Cleveland
- Court
- Tremont
- Glenarm
- Welton
- California
- Stout
- Champa
- Curtis
- Arapahoe
- Lawrence
- Larimer
- Market
Level 2 Evaluation Summary - Safety

• High crash locations, Arapahoe to Tremont
• All alternatives: intersection bulb outs being studied to reduce named street crossing widths
• Options to reduce number of conflict points at intersections:
  • Physical barrier or signage to prevent crossings at named streets from median
  • Place transit lanes next to each other to eliminate median crossings
Level 2 Evaluation Summary

Detailed information provided in:

• Level 2 Alternatives Analysis handout
• Supporting slides at end of presentation
Level 2 Evaluation – Conclusions

- Carry forward Center Running and Center Running/New Asymmetrical alternatives
- Median/New Asymmetrical, Rebuild in Existing Configuration, Partial Repair alternatives do not meet safety, mobility, and public use needs

New asymmetrical section refined to better meet project needs and goals
Pavement Options Evaluation

• Evaluated granite pavers, unit pavers, precast concrete, and cast in place concrete options
• Capital costs: $76M-$137M
• Better surface friction with all materials
• Differences in periodic maintenance and reconstruction requirements
• Replicating existing pattern difficult with cast in place concrete
• All options still under consideration
Alternative Refinements

New asymmetrical section refined to:

• Provide physical delineation between pedestrians and transit on narrow sides of block
• Better align trees between center and asymmetrical blocks
• Provide trees and public amenity space, and more equitably distribute space on both sides of block

Refined section and plan provided on roll plots
Section 106 Consultation Status
Historic Properties within the APE

- Updated Map Book of historic properties
- Updated spreadsheet of historic properties
Historic Properties within the APE

National Register Eligibility

- Properties with Assessment status of **Needs Data** or **No Assessment**, built prior to 1975
- Properties with Assessment status of **Not Eligible** – **Field** surveyed prior to 2015, built prior to 1975
- Properties with Assessment status of **Non-contributing** – **Field** surveyed prior to 2000, built prior to 1975
16th Street Mall Form 1403

- Updates completed based on previous feedback
- Request review of updated form by consulting parties
- Return comments to FTA/RTD by January 26, 2018
- After this above round of comments, FTA will submit the form to SHPO for concurrence
Section 106 Next Steps
Section 106 Next Steps

- Concurrence on Form 1403
- Propose Preferred Alternative
- Discuss design details with stakeholders
- Identify Preferred Alternative
- Evaluation of project effects on historic properties
- Draft Cultural Resources Technical Report
- If Adverse Effect, develop Memorandum of Agreement to address adverse effect
- Section 4(f) Evaluation
- Environmental Assessment
Questions?
Supporting Information

Alternatives Analysis and Environmental Clearance
Level 2 Evaluation Summary – Median/New Asymmetrical Alternative

- **Infrastructure ✔** – addresses infrastructure needs
- **Safety ✗**
  - Narrow walks without tree/amenity zone between peds/transit
  - 6 crossing points at median intersections
- **Mobility ✗**
  - Narrow pedestrian walks, less preferred bus operations
- **Public Use ✗**
  - Medians not conducive to gathering: narrow, lack edges, surrounded by transit shuttles; low public use and natural surveillance
  - Not enough gathering/patio space, except wide side asym. walks
- **Community and Environment —**
  - Less impact to historic resource than Center Running alternatives
  - Inequitable space benefits businesses on wide side asym. blocks
  - Equitable space but diminished gathering opportunities on median blocks
Level 2 Evaluation Summary – Center Running Transit Alternative

- Infrastructure ✅ – addresses infrastructure needs
- Safety ✅
  - 10’+ walks with tree/amenity zone between peds/transit
  - 4 crossing points at median intersections
- Mobility ✅
  - 10’+ pedestrian walks, preferred bus operations
- Public Use ✅
  - Wide walkways for gathering/patio space and amenities and pedestrian walking area; follows best practices for safety and security and natural surveillance
- Community and Environment —
  - More impact to historic resource than Median alternatives
  - Equitable distribution of trees, walks, and gathering space benefits businesses equally
Level 2 Evaluation Summary – Center Running/New Asymmetrical Alternative

- **Infrastructure ✔** – addresses infrastructure needs
- **Safety —**
  - 10’+ walks with tree/amenity zone between peds/transit, except narrow side asymmetrical sidewalks
  - 4 crossing points at median intersections
- **Mobility ✔**
  - 10’+ pedestrian walks, preferred bus operations
- **Public Use —**
  - Wide walkways for gathering/patio space and amenities and pedestrian walking area, except for narrow side asymmetrical blocks; follows best practices for safety, security, and natural surveillance
- **Community and Environment —**
  - More impact to historic resource than Median alternatives
  - Inequitable space benefits businesses on wider side of asymmetrical blocks
  - Equitable space benefits businesses equally on center blocks
Level 2 Evaluation Summary – Rebuild in Existing Configuration Alternative

- Infrastructure ✔ – addresses infrastructure needs
- Safety ✗
  - Narrow walks without tree/amenity zone between peds/transit
  - 6 crossing points at median intersections
- Mobility ✗
  - Narrow pedestrian walks, less preferred bus operations
- Public Use ✗
  - Medians not conducive to gathering: narrow, lack edges, surrounded by transit shuttles; low public use and natural surveillance
  - Not enough gathering/patio space, except wide side asym. walks
- Community and Environment —
  - Less impact to historic resource than Center Running alternatives
  - Inequitable space benefits businesses on wide side asym. blocks
  - Equitable space but diminished gathering opportunities on median blocks
Level 2 Evaluation Summary – Partial Repair Alternative

- **Infrastructure** — does not fully address infrastructure needs
- **Safety** ×
  - Narrow walks without tree/amenity zone between peds/transit
  - 6 crossing points at median intersections
- **Mobility** ×
  - Narrow pedestrian walks, higher maintenance frequency impacts transit service
- **Public Use** ×
  - Medians not conducive to gathering: narrow, lack edges, surrounded by transit shuttles; low public use and natural surveillance
  - Not enough gathering/patio space, except wide side asym. walks
- **Community and Environment** —
  - Less impact to historic resource than other alternatives
  - Less construction impact disruption
  - Inequitable space benefits businesses on wide side asym. blocks

PARTIAL REPAIR

EXISTING MEDIAN

EXISTING ASYMMETRICAL
# Alternatives Analysis and Environmental Clearance

## Development of Range of Alternatives

<table>
<thead>
<tr>
<th>Problem</th>
<th>Design Elements</th>
<th>Disposition to Carry Forward into Action Alternatives¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failing and Outdated Infrastructure</td>
<td>• Continue existing operations and maintenance program</td>
<td>Carried forward for No Build</td>
</tr>
<tr>
<td></td>
<td>• New pavement mortar</td>
<td>Carried forward for alts A-E</td>
</tr>
<tr>
<td></td>
<td>• New sub-base</td>
<td>Carried forward for alts A-E</td>
</tr>
<tr>
<td></td>
<td>• Clean and reset existing pavers</td>
<td>Carried forward for alt E</td>
</tr>
<tr>
<td></td>
<td>• Replace pavement system</td>
<td>Carried forward for alts A-D</td>
</tr>
<tr>
<td></td>
<td>• Install new granite pavement system</td>
<td>Carried forward as pavement option for alts A-D</td>
</tr>
<tr>
<td></td>
<td>• Install different material pavement system with low maintenance requirements</td>
<td>Carried forward as pavement option for alts A-D</td>
</tr>
<tr>
<td></td>
<td>• Replace buses with smaller, lighter buses to reduce loads</td>
<td>Not carried forward, does not meet operational requirements</td>
</tr>
<tr>
<td>Outdated infrastructure (tree boxes, fountains, lack of water quality treatment and modern fiber optic and communications utilities) leads to poor tree health and doesn’t meet modern day needs</td>
<td>• New underground tree infrastructure</td>
<td>Carried forward for alts A-D</td>
</tr>
<tr>
<td></td>
<td>• New underground tree infrastructure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Replace failing/missing trees in current infrastructure</td>
<td>Carried forward for alt E</td>
</tr>
<tr>
<td></td>
<td>• Construct water quality treatment features</td>
<td>Carried forward for alts A-D</td>
</tr>
<tr>
<td></td>
<td>• Install modern fiber optic/communications utilities &amp; additional electric power</td>
<td>Carried forward for alts A-D</td>
</tr>
<tr>
<td></td>
<td>• New/updated fountains</td>
<td>Carried forward for alts A-E</td>
</tr>
<tr>
<td></td>
<td>• New furnishing reflecting current practices for safety/security</td>
<td>Will consider during final design</td>
</tr>
</tbody>
</table>

## Safety Issues Related to Spatial Layout and Slick Surface

| Poor delineation between pedestrian walks and transit causes collisions and near misses | • Retain existing 4” curb                                      | Carried forward for alt E; carried forward as a design option for alts A-D |
|                                                                                      | • Add higher curb between walks and transit                    | Carried forward as a design option for alts A-D |
|                                                                                      | • Shift walks to store front area                              | Carried forward as a design option for alts B,C |
|                                                                                      | • Add trees, lights, other furnishings between walks and transit | Carried forward for alts B,C |
|                                                                                      | • Visually delineate walks and transit with different materials/colors | Carried forward as a design option for alts A-D |
|                                                                                      | • Use technology to delineate walks and transit, such as colored lights | Carried forward as a design option for alts A-D |
|                                                                                      | • Add barrier/bollards between walks and transit               | Carried forward as a design option for alts A-D |
| Slick pavement surface causes pedestrian slips and falls, bus traction problems     | • Add grooves to granite in transit way                         | Will consider during final design                       |

¹ Alternatives analysis and environmental clearance development

---

**January 3, 2018**
## Alternatives Analysis and Environmental Clearance

### Problem

<table>
<thead>
<tr>
<th>Design Elements</th>
<th>Disposition to Carry Forward into Action Alternatives ¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Refinish or replace granite with different finish</td>
<td>Carried forward as pavement option for alts A-D</td>
</tr>
<tr>
<td>• Use different material with higher friction</td>
<td>Carried forward as pavement option for alts A-D</td>
</tr>
</tbody>
</table>

#### Higher crash numbers adjacent to median blocks (Arapahoe to Tremont)

<table>
<thead>
<tr>
<th>Design Elements</th>
<th>Disposition to Carry Forward into Action Alternatives ¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Install physical barrier to prevent crossing named streets between medians and consolidate conflict/crossing points to sidewalks</td>
<td>Carried forward as a design option for alts A, D, E</td>
</tr>
<tr>
<td>• Install signage to discourage crossing named streets between medians and consolidate conflict/crossing points to sidewalks</td>
<td>Carried forward as a design option for alts A, D, E</td>
</tr>
<tr>
<td>• Eliminate median to reduce number of conflict points</td>
<td>Carried forward for alts B, C</td>
</tr>
<tr>
<td>• Construct bulb outs at intersections to reduce cross street width</td>
<td>Carried forward for alts A-E</td>
</tr>
</tbody>
</table>

### Mobility Inefficiencies Due to Narrow Walks and Maintenance Activities

#### Maintain Mall transit operations

<table>
<thead>
<tr>
<th>Design Elements</th>
<th>Disposition to Carry Forward into Action Alternatives ¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Accommodate bi-directional transit operations to 2035 and beyond</td>
<td>Carried forward for all alternatives</td>
</tr>
<tr>
<td>• Provide 12-foot bus lanes</td>
<td>Carried forward for all alternatives</td>
</tr>
<tr>
<td>• Use parallel, center running lanes to simplify bus operations</td>
<td>Carried forward for alt B</td>
</tr>
<tr>
<td>• Maintain space for two back to back buses at each bus stop to accommodate increased service needs</td>
<td>Carried forward for all alternatives</td>
</tr>
<tr>
<td>• Maintain service levels and shift new ridership to Free MetroRide</td>
<td>Not carried forward, Free MetroRide service is slower than Free MallRide and cannot meet additional Mall ridership demand</td>
</tr>
</tbody>
</table>

#### Frequent maintenance disrupts transit operations, and will be more disruptive as ridership grows

<table>
<thead>
<tr>
<th>Design Elements</th>
<th>Disposition to Carry Forward into Action Alternatives ¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>• New pavement mortar</td>
<td>Carried Forward for alts A-E</td>
</tr>
<tr>
<td>• New sub-base</td>
<td>Carried forward for alts A-E</td>
</tr>
<tr>
<td>• Replace pavement system</td>
<td>Carried forward for alts A-E</td>
</tr>
<tr>
<td>• Install new granite pavement system</td>
<td>Carried forward as pavement option for alts A-D</td>
</tr>
<tr>
<td>• Install different material pavement system with low maintenance requirements</td>
<td>Carried forward as pavement option for alts A-D</td>
</tr>
<tr>
<td>• Build third transit lane to maintain operations during maintenance</td>
<td>Not carried forward, will not meet program needs for flexibility</td>
</tr>
</tbody>
</table>

#### Sidewalks are too small for pedestrian volumes ² and Pedestrian ROW Accessibility Guidelines ³ (10’ walks for passing)

<table>
<thead>
<tr>
<th>Design Elements</th>
<th>Disposition to Carry Forward into Action Alternatives ¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Widen sidewalks by removing or narrowing patio and gathering areas</td>
<td>Carried forward for alts A,D,E; does not meet requirements for patio size ⁴</td>
</tr>
<tr>
<td>• Widen sidewalks by moving transit lanes</td>
<td>Carried forward for alts A-C</td>
</tr>
<tr>
<td>• Widen sidewalks by narrowing transit lanes</td>
<td>Not carried forward, does not meet bus operation requirements</td>
</tr>
</tbody>
</table>
## Alternatives Analysis and Environmental Clearance

<table>
<thead>
<tr>
<th>Problem</th>
<th>Design Elements</th>
<th>Disposition to Carry Forward into Action Alternatives¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Public Use Related to Spatial Layout and Perception of Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical separation of median from primary pedestrian walks, along with limited median size and frequent shuttle service on both sides of the median, results in low public use and surveillance, increased negative social behaviors (e.g., panhandling⁵), and decreased sense of safety.⁶</td>
<td>- Increase size of medians</td>
<td>Not carried forward, does not provide adequate sidewalk and patio space next to buildings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Decrease transit service frequency and shift ridership to Free Metro Ride</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Remove/reduce medians where possible and consolidate space against buildings.</td>
</tr>
<tr>
<td>Limited usability of narrow sides of asymmetrical blocks to accommodate patio/ gathering space and pedestrian needs.</td>
<td>- Widen sidewalks by moving transit lanes</td>
<td>Carried forward for alts A-C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Widen sidewalks by narrowing transit lanes</td>
</tr>
<tr>
<td>Less than 1% of Mall users stop to spend time on the Mall</td>
<td>- Install closed circuit television (CCTV) and/or other surveillance measures to increase security</td>
<td>Applicable to alts A-D</td>
</tr>
<tr>
<td></td>
<td>- Maintain/improve security⁷ and police presence</td>
<td>Applicable to all alternatives; current police budget does not allow dedicated officers to Mall</td>
</tr>
<tr>
<td></td>
<td>- Provide more active programming of Mall</td>
<td>Applicable to all alternatives</td>
</tr>
<tr>
<td></td>
<td>- Install more seating, furniture, interactive installations on blocks without it</td>
<td>Will consider during final design</td>
</tr>
<tr>
<td></td>
<td>- Redirect pedestrians to storefront areas</td>
<td>Carried forward for alts B,C</td>
</tr>
</tbody>
</table>

### Notes

¹ Action Alternatives: A – Median and New Asymmetrical; B – New Center Running; C – New Center Running and New Asymmetrical; D – Rebuild in Existing Configuration; E – Partial Repair. See description below.

² Existing (2015) midday peak pedestrian volumes are 3,000 pedestrians/hour Lawrence to Arapahoe (near DUS neighborhood) and 3,900 pedestrians/hour Welton to Glenarm (CBD neighborhood) (Gehl Studio, *Downtown Denver 16th Street Mall: Small Steps Towards Big Change*, February 2016). Future (2040) minimum midday peak pedestrian volumes estimated at 4,600 pedestrians/hour in CBD and 4,000 pedestrians/hour in DUS neighborhood, based on existing peak hour pedestrian volumes growing at rate of forecasted employment growth from 2015-2040 of 32% in DUS neighborhood and 18% in CBD neighborhood (based on Denver Regional Council of Governments employment forecasts, 2017).


⁴ The architectural standard for dining space recommends 300 square inches per diner. Common industry table sizes that meet this standard are 30” X 42” and 30” X 48” for four-person tables and 30” x 24” for two-person tables. The standard aisle width is 36” - 42”. Using the smallest industry standards of 42”-wide four-top table, 36” aisle, and 24”-wide two-top table results in a patio width of 102” or 8.5’ without a barrier railing, and 9’ with a barrier railing. Additionally, patio permits currently issued by BID require 10’ separation from transit lanes, resulting in 9’ patios.

⁵ 88% of panhandling occurs on median blocks (Downtown Denver Business Improvement District Downtown Ambassadors, *16th Street Mall Panhandling Surveys*, March 22 – August 29, 2015).
Alternatives Analysis and Environmental Clearance

Activating public space is essential to perception of safety: when more people gather outside, sense of safety increases and negative social behaviors decrease. Patio seating draws more people to gather on Mall than any other activity (Gehl Studio, Downtown Denver 16th Street Mall: Small Steps Towards Big Change, February 2016).

Since DDP implemented a security program with private security officers in 2014, crime has decreased 29% on Mall. There are approximately 1500 crimes on the Mall per year on average for 2014-2016 (Denver Police Department, crime statistics on the 16th Street Mall, January 2017).

Action Alternatives Descriptions

A: Median and New Asymmetrical Blocks
- Rebuilds Mall infrastructure: removes and replaces concrete slab under transit lanes; replaces pavement system; installs water quality treatment features; replaces tree infrastructure; assumes replacement of existing utilities; installs new utilities, i.e., fiber, additional electric
- On current median blocks, maintains existing median block configuration of tree location, sidewalks, and transit lanes
- On current asymmetrical blocks, widens narrow sidewalk on existing asymmetrical block configuration by removing small median and lights between transit lanes

B: Center Running Transit Lanes
- Rebuilds Mall infrastructure: same as Median and New Asymmetrical
- Replaces all blocks with two transit lanes in the center of the block and 28’ sidewalks on each side

C: Center Running and New Asymmetrical Blocks
- Rebuilds Mall infrastructure: same as Median and New Asymmetrical
- Replaces median blocks with two transit lanes in the center of the block and 28’ sidewalks on each side
- On current asymmetrical blocks, widens narrow sidewalk on existing asymmetrical block configuration by removing small median and lights between transit lanes

D: Rebuild in Existing Configuration
- Rebuilds Mall infrastructure: same as Median and New Asymmetrical
- Maintains existing spatial configuration of all blocks

E: Partial Repair
- Partial repairs to Mall infrastructure: in transit lanes, improves sub-base, cleans, refinishes, and resets pavers, and upgrades subsurface utilities where needed; in pedestrian areas, refinishes granite pavers; replaces failed trees
- Maintains existing spatial configuration of all blocks
### Level 2 Alternatives Analysis

**January 3, 2018**

<table>
<thead>
<tr>
<th>Category</th>
<th>No Build</th>
<th>Median &amp; New Asymmetrical</th>
<th>Center Running</th>
<th>Center and New Asymmetrical</th>
<th>Rebuild in Existing Configuration</th>
<th>Partial Repair</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Economics &amp; Cost</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failing pavement system in constant need of repair</td>
<td>NA</td>
<td>$76M-$137M depending on pavement material</td>
<td>$76M-$137M depending on pavement material</td>
<td>$76M-$137M depending on pavement material</td>
<td>$76M-$137M depending on pavement material</td>
<td>$62M-$88M</td>
</tr>
<tr>
<td>• Capital cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Annual transitway and sidewalk maintenance cost</td>
<td>$1.2M</td>
<td>$85,000-$310,000 depending on pavement material</td>
<td>$85,000-$310,000 depending on pavement material</td>
<td>$85,000-$310,000 depending on pavement material</td>
<td>$85,000-$310,000 depending on pavement material</td>
<td>$560,000</td>
</tr>
<tr>
<td>• Future transitway replacement cost</td>
<td>NA</td>
<td>$0-$20M depending on pavement material</td>
<td>$0-$20M depending on pavement material</td>
<td>$0-$20M depending on pavement material</td>
<td>$0-$20M depending on pavement material</td>
<td>$54M</td>
</tr>
<tr>
<td>• 40-year investment</td>
<td>$46.6M</td>
<td>$99.8M-$126.4M</td>
<td>$99.8M-$126.4M</td>
<td>$99.8M-$126.4M</td>
<td>$99.8M-$126.4M</td>
<td>$138M-$164M</td>
</tr>
<tr>
<td><strong>Outdated infrastructure does not meet current ADA requirements and leads to poor tree health; lack of water quality treatment and modern fiber optic and communications utilities doesn’t meet modern day needs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Ability to address ADA deficiencies</td>
<td>Not possible to address all ADA deficiencies</td>
<td>Not a discriminator: Can address all ADA deficiencies</td>
<td>Not a discriminator: Can address all ADA deficiencies</td>
<td>Not a discriminator: Can address all ADA deficiencies</td>
<td>Not a discriminator: Can address all ADA deficiencies</td>
<td>Not a discriminator: Can address all ADA deficiencies</td>
</tr>
<tr>
<td>• Tree infrastructure is updated to modern standards.</td>
<td>Ranks poorly for tree health: No replacement of obsolete tree infrastructure (i.e. tree boxes and irrigation)</td>
<td>Ranks well for tree health: Installs modern tree planting infrastructure and new trees; conflicting utilities would be relocated.</td>
<td>Ranks well for tree health: Installs modern tree infrastructure and new trees; conflicting utilities would be relocated.</td>
<td>Ranks well for tree health: Installs modern tree infrastructure and new trees; conflicting utilities would be relocated.</td>
<td>Ranks well for tree health: Installs modern tree infrastructure and new trees; conflicting utilities would be relocated.</td>
<td>Ranks slightly better than No Build alternative: Replacement of missing and dead trees. No replacement of obsolete tree infrastructure (i.e., tree boxes and irrigation).</td>
</tr>
<tr>
<td>• Water quality treatment is added to storm water drainage system.</td>
<td>No water quality improvements: No change in treatment of storm water runoff beyond maintenance</td>
<td>Improves water quality: Installs storm water quality treatment facilities, meeting City standards.</td>
<td>Improves water quality: Installs storm water quality treatment facilities, meeting City standards.</td>
<td>Improves water quality: Installs storm water quality treatment facilities, meeting City standards.</td>
<td>Improves water quality: Installs storm water quality treatment facilities, meeting City standards.</td>
<td>No water quality improvements: No change in treatment of storm water runoff beyond maintenance</td>
</tr>
</tbody>
</table>
## Alternatives Analysis and Environmental Clearance

<table>
<thead>
<tr>
<th>Category</th>
<th>Criteria</th>
<th>Alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Build</td>
<td>Median &amp; New</td>
</tr>
<tr>
<td></td>
<td>Asymmetrical</td>
<td>Asymmetrical</td>
</tr>
<tr>
<td></td>
<td>activities and normal Mall janitorial activities.</td>
<td>activities and normal Mall janitorial activities.</td>
</tr>
<tr>
<td>• Add fiber optic utility infrastructure and update/increase electric utility capabilities.</td>
<td>No improvement: No fiber optic utilities for modern technology and inadequate electric power supply for programming needs.</td>
<td>Not a discriminator: Installs new fiber optic and upgraded electric utilities.</td>
</tr>
</tbody>
</table>

### Safety & Security

**Poor delineation between undersized pedestrian walks and transit causes near misses between pedestrians and transit vehicles**

- **Pedestrian overflow into transit lanes**

  No change:
  - Median blocks: 8' outer pedestrian walks remain undersized, resulting in pedestrian overflow into transit lanes.
  - Asymmetrical blocks: 8' outer pedestrian walks on narrow side of block remain undersized, resulting in pedestrian overflow into transit lanes.
  - 14' walkways on wide side of block accommodate pedestrians without overflow into transit lanes.

  Ranks third:
  - Median blocks: 8' outer pedestrian walks remain undersized, resulting in pedestrian overflow into transit lanes.
  - New Asymmetrical blocks: 10' and 14' walkways on asymmetrical blocks accommodate pedestrians without overflow into transit lanes.

  Ranks best:
  - Center running blocks: 10' minimum pedestrian walks accommodate pedestrians without overflow into transit lanes.

  Ranks second Best:
  - Center running blocks: 10' minimum pedestrian walks accommodate pedestrians without overflow into transit lanes.
  - New Asymmetrical blocks: 10' and 14' walkways on asymmetrical blocks accommodate pedestrians without overflow into transit lanes.

  Same as No Build

- **Delineation between pedestrians and transit**

  No change:
  - Median blocks: Pedestrian walks remain directly adjacent to transit lane and do not meet guidance for physical separation and delineation of pedestrian and vehicular areas.

  Ranks third:
  - Median blocks: Pedestrian walks remain directly adjacent to transit lane and do not meet guidance for physical separation and delineation of pedestrian and vehicular areas.

  Ranks best:
  - Center running blocks: Pedestrian walks separated and delineated by tree/amenity zones as recommended by guidance. Ability to shift pedestrian walks to store

  Ranks second best:
  - Center running blocks: Pedestrian walks separated and delineated by tree/amenity zones as recommended by guidance. Ability to shift pedestrian walks to store

  Same as No Build

- **Pedestrian overflow into transit lanes**

  No change:
  - Median blocks: 8' outer pedestrian walks remain undersized, resulting in pedestrian overflow into transit lanes.
  - Asymmetrical blocks: 8' outer pedestrian walks on narrow side of block remain undersized, resulting in pedestrian overflow into transit lanes.
  - 14' walkways on wide side of block accommodate pedestrians without overflow into transit lanes.

  Ranks third:
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  Ranks best:
  - Center running blocks: 10' minimum pedestrian walks accommodate pedestrians without overflow into transit lanes.

  Ranks second Best:
  - Center running blocks: 10' minimum pedestrian walks accommodate pedestrians without overflow into transit lanes.
  - New Asymmetrical blocks: 10' and 14' walkways on asymmetrical blocks accommodate pedestrians without overflow into transit lanes.

  Same as No Build

- **Delineation between pedestrians and transit**

  No change:
  - Median blocks: Pedestrian walks remain directly adjacent to transit lane and do not meet guidance for physical separation and delineation of pedestrian and vehicular areas.

  Ranks third:
  - Median blocks: Pedestrian walks remain directly adjacent to transit lane and do not meet guidance for physical separation and delineation of pedestrian and vehicular areas.

  Ranks best:
  - Center running blocks: Pedestrian walks separated and delineated by tree/amenity zones as recommended by guidance. Ability to shift pedestrian walks to store

  Ranks second best:
  - Center running blocks: Pedestrian walks separated and delineated by tree/amenity zones as recommended by guidance. Ability to shift pedestrian walks to store

  Same as No Build

- **Pedestrian overflow into transit lanes**

  No change:
  - Median blocks: 8' outer pedestrian walks remain undersized, resulting in pedestrian overflow into transit lanes.
  - Asymmetrical blocks: 8' outer pedestrian walks on narrow side of block remain undersized, resulting in pedestrian overflow into transit lanes.
  - 14' walkways on wide side of block accommodate pedestrians without overflow into transit lanes.

  Ranks third:
  - Median blocks: 8' outer pedestrian walks remain undersized, resulting in pedestrian overflow into transit lanes.
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  Ranks best:
  - Center running blocks: 10' minimum pedestrian walks accommodate pedestrians without overflow into transit lanes.

  Ranks second Best:
  - Center running blocks: 10' minimum pedestrian walks accommodate pedestrians without overflow into transit lanes.
  - New Asymmetrical blocks: 10' and 14' walkways on asymmetrical blocks accommodate pedestrians without overflow into transit lanes.

  Same as No Build
| Category                        | Criteria                                                                 | No Build                                                                                                                                                                                                 | Median & New Asymmetrical blocks: Pedestrian walks separated and delineated by tree/amenity zones as recommended by guidance on wide side of block. Ability to shift pedestrian walk to store front on wide side of block to further separate pedestrians from transit. Pedestrian walks on narrow side of block remain directly adjacent to transit lane and do not meet guidance for physical separation and delineation of pedestrian and vehicular areas. 4” curb of same appearance and material as pedestrian and transit surface is the only delineation between pedestrian and transit areas. | Center Running: No new Asymmetrical blocks. Additional options for delineation between pedestrian and transit areas: Retain existing 4” curb; install higher curb between walks and transit; Barrier or bollards between walks and transit; shift pedestrian walks adjacent to store fronts; provide visual and/or tactile difference in materials between walks and transit; use technology to delineate walks and transit, such as colored lights. | Center and New Asymmetrical blocks: Same as Median & New Asymmetrical alternative. Options for delineation between pedestrian and transit areas: Same options for delineation between pedestrian and transit areas as Median & New Asymmetrical Alternative. Rebuild in Existing Configuration: No new Asymmetrical blocks. Additional options for delineation between pedestrian and transit areas: Same options for delineation between pedestrian and transit areas as Median & New Asymmetrical Alternative. | Rebuild in Existing Configuration: No new Asymmetrical blocks. Additional options for delineation between pedestrian and transit areas: Same options for delineation between pedestrian and transit areas as Median & New Asymmetrical Alternative. | Partial Repair: No new Asymmetrical blocks. Additional options for delineation between pedestrian and transit areas: Same options for delineation between pedestrian and transit areas as Median & New Asymmetrical Alternative. |
### Alternatives Analysis and Environmental Clearance

<table>
<thead>
<tr>
<th>Category</th>
<th>Criteria</th>
<th>Alternatives</th>
<th>No Build</th>
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<th>Partial Repair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher crash numbers adjacent to median blocks (Arapahoe to Tremont)</td>
<td>• Ability to address higher crash locations from Arapahoe to Tremont</td>
<td>Moderate improvement to higher crash locations: Intersection bulb outs reduce cross street width at intersections, providing moderate safety benefit from reduced crossing distance and improved visibility/conspicuity for pedestrians. Same number of conflict points remain at each intersection and block.</td>
<td>No change: Same street cross section and conflict/crossing points – median and asymmetrical geometrics remain. Same number of conflict points remain at each intersection and block, and same cross street width remains in place.</td>
<td>Greater improvement to higher crash locations: Intersection bulb outs reduce cross street width at intersections, providing moderate safety benefit from reduced crossing distance and improved visibility/conspicuity for pedestrians. Number of conflict points reduced at intersections and within blocks, in former median blocks.</td>
<td>Greatest improvement to higher crash locations: Intersection bulb outs reduce cross street width at intersections, providing moderate safety benefit from reduced crossing distance and improved visibility/conspicuity for pedestrians. Number of conflict points reduced at intersections and within blocks, in former median blocks.</td>
<td>Moderate improvement to higher crash locations: Intersection bulb outs reduce cross street width at intersections, providing moderate safety benefit from reduced crossing distance and improved visibility/conspicuity for pedestrians. Same number of conflict points remain at each intersection and block.</td>
<td>Moderate improvement to higher crash locations: Intersection bulb outs reduce cross street width at intersections, providing moderate safety benefit from reduced crossing distance and improved visibility/conspicuity for pedestrians. Same number of conflict points remain at each intersection and block.</td>
<td></td>
</tr>
<tr>
<td>Slick pavement surface causes pedestrian slips and falls, bus traction problems, compounded by snowy or icy conditions in winter</td>
<td>• Pavement surface reduces “slip, trip and fall” risks</td>
<td>Not a discriminator: Pavement design options comprise granite pavers with a higher friction finish, unit pavers, precast concrete, and cast-in-place concrete.</td>
<td>No change: Slick granite surface would remain the same assuming no further modifications.</td>
<td>Not a discriminator: Pavement design options comprise granite pavers with a higher friction finish, unit pavers, precast concrete, and cast-in-place concrete.</td>
<td>Not a discriminator: Pavement design options comprise granite pavers with a higher friction finish, unit pavers, precast concrete, and cast-in-place concrete.</td>
<td>Not a discriminator: Pavement design options comprise granite pavers with a higher friction finish, unit pavers, precast concrete, and cast-in-place concrete.</td>
<td>Ranks below other action alternatives: Granite pavers in transit lanes would be cleaned and refinished to improve surface friction.</td>
<td></td>
</tr>
<tr>
<td>Safety and security systems should be upgraded to current standards.</td>
<td>• Ability to accommodate future technology for security best practices</td>
<td>Not a discriminator: Installs new fiber optic and upgraded electric utilities.</td>
<td>No improvements: No fiber optic or upgraded electric power supply to meet future security technology needs.</td>
<td>Not a discriminator: Installs new fiber optic and upgraded electric utilities.</td>
<td>Not a discriminator: Installs new fiber optic and upgraded electric utilities.</td>
<td>Not a discriminator: Installs new fiber optic and upgraded electric utilities.</td>
<td>Not a discriminator: Installs new fiber optic and upgraded electric utilities.</td>
<td></td>
</tr>
<tr>
<td>Mobility</td>
<td>Regional transit mobility and connectivity and efficient transit operations</td>
<td>Not a discriminator: Frequency of pavement maintenance impacts on bus operations substantially</td>
<td>Frequency of pavement maintenance impacts on bus operations substantially</td>
<td>Frequency of pavement maintenance impacts on bus operations substantially</td>
<td>Frequency of pavement maintenance impacts on bus operations substantially</td>
<td>Frequency of pavement maintenance impacts on bus operations substantially</td>
<td>Ranks below other action alternatives: Replacement of sub-base reduces</td>
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</tr>
<tr>
<td>Frequent maintenance disrupts transit operations, and will be</td>
<td>• Maintenance effects on bus operations</td>
<td>No change: Maintenance frequency continues to</td>
<td>Not a discriminator: Frequency of pavement maintenance impacts on bus operations substantially</td>
<td>Not a discriminator: Frequency of pavement maintenance impacts on bus operations substantially</td>
<td>Not a discriminator: Frequency of pavement maintenance impacts on bus operations substantially</td>
<td>Not a discriminator: Frequency of pavement maintenance impacts on bus operations substantially</td>
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## Alternatives Analysis and Environmental Clearance

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<tr>
<td>more disruptive as ridership increases</td>
<td>efficiency and requirements</td>
<td>increase, slowing bus operations.</td>
<td>reduced from current conditions, under any pavement design option.</td>
<td>reduced from current conditions, under any pavement design option.</td>
<td>reduced from current conditions, under any pavement design option.</td>
<td>reduced from current conditions, under any pavement design option.</td>
<td>frequency of maintenance impacts on bus operations.</td>
</tr>
<tr>
<td>The demand for transit services is projected to increase to 70,000 riders/day in 2035</td>
<td>• Provision of connectivity between Denver Union Station and Civic Center Station, and crossing bus and light rail routes in between</td>
<td>No change: Maintains existing connection. Service expansion options comprise operating buses in tandem or procuring larger buses.</td>
<td>Same as No Build</td>
<td>Same as No Build</td>
<td>Same as No Build</td>
<td>Same as No Build</td>
<td>Same as No Build</td>
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<tr>
<td></td>
<td>• Accommodation of tandem and/or larger buses at bus stops</td>
<td>Not a discriminator: Accommodates tandem and/or larger buses; no permanent elements (trees, lights) prevent bus boarding along length of block.</td>
<td>Not a discriminator: Accommodates tandem and/or larger buses; no permanent elements (trees, lights) prevent bus boarding along length of block.</td>
<td>Not a discriminator: Accommodates tandem and/or larger buses; no permanent elements (trees, lights) prevent bus boarding along length of block.</td>
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<td>Not a discriminator: Accommodates tandem and/or larger buses; no permanent elements (trees, lights) prevent bus boarding along length of block.</td>
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<tr>
<td>Transit operations will become increasingly difficult as the volume of passengers and pedestrian use increases on the Mall</td>
<td>• Effect on transit operations</td>
<td>Not endorsed by RTD: Maintains slick surface, high maintenance frequency, and maneuvering between median and asymmetrical blocks.</td>
<td>Agreeable, but less preferred, by RTD: bus operators need to protect both the curb and median of block.</td>
<td>Most preferred by RTD: buses operate on continuous lane assignment throughout Mall and bus operators need to protect only the curb side of the bus. Eliminating the median improves the safety of bus operations.</td>
<td>Most preferred by RTD: buses operate on more continuous lane assignment throughout Mall and bus operators need to protect only the curb side of the bus. Eliminating the median improves the safety of bus operations.</td>
<td>Agreeable, but less preferred, by RTD: bus operators need to protect both the curb and median sides of the bus.</td>
<td>Agreeable, but less preferred, by RTD: bus operators need to protect both the curb and median sides of the bus.</td>
</tr>
<tr>
<td>During construction the efficiency of transit operations will be dramatically reduced</td>
<td>• Minimum disruption during construction</td>
<td>Lowest impact: limited to maintenance activities which vary by year.</td>
<td>Comparable to other action alternatives except Partial Repair: Major impact during the construction period; length of construction period varies depending on pavement design.</td>
<td>Comparable to other action alternatives except Partial Repair: Major impact during the construction period; length of construction period varies depending on pavement design.</td>
<td>Comparable to other action alternatives except Partial Repair: Major impact during the construction period; length of construction period varies depending on pavement design.</td>
<td>Comparable to other action alternatives except Partial Repair: construction would occur primarily in the transit lanes and would have less disruption in the pedestrian areas.</td>
<td>Less impact than the other action alternatives: construction would occur primarily in the transit lanes and would have less disruption in the pedestrian areas.</td>
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<tr>
<td>Pedestrian mobility</td>
<td>• Pedestrian volumes and accessibility guidelines are accommodated</td>
<td>No change:</td>
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<td>Median blocks: Pedestrian volumes and accessibility guidelines notaccommodated - 1,920 pedestrians/hour on 8'walks next to patio/ gathering space.</td>
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<td>New Asymmetrical blocks: Pedestrian volumes and accessibility guidelines areaccommodated - 2,400 pedestrians/hour on 10'walks next to patio/ gathering space on narrow side of block; 3,360 pedestrians/hour on 14'walks on wide side of block, with additional space for pedestrians and/or amenities.</td>
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<td>Minimal change from No Build:</td>
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<td>Median blocks: No change from No Build</td>
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<td>New Asymmetrical blocks: Pedestrian volumes and accessibility guidelines areaccommodated -2,400 pedestrians/hour on 10'walks next to patio/ gathering space, with additional space for pedestrians and/or amenities.</td>
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<td>Ranks second best: Center running blocks:</td>
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<td>Center running blocks: Pedestrian volumes and accessibility guidelines areaccommodated - 2,400 pedestrians/hour on 10'walks next to patio/ gathering space, with additional space for pedestrians and/or amenities.</td>
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<td>Walkways on both sides of blocks are wide enough for</td>
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<td>Same as No Build</td>
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<tr>
<td>Public Use Functionality</td>
<td>• Width for patio and gathering space</td>
<td>No change:</td>
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<td>Median Blocks: Walkways in outer pedestrian areas ofmedian blocks are not wide</td>
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</tbody>
</table>

Sidewalks are undersized for pedestrian volumes and Pedestrian ROW Accessibility Guidelines, which require 10’ walks for passing.

Pedestrian volumes and accessibility guidelines are accommodated.

Minimal change from No Build:

- Median blocks: No change from No Build
- New Asymmetrical blocks: Pedestrian volumes and accessibility guidelines are accommodated -2,400 pedestrians/hour on 10’ walks next to patio/ gathering space, with additional space for pedestrians and/or amenities.

Ranks second best:

- Center running blocks: Pedestrian volumes and accessibility guidelines are accommodated - 2,400 pedestrians/hour on 10’ walks next to patio/ gathering space, with additional space for pedestrians and/or amenities.

Ranks best:

- Center running blocks: Pedestrian volumes and accessibility guidelines are accommodated - 2,400 pedestrians/hour on 10’ walks next to patio/ gathering space, with additional space for pedestrians and/or amenities.

New Asymmetrical blocks: Pedestrian volumes and accessibility guidelines are accommodated - 2,400 pedestrians/hour on 10’ walks next to patio/ gathering space, with additional space for pedestrians and/or amenities.

Same as No Build

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<tr>
<td>accommodate patio/ gathering space and pedestrian needs.</td>
<td>enough to accommodate 9' patio/ gathering space and 10' pedestrian walk. Medians are not conducive to stationary gathering activities because they are too narrow, lack edges, and are surrounded by transit shuttles. Asymmetrical Blocks: Walkways on narrow sides of asymmetrical blocks are not wide enough to accommodate 9' patio/ gathering space and 10' pedestrian walk.</td>
<td>enough to accommodate 9' patio/ gathering space and 10' pedestrian walk. Medians are not conducive to stationary gathering activities because they are too narrow, lack edges, and are surrounded by transit shuttles.</td>
<td>9' patio/ gathering space and 10' pedestrian walk, with additional space for amenities and/or pedestrians.</td>
<td>9' patio/ gathering space and 10' pedestrian walk, with additional space for amenities and/or pedestrians. New Asymmetrical Blocks: Walkways on both sides of asymmetrical blocks are wide enough to accommodate 9' patio/ gathering space and 10' pedestrian walk, with additional space for amenities and/or pedestrians on wide side.</td>
<td>9' patio/ gathering space and 10' pedestrian walk, with additional space for amenities and/or pedestrians. New Asymmetrical Blocks: Walkways on both sides of asymmetrical blocks are wide enough to accommodate 9' patio/ gathering space and 10' pedestrian walk, with additional space for amenities and/or pedestrians on wide side.</td>
<td>9' patio/ gathering space and 10' pedestrian walk, with additional space for amenities and/or pedestrians. New Asymmetrical Blocks: Walkways on both sides of asymmetrical blocks are wide enough to accommodate 9' patio/ gathering space and 10' pedestrian walk, with additional space for amenities and/or pedestrians on wide side.</td>
</tr>
<tr>
<td>Negative perception of safety and lack of natural surveillance inhibits positive public use of Mall.</td>
<td>Adherence to best practices for natural surveillance, activation, and positive public use of pedestrian and gathering areas.</td>
<td>No change: Median blocks have low public use and natural surveillance, increased negative behaviors (e.g., panhandling8), and decreased sense of safety due to size, physical separation from primary walkways, and frequent shuttle service on each side. Asymmetrical blocks can accommodate best practices for natural surveillance and</td>
<td>Same as No Build</td>
<td>Improved over No Build: Replaces public space in medians with consolidated public space adjacent to buildings, increasing natural surveillance and adhering to safety and security best practices.</td>
<td>Improved over No Build: Replaces public space in medians with consolidated public space adjacent to buildings, increasing natural surveillance and adhering to safety and security best practices. New Asymmetrical blocks can accommodate best practices for natural surveillance and accommodate positive public use and activities.</td>
<td>Same as No Build</td>
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<tr>
<td>Community and Environment</td>
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<tr>
<td>Construction impacts</td>
<td>• Construction impacts</td>
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<tr>
<td></td>
<td>Lowest impact: limited to maintenance activities which vary by year.</td>
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<td></td>
<td>Comparable to other action alternatives except Partial Repair: Major impact during the construction period; length of construction period varies depending on pavement design.</td>
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<td>Less impact than other action alternatives: construction would occur primarily in the transit lanes and would have less disruption in the pedestrian areas than the other action alternatives.</td>
<td></td>
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<tr>
<td>Environmental impacts</td>
<td>• Historic resources impacts</td>
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<tr>
<td></td>
<td>Minimal change from existing conditions: The rate at which the Mall deteriorates from use would increase as ridership and pedestrian use increase.</td>
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<td></td>
<td>Ad hoc replacement of pavers would continue.</td>
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<td></td>
<td>Impacts historic properties. More change than Rebuild in Existing Configuration and Partial Repair alternatives: Median blocks maintain historic design. New Asymmetrical blocks modify historic design; can accommodate existing pavement pattern and spatial relationships, with some adjustments.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Impacts historic properties. More change than Rebuild in Existing Configuration and Partial Repair alternatives: Center running design replaces both median and asymmetrical blocks. Ability to accommodate existing pavement pattern, with minor adjustments.</td>
<td></td>
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<tr>
<td></td>
<td>Impacts historic properties. More change than Rebuild in Existing Configuration and Partial Repair alternatives: Center running design replaces median blocks. Ability to accommodate existing pavement pattern, with minor adjustments.</td>
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<tr>
<td></td>
<td>Impacts historic properties. Less change than all but the Partial Repair alternative: No change in spatial configuration or pavement pattern, but more change than Partial Repair alternative due to reconstruction of entire Mall.</td>
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<tr>
<td></td>
<td>Impacts historic properties. Least change from existing conditions: No change in spatial configuration or pavement pattern.</td>
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<tr>
<td>• Socioeconomic impacts</td>
<td>Minimal changes from existing conditions.</td>
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<td></td>
<td>Minimal changes to social, economic, and land use resources. Asymmetrical blocks perpetuate inequitable distribution of amenity</td>
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<tr>
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<td>Potential benefits to social, economic, and land use resources due to higher public use, perception of safety, and equitable distribution of safety.</td>
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<td>Potential benefits to social, economic, and land use resources due to higher public use and perception of safety.</td>
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<td>Minimal changes to social, economic, visual, and land use resources. Asymmetrical blocks perpetuate inequitable distribution of amenity</td>
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<td>space and sidewalk capacity fronting businesses. Wide sides of block allow more space for walking and gathering than narrow sides, resulting in larger customer base adjacent to businesses on wide sides.</td>
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- Natural resources impacts: Minimal changes from existing conditions. Not a discriminator: Replaces 400,000 square feet (sf) of hardscape, installs water quality treatment - benefit to water quality. No changes to other resources. Not a discriminator: Replaces 400,000 square feet (sf) of hardscape, installs water quality treatment - benefit to water quality. No changes to other resources. Not a discriminator: Replaces 400,000 square feet (sf) of hardscape, installs water quality treatment - benefit to water quality. No changes to other resources. Not a discriminator: Replaces 400,000 square feet (sf) of hardscape, installs water quality treatment - benefit to water quality. No changes to other resources. Not a discriminator: Replaces 400,000 square feet (sf) of hardscape, installs water quality treatment - benefit to water quality. No changes to other resources.

- Public and agency support: Not supported: Not supported by CCD, RTD, or DDP. Not strongly supported: Not strongly supported by CCD, RTD, or DDP. Highest support: Strongly supported by CCD and DDP. Supported by RTD due to improved guideway geometry as compared to the other build alternatives. Second highest support: Not as strongly supported by CCD or DDP when compared to the Center Running alternative. Supported by RTD due to improved guideway. Not supported: Not supported by CCD or DDP. Neutral support by RTD. Not supported: Not supported by CCD, RTD, or DDP.
### Alternatives Analysis and Environmental Clearance

#### Category | Criteria | Alternatives | No Build | Median & New Asymmetrical | Center Running | Rebuild in Existing Configuration | Partial Repair
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*Level of Public Support as demonstrated at public meetings and hearings*

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<td>Ability to meet the project Purpose and Need</td>
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<td>• Replaces failing infrastructure</td>
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<td>• Improves pedestrian safety and mobility on asymmetrical blocks through wider sidewalks; does not physically separate pedestrian walk from transit lane on narrow side of asymmetrical block</td>
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<td>• Supports future transit mobility</td>
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<td>• Does not meet requirements for sidewalk and patio/gathering space width</td>
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<td>• Does not adhere to best practices for natural surveillance and public activation on median blocks</td>
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<td>• Does not provide flexibility for public use as well as the alternatives with center running blocks</td>
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<td>• Provides flexibility for public use by allowing pedestrian walks to shift against building fronts to consolidate</td>
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10
## Alternatives Analysis and Environmental Clearance

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<th>Center and New Asymmetrical</th>
<th>Rebuild in Existing Configuration</th>
<th>Partial Repair</th>
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<td>surveillance and public activation</td>
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### Notes:
1. ADA deficiencies and recommendations documented in MTC, A Discussion of Accessibility Issues for the 16th Street Mall Project, 2010.
2. One foot of sidewalk width can comfortably carry 4 pedestrians/minute and 240 pedestrians/hour (Jan Gehl, *Cities for People*, Island Press, 2010). Existing 8-foot walks are too narrow for peak period pedestrian volumes (see footnote 5) and pedestrian right-of-way accessibility guidelines (see footnote 6), which recommend 10’ walks for passing.
4. Existing (2015) midday peak pedestrian volumes are 3,000 pedestrians/hour Lawrence to Arapahoe (near DUS neighborhood) and 3,900 pedestrians/hour Welton to Glenarm (CBD neighborhood) (Gehl Studio, Downtown Denver 16th Street Mall: Small Steps Towards Big Change, February 2016). Future (2040) minimum midday peak pedestrian volumes estimated at 4,600 pedestrians/hour in CBD and 4,000 pedestrians/hour in DUS neighborhood, based on existing peak hour pedestrian volumes growing at rate of forecasted employment growth from 2015-2040 of 32% in DUS neighborhood and 18% in CBD neighborhood (based on Denver Regional Council of Governments employment forecasts, 2017).
6. The architectural standard for dining space recommends 300 square inches per diner. Common industry table sizes that meet this standard are 30” X 42” and 30” X 48” for four-person tables and 30” X 24” for two-person tables. The standard aisle width is 36” - 42”. Using the smallest industry standards of 42”-wide four-top table, 36” aisle, and 24”-wide two-top table results in a patio width of 102” or 8.5’ without a barrier railing, and 9’ with a barrier railing. Additionally, patio permits currently issued by BID require 10’ separation from transit lanes, resulting in 9’ patios.
7. People prefer to gather at edges, and people inherently back away from fast moving objects (Jan Gehl, *Cities for People*, Island Press, 2010).
8. 88% of panhandling occurs on median blocks (Downtown Denver Business Improvement District Downtown Ambassadors, 16th Street Mall Panhandling Surveys, March 22 – August 29, 2015).
## Alternative Studies

### Section Studies

**Center Running Transit**

- Maintains 9 foot cafe seating zone
- 10 foot clear pedestrian zone
- Creates 9 foot public amenity zone

**New Asymmetrical**

- Maintains 9-12 foot cafe seating zone
- 10 foot clear pedestrian zone
- Creates 9 foot public amenity zone

### Plan & Pattern Studies

**Center Running Transit**

- Tree aligns along entire length of street
- Consolidated 16 foot public amenity & cafe zone

**New Asymmetrical**

- 12 foot clear pedestrian zone along building facade
- Consolidated 12-20 foot public amenity & cafe zone
Pattern and Organization

- Apalooza Grill
- Pho Vietnamese Grill
- Paramount Cafe
- Marlowe’s
- Henry’s Tavern
- H&M

- Welton Street
- Glenarm Street
- Sidewalk
- Transit

Pattern and Organization
New Asymmetrical

Pattern and Organization

Tabor Center

Cheesecake Factory

Blue Agave Grill

Smashburger

Mellow Mushroom

Overland Sheepskin Co.

Writer Square
## 16th Street Mall Properties within the Area of Potential Effects

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<th>Site ID</th>
<th>Site Name</th>
<th>Address</th>
<th>Assessment</th>
<th>Date Recorded*</th>
<th>Site Type</th>
<th>Style</th>
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<th>Construction Date</th>
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<td>1642 - 1644 MARKET ST.</td>
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<td>STEEL’S DEPARTMENT STORE; STEEL’S CORNER; STEEL BUILDING; FONTIUS BUILDING; SAGE BUILDING</td>
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<td>1544 - 1546 CLEVELAND PL.</td>
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<td>DANIELS &amp; FISHER TOWER - DANIELS, FISHER &amp; COMPANY (DRY GOODS) - MAY D &amp; F TOWER</td>
<td>1101 16TH ST., DENVER, CO, Denver&gt;1601 ARAPAHOE ST.</td>
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<td>JOHNSON, HOPSON &amp; PARTNERS</td>
<td>1983 - 1990</td>
<td></td>
</tr>
<tr>
<td>5DV.47.78</td>
<td>DAVE COOK</td>
<td>1350 16TH ST.</td>
<td>Non-contributing to NPS Certified District</td>
<td>1983</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5DV.1725</td>
<td>Independence Plaza Prudential Plaza</td>
<td>1001 16th St, 1050 17th St.</td>
<td>Not Eligible - Field</td>
<td>6/5/1905</td>
<td>OFFICE BUILDING</td>
<td>INTERNATIONAL STYLE</td>
<td>1971</td>
<td></td>
</tr>
<tr>
<td>5DV.1790</td>
<td>HUDSON'S BAY CENTRE</td>
<td>1600 STOUT ST.</td>
<td>Not Eligible - Field</td>
<td>09/01/1983</td>
<td>INTERNATIONAL STYLE</td>
<td>1982 - 1985</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5DV.1832</td>
<td>SECURITY LIFE BUILDING ~ 1600 GLENARM PLACE</td>
<td>1616 GLENARM PL.</td>
<td>Not Eligible - Field</td>
<td>11/19/1983</td>
<td>COMMERCIAL BUILDING</td>
<td>COMMERCIAL STYLE</td>
<td>1965 - 1965</td>
<td></td>
</tr>
<tr>
<td>5DV.1838</td>
<td>TREMONT PARKING CENTER</td>
<td>15TH ST. AND TREMONT</td>
<td>Not Eligible - Field</td>
<td>11/19/1983</td>
<td>PARKING GARAGE</td>
<td>COMMERCIAL STYLE</td>
<td>1982 - 1985</td>
<td></td>
</tr>
<tr>
<td>5DV.1854</td>
<td>HILTON HOTEL;RADISSON HOTEL;ADAMS MARK HOTEL</td>
<td>1550 COURT PL.</td>
<td>Not Eligible - Field</td>
<td>2/1/1993</td>
<td>INTERNATIONAL STYLE</td>
<td>PEI, I.M.;COSSUTTA, ARALDO</td>
<td>1958 - 1960</td>
<td></td>
</tr>
<tr>
<td>5DV.1858</td>
<td>ONE CIVIC CENTER PLAZA</td>
<td>16TH ST. AND BROADWAY</td>
<td>Not Eligible - Field</td>
<td>11/19/1983</td>
<td>COMMERCIAL BUILDING</td>
<td>COMMERCIAL STYLE</td>
<td>1983 - 1985</td>
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<tr>
<td>5DV.1879</td>
<td>COLUMBINE PLACE</td>
<td>218 16TH ST.</td>
<td>Not Eligible - Field</td>
<td>11/19/1983</td>
<td>COMMERCIAL BUILDING</td>
<td>COMMERCIAL STYLE</td>
<td>1982 - 1985</td>
<td></td>
</tr>
<tr>
<td>5DV.4214</td>
<td>SHOPS AT TABOR CENTER</td>
<td>1201 16TH ST.</td>
<td>Not Eligible - Field</td>
<td>02/01/1993</td>
<td>MODERN MOVEMENTS</td>
<td>URBAN DESIGN GROUP</td>
<td>1984 - 1985</td>
<td></td>
</tr>
<tr>
<td>Site ID</td>
<td>Site Name</td>
<td>Address</td>
<td>Assessment</td>
<td>Date Recorded*</td>
<td>Site Type</td>
<td>Style</td>
<td>Architect</td>
<td>Construction Date</td>
</tr>
<tr>
<td>---------</td>
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</tr>
<tr>
<td>5DV.4215</td>
<td>ONE TABOR CENTER</td>
<td>1200 17TH ST.</td>
<td>Not Eligible - Field</td>
<td>02/01/1993</td>
<td>SKYSCRAPER</td>
<td></td>
<td>KOHN, PEDERSON &amp; FOX</td>
<td>1985 -</td>
</tr>
<tr>
<td>5DV.4216</td>
<td>WESTIN HOTEL</td>
<td>1672 LAWRENCE ST.</td>
<td>Not Eligible - Field</td>
<td>02/01/1993</td>
<td>MODERN MOVEMENTS</td>
<td></td>
<td>URBAN DESIGN GROUP</td>
<td>1985 -</td>
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<tr>
<td>5DV.5298</td>
<td>WALGREENS</td>
<td>801 16TH ST.</td>
<td>Not Eligible - Field</td>
<td>11/01/1983</td>
<td>RETAIL</td>
<td>COMMERCIAL STYLE</td>
<td></td>
<td>1955 -</td>
</tr>
<tr>
<td>5DV.8274</td>
<td>SKYLINE PARK</td>
<td>1500-1800 ARAPAHOE ST.</td>
<td>Not Eligible - Field</td>
<td>09/19/2002</td>
<td>NO STYLE</td>
<td></td>
<td>HALPREN, LAWRENCE</td>
<td>1973 - 1973</td>
</tr>
<tr>
<td>5DV.1859</td>
<td>COLORADO STATE BANK</td>
<td>1600 BROADWAY</td>
<td>Not Eligible - Officially</td>
<td>10/5/2006</td>
<td>MODERN MOVEMENTS</td>
<td></td>
<td>UNKNOWN ARCHITECT</td>
<td>1976 - 1978</td>
</tr>
<tr>
<td>5DV.5994</td>
<td>DENVER PAVILIONS</td>
<td>400-498 16TH ST., 500-588 16TH ST.</td>
<td>Not Eligible - Officially</td>
<td></td>
<td>MODERN MOVEMENTS</td>
<td></td>
<td>UNKNOWN ARCHITECT</td>
<td>1997 - 1998</td>
</tr>
<tr>
<td>5DV.7043</td>
<td>US BANK PARKING GARAGE</td>
<td>951 16TH ST.</td>
<td></td>
<td></td>
<td>MODERN MOVEMENTS</td>
<td></td>
<td>TRYBA, DAVID O.</td>
<td>1999 - 1999</td>
</tr>
</tbody>
</table>

*Most recent
Figure 2
Historic Properties
16th Street Mall
January 2018
Figure 5
Historic Properties
16th Street Mall
January 2018
Figure 6
Historic Properties
16th Street Mall
January 2018
Jenny,

We definitely will. Also, I had told you I would send you an email so you would know how to get in touch with me. Don’t hesitate to call or email me anytime.

Susan

Thank you,

SUSAN A WOOD, AICP
Planning Project Manager
Regional Transportation District - FasTracks
1560 Broadway, Suite 700
Denver, CO 80202
Office: 303-299-2467

Jennifer, Please keep us in the loop on when the next consulting parties meeting will be held.

Jenny

Jennifer L. Buddenborg | SENIOR FIELD OFFICER
P 720.634.5113  F 303.623.1508
NATIONAL TRUST FOR HISTORIC PRESERVATION
Denver Field Office
1420 Ogden Street, Suite 203  Denver, CO 80218
SavingPlaces.org

Jenny and Betsy – Attached is the Purpose and Need statement for the 16th Street Mall project. This was submitted to the consulting parties in September of last year, but has not changed since then.
Thanks!

Sara S. Orton  
ch2m is now Jacobs  
Cultural Resources Planner  
Direct 1 504 832 9520  x59520  
Cell 1 504 810 0017

From: Orton, Sara/NWO  
Sent: Friday, January 19, 2018 8:53 AM  
To: 'Jennifer Buddenborg' <JBuddenborg@savingplaces.org>  
Cc: Betsy Merritt <emerritt@savingplaces.org>; Susan.Wood@RTD-Denver.com  
Subject: RE: Consulting Party Meeting January 11, 2018 [EXTERNAL]

Hi Jenny – Yes. Let me ask the environmental team for the most recent iteration of the purpose and need and I will forward to you and Betsy. Thanks so much for coming to the meeting. I have been travelling a lot since then and am afraid I may have promised you other materials that I have yet to send. Is there anything else I promised to send?

Thanks.

Sara S. Orton  
ch2m is now Jacobs  
Cultural Resources Planner  
Direct 1 504 832 9520  x59520  
Cell 1 504 810 0017

From: Jennifer Buddenborg [mailto:JBuddenborg@savingplaces.org]  
Sent: Thursday, January 18, 2018 1:56 PM  
To: Orton, Sara/NWO <Sara.Orton@CH2M.com>  
Cc: Betsy Merritt <emerritt@savingplaces.org>  
Subject: RE: Consulting Party Meeting January 11, 2018 [EXTERNAL]

Hi Sara,

Nice to meet you last week at the 16th Street Mall consultation meeting. Would you mind sending along the purpose and need statement for the undertaking? I have yet to see it.

Thanks,
Jenny

Jennifer L. Buddenborg | SENIOR FIELD OFFICER  
P 720.634.5113  F 303.623.1508  
NATIONAL TRUST FOR HISTORIC PRESERVATION  
Denver Field Office  
1420 Ogden Street, Suite 203  Denver, CO 80218  
SavingPlaces.org
Thank you, Sara. I look forward to meeting you, too.

Best,

Jenny

Jennifer L. Buddenborg | SENIOR FIELD OFFICER
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NATIONAL TRUST FOR HISTORIC PRESERVATION
Denver Field Office
1420 Ogden Street, Suite 203  Denver, CO 80218
SavingPlaces.org

Jenny and Betsy – Last email. These are the meeting materials for tomorrow’s meeting.

Thanks again. I look forward to meeting you, Jenny.

Sara S. Orton
ch2m is now Jacobs
Cultural Resources Planner
Direct 1 504 832 9520  x59520
Cell 1 504 810 0017

Consulting Parties – Attached please find the meeting materials for our meeting next on Thursday, 1/11/18, from 2:00 – 5:00 at RTD.

Below is the list of items attached. The first 3 are in a single pdf; the second 2 are in a single pdf and the final document is in a pdf on its own.

1. Agenda
2. Presentation
3. Historic Properties Summary Spreadsheet
4. Level 2 Alternatives Evaluation Matrix
5. Development of Range of Alternatives Matrix
6. Alternative Studies

Please contact me if you don’t receive all the items on this list. You can also contact Darin Allan with FTA at darin.allan@dot.gov or Susan Wood with RTD at susan.wood@rtd-denver.com if you any other questions or comments.

Thank you.

Sara S. Orton
Cultural Resources Planner
National Governments Client Sector
Direct 1 504 832 9520 x59520
Cell 1 504 810 0017

ch2m is now Jacobs
1515 Poydras Street, Suite 1550
New Orleans, LA 70112
www.ch2m.com | LinkedIn | Twitter | Facebook
Dear Darin & Susan,

Attached and below are a few additional comments on the Form 1403. We appreciate that a number of our previous comments were incorporated and expanded upon. We did add note in a couple locations that the original tree plan included both Honey Locusts and Red Oaks, with the honey locusts planted on the center blocks (median blocks) and the Red Oaks on the end blocks. While the Red Oaks did not fare as well and are mostly gone, some replaced by Honey Locusts, they were a part of the original design.

Our primary comment pertains to the level of the Mall’s significance. We continue to believe it has national significance, as we indicated on the first 1403 draft. To further explore that question we reached out to the National Trust for Historic Preservation and ultimately the National Park Service, and they are investigating the Mall’s National Historic Landmark potential. We will look forward to their evaluation, as we think it’s important to understand the full significance of the Mall as a unique post-modern resource, and its degree of uniqueness is pertinent to the conversations about minimization and mitigation in the current process.

Please let me know if you have any questions.

Thanks-

Annie

Annie Robb Levinsky  
Executive Director  
Historic Denver, Inc  
1420 Ogden St.  
Denver, CO 80218  
303-534-5288 ext. 1  
www.historicdenver.org

ARCHITECTURAL INVENTORY FORM

I. IDENTIFICATION

1. Resource number: 5DV7044
2. Temporary resource number: 
3. County: Denver
4. City: Denver
5. Historic building name: 16th Street Transitway | Mall (structure)
6. Current building name: 16th Street Mall (structure)
7. Building address: Broadway northwest to Market Street, 80202
8. Owner name and address: City/County of Denver
   Department of Public Works
   201 West Colfax Avenue
   Denver, Colorado 80202

II. GEOGRAPHIC INFORMATION

9. P.M. 6th Township 3S Range 68W
   ¼ of NE ¼ of SE ¼ of NE ¼ of Section 33
   ¼ of SW ¼ of SW ¼ of NW ¼ of Section 34
   ¼ of NE ¼ of NW ¼ of SW ¼ of Section 34
   ¼ of SW ¼ of NE ¼ of SW ¼ of Section 34
10. UTM reference (center point of structure)
    Zone 135000 513000 543000 593000 mE 43000 95000 99000 mN
11. USGS quad name: Englewood, CO
    Year: 1980 Map scale: 7.5 feet X 15.0 feet
    Attach photo copy of appropriate map section.
12. Lot(s): Block:
    Addition: Year of Addition:
13. Boundary Description and Justification:
   Description: Full width of 16th Street (adjacent building lines on the northeast side to building lines on the southwest side, typically 80 feet) from Broadway at its west line of intersection with 16th Street, northwest 12 blocks to Market Street at its southeast line of intersection with 16th Street, plus the small triangular block bounded by Broadway, 16th Street, and Cleveland Place.
   Justification: This boundary encompasses the original design limits of the 1980 Transitway and Mall design by I.M. Pei & Partners, and Hanna/Olin landscape architects.
### III. Architectural Description (Structural Description)

14. Building plan (footprint, shape): Rectangular (Denver Street Right-of-Way)

15. Dimensions in feet:
   - Length: 4,300 feet
   - Width: 80 feet

16. Number of stories: N/A

17. Primary external wall material(s):
   - Granite paver units in two shades of gray, and one red

18. Roof configuration: N/A

19. Primary external roof material: N/A

20. Special features:
   - Paver pattern, ornamentation

21. General architectural description:
   Designed landscape/streetscape. This property is 12-block, 80-foot-wide transitway and pedestrian corridor with three distinct zones, a central zone with a 22-foot-wide median with 2 parallel rows of trees, and end blocks where the transit lanes are adjacent with a single row of parallel trees. The essential elements of the design, according to the 1977 design concept document, are "paving, planting, and lighting" (Pei, 1977) (described in greater detail in Section 35).

   The intricate paving design and the paving material were used by the designers to establish the character of the mall. The geometry of the pattern, based on the city’s existing street system and corresponding to 16th Street’s 45-degree angle where it meets Broadway, is a 45-degree diagonal grid, which should encourage diagonal pedestrian movement along the mall. The pattern "begins along the street wall as a field of gray paving block which gradually builds in scale as it reaches the center of the mall. The pattern at the edges is deliberately neutral to avoid competition with the varied dimensions of the storefronts and doorways. In the center zone, the pattern becomes more colorful and dominant" (Pei, 1977). The pavement design is carried along the length of the mall by polychrome granite units, generally 1-foot 5-inch by 1-foot 5-inch square granite pavers—charcoal gray, light gray, and "Colorado red" (Cultural Landscape Foundation 2009)—with special curb, ramp, drain, circular, and other units from the same granite color palette. The streetscape also features custom-designed and -built light fixtures, signage, telephone stands, planter and trash receptacles, drinking fountains, and pavement fountains. Consistent tree plantings of 220 oaks and honey locusts are rooted in special underground structural-concrete chambers, 5 feet 5 inches deep, supported by a "suspended pavement system," with custom tree gratings at the pavement plane (deeproot 2014). Architectural style/building type: Modern Movement (See Section 42).

22. Landscaping or special setting features: See Sections 17, 21, 42

23. Associated buildings, features, or objects: The flanking 1980 block faces of buildings, and their evolution throughout the function of the Transitway and Mall after 1980, were accommodated with the landscape/streetscape design, but are not part of the structure. The project incorporated and re-designed the triangular block hosting "United Nations Square" at Cleveland Place and Broadway.

### IV. Architectural History

25. Date of Construction:
   - Estimate: 1982
   - Actual: 1992 (extension from Blake Street to Union Station, later modified northeast of Wynkoop Street, not part of this evaluation)

Source of information: I. M. Pei & Partners, 1980


27. Builder/Contractor: J.A. Walker Company, Denver


28. Original owner: City/County of Denver; same as existing owner

Source of information:

29. Construction history (include description and dates of major additions, alterations, or demolitions):

Following general plans and public input throughout the 1970s (Sixteenth Street Mall Corporation 1973–1974; Regional Transportation District [RTD] 1977–1979), construction began in early 1981 based on the approved 1980 design from the architects/landscape architects team (Historic Denver, Inc. 2012a). Funding of $76 million came from the Urban Mass Transit Administration (UMTA, after 1991 the Federal Transit Administration [FTA]) and RTD, operator of the Mall buses (deeproot 2014). The project began on the northeast end at Market Street and proceeded southeast in increments along the entire 80-foot-wide 16th Street right-of-way. The design cross section specified a transitway concrete base sloping to each curb from an apex centered between the transit lanes (Pei & Partners 1980). Subsequent maintenance and replacement of the granite pavers indicates this concrete base was not built with slopes, or with inadequate slopes and disposition of surface water that permeates into the base through deteriorated paver joints (Harvey 2015).

Oral histories of workers and designers (Historic Denver, Inc. 2012b) described how pedestrian passage, business access, and as much vehicular traffic as possible continued during construction. The contractor encountered and re-located or moved deeper several uncharted steam pipes and water mains as construction progressed. Tree placement in specially designed, irrigated, and drained concrete root chambers under the Mall surfaces presented challenges, especially when completed and paved to match the continuous pavement of the transit lanes and sidewalks (Historic Denver, Inc. 2012b). Construction concluded with a public dedication attended by 200,000 on October 4, 1982. Subsequent to opening, design and construction issues, which resulted in separation of the granite pavers from the joint mortar causing the pavers to sink into the setting bed space, were noted. A civil suit was filed (RTD, et al v. Weaver, et al, Civil Action No. 83-CV-8819) as a result of paver failure on the transitway. The agreement reached was documented in a settlement agreement on September 29, 1986 that released the litigants from future liability and awarded RTD a total amount of $4.07 million to be dispersed over a period of 25 years.

RTD separately contracted designs and construction for its Civic Center Transfer Facility (later named Civic Center Station) as the southeastern Mall-bus terminal, and the Northwest Transfer Facility (later named Market Street Station) as the northwestern terminal including Mall-bus drop off and turnaround in the block between Market and Blake Streets. In 1992 following removal of the 16th Street viaduct across the Union Station railyard, RTD and FTA extended the 16th Street Transitway | Mall from Blake Street to the north side of Union Station and the new Light-Rail terminal there. After 2010 that Transitway | Mall and Light-Rail terminal underwent further reconfiguration to their current services north of the intersection of 16th Street and Chestnut Place in the former
Union Station railyard. RTD performs continual maintenance with FTA assistance on the Transitway, including replacing broken granite pavers and special units. The City/County of Denver has subsequently rebuilt most cross-streets, resulting in a loss (if so installed originally as planned) of the scored concrete intersection surfaces between block lengths of the original 1980 Pei/Olin 16th Street Transitway/Mall design. While it has since been removed, there originally was a bus turn-around at the Civic Center Station.

30. Original location: Yes Moved: Date of move(s):

V. HISTORICAL ASSOCIATIONS

31. Original use(s): Government, Public Works; Landscape, Street Furniture/Object; Transportation, Road-Related (vehicular)

32. Intermediate use(s): 

33. Current use(s): Government, Public Works; Landscape, Street Furniture/Object; Transportation, Road-Related (vehicular)

34. Site type(s): Structure (Designed Landscape)

35. Historical background: Denver leaders, downtown merchants, and the RTD considered numerous plans and solutions to the post-World War II decline of downtown business and recreation, loss of longtime streetcar public transportation once centered on 16th Street, and the simultaneous rise of automobile congestion on Denver's city streets. Following popular trends but also lessons of what worked and did not work in other cities with similar challenges in the 1960s and 1970s, the City/County of Denver, business groups such as the 1970s Sixteenth Street Mall Corporation (1973–1974), RTD, and federal planners decided to convert the city's longtime downtown retail-commercial street to a pedestrian mall with frequent and free transit buses. By 1977 RTD's review of design proposals resulted in commissioning the New York architectural firm of I. M. Pei & Partners teamed with Philadelphia landscape architecture consultant Laurie Olin of Hanna/Olin, and ultimately the Denver landscape architecture firm of Phillip E. Flores Associates, Inc. (RTD 1977; Pei & Partners 1977).

As summarized in the 1977 The Transitway Mall document, the goals of the project were to "lessen traffic congestion" in downtown Denver, "provide more efficient bus service" to Denver's downtown and suburban neighborhoods, and to "create a new pedestrian environment in the downtown – a place for people" (Pei & Partners, 1977). The basic, over-arching design elements on which the design was based were: "a double row of Honey Locust trees flanking a 22-foot wide promenade in the center of the street; two 10-foot wide transitway paths on either side of the central zone; widened sidewalks along the storefronts; patterned paving over the entire street surface in varying tones of muted grays and red; a combination light fixture creating a variety of lighting levels at dusk, during the evening, and for late-night security; and shelters, benches, fountains, as well as places for displays, sidewalk cafes, and special events" (Pei, 1977). The end blocks are modified so the transitway lanes are together, "and are flanked by a single row of trees, originally red oak, offset to open the street to views of the mountains and the D & F Tower at one end, and the Capitol dome at the other" (Pei, 1977). The designers believed that landscaping, in particular, trees, would create the desired unifying theme as well as provide physical protection from the elements. "The location of trees is crucial" (Pei, 1977). Thus, the design placed them in the center, diagonally spaced, 32 feet apart so as not to block accessibility or visibility of the structures lining the mall and to maintain the visibility and unique visual qualities of the exiting street. The sidewalks were widened to 19 feet (from 15 feet) and were considered quasi-private spaces that were essentially
adjuncts to the shops lining the street. The transit lanes were physically depressed from the sidewalks, but visually cohesive with the pavement pattern. The designers wanted to define the vehicular lanes for safety reasons, but also to make this definition in the least visually obtrusive way.

The design concept took into consideration the existing scale of the street with its variety of visual elements, buildings sizes and uses, and unique interest of the street. The challenge for the designers was to "create a unifying theme and common identity for the street, while protecting its distinctive personality" (Pei, 1977). With its benches, fountains and other amenities, the design intentionally created a framework and a setting for both present planned uses and for the future. “Ample space is provided for sidewalk cafes, kiosks, vending carts, and displays which can evolve into permanent elements or change as different needs emerge” (Pei, 1977).

Olin and Pei’s principal designer, Henry Cobb, discussed a design approach of Southwestern geometric patterns early in their separate processes, then during their collaborative program, including Navajo Chief’s-style blankets with polychrome diamond motifs. While still discussing the final design, Olin visited a souvenir shop along 16th Street Mall and encountered trouser belts decorated with diamondback rattlesnake skins. From those inspirations, the architects and landscape architects crafted the Mall’s overall design, precisely interwoven within three shades of granite pavers and unified by the tree plantings (see Section 21), and light standards. Signage, planters, street furniture (benches, shelters), fountains, banners and other moveable objects (mailboxes, phone boxes, trash receptacles) were part of the overall plan and were given a uniform design and placed along the street in a planned pattern to blend with the rest of the mall’s design features.

The tree selection process was extensive and began with the evaluation of 72 species, based on criteria created by the design team; among them, “height and diameter, trunk, branch, leaf and root form, shade characteristics, sun, water and maintenance needs, disease and insect susceptibility, wind and pollution tolerance, availability and cost” (Pei, 1977). Based on their evaluation, the team selected the honey locust for the center blocks and red oak for the ends.

Though now removed, the transitway vehicles crossed Broadway and had a turnaround area in the Civic Center between the Concourse Level (lower level) and the Plaza Level (upper level which lead to the nearby government offices.

Following the Mall’s completion in October 1982, the project won the University of Colorado’s 1983 “Honor Award for Excellence in Urban Design,” the Associated Landscape Contractors of America’s 1984 “Environmental Improvement Award of Distinction” (Historic Denver, Inc. 2012a), and the American Society of Landscape Architects’ 1985 “Professional Award, Design Category” (Cultural Landscape Foundation 2009). The Urban Land Institute named the Mall in 2008 “public art of the highest international quality” (ULI 2008). Henry Cobb is now a Fellow of the American Institute of Architects; Laurie Olin is a Fellow of the American Society of Landscape Architects, and recognized as a “Pioneer” by the Cultural Landscape Foundation (2009); the 16th Street Transitway | Mall is designated by that organization as a signature “Landslide” and “At-Risk Landscape.”
36. Sources of information:

Cultural Landscape Foundation

deepproduct

Denver Downtown Partnership, et al.

Denver Post

Harvey, Donald, Jr., P.E.

Historic Denver, Inc.

Historic Denver, Inc.

Pei, I. M. & Partners


Pei Cobb Freed & Partners

Regional Transportation District (RTD)


Sixteenth Street Mall Corporation

Urban Land Institute (ULI)
VI. SIGNIFICANCE

37. Local landmark designation: Yes  No  X  
   Date of designation: __________
   Designating authority: __________

38. Applicable National Register [of Historic Places, NRHP] Criteria:
   X  A. Associated with events that have made a significant contribution to the broad pattern of our history;
   ___  B. Associated with the lives of persons significant in our past;
   X  C. Embodies the distinctive characteristics of a type, period, or method of construction, or represents
      the work of a master, or that possess high artistic values, or represents a significant and
      distinguishable entity whose components may lack individual distinction; or
   ___  D. Has yielded, or may be likely to yield, information important in history or prehistory.
   X  G. Qualifies under Criteria Considerations A through G (see Manual)
   ___  Does not meet any of the above National Register criteria

39. Area(s) of significance:  Criterion A: Transportation, Community Planning and Development; Road-Related
   (vehicular); Criterion C: Engineering; Landscape Architecture; Criteria Consideration G: Properties That Have
   Achieved Significance Within the Last Fifty Years.


41. Level of significance: National  X  State  X  Local  X

42. Statement of significance: Denver's 16th Street Mall, originally called a "Transitway | Mall" to acknowledge its dual
   users of buses and pedestrians, is stylistically at an intersection of the post-World War II Modern Movement —
   geometric shapes and space-age light fixtures—and later twentieth century Post-Modern design (Lexicon: Other
   Style) —using an organic pattern that evokes a diamondback rattlesnake skin and is grounded in Denver's
   western identity.

   Although the Mall is not yet 50 years old, it meets NRHP Criteria Consideration G as exceptionally important for
   its enduring transitway design and for its celebrated role in helping to revitalize downtown Denver at a critical time
   for the city/county as it struggled with urban flight, insensitive urban renewal, and the decline of its mining and
   petroleum image and economy.

   The Mall, for those same characteristics and events, is significant at the local and state levels, under NRHP
   Criterion A in the areas of Transportation and Community Planning and Development. The period of significance
   is 1980–1982 spanning its design and construction. It is also significant under Criterion C in the area of Landscape
   Architecture, as an award-winning design by masters, built with granite units in a unique, enduring, western-style
   pattern consistent along 12 blocks. It is also significant under Criterion C in the area of Engineering for its largely
   hidden but sophisticated matrix of drainage, irrigation, wiring, and "suspended pavement system" that
   accommodates large and deep root chambers for its 220 shade trees. (See Section 43 for the correlated review
   of historic integrity.)
Character-Defining Features (Pei & Partners, 1980):

- Paving pattern design consistent throughout the Transitway | Mall, between major cross streets, from Broadway northwest 12 blocks to Market Street.
- Granite paver units/modules, 1-foot 5-inch by 1-foot 5-inch, in three shades: charcoal gray, light gray, and “Colorado red” (specified as White, Black, and Red on the 1980 plans).
- Granite special units of charcoal and light gray for curbs, cuts, drains, and other applications.
- Original oak and honey locust trees planted in special under-pavement concrete root boxes and ringed at the surface with custom-designed and -cast iron trunk grates.
- Custom-designed and -built light standards.
- Street furniture of custom-designed and -built fiberglass trash and flower-planter receptacles, metal utility covers.
- Custom metal street signs on traffic signals and overhead lights.

43. Assessment of historic physical integrity related to significance: Portions of the design have been interrupted with subsequent repaving of cross-street intersections through the omission of scoring—called “sawcut joints”—the concrete pavement to match the granite pavers and general diagonal hash-pattern. Some integrity of materials has been lost with ad hoc replacement of granite pavers as they are damaged by vehicular wear or harsh weather (see Harvey 2015). Some integrity of materials and feeling has been lost through subsequent removal of most of the custom-designed telephone stands and the inactivity of below-pavement fountains. Some trees have been lost to disease or age, but this has had little overall impact to the setting, feeling and association of the Mall. The original turn-around at Civic Center has been removed, but the Mall retains integrity of design and workmanship on the remaining 12 blocks, even with the loss of that portion of the original design.

The 16th Street Transitway | Mall retains strong integrity of location, design, materials, workmanship, setting, feeling, and association and continues to convey its significance under NRHP Criteria A and C, and Criteria Consideration G.

VII. NATIONAL REGISTER ELIGIBILITY ASSESSMENT (See also 42)

44. National Register eligibility field assessment:
   Eligible  X   Not Eligible   Need Data

45. Is there National Register district potential?  Yes  X  No
   Discuss: For the evaluated property: Although the Transitway | Mall is a linear resource, which would typically be classified as a site or district, this property is a consistently designed, constructed, and continuous structure, not a district or site. For the encompassing host of downtown Denver: A number of commercial districts have been considered for NRHP registration, but never designated in areas that would include the 16th Street Mall between Broadway and Market Street as a Contributing resource.

If there is National Register district potential, is this building: Contributing  X  Noncontributing

46. If the building is in existing National Register district, is it: Contributing  X  Noncontributing  _
VIII. RECORDING INFORMATION

47. Photograph numbers:
   Negatives filed at:    SWCA Environmental Consultants (digital files)


49. Date(s):     June 2016; December 2017

50. Recorder(s):    James Steely and Jennifer Moon; Sara Orton

51. Organization:    SWCA Environmental Consultants; CH2M

52. Address:     295 Interlocken Boulevard, Suite 300, Broomfield, Colorado 80021

53. Phone number(s):    303-487-1183; 504-832-9520

NOTE: Please include a sketch map, a photocopy of the USGS quad map indicating resource location, and photographs.
Figure 1. Location map.
Figure 2. Sketch map, showing resource boundary of 1982–1992 16th Street Transitway | Mall.
Figure 3. Original I.M. Pei / Hanna/Olin Block Plan as presented in 1980 drawings.
Figure 4. Original I.M. Pei / Hanna/Olin design for Planters and Trash Receptacles in 1980 drawings.

Figure 5. Original I.M. Pei / Hanna/Olin design for Post Lanterns in 1980 drawings.
• Overview of 16th Street Mall from Civic Center Station at Broadway.
• Facing northwest.
• Photographed by James Steely.
• Photo taken 06-06-2016.
• Image has not been altered.

• Overview of 16th Street Mall from Larimer Street.
• Facing southeast.
• Photograph courtesy of the Denver Post (2012).
• Photo taken in 1987.
• Image has not been altered.
• Overview of 16th Street Mall from Market Street.
  • Facing southeast.
  • Photographed by James Steely.
  • Photo taken 06-06-2016.
  • Image has not been altered.

• Close up of the original street sign at 16th Street Mall and Market Street.
  • Facing west.
  • Photographed by James Steely.
  • Photo taken 06-06-2016.
  • Image has not been altered.
• Overview of block design used on 16th Street Mall flanked by two original colored planters.
• Facing northeast.
• Photographed by James Steely.
• Photo taken 06-06-2016.
• Image has not been altered.

• Overview of block design used on 16th Street Mall.
• Facing unknown direction.
• Photograph courtesy of the Denver Post (2012).
• Photo taken in 1981.
• Image has not been altered.
• Overview of 16th Street Mall, including original colored planters, post lanterns, tree configuration, and the last remaining telephone booth in the project area (center background).
• Facing northwest.
• Photographed by James Steely.
• Photo taken 06-06-2016.
• Image has not been altered.

• Overview of a typical 16th Street Mall original post lantern.
• Close up.
• Photographed by James Steely.
• Photo taken 06-06-2016.
• Image has not been altered.
• Example of a Navajo diamond weaving pattern on a Phase III chief blanket from the 1930s.
  Photograph courtesy of the University of Colorado Museum of Natural History.
  Image has been cropped.

• Eastern diamondback rattlesnake.
  Image has not been altered.
Hi Sara,

I heard that the next consultation meeting for the 16th Street Mall has been scheduled for February 27th. Would you mind forwarding meeting details and materials to me and Betsy?

Also, I’ll take this opportunity to let you know that I have taken the position of senior city planner for the City and County of Denver. My last day at the National Trust is Friday, February 16th. Betsy will be the National Trust point person for this project after that date. Given that I’ll be with the City you may once again see me at the consultation table for this undertaking, just representing a different stakeholder! I’ll know more about that once I start the new job on the 26th.

Cheers,
Jenny

Jennifer L. Buddenborg | SENIOR FIELD OFFICER
P 720.634.5113  F 303.623.1508
NATIONAL TRUST FOR HISTORIC PRESERVATION
Denver Field Office
1420 Ogden Street, Suite 203  Denver, CO 80218
SavingPlaces.org

Jenny and Betsy – Attached is the Purpose and Need statement for the 16th Street Mall project. This was submitted to the consulting parties in September of last year, but has not changed since then.

Thanks!

Sara S. Orton
ch2m is now Jacobs
Cultural Resources Planner
Direct 1 504 832 9520  x59520
Cell 1 504 810 0017

From: Orton, Sara/NWO [mailto:Sara.Orton@CH2M.com]
Sent: Monday, January 22, 2018 9:31 AM
To: Jennifer Buddenborg <JBuddenborg@savingplaces.org>
Cc: Betsy Merritt <emerritt@savingplaces.org>; Susan.Wood@RTD-Denver.com
Subject: RE: 16th Street Mall Purpose and Need

From: Orton, Sara/NWO
Sent: Friday, January 19, 2018 8:53 AM
To: 'Jennifer Buddenborg' <JBuddenborg@savingplaces.org>
Cc: Betsy Merritt <emerritt@savingplaces.org>; Susan.Wood@RTD-Denver.com
Subject: RE: 16th Street Mall Purpose and Need
Hi Jenny – Yes. Let me ask the environmental team for the most recent iteration of the purpose and need and I will forward to you and Betsy. Thanks so much for coming to the meeting. I have been travelling a lot since then and am afraid I may have promised you other materials that I have yet to send. Is there anything else I promised to send?

Thanks.

Sara S. Orton
ch2m is now Jacobs
Cultural Resources Planner
Direct 1 504 832 9520  x59520
Cell 1 504 810 0017

Hi Sara,

Nice to meet you last week at the 16th Street Mall consultation meeting. Would you mind sending along the purpose and need statement for the undertaking? I have yet to see it.

Thanks,

Jenny

Jennifer L. Buddenborg | SENIOR FIELD OFFICER
P 720.634.5113  F 303.623.1508

NATIONAL TRUST FOR HISTORIC PRESERVATION
Denver Field Office
1420 Ogden Street, Suite 203  Denver, CO 80218
SavingPlaces.org

Thank you, Sara. I look forward to meeting you, too.

Best,

Jenny

Jennifer L. Buddenborg | SENIOR FIELD OFFICER
From: Orton, Sara/NWO [mailto:Sara.Orton@CH2M.com]
Sent: Wednesday, January 10, 2018 2:15 PM
To: Jennifer Buddenborg <JBuddenborg@savingplaces.org>; Betsy Merritt <emerritt@savingplaces.org>
Cc: Darin Allan (darin.allan@dot.gov) <darin.allan@dot.gov>
Subject: FW: Consulting Party Meeting January 11, 2018

Jenny and Betsy – Last email. These are the meeting materials for tomorrow’s meeting.

Thanks again. I look forward to meeting you, Jenny.

Sara S. Orton
ch2m is now Jacobs
Cultural Resources Planner
Direct 1 504 832 9520  x59520
Cell 1 504 810 0017

From: Orton, Sara/NWO
Sent: Friday, January 05, 2018 6:36 PM
Subject: Consulting Party Meeting January 11, 2018

Consulting Parties – Attached please find the meeting materials for our meeting next on Thursday, 1/11/18, from 2:00 – 5:00 at RTD.

Below is the list of items attached. The first 3 are in a single pdf; the second 2 are in a single pdf and the final document is in a pdf on its own.

1. Agenda
2. Presentation
3. Historic Properties Summary Spreadsheet
4. Level 2 Alternatives Evaluation Matrix
5. Development of Range of Alternatives Matrix
6. Alternative Studies

Please contact me if you don’t receive all the items on this list. You can also contact Darin Allan with FTA at darin.allan@dot.gov or Susan Wood with RTD at susan.wood@rtd-denver.com if you any other questions or comments.

Thank you.

Sara S. Orton
Cultural Resources Planner
National Governments Client Sector
Direct 1 504 832 9520 x59520
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Alternative Analysis and Environmental Clearance

Section 106 Consulting Parties Meeting #6

RTD/Civic Center, Regional Conference Room
February 27, 2018
10:30 am - 12:00 pm

MEETING NOTES

Attendees: See attached Sign-in sheet

Welcome and Introductions
RTD welcomed the group and provided a meeting overview.

Locally Preferred Alternative
Capital Improvements
The project team provided an overview on the capital improvements, including the alignment and transitions between the three sections. The discussion detailed the opportunities to improve utilities and technologies, including evaluating exiting utilities and coordinating with owners, operators, and users. The opportunity to improve safety and security through environmental design was also discussed, such as making improvements to lighting, signage, and furnishings. Improvements to the cross streets, bump outs, and pedestrian crossing controls were also detailed. The funding for capital improvements was discussed and will be defined in an Intergovernmental Agreement (IGA) between CCD and RTD.

Transit and Traffic Operations
Transit and traffic operations were discussed. The IGA between the CCD and RTD will define the funding and maintenance of the transit way. Other operations were discussed, including the circulation of pedestrians on either side of the transitway.

Construction Activities
An overview for the timeline, phasing and access was provided. Construction is expected to last 3 to 4 years until completion. Construction will occur in 2 to 6 block segments. The suggested phasing will maintain reasonable access to business, traffic remains on cross stress, and Free MallRide and connecting services are not interrupted. The staging areas are to be determined following subsequent design. Expected construction activities were detailed.

Pavement Materials and Pattern
The team described types of granite pavers and the proposed pattern. The proposed pattern closely mimics the existing color and pattern. By retaining the 45-degree diagonal grid, the existing character of the historic Navajo-inspired pattern is retained. The pattern includes small, medium, and large diamond patterns in the same, or approximately the same, spatial relationship as the original design.
Trees and Tree Infrastructure
The project design team provided an overview of the City of Denver’s Forestry Requirements for Diversity, which applies to the 250 trees utilized for the project. The requirements detail the ratios used to determine the family, genus, species, and spacing. The original criteria utilized in 1977 for the Transitway Mall project and the 2018 criteria were compared and discussed.

Consulting Parties’ comments and questions regarding trees and tree infrastructure:
- Voiced concern regarding the use of 9 species in the design, as the original design was very intentionally monoculture with one type of species used in each of the three sections.
  - Project team noted the contemporary Forestry Requirements supersede earlier standards from the 1970s. There may be some flexibility within the executive order requiring species diversity, but replication of the monoculture of the original design will not be possible.
- Disagree with the plan to diversify the tree species.
- Historic standards should be the starting point of the discussion, not the other regulations.
- Asked about the additional row of trees and how that impacts the total number of species. If the extra row was omitted, could fewer species be used?
  - The percentages of species would the same, but the total number of trees would not be the same; the additional row of trees does not increase (or decrease) the total number of species.
- Requested clarification on how the original shade pattern would be matched.
  - Because of the original red oaks failure, the shade pattern has already altered.
  - Matt Shawacker presented the types of species that are being considered and their characteristics. (see attached tree materials)
- Asked where the extra row of trees originated, as it was not part of the original design.
  - the extra row of trees would increase pedestrian safety by adding a buffer between pedestrians and transit and trees tend to encourage more use of the space due to the increased shade.
- Requested the project team focus more on design quality and character.
- A lot of the original design is being compromised; what is being given up for the new line of trees?
- Suggested a study about viability of retaining, moving, and putting back trees.
- Discussed the need to mitigate the replacement of materials (pavers, trees), as nothing of the original design remains intact.

A representative from OLIN reiterated the importance of design continuity from the original design through to this project.

Matt with the project design team asked the group if they had suggestions on how to honor the original design, while also meeting contemporary regulations for species diversity. It is unclear right now how to satisfy both the diversity requirements and the original monoculture design.

The project design team noted that if a single line of trees extends the length of the Mall (a design feature requested be retained), but not in the current location, the paver pattern could generally stay the same in the former median blocks.
Impact Minimization
The project team discussed the big picture intention of maintaining a tree-lined public space that serves pedestrians and public transit service. This would be achieved through retaining the existing locations of shifts in transit lane alignments in keeping with the original design’s beginning, middle, and end design methodology. Impacts on the Mall would be minimized by use of granite paving materials, retaining a building-face-to-face paving pattern, replication and reuse of historic light standards, and retention of a single row of aligned trees for the 12 blocks of the historic property.

The project team noted that not all effects have been successfully minimized through the measures discussed, but progress has been made toward reducing impacts to the historic mall.

Section 106 Consultation Status
16th Street Mall Form 1403
The FTA will submit the completed Form 1403 for the 16th St. Mall to SHPO for concurrence on the character-defining features of the property and the sufficiency of the form in supporting the previous eligibility finding. The team provided an overview of updates based on feedback received to date. The team is working on the draft Cultural Resources Technical Report and will submit it to the consulting parties when completed.

General Comments/Feedback
- Brian Pinkerton stated that historic design and character is the uppermost focus for the project team. The original characteristics discussed internally in great detail, include granite, asymmetry, and the use as a transitway. There has not been agreement on the team on these items, but we have gotten to this point of retaining these design elements.
- Historic Denver reiterated that the high value of the existing design merits firm commitments from the agencies and design team that the historic design elements will be an important consideration through final design.
- Agreement that the most mature tree canopy as possible is an urgent priority.
- A public meeting is scheduled for March 8, 2018 at RTD.

Items/Documentation Requested by Consulting Parties:
- Example projects and links showing the tooled finish of granite pavers used in transit projects.
- Tree Candidate documentation shown at the meeting
- Feasibility of keeping and reusing any of the trees
- Public meeting advertisement that was sent out
Alternative Analysis and Environmental Clearance

Section 106 Consulting Parties Meeting #6

RTD/Civic Center, Regional Conference Room
February 27, 2018
10:30 am - 12:00 pm

MEETING AGENDA

1. Welcome and Introductions
2. Description of the Locally Preferred Alternative
   i. Capital Improvements
   ii. Transit Operations
   iii. Traffic Operations
   iv. Construction Activities
   v. Pavement Materials and Pattern
   vi. Trees and Tree Infrastructure
3. Impact Minimization
4. Section 106 Consultation Status
   i. 16th Street Mall Form 1403
5. Input on Section 106 Next Steps
   i. Discuss Proposed Preferred Alternative design details
   ii. Evaluation of Effects on historic properties
   iii. Cultural Resources Technical Report
   iv. Environmental Assessment & Section 4(f) evaluation
6. Additional Feedback/Questions
Alternatives Analysis & Environmental Clearance

Section 106 Consulting Parties Meeting #6
February 27, 2018, 10:30 – 12:00

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## Alternatives Analysis & Environmental Clearance

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**Phone:**

Doni Fischer
Betsy Memitt
Section 106 Consulting Party Meeting

February 27, 2018
Meeting Agenda

- Introductions
- Description of Locally Preferred Alternative
  - Capital Improvements
  - Transit Operations
  - Traffic Operations
  - Construction Activities
- Impact Minimization
- Section 106 Consultation Status
  - 16th Street Mall Form 1403
- Input on Next Steps
- Additional Feedback/Questions
Locally Preferred Alternative
Locally Preferred Alternative

- Capital Improvements
- Transit Operations
- Traffic Operations
- Construction Activities
Locally Preferred Alternative – Capital Improvements

Alignment and Transitions

• New asymmetrical alignment from Market to Arapahoe
• Center running alignment from Arapahoe to Tremont
• New asymmetrical alignment from Tremont to Broadway
• Transitions occur at Market, Arapahoe, Tremont, and Broadway
Locally Preferred Alternative – Capital Improvements

Utilities and Technologies of the Future
- Opportunity to improve electrical conduits and irrigation
- Opportunity to update telecommunications infrastructure
- Evaluate existing utilities and coordinate with owner/operators/users

Safety and Security
- Crime Prevention Through Environmental Design

Lighting, Signage, and Furnishings

Changes to Cross Streets
- Such as bump outs and pedestrian crossing controls at some crossings

Funding
Locally Preferred Alternative

Transit Operations

- No Long-term changes to operational characteristics
- Maintenance of the transit way will be funded through a cooperation between CCD and RTD, which will be defined in an IGA.

Traffic Operations

- No long-term changes to operational characteristics

Other Operations

- Pedestrians will continue to have access on either side of the transitway with improved capacity due to wider sidewalks
Locally Preferred Alternative

Construction Activities Expectations

• Timeline, Phasing and Access
  • 3 to 4 years of construction
  • 8 to 12 months per block
  • 2 to 6 block construction segments
  • Maintain:
    • reasonable access to businesses
    • traffic on cross streets
    • Free MallRide and connecting services

• Staging
  • To be determined in subsequent design

• Construction Activities
Locally Preferred Alternative

Pavement Materials and Pattern

- Granite Pavers
- Proposed pattern closely mimics the existing color and pattern
- Honors the existing character of the mall by retaining the 45-degree diagonal grid to resemble the historic Navajo-inspired pattern
- Retain small, medium, and large diamond patterns in the same, or approximately the same, spatial relationship as the original design
Locally Preferred Alternative Details

Trees and Tree Infrastructure
Locally Preferred Alternative Details

Trees and Tree Infrastructure

• Forestry Requirements: Diversity
  • Applied to this project: **250 trees**
    30-20-10 Rule
    • No more than 30% of the same Family
      • 4 Families
    • No more than 20% of the same Genus
      • 5 Genus
    • No more than 10% of the same Species
      • 10 Species

Spacing
• No more than 4 consecutive trees of same species in a row
Locally Preferred Alternative Details

Trees and Tree Infrastructure

- **Original Criteria***
  - Height & Diameter: 35 feet tall
  - Sun exposure: thrives in partial shade
  - Water requirements: moderate
  - Drought resistant
  - Tolerant to wind and air pollution
  - Branch & leaf structure: lacy & open
  - Shade characteristics: dappled Shade
  - Availability

* Transitway Mall, I.M Pei & Partners, November 1977
Locally Preferred Alternative Details

Trees and Tree Infrastructure

• 2018 Criteria
  • Height & Diameter: 35 feet tall
    • ability to create straight trunk with first branching at 20’ height;
    • crown spread: 20-25’ for promenade trees, 30-35’ minimum for shade trees
  • Sun exposure: thrives in partial shade
  • Water requirements: moderate to Xeric
  • Drought resistant
  • Tolerant to wind and air pollution
  • Branch & leaf structure: lacy & open
  • Shade characteristics: dappled shade
  • Availability
Locally Preferred Alternative Details

Trees and Tree Infrastructure

• 2018 Criteria (continued)
  • Disease & insect resistance
  • Salt tolerant
  • Tolerance of high pH soils
  • Growth Rate: fast to moderate preferred
  • Leaf color:
    • Yellow fall color for shade trees
    • Contrast for promenade trees
  • Leaf texture
Impact Minimization
Impact Minimization

• Maintain a tree-lined public space that serves pedestrians and public transit service
• Retain the existing locations of shifts in transit lane alignment in keeping with the “beginning, middle, and end” design
• Maintain a granite paver surface
• Retain permeability of pedestrians throughout each block
• Retain a full 80’ wide patterned carpet from building face to building face
• Minor changes to the overall color pattern of the granite pavers from existing design
• Retain spatial relationships within the pattern on asymmetrical blocks
• Maintain a single row of aligned trees for 12 blocks
• Retain replica historic light fixtures
Section 106 Consultation Status
16th Street Mall Form 1403

- Updates completed based on feedback
- FTA will submit the form to SHPO for concurrence on the character-defining features of the property and the sufficiency of the form in supporting the previous eligibility finding
Next Steps
Next Steps

• Discuss Locally Preferred Alternative design details with stakeholders
• Evaluation of Locally Preferred Alternative effects on historic properties
• Draft Cultural Resources Technical Report
• If Adverse Effect, develop agreement document to address adverse effect
• Section 4(f) Evaluation
• Environmental Assessment
Questions?
# Trees and Tree Infrastructure

<table>
<thead>
<tr>
<th>Original Criteria*</th>
<th>2018 Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height &amp; Diameter: 35 feet tall</td>
<td>Height &amp; Diameter: 35’ tall</td>
</tr>
<tr>
<td></td>
<td>• Ability to create straight trunk with first branching at 20’ height;</td>
</tr>
<tr>
<td></td>
<td>• Crown spread: 20-25’ for promenade trees, 30-35’ minimum for shade trees</td>
</tr>
<tr>
<td>Sun exposure: thrives in partial shade</td>
<td>Sun exposure: thrives in partial shade</td>
</tr>
<tr>
<td>Water requirements: moderate</td>
<td>Water requirements: moderate to Xeric</td>
</tr>
<tr>
<td>Branch &amp; leaf structure: lacy &amp; open</td>
<td>Branch &amp; leaf structure: lacy &amp; open</td>
</tr>
<tr>
<td>Shade characteristics: Dappled Shade</td>
<td>Shade characteristics: Dappled Shade</td>
</tr>
<tr>
<td>Drought resistant</td>
<td>Drought resistant</td>
</tr>
<tr>
<td>Tolerant to wind and air pollution</td>
<td>Tolerant to wind and air pollution</td>
</tr>
<tr>
<td>Availability</td>
<td>Availability</td>
</tr>
<tr>
<td>Disease &amp; insect resistance</td>
<td></td>
</tr>
<tr>
<td>Salt tolerant</td>
<td></td>
</tr>
<tr>
<td>Tolerance of high pH soils</td>
<td></td>
</tr>
<tr>
<td>Growth Rate: fast to moderate preferred</td>
<td></td>
</tr>
<tr>
<td>Leaf color:</td>
<td>Leaf color:</td>
</tr>
<tr>
<td>• Yellow fall color for shade trees</td>
<td>• Yellow fall color for shade trees</td>
</tr>
<tr>
<td>• Contrast for promenade trees</td>
<td>• Contrast for promenade trees</td>
</tr>
<tr>
<td>Leaf texture</td>
<td>Leaf texture</td>
</tr>
</tbody>
</table>

* Transitway Mall, I.M Pei & Partners, November 1977
<table>
<thead>
<tr>
<th>Original 1977 Criteria*</th>
<th>2018 Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Elements</td>
<td></td>
</tr>
</tbody>
</table>
| Height & Diameter: 35’ tall | Height & Diameter: 35’ tall  
  - Ability to create straight trunk with first branching at 20’ height;  
  - Crown spread: 20-25’ for promenade trees, 30-35’ minimum for shade trees |
| Branch & leaf structure: lacy & open | Branch & leaf structure: lacy & open |
| Shade characteristics: Dappled Shade | Shade characteristics: Dappled Shade |
| Leaf color: | Leaf color:  
  - Yellow fall color for shade trees  
  - Contrast for promenade trees |
| Leaf texture | Leaf texture |
| Tree Health Elements |               |
| Sun exposure: thrives in partial shade | Sun exposure: thrives in partial shade |
| Water requirements: moderate | Water requirements: moderate to Xeric |
| Drought resistant | Drought resistant |
| Tolerant to wind and air pollution | Tolerant to wind and air pollution |
| Disease & insect resistance | Disease & insect resistance |
| Salt tolerant | Salt tolerant |
| Tolerant of high pH soils | Tolerant of high pH soils |
| Growth Rate: fast to moderate preferred | Growth Rate: fast to moderate preferred |
| Other Elements |               |
| Availability | Availability |
# Tree Candidates

The tree species listed below are preliminary candidates for future use on the 16th Street Mall, based on design and health/resiliency criteria. The criteria and highlighted trees are subject to change based on design changes, Department of Forestry recommendations, and availability.

## Shade Trees

<table>
<thead>
<tr>
<th>ID</th>
<th>Family</th>
<th>Botanical Name</th>
<th>Common Name</th>
<th>Acceptable Cultivar</th>
<th>Common Name Western Canada</th>
<th>Hardiness Zone</th>
<th>Resistance Level</th>
<th>Salt Salt Tolerance</th>
<th>Water Quality Area</th>
<th>Aerosol Salt Tolerance</th>
<th>Water Quality Rate</th>
<th>Growth Form/Shape</th>
<th>Flowers</th>
<th>Leaf Color - Spring</th>
<th>Leaf Color - Fall</th>
<th>Additional Notes (includes compaction/tolerances/restrictions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>65</td>
<td>Ulmaceae</td>
<td>Ulmus americana var. rubra</td>
<td>Discovery</td>
<td>Discovery Elm</td>
<td>3</td>
<td>Mod</td>
<td>Intermediate</td>
<td>Intermediate</td>
<td>X</td>
<td>45</td>
<td>50</td>
<td>Upright oval to rounded</td>
<td>Insignificant</td>
<td>Yellow-green</td>
<td>Yellow</td>
</tr>
<tr>
<td>3</td>
<td>65</td>
<td>Ulmaceae</td>
<td>Ulmus pumila</td>
<td>Accolade</td>
<td>Accolade Elm</td>
<td>4</td>
<td>Mod</td>
<td>Intermediate</td>
<td>Intermediate</td>
<td>X</td>
<td>45</td>
<td>50</td>
<td>Upright oval to rounded</td>
<td>Insignificant</td>
<td>Yellow-green</td>
<td>Yellow</td>
</tr>
<tr>
<td>4</td>
<td>65</td>
<td>Ulmaceae</td>
<td>Ulmus pumila</td>
<td>Aschendorff</td>
<td>Aschendorff</td>
<td>4</td>
<td>Mod</td>
<td>Intermediate</td>
<td>Intermediate</td>
<td>X</td>
<td>45</td>
<td>50</td>
<td>Upright oval to rounded</td>
<td>Insignificant</td>
<td>Yellow-green</td>
<td>Yellow</td>
</tr>
<tr>
<td>5</td>
<td>65</td>
<td>Ulmaceae</td>
<td>Ulmus pumila</td>
<td>Accolade</td>
<td>Accolade Elm</td>
<td>4</td>
<td>Mod</td>
<td>Intermediate</td>
<td>Intermediate</td>
<td>X</td>
<td>45</td>
<td>50</td>
<td>Upright oval to rounded</td>
<td>Insignificant</td>
<td>Yellow-green</td>
<td>Yellow</td>
</tr>
<tr>
<td>6</td>
<td>65</td>
<td>Ulmaceae</td>
<td>Ulmus pumila</td>
<td>Aschendorff</td>
<td>Aschendorff</td>
<td>4</td>
<td>Mod</td>
<td>Intermediate</td>
<td>Intermediate</td>
<td>X</td>
<td>45</td>
<td>50</td>
<td>Upright oval to rounded</td>
<td>Insignificant</td>
<td>Yellow-green</td>
<td>Yellow</td>
</tr>
</tbody>
</table>

## Additional Notes

- Fast growing cultivar. Resistant to Dutch elm disease and elm leaf beetle. Per CSU elm trials, tree may susceptible to scale. Prune to develop strong branching structure.
- Fast growing, cold hardy variety. Resistant to Dutch elm disease and elm leaf beetle. Per CSU elm trials, tree may be moderately resistant to scale. Prune to develop strong branching structure.
## Tree Candidates

### Asymmetrical - Red Oak & Similar

<table>
<thead>
<tr>
<th>ID</th>
<th>Family</th>
<th>Botanical Name</th>
<th>Acceptable Cultivar</th>
<th>Common Name</th>
<th>Hardiness Zone</th>
<th>Moisture Level</th>
<th>Soil Salt Tolerance</th>
<th>Aerosol Salt Tolerance</th>
<th>Water Quality Area</th>
<th>Height @ Maturity</th>
<th>Canopy Spread @ Maturity</th>
<th>Growth Form/Shape</th>
<th>Flowers</th>
<th>Leaf Color - Spring</th>
<th>Leaf Color - Fall</th>
<th>Additional Notes (includes compaction/tolerances/restrictions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>Aceraceae</td>
<td>Acer buergeranus</td>
<td>Streetwise</td>
<td>Trident Maple</td>
<td>5</td>
<td>Min</td>
<td>Tolerant</td>
<td>Intermediate</td>
<td></td>
<td>30</td>
<td>30</td>
<td>707</td>
<td>Oval to rounded</td>
<td>Green-yellow in spring, insignificant</td>
<td>Green</td>
<td>Dark green</td>
</tr>
<tr>
<td>86</td>
<td>Aceraceae</td>
<td>Acer campestrae</td>
<td>Hedge Maple</td>
<td>5</td>
<td>Min</td>
<td>Tolerant</td>
<td>Intermediate</td>
<td></td>
<td>30</td>
<td>30</td>
<td>Oval to rounded, dense</td>
<td>Small green-yellow in spring, insignificant</td>
<td>Dark green</td>
<td>Yellow</td>
<td>Tolerates dry soil, intolerant of soil compaction. Prone to develop strong branching structure and overhead clearance.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Aceraceae</td>
<td>Acer negundo</td>
<td>Morton</td>
<td>State Street Maple</td>
<td>4</td>
<td>Mod</td>
<td>Intermediate</td>
<td>Intermediate</td>
<td>X</td>
<td>45</td>
<td>35</td>
<td>962</td>
<td>Upright pyramid to rounded</td>
<td>Dark green</td>
<td>Green</td>
<td></td>
</tr>
<tr>
<td>82</td>
<td>Rosaceae</td>
<td>Pyrus calleryana</td>
<td>Glen's Form</td>
<td>Chanticleer Pear</td>
<td>4</td>
<td>Mod to Mod</td>
<td>Tolerant</td>
<td>Intermediate</td>
<td>X</td>
<td>30</td>
<td>15</td>
<td>177</td>
<td>Upright pyramid</td>
<td>White in spring, showy</td>
<td>Glossy green</td>
<td>Greater firefly resistance than other cultivars. Overplanting is a concern.</td>
</tr>
<tr>
<td>118</td>
<td>Fagaceae</td>
<td>Quercus alba</td>
<td>White Oak</td>
<td>3</td>
<td>Mod</td>
<td>Tolerant</td>
<td>Intermediate</td>
<td></td>
<td>60</td>
<td>60</td>
<td>3877</td>
<td>Oval to rounded</td>
<td>Insignificant</td>
<td>Green</td>
<td>Resist to Dutch elm disease, tolerant of urban growing conditions.</td>
<td></td>
</tr>
<tr>
<td>115</td>
<td>Fagaceae</td>
<td>Quercus buckleyi</td>
<td>Texas Red Oak</td>
<td>5b</td>
<td>Min</td>
<td>Tolerant</td>
<td>Unknown</td>
<td></td>
<td>35</td>
<td>35</td>
<td>962</td>
<td>Broad-rounded</td>
<td>Insignificant</td>
<td>Green</td>
<td>Excellent cold hardiness. Resistant to leaf scorch. Prone to develop strong branching structure.</td>
<td></td>
</tr>
<tr>
<td>112</td>
<td>Fagaceae</td>
<td>Quercus rubus x alba</td>
<td>Tabor UP21382</td>
<td>Forest Knight Oak</td>
<td>4</td>
<td>Kanic to Mod</td>
<td>Tolerant</td>
<td></td>
<td>45</td>
<td>35</td>
<td>962</td>
<td>Broad oval</td>
<td>Insignificant</td>
<td>Glossy green</td>
<td>Tolerant of urban conditions. Kanic scale may be an issue.</td>
<td></td>
</tr>
<tr>
<td>121</td>
<td>Fagaceae</td>
<td>Quercus shumardii</td>
<td>Shumard Oak</td>
<td>5</td>
<td>Mod</td>
<td>Intermediate</td>
<td></td>
<td>60</td>
<td>40</td>
<td>1157</td>
<td>Pyramidal oval</td>
<td>Insignificant</td>
<td>Green</td>
<td>Mayaken resistance 2019, tolerant of urban conditions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>96</td>
<td>Fagaceae</td>
<td>Quercus x leudsoniana</td>
<td>Midwest</td>
<td>Prairie Stature Oak</td>
<td>3</td>
<td>Mod to Mod</td>
<td>Tolerant</td>
<td>Intermediate</td>
<td>45</td>
<td>35</td>
<td>962</td>
<td>Broad pyramidal</td>
<td>Insignificant</td>
<td>Dark green</td>
<td>Cold hardy, hybrid of English and white oak. Tolerant of urban conditions.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Ulmaceae</td>
<td>Ulmus parvifolia</td>
<td>Dynasty</td>
<td>Dynasty Elm</td>
<td>5</td>
<td>Mod</td>
<td>Intermediate</td>
<td></td>
<td>X</td>
<td>35</td>
<td>35</td>
<td>962</td>
<td>Vase</td>
<td>Insignificant</td>
<td>Green</td>
<td>Fast growth rate. Resistance to Dutch elm disease, scale, and elm leaf beetle.</td>
</tr>
<tr>
<td>5</td>
<td>Ulmaceae</td>
<td>Zelkova serrata</td>
<td>Helena</td>
<td>Helka</td>
<td>5b</td>
<td>Keric to Mod</td>
<td>Intermediate</td>
<td></td>
<td>X</td>
<td>50</td>
<td>35</td>
<td>962</td>
<td>Upright vase, open &amp; loose form</td>
<td>Insignificant</td>
<td>Green</td>
<td>Growth rate is fastest of zelkova cultivars. Tolerant of urban conditions. Сusceptible to collar from mechanical injury. Plant in spring. Prune in fall to develop strong branching structure.</td>
</tr>
<tr>
<td>65</td>
<td>Ulmaceae</td>
<td>Zelkova serrata</td>
<td>Green Vase</td>
<td>Green Vase Zelkova</td>
<td>5b</td>
<td>Keric to Mod</td>
<td>Intermediate</td>
<td></td>
<td>X</td>
<td>45</td>
<td>30</td>
<td>707</td>
<td>Vase, upright arching branches,</td>
<td>Insignificant</td>
<td>Green</td>
<td>Fast growth rate, but less cold hardy than Village Green. Tolerant of urban conditions. Susceptible to collar from mechanical injury. Plant in spring. Prune in fall to develop strong branching structure.</td>
</tr>
<tr>
<td>3</td>
<td>Ulmaceae</td>
<td>Zelkova sinica</td>
<td>Chinese Zelkova</td>
<td>5b</td>
<td>Keric to Mod</td>
<td>Intermediate</td>
<td></td>
<td></td>
<td>X</td>
<td>35</td>
<td>35</td>
<td>962</td>
<td>Vase</td>
<td>Insignificant</td>
<td>Dark green</td>
<td>Resistant to elm leaf beetle. Exfoliating cinnamon-colored bark. Prone to fall to develop strong branching structure. Availability may be limited. Unproven in Denver region.</td>
</tr>
</tbody>
</table>
It was requested during our meeting on Tuesday, that we send out a link with information about the upcoming open house, in case any of you hadn’t seen the announcements.


Attend an Open House

On March 8, 2018, the city and RTD will host open houses where the public can learn more, ask questions and give input on future refinement of the design. Identical open house events will be offered at the following times:

16th Street Mall Design Open Houses
March 8, 2018
Noon - 1 p.m. or 5 - 6 p.m.
RTD Board Room
1660 Blake Street, Denver

Note: The public will have an opportunity to provide input on additional amenities and design features, and learn about construction activities, at an additional public hearing tentatively planned for May 2018.

Thank you.

Sara S. Orton
Cultural Resources Planner
D 504 849 2237
C 504 810 0017

-----Original Appointment-----

From: LaRiviere, Loretta/DEN
Sent: Wednesday, February 07, 2018 11:47 AM
Subject: 16th Street Mall Consulting Parties Meeting #6
When: Tuesday, February 27, 2018 10:30 AM-12:00 PM (UTC-07:00) Mountain Time (US & Canada).
Where: RTD: Civic Center Plaza, Suite 700, Regional Conference Room

Please join RTD for the 16th Street Mall Consulting Parties Meeting #6 on Thursday, February 27, 2018 from 10:30 am– 12:00 pm at RTD Civic Center Building; 1560 Broadway; Ste. 700; Regional Conference Room. An agenda and meeting materials will be sent in advance of the meeting.

Please contact Darin Allan with FTA at darin.allan@dot.gov or Susan Wood with RTD at
susan.wood@rtd-denver.com if you any questions or comments.
April 9, 2018

Dave Genova
Regional Transportation District
1600 Blake Street
Denver, CO 80202

Dear Mr. Genova:

As an active participant in the Alternatives Analysis and Environmental Clearance and Section 106 Review processes for the redevelopment of the 16th Street Mall, tellingly called “The Mall Experience: The Future of Denver’s 16th Street Mall,” Colorado Preservation, Inc. has watched with increasing concern as a seemingly pre-determined process has rolled out for this iconic, world-class Downtown Denver attraction. From the development of the Problem Statement through selection of the Preferred Alignment, it appears that replacement of the Mall’s historic, character defining features has been the goal all along.

While CPI recognizes the maintenance issues that have plagued the Mall in recent years, and is fully supportive of the goal of “activating” certain spaces along 16th Street that suffer from underutilization, the project should not be approached as if it were just another downtown streetscape project or “refresh.” What is being proposed amounts to an almost total rebuild, with concessions made to the unique geometric patterning of the historic granite pavers, the symmetrical and asymmetrical alignment of (4 x 8 x 4) block segments, and the placement of some of the trees along the length of the Mall.

Furthermore, by routing the Mall shuttle service down the middle of the entire length of the Mall, the intimacy provided by the existing relatively narrow, tree-lined median will more clearly resemble a traditional linear street, albeit one for buses only. This area will become a virtual pedestrian no-go zone except when people choose to cross it. Removal of the trees in the current medians along the Mall, and their subsequent placement along the existing sidewalks will help shade these pedestrian stretches, but will also leave a long, linear opening to the sky along the full length of the middle of the Mall. Although a lot of thought has gone into the issue, the result will no doubt be very different experience of place. The widened sidewalks, in order to be “activated,” also represent yet another private encroachment of public space, an all too common trend in Denver as of late.

CPI is not opposed to improvements along the 16th Street Mall and supports the goals of reliable transit service, improved maintenance, and the activation of certain stretches of the Mall, but urges more caution in tinkering with a world-class design that has actually worked quite well. The 16th Street Mall is a lively, bustling center of Denver life that has worked well for over 40 years. But as a significant feature at the center of one of America’s most successful downtowns, the 16th Street Mall, as historically designed by I.M. Pei and Laurie Olin, AIA, will no longer exist if the preferred alignment and plans proceed proposed. It therefore remains truly “endangered” and will remain on Colorado’s Most Endangered Places List, where it was placed in 2009.

Sincerely,

Kim Grant, Director
Endangered Places Program

Jennifer Orrigo Charles, Executive Director
Colorado Preservation, Inc.

Cc: CPI Board of Directors
Brad Buchanan, City and County of Denver
Tami Door, Downtown Denver Partnership, Inc.
Susan Wood, Regional Transportation District
May 2, 2018

Ms. Jennifer Orrigo Charles, Executive Director  
Mr. Kim Grant, Director, Endangered Places Program  
Colorado Preservation, Inc.  
1420 Ogden Street, Suite 104  
Denver, CO 80218

RE: 16th Street Mall Project; April 9, 2018, Colorado Preservation, Inc. Letter

Dear Ms. Charles and Mr. Grant:

Thank you for your correspondence dated April 9, 2018, regarding the 16th Street Mall project. We appreciate your participation in the Alternatives Analysis, Environmental Assessment, and 106 Consultation that were initiated in spring 2017. In your letter you cite several of the reasons this project was undertaken including maintenance issues and underutilization of public space. These reasons along with providing continued reliable two-way transit service; mobility for all users; and safety for pedestrians and vehicles, while honoring the Mall's use and iconic design, form the basis for the Purpose and Need. This is the goal of the project.

Thank you for your comments and perspective on both the process and the recommended preferred alternative. They will be addressed within the context of the Federal Transit Administration’s (FTA’s) Section 106 consultation process and the Environmental Assessment that is being prepared. FTA, as the lead federal agency, is charged with leading the 106 consultation process. Therefore, going forward, comments should be addressed to FTA.

We look forward to seeing you at the upcoming Consulting Parties Meeting No. 7, which will be held on May 3 at 9:30 AM, at RTD (1560 Broadway, Ste. 700). At this meeting, we will discuss the status of the 106 Consultation; the Cultural Resources Report; and the Finding of Effect. We hope that you will be able to join us.

Thank you for your comments and we look forward to continuing to work with you on this important project. Please continue to reach out to Kristin Kenyon, who is the lead agency’s representative for this undertaking, at kristin.kenyon@dot.gov, and Susan Wood with RTD at susan.wood@rtd-denver.com.

Sincerely,

David A. Genova
General Manager and CEO
cc: Kristin Kenyon, Community Planner, FTA Region VIII
William C. Van Meter, Assistant General Manager - Planning, RTD
Henry Stopplecamp, Assistant General Manager - Capital Programs, RTD
Jyotsna Vishwakarma, Chief Engineer, RTD
Susan Wood, Planning Project Manager, RTD
Brad Buchanan, Community Planning and Development, Executive Director, CCD
Tami Door, Executive Director, DDP
John Desmond, Executive Vice-President, DDP
Bar Chadwick, Special Projects Manager, CCD
Brian Pinkerton, Major Projects, CCD
Document Control
Meeting Notes

Attendees: See attached Sign-in sheet

Welcome and Introductions
FTA and RTD welcomed the group and provided a meeting overview.

Summary of Recent Section 106 Activities
Trees and Tree Infrastructure Follow-up
The project team provided an overview of the proposed tree replacement plan, including a planting concept and preferred tree species. The intent is to keep the total number of preferred tree species as low as possible (see Species List handout). Although the planting plan is yet to be finalized, the intent is to replace the existing trees and provide species diversity to meet regulations. There was discussion about potentially reusing existing trees; however, the trees are not expected to respond well to being transplanted. The project team agreed to continue to investigate the possibility of reusing some of the existing trees.

Public Comments
A summary of comments received at the recent public meetings was provided. Approximately 75 people attended the public meetings. The public comments will be included in the published EA.

Section 106 Consultation Status
The project team provided an overview of the status and timeline for the remaining Section 106 consultation. The 16th St Mall Form 1403 was revised to address comments received. No additional comments were made during the meeting. The Draft Cultural Resources Technical Report will be submitted to Consulting Parties for review and comment. The Finding of Effect will be sent to SHPO for comment and concurrence.

Locally Preferred Alternative
Project Effects
The project team provided an overview of the locally preferred alternative (LPA). The LPA will not require any property acquisitions, will remain in the same right-of-way, and meets the project purpose and need. The following potential effects from the LPA on the 16th Street Mall historic property were discussed:

Paving/Pattern:
- The existing granite pavers would be replaced
• The new granite pavers would have a different surface/finish for increased friction
• The pattern would not be fully replicated, but the design would maintain the geometric relationships between elements
• The paving pattern would shift on the asymmetrical blocks by roughly 2 feet

Trees:
• Tree species will be selected using the historic design criteria but must also meet Denver Parks and Recreation Forestry Division requirements and diversity regulations.
• An additional row of trees would be added in the asymmetrical blocks
• The location of trees would shift
• A greater number of trees (approximately 250 total trees) are included in the LPA
• Tree boxes would be replaced with larger tree infrastructure so trees stay healthier for longer
• Tree grates would be redesigned and replaced

Alignment:
• The medians in the center-running blocks of the existing transit way would be removed
• The transit lane that runs the length of the Mall without shifting will be discontinued
• The width of the transitions at Tremont Place and Arapahoe Street will be shortened
• The design concept of three distinct zones with a beginning, middle, and end would be retained, but with a smaller distinction.

Lighting:
• Existing light standards are replicas of the original design and will be reused.
• Where the new rows of trees would be added, replica lights would be added, in keeping with the original staggered design of trees and lights

Other Features:
• Fountains/water features – A fountain could be retained at Cleveland Place
• Street furniture has not yet been designed.
• Benches will be included in the design, but the existing benches would not likely be reused.
• The design of planters has not been determined.
• Trash receptacles must be redesigned and replaced because they don’t meet ADA or Homeland Security standards.
• Drinking fountains will not be replaced.
• Telephone stands will not be replaced.
• Metal street signs at intersections will be retained.
• The chess boards, cattle sculptures, and pianos are not part of the historic property.

Curb Design Options:
• The “Vertical curb” design option separates the transit way from the pedestrian space, with the transit way 3 to 4 inches lower than the walkway, as it is currently on the outside lanes.
• The “No curb” design option would be flat and would not include the 3-4” vertical curb, but the visual linear element in the granite pavers would remain.
• Additional delineating features may include visual delineations:
  o In-pavement lighting or different colored materials
  o A strip of textured surface, detectable to the visually impaired
  o Bollards
  o Other delineating features that would not impair movement across the Mall

Finding of Effect
• The LPA would have an **Adverse Effect** on the 16th Street Mall historic property because of alterations to character-defining features of the property including: granite pavers, pavement pattern, tree species
and locations, tree boxes, adding trees, additional lighting, removal of the median in the center-running blocks, and changes to the alignment.

- The integrity of materials, design, and workmanship would be lost through these changes. Some association could remain, but the final product, while honoring the original design, would no longer be a Pei and Hanna/Olin designed landscape.

Historic Properties adjacent to 16th Street Mall

- These properties are outside the project limits.
- There would be no direct impacts and no property acquisitions
- Properties from the early 20th century were present when the Mall was installed and are not from the period of significance of the Mall
- Location, setting, feeling, and association would not be altered
- Basic form, massing, use, and general appearance of the Mall would remain unchanged; therefore, there would be no visual or atmospheric changes
- Design, materials, and workmanship of the historic structures would not be affected by the LPA
- No adverse effect to historic districts: Lower Downtown Historic District and 16th Street Historic District
- No adverse effect

Next steps

- SHPO and consulting parties review Form 1403
- SHPO and consulting parties review Draft Cultural Resources Technical Report
- Public review of Environmental Assessment and Section 4(f) Evaluation
- Discuss potential mitigation measures and draft Memorandum of Agreement to address the adverse effect

General Comments/Feedback

- Historic Denver is not in agreement on the state level of significance of the Mall; they believe it has national significance and have asked that this should be reflected on Form 1403.
- Consulting parties would prefer the least number of total tree species as possible in the final design, understanding that the local diversity regulations have to be accommodated.
- They are concerned that historic elements of the project are being considered last, rather than first (including the trees and the four existing fountains).
- Historic Denver continues to be concerned about the 2-foot shift on the asymmetrical blocks and has requested additional information to understand the reasons this shift is necessary. A follow up meeting has been requested on this topic and will be scheduled in the future.
- Historic Denver expressed they would be concerned about the “no curb” design option if that option would require a large amount of other edge delineating features that could impact the visual setting and feeling of the Mall.
- Consulting parties in general expressed concern about visual impacts from possible edge-delineating features. For example, if bollards were added, they would prefer fewer bollards in mid-block, but believe they would be appropriate at intersections.
- Landmark Preservation asked about eligibility; would there be additional eligibility evaluations?
  - The project is assuming eligibility for certain properties, based on a formula discussed with SHPO and explained in the technical report.

Requested Items/Documentation

- Historic Denver requested additional information on the 2-foot shift in the asymmetrical blocks.
- Consulting parties requested a study to see if any existing trees could be reused.
Section 106 Consulting Parties Meeting #7

RTD/Civic Center, Regional Conference Room
May 3, 2018, 9:30 - 11:30 am

AGENDA

1. Welcome and Introductions
2. Trees Follow-up Discussion
3. Summary of Public Comments
   March Open House
4. Finding of Effect
   Cultural Resources Technical Report
5. Schedule and Next Steps
## Alternatives Analysis & Environmental Clearance

### Section 106 Consulting Parties Meeting #7
**Date:** May 3, 2018, **Time:** 9:30 – 11:30

<table>
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<tr>
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<th>Name</th>
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# Alternatives Analysis & Environmental Clearance

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Section 106
Consulting Party Meeting

May 03, 2018
Meeting Agenda

• Welcome and Introductions
• Recent Activities
  • Trees Follow-up Discussion
  • Summary of Public Comments
  • Section 106
• Locally Preferred Alternative
  • Cultural Resources Technical Report
  • Finding of Effect
• Schedule and Next Steps
• Additional Feedback/Questions
Recent Activities
Trees Follow-up Discussion

- Planting Concept
- Preferred Tree Species
Summary of Public Comments

Opportunities and Challenges:

• Wider sidewalks and activation of space while also leaving sufficient space for a walkway
• Delineating transit lanes from pedestrian areas
• Need space for bus loading zones
• Greater access for ADA populations
• Increased traffic controls at intersections
• Maintaining healthy trees/landscaping
• Fix issue of slippery pavers
• Keep paver design
• Incorporate texture for the vision impaired
• Maintain alley access
• Loss of medians/moving location of amenities
Summary of Public Comments

**Business Vitality**

- Segmented construction
- Programming during construction
- Construction campaign
- Enhanced lighting and signals during construction
Section 106

Submittals

• Updated Form 1403
• Draft Cultural Resources Technical Report
• April 18, 2018
Locally Preferred Alternative Finding of Effect
Locally Preferred Alternative Overview

Project Overview

• No property acquisitions
• Remains in the same right-of-way
• Meets Purpose & Need

Center Running Transit with New Asymmetrical

*New Asymmetrical refined based on comments from stakeholders
Finding of Effect – No Build Alternative

- No change to current alignment
- No repairs or upgrades to utilities and infrastructure
- Trees and tree boxes would not be replaced
- Condition of trees would remain unchanged
- Ad hoc replacement of granite pavers would continue
- Existing safety hazards for pedestrians and vehicles would remain
- Continued increase in frequency and cost of maintenance

No Adverse Effect
Finding of Effect - Locally Preferred Alternative

16th Street Mall

Paving/Pattern

- Replace granite pavers
- Different surface/finish on pavers
- Pattern not fully replicated
- Paving pattern shifts on the asymmetrical blocks roughly 2 feet
- Programming change in medians
- Other changes to accommodate local and federal regulations or requirements
Finding of Effect - Locally Preferred Alternative

16th Street Mall

Planting

- Tree species selected using the historic design criteria, must also meet Denver Parks and Recreation Forestry Division requirements and diversity regulations.
- Additional row of trees in asymmetrical blocks
- Shift in tree locations
- ~ 250 total trees
- Replace tree boxes with larger tree infrastructure
- Tree grates redesigned
Finding of Effect - Locally Preferred Alternative

16th Street Mall

Alignment

- Repurpose the medians to transit lanes in center-running blocks
- Discontinue single transit lane that runs the length of the Mall without shifting
- Shorten the width of the transitions at Tremont Place and Arapahoe Street
- Design concept of three distinct zones with a beginning, middle, and end would be retained, but with a smaller distinction
  - Currently: One lane shifts 16 feet from its location on the median blocks to its location on the asymmetrical blocks
  - LPA: Both transit lanes shift 4 feet from their location on the median blocks to their location on the asymmetrical blocks
Finding of Effect - Locally Preferred Alternative

16th Street Mall

*Lighting will be reused*

- Existing light standards are replicas of the original design and will be reused
- Pole light standards under the LPA would replicate this same design
- Where the new rows of trees would be added, replica pole light standards would be added, in keeping with the original staggered design of trees and lights
Finding of Effect - Locally Preferred Alternative

16th Street Mall

Other Features

- Fountains/Water Features
- Street Furniture
- Benches
- Planters
- Trash Receptacles
- Drinking Fountains
- Telephone Stands
- Street Signs
Finding of Effect - Locally Preferred Alternative

16th Street Mall

"Curb" versus "No Curb" Design Options

- Curb design option separates the transit way from the pedestrian space, with the transit way 3 to 4 inches lower than the walkway.
- No Curb design option would not include the lower transit way lane
- Charcoal and light gray granite pavers could be used in No Curb design option
- Additional delineating features may include visual delineations
  - in-pavement lighting or different colored materials
  - a strip of textured surface, detectable to the visually impaired
  - bollards
  - other delineating features that would not impair movement across the Mall
Finding of Effect - Locally Preferred Alternative

16th Street Mall

Finding of Effect

The LPA would have an **Adverse Effect** on the historic 16th Street Mall because of alterations to character-defining features of the property, including: granite pavers, pavement pattern, tree species and locations, tree boxes, additional trees, additional lighting, removal of the median in the center-running blocks, and changes to the alignment.

The integrity of materials, design, and workmanship would be lost through these changes. Some association could remain, but the final product, while honoring the original design, would no longer be the Pei and Hanna/Olin designed landscape it was.
Finding of Effect - Locally Preferred Alternative

Historic Properties adjacent to 16th Street Mall

• No direct impacts
• Properties from the early 20th C. were present when the Mall was installed and are not from the period of significance of the Mall
• The Mall is not from the period of significance of the majority of the historic properties in the APE
• No property acquisitions
• Properties are outside the Project Limits
• Location, setting, feeling and association would not be altered
• Basic form, massing, use, and general appearance of the Mall would remain unchanged; therefore, there would be no visual or atmospheric changes
• Design, materials, and workmanship of the historic structures would not be affected by the LPA

No Adverse Effect
Finding of Effect - Locally Preferred Alternative

Historic Districts

• Lower Downtown Historic District

• Skyline Park

• 16th Street Historic District

No Adverse Effect
Section 106 Consultation Status
Section 106 Consultation Status

• Revised 16th Street Mall Form 1403
• Comments on Draft Cultural Resources Technical Report
• Finding of Effect
Next Steps
Next Steps

• SHPO review of Form 1403
• Address comments on Draft Cultural Resources Technical Report
• Finding of Effect
• Public Review of Environmental Assessment and Section 4(f) Evaluation
• Develop Memorandum of Agreement to address the adverse effect
• Discuss potential mitigation measures
Questions?
Map Book 2
Identified Historic Properties
16th Street Mall
April 2018

LEGEND
- Area of Potential Effects
- Project Limits
- Parcel Boundary
- Historic Properties
  - NRHP Status
    - Listed on NRHP
    - Eligible for NRHP
- Historic Districts
  - Eligible for NRHP
  - Contributes to Historic District

0 100
0 300
0 500
0 700 Feet
Map Book 3
Identified Historic Properties
16th Street Mall
April 2018

LEGEND
- Area of Potential Effects
- Project Limits
- Parcel Boundary

Historic Properties
- NRHP Status
  - Listed on NRHP
  - Eligible for NRHP

Historic Districts
- Eligible for NRHP
- Contributes to Historic District
Map Book 4
Identified Historic Properties
16th Street Mall
April 2018

LEGEND
- Area of Potential Effects
- Project Limits
- Parcel Boundary

Historic Properties
- Listed on NRHP
- Eligible for NRHP

Historic Districts
- Eligible for NRHP
- Contributes to Historic District
THE 16TH STREET MALL
SPECIES LIST
TREE HEIGHT STANDARDS
Recommended ratio for
tree placement at installation

desired height of first branch is min. 10’ to provide
 clearance for pedestrian and vehicular functions
The species identified below represent a draft list of potential candidates for the 16th Street Mall procurement process. The process for selecting involved identifying species of similar characteristics, meeting a higher standard of species diversity and analysis from the consultant group, the species here meet the goals of creating a diverse selection of trees while respecting the historic design goals of the Mall.

### HONEY LOCUST GROUP

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<th>Family Botanical Name</th>
<th>Common Name</th>
<th>Height @ Maturity</th>
<th>Canopy Spread @ Maturity</th>
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<tr>
<td>Styphnolobium japonica</td>
<td>Japanese Pagodatre</td>
<td>50'</td>
<td>50'</td>
</tr>
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</table>

**HONEY LOCUST GROUP ALTERNATIVES**

<table>
<thead>
<tr>
<th>Family Botanical Name</th>
<th>Common Name</th>
<th>Height @ Maturity</th>
<th>Canopy Spread @ Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ulmus (wilsoniana x pumila Accolade) x carpinifolia x glabra</td>
<td>Patriot Elm</td>
<td>45'</td>
<td>35'</td>
</tr>
<tr>
<td>Ulmus japonica x wilsoniana</td>
<td>Accolade Elm</td>
<td>60'</td>
<td>50'</td>
</tr>
<tr>
<td>Ulmus parvifolia</td>
<td>Allee Lacebark Elm</td>
<td>45'</td>
<td>30'</td>
</tr>
<tr>
<td>Ulmus americana</td>
<td>Princeton American Elm</td>
<td>60'</td>
<td>45'</td>
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<tr>
<td>Styphnolobium japonica</td>
<td>Millstone Japanese Pagodatre</td>
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<td>30'</td>
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<tr>
<td>Celtis occidentalis</td>
<td>Common Hackberry</td>
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<td>35'</td>
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### PROMENADE GROUP

### OAK GROUP

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<th>Common Name</th>
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<th>Canopy Spread @ Maturity</th>
</tr>
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<tbody>
<tr>
<td>Quercus shumardii</td>
<td>Shumard Oak</td>
<td>35'</td>
<td>35'</td>
</tr>
<tr>
<td>Quercus robur x alba</td>
<td>Forest Knight Oak</td>
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<td>40'</td>
</tr>
<tr>
<td>Quercus x bimundorum</td>
<td>Prairie Stature Oak</td>
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### MAPLE GROUP

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<th>Common Name</th>
<th>Height @ Maturity</th>
<th>Canopy Spread @ Maturity</th>
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<tbody>
<tr>
<td>Acer miyabei</td>
<td>State Street Maple</td>
<td>45'</td>
<td>35'</td>
</tr>
<tr>
<td>Acer pseudoplatanus</td>
<td>Sycamore Maple</td>
<td>35'</td>
<td>25'</td>
</tr>
<tr>
<td>Acer grandidentatum</td>
<td>Bigtooth Maple</td>
<td>25'</td>
<td>25'</td>
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### PROMENADE ALTERNATIVES

<table>
<thead>
<tr>
<th>Family Botanical Name</th>
<th>Common Name</th>
<th>Height @ Maturity</th>
<th>Canopy Spread @ Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesculus x Bergeson</td>
<td>Prairie Torch Buckeye</td>
<td>27'</td>
<td>27'</td>
</tr>
<tr>
<td>Crataegus crus-galli</td>
<td>Thornless Cockspur Hawthorn</td>
<td>20'</td>
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<tr>
<td>Quercus muehlenbergii</td>
<td>Chinkapin Oak</td>
<td>45'</td>
<td>50'</td>
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<tr>
<td>Quercus robur</td>
<td>English Oak</td>
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HONEYLOCUST GROUP

THORNLESS HONEYLOCUST
HONEYLOCUST GROUP
KENTUCKY COFFEE TREE
HONEYLOCUST GROUP
JAPANESE PAGODATREE
HONEYLOCUST GROUP

ALTERNATIVE - PATRIOT ELM
HONEYLOCUST GROUP

ALTERNATIVE - ACCOLADE ELM
HONEYLOCUST GROUP

ALTERNATIVE - ALLEE LACEBARK ELM
HONEYLOCUST GROUP

ALTERNATIVE - PRINCETON AMERICAN ELM
HONEYLOCUST GROUP

ALTERNATIVE GROUP - MILLSTONE JAPANESE PAGODA TREE

MILLSTONE JAPANESE PAGODA (japonica)

SPREAD

HEIGHT

spring flowers
OAK GROUP

PRAIRIE STATURE OAK

PRAIRIE STATURE OAK (*Quercus x bimundorum*)

- Height
- Spread

Nuts
FOREST KNIGHT® OAK (Quercus robur x alba ‘Tabor’)
MAPLE GROUP
STATE STREET MAPLE

STATE STREET MAPLE (Acer miyabei)
MAPLE GROUP
SYCAMORE MAPLE
PROMENADE GROUP

ALTERNATIVES - PRAIRIE TORCH BUCKEYE
PROMENADE GROUP

ALTERNATIVES - THORNLESS COCKSPUR HAWTHORN

spring
PROMENADE GROUP

ALTERNATIVES - CHINKAPIN OAK

CHINQUAPIN OAK (Quercus muehlenbergii)
PROMENADE GROUP

ALTERNATIVES - ENGLISH OAK
SPECIES LIST
Alternative Analysis and Environmental Clearance

Section 106 Consulting Parties Meeting #8
RTD/Civic Center, Regional Conference Room
June 14, 2018, 2:30 – 4:30 pm

MEETING NOTES

Attendees: See Attached Sign-in Sheet

Welcome and Introductions
FTA and RTD welcomed the group and provided a meeting overview.

Recent Activities and Section 106 Summary
The letter containing the Determination of Eligibility and Finding of Effects submitted by FTA to SHPO for review, comment, and concurrence on May 9th. This letter, along with the updated Cultural Resources Technical Report, was forwarded to the Consulting Parties on May 11th. (The draft Cultural Resources Technical Report was submitted via email to the SHPO and Consulting parties on April 18th for review and comment. It was also discussed at the prior Consulting Parties meeting on May 3rd.) FTA asked if there were any additional comments on the updated report, but none were expressed during the meeting.

Design Decisions to be Determined

Curb Design Options
The group discussed the two options currently being considered- use of vertical curbs and a “curbless” design. The vertical curbs would need to be relocated from their current locations under the curb and curbless options. Under the curb option, the new curbs would be located along the new outside edges of the transit way. Under the curbless option, the curbs would be removed and not replaced, instead relying on a depressed pan at the new edges of transit way. The City prefers the pan or “curbless” option to preserve flexibility for future uses of the Mall. FTA requested the City provide additional information and detail on the curbless design option in order to show that this option would be equivalent in meeting ADA accessibility, safety and transit operations as the vertical curb.

Historic Denver’s preference is to retain the use of curbs if it would alleviate the need to introduce new elements to the historic resource, such as bollards, which would cause visual impacts to the historic property.

Consulting Parties expressed preference to avoid adding new elements that would create visual impacts to the historic property, under either option. It would be helpful to see how the proposed new elements would fit with the other character-defining features of the historic property.
Other issues that will influence the curb design include ADA regulations (texture and contrast, based on FHWA 2017 guidance*) and the goal of pattern continuity (color, materials, design).


Historic Denver noted that the original design was curbless, but that design was not carried forward because of drainage issues, so it was built with the current vertical curb. Drainage issues could be more challenging to address under the curbless option compared to the curb option.

Historic Denver emphasized the importance of including language in the Memorandum of Agreement (MOA) that allows the Consulting Parties to be included in the design review process.

Historic Denver asked if the design team had been able to gather the information previously requested about the reason(s) for the 2-foot shift on the asymmetrical blocks. They asked if the project could subtract 2 feet from the existing patio spaces on the narrow (west) side of the street (from the current 9 feet to 7 feet) instead of shifting the historic pattern. This would provide an opportunity to preserve a small portion of the original design in these areas. Not every block has patio space, so this loss of 2 feet on one side of the street for a couple of blocks wouldn't likely have a negative impact on future diners.

**Resolution of Adverse Effect**
The discussion centered on resolution of the adverse effect to the 16th Street Mall historic property and appropriate mitigation measures to address the effect that would be included in an MOA.

**Potential Mitigation Measures**
- The group generally does not like the “document and destroy” approach. While the Landmarks Commission sees value in completing very detailed HABS/HAER documentation, others questioned the value of this effort for this project.
- Historic Denver is not opposed to the HABS/HAER documentation but would prefer design-based mitigation. Investing time and money into the design elements will be crucial in developing a design that decreases the adverse effects.
- The design team presented paving studies that showed the existing patterns and the proposed patterns under the Locally Preferred Alternative.
- Another potential mitigation measure would be to enhance historic properties adjacent to the Mall by implementing improvements to select historic buildings within the APE. One example could be up-lighting of select historic buildings, which has been previously investigated. Prior plans for this effort may be available; the City and DDP (John Desmond) agreed to research further.
- Interpretive displays were discussed but not recommended for this project. The group agreed that these displays tend to disintegrate with time and appear unfavorable if not properly maintained, which takes an ongoing commitment and funding source.

**Other Comments and Feedback**
- Landmarks said they are concerned about short- and long-term vibration impacts to historic buildings adjacent to the Mall; they asked that this be addressed in the EA.
- Consulting Parties expressed concern about loss of access to buildings during construction.
  - Bar/CCD said the city cannot eliminate building access because of City of Denver regulations; access to buildings will not be restricted during construction.
• Historic Denver expressed concern about the timing for implementing a new design concept to the project (move or remove the curbs); design-build in an MOA is problematic, when there are undecided design elements that may impact the historic property. These concerns need to be addressed early in the process.
• CPI said they believe the vertical aspect of the existing curb is an important element of the design and want the curb design to remain as it was built.
• Others said they didn’t feel strongly, since it was originally designed without curbs, but said their preference would be to retain the vertical curbs if it minimized the need to use other edge delineating elements that would affect the character-defining features of the Mall.
• Several Consulting Parties reiterated their belief that the Mall has national significance, in addition to state significance.
• Historic Denver would prefer no new design elements be added that interrupt the design.
• The National Trust said they support Historic Denver’s comments and that they had no additional comments.

Requested Items/Documentation
• Historic Denver requested additional information regarding the 2-foot shift in the asymmetrical blocks and an explanation as to why it is necessary.
  o The project team offered to schedule a separate meeting to discuss this topic in more detail with Historic Denver and any other interested parties.

Schedule and Next Steps
• The discussion on how to address adverse effects through mitigation measures will be continued at the next Consulting Parties meeting.
• Schedule a follow-up meeting in July with Historic Denver to discuss the design in more detail, especially the rationale for the shift in the pattern in the asymmetrical blocks.
• Design team to provide additional design details for the curb and curbless options.
• Continue preparing the EA and Section 4(f) Evaluation for public review
• Begin drafting the MOA for the Consulting Parties to review
Alternative Analysis and Environmental Clearance

Section 106 Consulting Parties Meeting #8

RTD/Civic Center, Regional Conference Room
June 14, 2018, 2:30 - 4:30 pm

AGENDA

1. Welcome and Introductions
2. Recent Activities/Section 106 Summary
   - DOE-FOE
   - Cultural Resources Technical Report
3. Design Decisions to be Determined
4. Resolution of Adverse Effect
   - Potential mitigation measures
5. Schedule and Next Steps
6. Feedback/Questions
<table>
<thead>
<tr>
<th>Name</th>
<th>In Attendance (Y/N)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bar Chadwick</td>
<td>Y</td>
<td>- CCD-</td>
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<tr>
<td>Jim Groffner</td>
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<td>Lo Do Diet</td>
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<tr>
<td>Sara Orton</td>
<td>Y</td>
<td>Jacobs</td>
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<tr>
<td>Mandy Woorton</td>
<td>Y</td>
<td>Peak</td>
</tr>
<tr>
<td>Kara Ham</td>
<td></td>
<td>CPI</td>
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<tr>
<td>Dana Steele</td>
<td>Y</td>
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<tr>
<td>Susan Ward</td>
<td>Y</td>
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<td>Jean P. Olson</td>
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<tr>
<td>Todd Kravens</td>
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<tr>
<td>Kristin Kenyon</td>
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<td>Stanlec</td>
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<tr>
<td>Matt Shawaker</td>
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<td><strong>On phone</strong></td>
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<tr>
<td>Betsy Merritt / National Trust</td>
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<td></td>
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<tr>
<td>Trevor Lee / Olin</td>
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<td>Francis Bugenio / FTA</td>
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<td>Jacobs</td>
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<tr>
<td>Tami Door</td>
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Existing Median

Pattern:
Proposed Center Running

Pattern:
Existing Asymmetrical Pattern:
Proposed Asymmetrical Pattern:
Existing Median

Pattern & Use:
Proposed Center Running

Pattern & Use:

Sidewalk

Transit

Sidewalk
Existing Asymmetrical

Pattern & Use:
Proposed Asymmetrical

Pattern & Use:
Hi All,

Historic Denver has commented on specific changes to the proposed pattern design and use/programming of the 16th Street Mall in the proposed New Asymmetrical blocks. The discussion occurred during Consulting Parties Meeting #8 and it was agreed to by Historic Denver and the project team to have a follow up meeting. The purpose of this follow up meeting is to continue the discussion regarding Historic Denver’s comment in more detail.

This is not a Consulting Parties Meeting, but consulting parties are invited to attend or join by phone. Notes from the discussion will be provided at Consulting Parties Meeting #9 which has not yet been scheduled.

Please let me know if you have any questions.

Zach Bentzler
Jacobs
Alternative Analysis and Environmental Clearance

Detailed Design Discussion

RTD/Civic Center, Express Conference Room
July 26, 2018, 8:30 - 9:30 am

MEETING NOTES

Attendees: See attached Sign-in sheet

Welcome and Introductions
FTA and RTD welcomed the group and each person introduced themselves.

Summary of Section 106 Activities
Jacobs gave a brief overview of the steps taken thus far in the Section 106 consultation process and current schedule and next steps in the process.

Project Overview
Jacobs and FTA described the locally preferred alternative being presented in the Environmental Assessment.

Purpose of Meeting
Jacobs introduced and explained the purpose and origins of the meeting. At multiple consulting party meetings, Historic Denver had asked for an explanation of the reasoning behind the two-foot shift of the design on the design of the asymmetrical blocks. This meeting was called to discuss the specifics of the new asymmetrical design and the possibility of making specific changes to the design to alleviate the need for the two-foot shift and thus retaining a great proportion of the original design.

Design Discussion
The project team began with a short presentation of the evolution of the current design and the factors taken into account, among them:

- minimize impact to the historic property;
- meet project Purpose and Need;
- meet NACTO guidelines, city regulations, ADA requirements; and
- activation best practices
- retain relationship between elements of the pattern with the trees and lights

As far as the pattern and retaining as much of the original pattern as possible, there were also many factors:
• pattern dissipates as it gets closer to the buildings
• triangulated pattern
• existing 16-foot grid, 32 feet apart, trees 32 feet from the buildings
• spatial relationships between diamonds, trees, and light standards

Historic Denver’s concerns lie with the two-foot shift of the pattern on the asymmetrical blocks. It seems to be possible to retain the original pattern on the asymmetrical blocks and eliminate the need for the two-foot shift. They want to understand the reasoning for why it isn’t possible to retain the pattern as is in these blocks. One option they had mentioned previously would be to reduce the patio space from the current 9 feet to 7 feet.

Project team: Nine feet is the industry standard for patio space activation, and continued activation is an important part of this project. Changing from 9 to 7 feet would remove 189 seats from existing patios and would be detrimental to existing business owners.

There is a high level of alteration to this historic property; everything is moving and nothing of the original design would remain in its original location. Historic Denver is looking for areas and opportunities where preservation is possible. Can the pattern in the asymmetrical blocks remain as they are?

The City and County of Denver said a new idea had been floated to preserve the pattern from Court to Broadway, one and a half blocks. It has not yet been vetted, but that would be a block and a half with no changes to the pattern, where the pattern would be preserved.

The Historic Denver board of directors requested that the construction be phased and that the asymmetrical blocks be completed after the center-running blocks. The project team indicated the construction phasing plan had yet to be developed and that it was too early to say if that would be possible. But City and County of Denver said there is little to no support for two separate phases.

Historic Denver wants to understand why the shift is necessary, what the reasoning is behind the shift. They would like to work together with the design team to find ways to preserve the pattern in the asymmetrical blocks. It is agreed that John Olson with Historic Denver and Matt Shawaker with Stantec will meet independently to discuss in deeper detail the possibilities.

Feedback/Questions
Historic Denver feels the order of decision-making has not favored preservation of the resource and that the project team comes to the consulting parties after decisions have been made, rather than during the decision-making process.

During the later value engineering process, Historic Denver does not want the paver system and pattern to be engineered out.
Alternative Analysis and Environmental Clearance

SHPO Meeting

Office of Archaeology and Historic Preservation

July 26, 2018

2:00 pm - 3:00 pm

MEETING NOTES


The Federal Transit Authority (FTA) requested this meeting with the State Historic Preservation Office (SHPO) to discuss the comments they provided in their response letter, received by FTA on June 20, 2018. The project team also provided the SHPO with an update on the project status. (There was no formal agenda for this meeting.)

SHPO began by reiterating that Historic Denver had conveyed to them their interest in preserving as much as possible of the 16th Street Mall historic property (Mall). The SHPO also expressed they didn’t agree with the Purpose and Need for the project, as written, because it is unique from other projects. However, the SHPO will continue to focus on their Section 106 and Section 4(f) responsibilities. SHPO has received notification from the Advisory Council on Historic Preservation (Council) that the Council would like to participate in the ongoing consultation to address the adverse effect on historic properties.

As stated in their June 2018 letter, SHPO reiterated their concurrence on National Register of Historic Places (NRHP) eligibility of properties within the Area of Potential Effects and on the adverse effect on the Mall. Regarding the NRHP-listed and -eligible properties adjacent to the Mall within the APE, SHPO clarified that the letter did not make a declarative statement regarding the findings of effect of these properties. In the letter, SHPO was identifying their concerns related to potential issues or impacts to these properties that should be considered and addressed. They are concerned about potential vibration impacts to the historic properties adjacent to the Mall during construction, as well as the potential economic impacts from lack of access to these properties during construction. The project team indicated these issues will be addressed in greater detail in the Environmental Assessment (EA). SHPO recommended including guidelines for working adjacent to masonry buildings in the contractor documents. The National Park Service (NPS) has guidelines to avoid vibration damage to historic buildings.

Regarding mitigation measures to address the adverse effect on the Mall, SHPO is open to options and said the best measures are those that are recommended and approved by the community. Preservation of the historic properties and limiting the adverse effects is most important. The process should include the Consulting Parties in discussions regarding the locations of specific elements/features, such as planters and furniture. SHPO is not as concerned with reusing the existing furniture, for example. SHPO recommended a stipulation in the Memorandum of Agreement (MOA) that contractors will be educated about working near historic buildings. When asked about their interpretation of design-based mitigation measures (previously requested by consulting parties), SHPO said this sort of mitigation requires
consultation and conversation with those external to the design team, as opposed to minimization measures, which do not require conversations external to the design team and can be included in the design as minimization measures without consultation.

As far as the design and the Locally Preferred Alternative, SHPO’s preference would be to improve the infrastructure (foundation and drainage below the surface) and put it back as it is in the same alignment with the same pattern, and with granite pavers. SHPO said they believe this option may not constitute an adverse effect on the Mall, even though individual character-defining features would be affected (the trees and tree boxes would be replaced, the engineering features below the surface would be removed, and the granite pavers would be replaced). SHPO indicated they thought a possible way to avoid an adverse effect on the Mall could be to change the programming along the existing Mall. For example, the patio spaces associated with restaurants and cafes along the Mall could be better enforced to increase space for pedestrian circulation, which has been identified as a safety and mobility issue in the Purpose and Need.

SHPO expressed concern about the breadth of the Purpose and Need and said the Council will likely scrutinize it carefully. SHPO questioned whether there is a precedent in such a broad purpose and need that incorporates place-making along with transportation. SHPO understands that FTA determines the Purpose and Need, and whether the project meets the Purpose and Need. SHPO requested early review of the EA and the Section 4(f) evaluation, prior to public release of the documents.
Detailed Design Meeting

Stantec Conference Room
August 9, 2018, 9:30 - 11:00 am

Meeting Notes

Attendees: Matt Shawaker of Stantec, John Olson of Historic Denver, Kristin Kenyon of FTA Region 8, Susan Wood of RTD, Jason Whitlock of City of Denver, Zach Bentzler of Jacobs

Purpose: The purpose of the meeting was to follow up with John Olson’s question related to preserving an element of the existing Mall in place, specifically the asymmetrical blocks on the west-side of the project limits.

Notes: John Olson started out the meeting by stating his goal of preserving as much of the originality of the Mall and the design intent. He stated that removing the medians from the symmetrical blocks makes it impossible to maintain originality on those blocks. His focus is on the asymmetrical blocks.

Matt Shawaker and John Olson discussed how the pattern changes in the asymmetrical blocks using a pattern cut-out tool that Matt prepared for the meeting. The tool allows the main components of the pattern to be easily shifted for discussion.

John Olson noted that the original design has a row of trees and lights in a continuous row for the length of the Mall. The proposed design maintains this design element; however, the continuous row of trees is a third row of trees that would be added in the asymmetrical sections that wasn’t included in the original design. Matt and John discussed how the tree and light placement relate to the pattern. Matt explained that the placement of trees and lights follow the same concepts from the existing design.

John Olson stated that the amenity zone on the short side of the New Asymmetrical blocks is new and not part of the original design. Further, the trees in that amenity zone were not part of the original design. Kristin Kenyon asked John, if in his opinion adding the new row of trees deviated too far from the original design. John didn’t think that it necessarily did. John also noted that with the removal of the small median and proposed 5-foot amenity zone, there were limited opportunities to maintain originality in these asymmetrical blocks (on the west-side of the project limits) because the pattern must be shifted to maintain spatial relationships in the pattern, trees, lights, and the programming on the 16th Street Mall.
The conversation turned to the idea of preserving the final 1.5 blocks of asymmetrical blocks on the east-side of the project limits between Broadway and Court. John Olson noted that if we maintain 1.5 blocks as the “old” asymmetrical cross-section design, then there will be one block of New Asymmetrical before the cross-section changes to symmetrical. This would essentially create a fourth section of the corridor, instead of the existing three. Matt Shawaker stated that one idea, not yet evaluated, is to extend the section of symmetrical blocks to the east from Tremont to Court, so the transition between segments only occurs once on the east end of the project limits. John Olson noted that he didn’t think the minimum patio/gathering space was needed on every block.

John and Matt discussed an alignment that held the curb pattern on the north side of the 1.5 blocks in the existing location, removed the small median, and widened the short side (south side) of the blocks and added a row of lights in that area. The project team committed to study maintaining the existing alignment in the 1.5 blocks and the partial existing alignment that John and Matt discussed. The project team will update John ahead of the next consulting parties meeting and report the findings of the study at the next consulting parties meeting.

John also asked for the project team to study design elements that may be carried through intersections, such as a consistent row of trees or lights.

Zach stated to Kristin that he thought the alignments being discussed should be considered mitigation as the consulting parties asked for design-based mitigation. Kristin agreed to discuss with other at FTA and get back to Zach.
From: Annie Levinsky <alevinsky@historicdenver.org>
Sent: Tuesday, August 28, 2018 11:59 AM
To: Kenyon, Kristin (FTA) <kristin.kenyon@dot.gov>; Brad Buchanan <Brad.Buchanan@denvergov.org>; John Olson <jolson@historicdenver.org>; matt.shawaker@stantec.com
Cc: Wood, Susan <Susan.Wood@RTD-Denver.com>; Bentzler, Zachary/DEN <Zachary.Bentzler@jacobs.com>
Subject: Aug 9 Follow-Up- Mitigation

Kristin,

John Olson is out of town for two weeks, but before he left we had an internal meeting to discuss the August 9th meeting at Stantec about some of the design details on the asymmetrical blocks. I am copying all those I believe were in that meeting, plus Brad, as John and I thought it would be helpful to provide a summary of Historic Denver’s thoughts after that conversation.

First, we want to thank the design team at Stantec for their careful analysis, the efforts to retain essential concepts in the paving patterns, and the chance to explore additional ways to honor the original design. We all know the Mall is like a Swiss watch, and realize this work is very detailed and intricate.

Throughout the Section 106 consultation process our team has sought opportunities to not only honor the original design, but to preserve the Mall’s essential characteristics, which we’ve described as including the granite pavers and pattern, the strong linear arrangement of lights and trees, and the combination of symmetrical and asymmetrical cross-sections forming three “rooms.” We are happy to see that these elements exist in the Preferred Alternative, but are also challenged by the reality that the alternative involves fundamental changes in the alignments and spatial arrangements, which ultimately contributed to the determination of an adverse effect made by SHPO.

This is the reason we asked about reducing the effect of the “pulled carpet” dynamic in the new asymmetrical block design at the January and February 2018 meetings, and in subsequent conversations. We focused on the new asymmetrical blocks because they will experience a lesser degree of alteration than the symmetrical “center-running” blocks, where the elimination of the pedestrian median will more significantly alter the spatial arrangements and alignment.

The August 9th meeting provided an opportunity to unpack this idea and the trade-offs in terms of the original pattern and the impacts to other elements, including the tree planting pattern and the light alignment. It became clear that eliminating the 4’ light median from the original asymmetrical design in the new asymmetrical design makes it quite challenging to minimize changes to the spatial relationships of transit lanes vs. walkways, while still aligning the proposed lights, trees, and the underlying pattern in a cohesive manner along the length of the Mall.

After further discussion at the meeting, and further internal analysis, we believe a better solution lies in preserving a set of the original asymmetrical blocks, starting with those on the eastern end of the Mall between Broadway and Court. As acknowledged in the meeting, this could be successful because of the types of uses and spatial relationships between the buildings in the area, as well as the unique characteristic of vehicular traffic on these blocks and the connection to the Civic Center station. It appears that this approach can still satisfy the purpose and need statement, but also mitigate the adverse impact to the historic resource by only removing the 4’ light median and shifting the walkway to
the south, while allowing the majority of original elements to remain (or return after reconstruction) to their original location.

We believe there may also be an opportunity for this same solution for two blocks on the opposite end of the Mall, where existing plaza and park space can already accommodate much of the desired outdoor seating space, and where the shift of 4’ of space from the light median to the walkway can satisfy the need for a larger pedestrian space. We recognize that applying this solution for only some, but not all, of the asymmetrical blocks would create inconsistency and more transition zones, impacting the concept of only three “rooms.” We are therefore open to considering the idea of extending the symmetrical section of the Mall one block on each end of the core “center-running” blocks so that the Mall retains the three “rooms” concept, with differentiation on either end, but for a shorter distance.

We think these ideas are certainly worth exploring, and agree that before a decision is made to use this approach we should review drawings, even in basic form, to understand the impacts to the interconnected Mall features and elements. It was John’s understanding after the meeting that the design team will be working on diagrams to see what this might look like, and we’d be happy to take a look and to talk about it more fully before the consulting parties meeting if desired.

Again, thank you to the design team and the project leadership for the hard work and productive discourse.

Best,

Annie

Annie Robb Levinsky
Executive Director
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From: Kenyon, Kristin (FTA) [mailto:kristin.kenyon@dot.gov]
Sent: Friday, July 27, 2018 8:54 AM
To: Brad Buchanan <Brad.Buchanan@denvergov.org>; John Olson <jolson@historicdenver.org>
Cc: Chadwick, Bar - DOF Project Mgr II <Bar.Chadwick@denvergov.org>; Wood, Susan <Susan.Wood@RTD-Denver.com>; Orton, Sara/NWO <Sara.Orton@jacobs.com>; Annie Levinsky <alevinsky@historicdenver.org>; Bentzler, Zachary/DEN <Zachary.Bentzler@jacobs.com>
Subject: Sept 11th availability
Hi Brad and John (and All)- We really appreciate you making the meeting yesterday. Thank you again for all your time!

Knowing how busy your schedules are, we wanted to try to set up the next Consulting Parties meeting to continue our discussion on mitigation in more detail.

I believe I heard that you two would both be available on Tuesday Sept 11th. Could you kindly please confirm how that day looks for you...?

It sounded like John was out the prior week and Brad was not able to do later this week. So we would like to aim for the 11th if possible.

Thanks so much!
Kristin at FTA Region 8
Alternative Analysis and Environmental Clearance

Detailed Design Meeting

Stantec Conference Room
September 11, 2018, 10:30 - 11:30 am

MEETING NOTES

Attendees: Matt Shawaker of Stantec, John Olson and Annie Levinsky of Historic Denver, Kristin Kenyon of FTA Region 8, Sharyn Lacombe (phone) and Alan Tabachnick (phone) of FTA Headquarters, Susan Wood of RTD, Jason Whitlock of City of Denver, Zach Bentzler and Tim Siedlecki of Jacobs

Purpose: The purpose of the meeting was to follow up on the requests by Historic Denver to review the dimensions and layout of the proposed design-based mitigation in more detail. This meeting continues the discussions in the previous meeting with John Olson of Historic Denver held on August 9, 2018 and to the email from Annie Levinsky on August 28, 2018, describing proposed design-based mitigation.

Notes: The project team began by showing a plan view aerial of the existing block between Broadway and Cleveland Place, which measures approximately 110 feet in length—considerably shorter than the length of typical block on the Mall—so is referred to as a half block for measurement purposes. Linework showing alignment shifts from Civic Center Station across Broadway to the 16th Street Mall and also across Cleveland were discussed. The point of the analysis was to determine if the proposed New Asymmetrical cross-section design was prohibitive or difficult for shuttle operations. The outcome of the alignment analysis was that the bus operations movements from the Civic Center Station across Broadway to the New Asymmetrical cross-section design on the 16th Street Mall is not prohibitive or difficult to make. The analysis also determined that operating buses from the existing alignment between Broadway and Cleveland Place, if the existing alignment was maintained, to the New Asymmetrical cross-section design west of Cleveland Place was feasible and not prohibitive.

The discussion then turned to Historic Denver’s proposed design-based mitigation which proposes to alter the alignment on one side of the street for three and a half blocks. The proposal is to use a different cross-section design from Broadway to Court on the east end of the Mall and from Market Street to Lawrence Street on the west end of the Mall. The cross-section design would maintain in place the wide side of the asymmetrical blocks on those 3 ½ blocks. To maintain a beginning, middle, and end to the Mall (also referred to as the three “rooms” of the historic design), Historic Denver also proposes to convert two additional blocks, Court Place to Tremont Place and Arapahoe Street to Lawrence Street, from the asymmetrical cross-section to the symmetrical (center-running) cross-section of the Preferred Alternative.
In sum, the Historic Denver design would alter five and a half blocks of the 12 ½ block corridor (approximately 40% of the corridor) of that proposed by the Preferred Alternative.

Matt Shawaker presented a drawing showing how a reduced amenity zone is prohibitive for what the project team is trying to do to address the purpose and need for the project, especially in respect to improving safety and public use goals. Essentially to implement Historic Denver’s design, two feet of patio width would need to be removed from the patios along the narrow side of the street in the three blocks, from 9 feet to 7 feet.

The drawing shows bollards as an option for vertical and physical delineation. These may be needed to ensure safety should the space provided for pedestrian activity be decreased. John Olson commented that bollards are not a good idea on the Mall and also commented that he didn’t think we need vertical delineation if the design includes a curb. Additionally, Historic Denver commented that the second row of trees on the narrow side of the asymmetrical blocks in not part of the original design nor essential and could be removed, at least in the three blocks, to provide some space to accommodate Historic Denver’s proposal. Historic Denver expressed concern that the patio space and extra row of trees are taking priority over the consideration of preserving the historic resource.

Historic Denver made the case that a wider amenity zone could be implemented on the narrow side of the block if space was taken from the patio gathering area. The project team explained that providing adequate patio seating has been found to be an existing generator of public use of the Mall. Historic Denver noted that the blocks in question have limited current use of patios and some have no use that requires patios. The project replied that some blocks have no patio use or limited patio use, currently, but that the proposed alignment and programming is to facilitate 50 years of public use on the Mall. An underutilized space today could be utilized to its full potential with a revitalized Mall. Additionally, removing effective existing patio space from businesses would be an economic impact on those businesses.

Sharyn stated that FTA appreciates Historic Denver’s concerns. She stated FTA decides what’s best for transit service and for preserving the resource, and that FTA will give it additional thought before a decision is made.

The design team agreed to continue to study Historic Denver’s proposal including laying out the plans in design software to provide and discuss with the project partners and the Consulting Parties.

Historic Denver asked if about whether curbs would be implemented or not. Kristin stated she believed that the decision would be made before release of the EA and Section 4(f) documents. The group discussed whether or not the proposal would be considered design-based mitigation and generally agreed that it could be.

Sharyn asked that the group include details into the unidentified discoveries plan so that the process could be streamlined if certain types of items are discovered compared to less-significant items. Annie noted that there may be remnants of the old Trolley line under the median in the symmetrical blocks.
Alternative Analysis and Environmental Clearance

Section 106 Consulting Parties Meeting #9

RTD/Civic Center, Regional Conference Room
October 18, 2018, 9:30 – 11:50 am

MEETING NOTES

Attendees: Listed at end of summary (page 4)

Welcome and Introductions
FTA and RTD welcomed the group and provided a meeting overview.

Recent Activities and Section 106 Progress
The project team reviewed recent activities including a summary of the meeting with the SHPO on July 27, 2019 and the feedback they provided. The SHPO concurred with the adverse effect determination for the Mall and indicated mitigation measures needed to be developed in coordination with consulting parties. They also expressed concerns with both vibration and maintaining access to other historic buildings along the Mall during construction.

Discussion on Proposal by Historic Denver and the “Triangle Block”
Discussion of proposal made by Historic Denver –
Historic Denver asked if the design team had been able to gather the information previously requested about the reason(s) for the 2-foot shift in the pattern on the asymmetrical blocks. They asked if the project could subtract 2 feet from the space reserved for restaurant patio on the narrow (west) side of the street in a few blocks (from the current 9 feet to 7 feet) in order to avoid shifting the historic pattern. This would provide an opportunity to preserve a small portion of the original design “as is” in these areas, which Historic Denver would greatly value. Not every block has patio space, so this loss of 2 feet on one side of the street for a couple of blocks wouldn’t likely have a great negative impact on future diners. They expressed the importance of striking a balance between privatization of public space and the preservation of a significant historic resource.

The project team reviewed the drawings prepared for this proposal (available under separate cover upon request). In general, the proposal doesn’t meet the purpose and need of the project because the patios are important for activating public use. Although the patios are associated with businesses and paying customers, patios are the single most important factor to encourage public gathering and “staying” activities on the Mall. In this way, they not only create an opportunity to bring people to the Mall but the presence of an active public space on the patios also encourages people to gather in other parts of the Mall. As part of the review of the proposal, however, the team feels the triangle block (Broadway to Cleveland) is the one portion of the proposed blocks that could support public use without changes to the spatial arrangement because its plaza space creates a different context and therefore presents an opportunity for preservation more because it has unique characteristics to the other blocks proposed by Historic Denver.
The project team clarified preservation of triangle isn’t completely preservation because it will still be rebuilt. However, it could be rebuilt with the same materials and configuration of the original design, retaining existing alignment but replacing granite pavers, curbs, trees, and subsurface, and completing other safety upgrades (such as ADA measures).

The following discussion ensued:

- SHPO voiced opposition to the Purpose and Need and using it to discount Historic Denver’s proposal. The purpose and need shouldn’t mean that every property owner gets their way (aka larger patio space) in order to forsake the historic property.
- Historic Denver expressed frustration and concern that only a tiny portion of the overall mall is being offered to be preserved. This space, which isn’t really a full block, does not convey the historic design on its own. It is underutilized and not unique from a historic perspective. Although better than nothing, it feels insignificant in comparison to the overall larger historic resource.
- Colorado Preservation indicated there is some benefit to preserving the triangle block due to unique viewsheds from adjacent buildings/walkways (Sheraton to Mile High Center/Wells Fargo cash register building) and its context between these important I.M. Pei-designed buildings. In addition to the relationship with the Mall, there is value in preserving the triangle as a reference to the I.M. Pei legacy in Denver. The plaza on this triangle block could be a good place for an interpretive installation of some form.
- Most agreed preserving the alignment of the triangle block would be better than not preserving it.
- Reminder that Brad Buchanan/CCD raised the opportunity of preserving the Broadway to Court segment - notably longer than just the triangle block (two-and-a-half blocks, not just a half block).
- Lights in the triangle continue to get hit by vehicles so perhaps treatment will be needed; mini bollards were discussed with Historic Denver in 2015; these plans would be revisited instead of starting over from square one.
- Discussion regarding fountains, specifically rehabbing the fountain in the triangle. Some think they are not a worthwhile expense due to ongoing maintenance concerns; but others think they can be a nice gathering place. Jim Graebner noted that the fountain at DUS is a wonderful public space.

Discussion on Updates to Design

The project team provided an update on the options being considered regarding reinstatement of vertical curbs. At the last meeting, the “curbless” and “curb” designs were discussed. As a recap, the curbs in either configuration (vertical or pan) would be relocated from their current locations because of the shifts in the transit way alignment. Under the “curb” option, the curbs would be removed and relocated to the new outside edges of the transit way. Under the “curbless” option, the curbs would not be replaced, instead relying on a depressed pan at the new edges of transit way. FTA had requested the City provide additional information and detail on the “curbless” design option. The City and RTD have met and discussed employing a third, “Hybrid” option, a blending of both a curb and curbless section. The Hybrid option would retain the use of curbs at transit stops and at intersections to address ADA accessibility, safety, and transit operational needs (such as boarding heights). The Consulting Parties were asked for their feedback on this new Hybrid option as well as their thoughts on the delineating features.

Comments on the proposed design:

- RTD and the City have been holding meetings to work through how the Hybrid option will function in more detail; RTD voiced support that it can work from their initial perspective but it needs to be fleshed out more in final design.
- Kim voiced support in how the Hybrid maintains some of the appearance (since both vertical curbs and pan areas are present on the Mall today).
- Historic Denver said their concern would be if the Hybrid or Curbless would require additional bollards.
• Permeability is important to maintain along the mall; avoid creating a walled transitway to maintain open space like the existing mall.
  o Permeability also needs to be kept in mind when placing/installing furniture/furnishings and any vertical elements. Furnishings should relate to the character of the mall
  o If the furnishings in the amenity zone are too tall and close together it will create a walled feeling which is not consistent with the spirit of the existing mall. Again, verticality is important to consider with any new furnishings and delineating treatments. Consulting parties underscored the importance of keeping flexibility with furnishings; don’t place them longitudinally to bisect the historic pattern in an arbitrary fashion; need to thoughtfully place furnishings to be consistent with the pattern
  o The consulting parties didn’t disagree with having fixed furnishings. They commented that the number, location, and form (type, size, height) of furnishings are important considerations with regard to permeability and the effect on the pattern (what is covered).
  o Snow removal also important to consider; movement of delivery vehicles
  o The Consulting Parties have requested to be included in the on-going design of fixed furnishings. This will be included in the MOA.
• Truncated domes at bus stops will still need to be vetted with the ADA community since RTD doesn’t typically use them at their bus stops
• Directional indicators – could be scored or drilled no more than ¼” used to guide to safe paths and bus stops.
• Different directional indicators will be utilized to differentiate the two transit lanes from each other
• City recognizes that safety is top consideration and does not feel the existing curb is providing enough safety
• Attendees reiterated that the curb is an important part of the pattern design, but the vertical nature of the curb is not an important historic feature. The pattern of the curb would be retained under either option so the effect on the birds-eye view of the carpet pattern would be the same with any of the three options.
• FTA reiterated that they haven’t approved the Hybrid Alternative, even though the City and RTD have initially agreed on this approach and have been working through the details.
• The group discussed delineation for buses at bus stops
  o The design needs to consider bus stacking at stops; it is proposed that there would be one bus length marked as the official stop with truncated domes. Buses that pull up to stop right behind the first bus would need to “kneel” for boarding.
  o Delineation should be textured; but the individual texture is not as critical; keep it as consistent to historic design as possible. The consulting parties also didn’t have an issue with using a difference textured strip as delineation as long as a lot of different textures aren’t used.
• In summary, no major concerns with the edge delineation concepts that were reviewed.

Mitigation for Adverse Effect
The group then continued to discuss possible mitigation activities to address the adverse effect to the 16th Street Mall that could be documented in the draft MOA.

Potential Mitigation Measures
• Providing HABS/HAER documentation was originally discussed at the last meeting. However, the group, including the Landmarks Commission, agreed this wasn’t a priority.
• The group discussed the idea of creating a fund for financing technical assistance and rehabilitation of adjacent historic building along the Mall; could be used for installing up-lighting (implementing the previously developed lighting plan), making improvements during construction of the mall, paying historic preservation architects/contractors to assist with designing and overseeing improvements of facades, etc.
• ACHP suggested perhaps the maintenance plans or design guidelines for the mall could be updated. Most agreed that it could be a good time to update these with the implementation of a new design, especially related to governing the design of patio spaces along the mall so they are more consistent; no one objected to updating the plans.

• The group discussed intersections and how to continue design elements through the design. Continuing granite pavers is not an option due to expense and traffic wear; the intersections are not part of the historic design as constructed. Enforcement for maintaining safe intersections, but it costs money. Bulb outs, colored concrete, scored concrete; whatever is used in intersections should help unify the mall design and be consistent with context of the linear historic resource.

Requested Items/Documentation

• The SHPO requested to receive a copy of the Section 4(f) statement before it is released to the public for the public review process. The team agreed to distribute to the SHPO and consulting parties when it was prepared.

• The team is preparing a white paper regarding Historic Denver’s proposal that will be included in the EA as part of the Section 106 consultation.

Schedule and Next Steps

• The discussion on mitigating for the adverse effects will be continued at the next Consulting Parties meeting to be scheduled for late November/early December.

• Meanwhile, a draft MOA will be circulated to the Consulting Parties to review with a draft list of the stipulations discussed to date.

• Work continues on preparing the EA and Section 4(f) Statement anticipated for release together for public review in early 2019.

Attendees

SHPO: Joe Saldibar, Jason O’Brien; Consulting Parties: Historic Denver: Annie Levinsky, John Olson; Downtown Denver Partnership: John Desmond; Colorado Preservation, Inc.: Kim Grant; Denver Landmark Preservation: Kara Hahn; Lower Downtown District: Jim Graebner; ACHP: Sarah Stokely; National Trust for Historic Preservation: Betsy Merritt; City and County of Denver: Tykus Holloway, Brian Pinkerton, Jill Jennings Golich, Steve Coggins, Jason Whitlock; RTD: Susan Wood, Dana Steele, Aimee Beckwith, Jyotsna Vishwakarma; FTA: Kristin Kenyon, Francis Eugenio, Alan Tabachnick, Mark Stojak; Consultant Team: Sara Orton, Zach Bentzler, Mary Jo Vobejda, Matt Shawaker, Tim Siedlecki, Mandy Whorton, Trevor Lee
AGENDA

1. Welcome and Introductions
2. Recent Activities/Section 106 Summary
3. Response to Design-based Mitigation proposal/request
4. Updates to Edge Delineation Design
5. Mitigating for the Adverse Effect
6. Feedback/Questions
7. Schedule and Next Steps
Section 106
Consulting Parties Meeting

October 18, 2018
Meeting Agenda

- Introductions
- Recent Activities/Section 106 Summary
- Response to Design-based mitigation proposal/request
- Updates to Edge Delineation Design
- Mitigating for the Adverse Effect
- Schedule and Next Steps
- Feedback/Questions
Recent Activities/Section 106 Summary
Recent Activities/Section 106 Summary

• SHPO concurred with finding of *Adverse Effect*
• SHPO emphasized the importance of consulting parties’ input in determining mitigation.
• SHPO has concerns with construction-related vibration and maintaining access to historic properties during construction.
Response to Design-based Mitigation Proposal/Request

Summary of request:

• Revise New Asymmetrical design to maintain existing pattern, tree locations, and lights on the wide side of block between Broadway and Court, and Lawrence and Market.

• Convert the proposed New Asymmetrical design from Court to Tremont, and Arapahoe to Lawrence, to the Center Running design.
Response to Design-based Mitigation Proposal/Request

Summary of response:

• Larger walkways are required for pedestrian volumes and City and County of Denver downtown standards.
• Patio seating is the greatest existing form of public use on the Mall.
• Maintaining the wide side of the asymmetrical blocks allows for an undersized amenity zone on the narrow side of the block.
• An undersized amenity zone or Patio/gathering area doesn’t meet the purpose and need for the project.
Response to Design-based Mitigation Proposal/Request

Other Requests

• Maintain some part of the existing Mall in place – Triangle Block
• Carry the design theme of the Mall through intersections
  o The design team is considering scored concrete.
Updates to Edge Delineation Design
Updates to Edge Delineation Design

• Edge delineation concept is the same under three options other than the vertical curb, pan, and hybrid granite units.

• Edge delineation features in addition to the vertical curb, pan, and hybrid granite units:
  o Truncated domes at designated crossings
  o Truncated domes at designated shuttle stops
  o Directional Indicator
  o Transit Lane Indicator
  o Amenity Zone with Fixed Furnishings
Updates to Edge Delineation Design

**Vertical Curb Option**

- Furnishing element at end of bus stop
- Detectable Warning pavers at bus stop and ADA crossings
- 4-6” vertical curb
- Pan
- Textured delineation zone behind curb/flow-line
- Fixed Furnishings: Design, spacing & quantity to be determined
- Transit lane indicator Detailed design to be determined

DRAFT
Updates to Edge Delineation Design

Pan Option

Furnishing element at end of bus stop
Detectable Warning pavers at bus stop and ADA crossings
Pan
Textured delineation zone behind curb/flow-line
Fixed Furnishings: Design, spacing & quantity to be determined
Transit lane indicator Detailed design to be determined

DRAFT
Updates to Edge Delineation Design

Hybrid Option

- Furnishing element at end of bus stop
- Detectable Warning pavers at bus stop and ADA crossings
- 4-6” vertical curb
- Textured delineation zone behind curb/flow-line
- Fixed Furnishings: Design, spacing & quantity to be determined
- Transit lane indicator Detailed design to be determined

DRAFT
Updates to Edge Delineation Design

16th Street Mall Furnishings

Note:
- Amenity zone will include fixed and moveable furnishings
- Fixed furnishings are needed in all options to provide:
  - Visual vertical delineation between zones
  - Safety and security for errant vehicles
  - Public life activation
Mitigating for the Adverse Effect
Mitigating for the Adverse Effect

- Draft MOA status update
- Construction-related Vibration
- Review list of mitigation discussed, to date
- Other requests for mitigation before Draft MOA is released to Consulting Parties
- Process for review of Draft MOA by Consulting Parties
Next Steps
Next Steps

• Consulting Parties Review Draft MOA: Send draft MOA to consulting parties electronically
• Consulting Parties Meeting #10: Late November/Early December
• Public Review of EA and draft Section 4(f) Evaluation: Early 2019
Questions?
Alternatives Analysis & Environmental Clearance

Section 106 Consulting Parties Meeting #9
Date: October 18, 2018, Time: 9:30 – 11:30

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## Alternatives Analysis & Environmental Clearance

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**Marked Attendants:**

- Francis Eugenio / FTA
- Stojak / FTA
- Alan Tabachnick / FTA
- Betty Nemitt / NTHP
- Dana Steele / RTD
- Sarah Stokely / ACHP
- Mandy Whorton - First, then amended

*October 13, 2018*
Alternative Analysis and Environmental Clearance

Section 106 Consulting Parties Meeting #10

RTD/Civic Center, Regional Conference Room
December 6, 2018, 9:30 – 11:30 am

MEETING NOTES

Attendees: Listed at end of summary (page 4)

Welcome and Introductions

FTA and RTD welcomed the group and provided a meeting overview.

Recent Activities and Section 106 Progress

- The project team is preparing documentation regarding the analysis of Historic Denver’s proposal, which will be provided to consulting parties and included in Section 106 consultation record.

- The project sponsors are proposing to move forward with the hybrid curb option of the LPA where vertical curbs will be at bus stops and a pan will be along the remainder of the transit lanes. This design option will be evaluated in the EA.

- The Draft Section 4(f) evaluation is currently under review by FTA. FTA will send the Draft Section 4(f) evaluation to the SHPO and consulting parties when it is prepared, prior to the publication of the EA.

Discussion on Proposal by Historic Denver and the “Triangle Block”

Initially introduced at the prior consulting parties meeting (#9), Historic Denver’s proposed modification to the asymmetrical blocks was reviewed and discussed again. The modification will not be part of the LPA for the following reasons:

- The project team does not believe the proposal meets the public use need for the corridor overall. FTA is evaluating the proposal in preparing their Section 4(f) statement.

- If a reduced amenity zone is implemented, design options for furnishings and safety are limited, there is no space for trees on the narrow side of the block, and there is less space for loading/unloading at shuttle stops. Meeting the project need of improving safety is questioned.

- The proposal changes the locations of the transitions between the three “rooms” and the beginning, middle, and end. It also changes the number of blocks that are symmetrical and asymmetrical from the LPA.

The proposal will be presented in the Section 4(f) evaluation and in the NEPA documentation as part of the Section 106 consultation record.
Historic Denver noted that they disagree with the project team’s rationale for patio width and public use requirements, because patios are only for paying customers. Historic Denver also noted that their proposal provides a compromise on patio space by converting additional blocks to the symmetrical section.

The SHPO requested an analysis of the difference in safety and public use between a 3-foot and 5-foot amenity zone. This analysis is included in the Section 4(f) evaluation.

The SHPO stated that the modification would still meet the public use need, and if the proposal reduces the impact to the historic resource and meets the purpose and need, it should be selected. The purpose and need does not mean all or nothing; Section 4(f) dictates that the agency must select an alternative that reduces harm to the historic property even if another alternative meets purpose and need better.

**Memorandum of Agreement (attached to these notes)**

The draft Memorandum of Agreement (MOA) was provided to the consulting parties for review and discussion.

**Type of Agreement.** SHPO stated that when consultation is not complete at the signing of the agreement, a Programmatic Agreement (PA) should be used rather than an MOA. Therefore, they made the request to convert the draft MOA into a PA. For example, the items listed for consultation in Stipulation 6 can be streamlined by eliminating items that don’t need to be discussed during future consultation. SHPO thinks that there are elements within the project that need to be consulted on during construction, therefore warranting a PA. A PA provides the opportunity for ongoing consultation. There is greater risk to the project schedule to have a vaguely defined consultation scope and process. Once enough changes occur, the Mall may no longer be eligible for listing on the NRHP.

ACHP noted that the wording of the design review process described in Stipulation 6 is vague. Therefore, it could warrant using a PA rather than a MOA. If the language could be tightened up, it could remain a MOA. Ultimately, SHPO has a say in whether the agreement should be a PA or MOA.

FTA will discuss the format of the agreement internally and then will rework the document and will discuss it with the SHPO.

**Ongoing consultation process during Design-Build.** Historic Denver expressed frustration with other City-led Design-Build processes and their effect on historic preservation coordination. On the City’s Park Hill Golf Course project, for example (which is not federally funded and not conducting formal Section 106 consultation), coordination with historic preservation groups seemed to occur after design decisions were completed and therefore was not meaningful. CCD stated the 16th Street Mall MOA will be incorporated in the Design-Build procurement documents, and fulfilling the MOA requirements will be a contractual obligation for the contractor team. Historic Denver expressed concern with the City’s Park Hill Golf Course project, which hasn’t resulted in effective consideration of historic preservation opportunities. Historic Denver is not confident in CCD’s Design-Build consultation process. The consultant team noted that Stipulation 1 should include plans for how design commitments will be incorporated into the Design-Build process.

ACHP recommended the MOA/PA commit to a design review process corresponding to 30 percent, 60 percent, and 90 percent design stages. Include the stipulation 1 and 2 commitments in the design review process, ensuring they are in the design plans. Historic Denver stated the MOA/PA needs to state how much time the consulting parties will have to review the design plans at each stage. Advance discussion with the consulting parties would be helpful prior to the 30-day comment period to improve the consultation process.

CCD Landmark Preservation noted there is a difference between “review and comment” and “consultation” and requested that the process be set up to facilitate actual consultation.
Signatories to the Agreement. SHPO stated that if all consulting parties will participate in ongoing consultation, they should be signatories to the MOA or PA, not concurring parties. ACHP stated that the consulting parties’ review and comment is voluntary, and they do not need to be signatories to the MOA/PA. DDP and LoDo District, Inc. stated they are comfortable being concurring parties and not signatories to the agreement.

Design items for continued consultation. The group discussed which design items will be subject to future consultation because they haven’t been part of the conceptual design:

- Historic Denver requested pavement scoring through intersections with cross streets be included.
- Historic Denver requested fountain design be included. The group agreed that placement of the fountains within the blocks and the outward appearance of the fountain design are decisions for future consultation. The nozzle pieces and lighting are open to interpretation and do not require consultation.
- Several parties noted that the furnishings ultimately selected should be the subject of future consultation.
- The agreement should also clearly describe, with plans, the items that have been agreed upon through this process, such as the pattern, granite materials, trees, etc.

Other comments on the Agreement. SHPO stated that Stipulation 2B should replace Stipulation 2A, and Stipulation 2A should be removed. ACHP noted it should be moved to the design review process; Historic Denver and SHPO want it to be a commitment.

SHPO asked what FTA Civil Rights thinks regarding RTD’s view that the project needs a higher level of ADA compliance than the minimum requirements in the regulations.

The group discussed the potential for an historic façade enhancement program (Stipulation 3). Colorado Preservation, Inc. and Historic Denver both have grant management programs for the state historical fund. They administer these as fee for service. Historic Denver suggested a façade lighting program be added to the historic façade enhancement program, particularly for buildings that have already renovated their facades. The program is likely to be a discretionary grant program, and CCD noted it could require matching funds from the building owners. CCD is discussing how the program could be administered internally; they may not be equipped to be able to administer the program themselves. The consultant team suggested DDP set up the program and Historic Denver or Colorado Preservation, Inc. set up the eligibility criteria. The group agreed to set up separate working sessions to discuss the program and how it might work.

SHPO requested annual reports be provided during construction on the vibration monitoring.

Stipulation 7 should clarify the responsibilities related to the maintenance guidelines. SHPO suggested that if intersections with cross streets are scored concrete, the maintenance guidelines should require they be replaced with scored concrete; or if the intersections are plain concrete, the guidelines should require they be replaced with concrete and not asphalt.

The language from “Stipulation VIII Duration through Stipulation XII” at the end of the document are from the FTA template and ACHP guidance. SHPO requested human remains be moved into its own stipulation and not included with other undiscovered objects, and should be separate from NAGPRA. There should be three tiers: cultural, historic, and human remains.

SHPO recommended reducing the number of “whereas” clauses.

Attendees
Kahn/Jacobs, Kristin Kenyon/FTA, Annie Levinsky/Historic Denver, Tracey MacDonald/FTA, Jason O’Brien/SHPO, Sara Orton/Jacobs, Jill Jennings Golich/CCD, John Olson/Historic Denver, Colleen Kirby Roberts/Peak Consulting Group, Josh Roemer/CCD, Joe Saldibar/SHPO, Matt Shawaker/Stantec, Tim Siedlecki/Jacobs, Dana Steele/RTD, Sarah Stokely/ACHP, Alan Tabachnick/FTA, Jyotsna Vishwakarma/RTD, Mary Jo Vobejda/Jacobs, Jason Whitlock/CCD, Mandy Whorton/Peak Consulting Group, Susan Wood/RTD, Lee Zarzecki/CCD
AGENDA

1. Welcome and Introductions
2. Recent Activities/Section 106 Summary
3. Recap of Historic Denver Proposal
4. Update on Edge Delineation Decision
5. Mitigating for the Adverse Effect
6. Schedule and Next Steps
MEMORANDUM OF AGREEMENT

AMONG

THE FEDERAL TRANSIT ADMINISTRATION,
THE COLORADO STATE HISTORIC PRESERVATION OFFICER,
AND
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING
IMPROVEMENTS TO THE 16TH STREET MALL
DENVER, DENVER COUNTY, COLORADO

WHEREAS, the Federal Transit Administration (FTA), as the lead federal agency, has determined that the Improvements to the 16th Street Mall (Project) constitutes an Undertaking under 36 Code of Federal Regulations (CFR) 800.16(y), which requires compliance with Section 106 of the National Historic Preservation Act (54 United States Code [U.S.C.] § 306108) and its implementing regulations in 36 CFR Part 800; a group of partners comprising the Regional Transportation District (RTD) and the City and County of Denver (CCD) propose to implement improvements to the 16th Street Mall (Mall), a transit way and commercial corridor in downtown Denver, Denver County, Colorado, to address infrastructure, mobility, safety, and public use needs, for which RTD is seeking financial assistance from the FTA; and

WHEREAS, the Project is a federal Undertaking that proposes to develop and implement a flexible and sustainable design for the Mall to address deteriorating infrastructure, provide equitable and sufficient space for high-quality public gathering opportunities, improve pedestrian and vehicle safety, and continue safe and accessible two-way transit shuttle service on the Mall through improved drainage, realignment of the 16th Street Mall’s asymmetrical ends, relocation of the transit lanes, conversion of the current median to transit lanes, installation of new street furniture and fixtures, and replacement of the existing granite pavers with new granite pavers, while honoring the Mall’s use and iconic design; and

WHEREAS, the Colorado State Historic Preservation Officer (SHPO) is authorized to enter into this MOA in order to fulfill its role of advising and assisting federal agencies in carrying out their responsibilities under 36 CFR § 800.2(c)(1)(i) and § 800.6(b); and

WHEREAS, the CCD owns 16th Street, the RTD operates transit service, and CCD and RTD maintain and finance maintenance for the transit way on the Mall through an intergovernmental agreement between RTD and CCD; and

WHEREAS, the Downtown Denver Partnership (DDP), through its management of the Downtown Denver Business Improvement District (BID), operates, maintains, and finances maintenance for the pedestrian zones of the Mall through an intergovernmental agreement between the BID and CCD; and

WHEREAS, RTD is seeking federal financial assistance from FTA and will oversee CCD as a subrecipient, and CCD will manage the design and construction of the proposed Undertaking; and

WHEREAS, RTD has participated in consultation and has been invited to sign this MOA as an Invited Signatory; and

WHEREAS, FTA and RTD have consulted with CCD regarding the effects of the Undertaking on historic properties and have invited them to sign this MOA as an Invited Signatory; and

WHEREAS, FTA and RTD have consulted with DDP regarding the effects of the Undertaking on historic properties and have invited them to sign this MOA as a Concurring Party; and
WHEREAS, FTA has identified representatives of federally recognized tribes (the Cheyenne and Arapaho Tribes, the Comanche Nation, and the Apache Tribe) with an expressed interest in the project area and have invited these tribes to participate in consultation on the Undertaking, and no tribal representatives indicated interest in participating; and

WHEREAS, FTA, CCD and RTD have consulted with Historic Denver, the Denver Landmark Preservation Commission, Colorado Preservation, Inc., National Trust for Historic Preservation, Landmark Preservation Commission, and the Lower Downtown Historic District as Consulting Parties regarding the Undertaking on historic properties, in accordance with 36 CFR 800.6(b)(2) and have invited these parties to sign this MOA as Concurring Parties; and

WHEREAS, FTA has provided for public involvement in accordance with 36 CFR 800.8(a)(1) by coordinating Section 106 consultation with public review and participation via an Environmental Assessment for the Undertaking under provisions of the National Environmental Policy Act, 42 U.S.C. §4321 et. seq.; and

WHEREAS, this MOA was developed with appropriate public involvement (pursuant to 36 CFR 800.2(d) and 800.6(a)) and the public was provided the opportunity to comment on the Undertaking and will hereafter be provided with further opportunities to comment on the Undertaking as stipulated further in this MOA; and

WHEREAS, FTA, in consultation with the SHPO and Consulting Parties, in accordance with 36 CFR § 800.4(a)(1), has established the Project’s Area of Potential Effects (APE), which includes the 16th Street Mall from Market Street to Broadway and one parcel on each side of the corridor (Attachment 1); and

WHEREAS, FTA, in consultation with the SHPO and Consulting Parties, and in accordance with 36 CFR §§ 800.4(b) and 800.4(c), has identified 32 historic properties within the APE, where historic property is defined as properties listed on or eligible for listing on the National Register of Historic Places (NRHP). Attachment 1 contains a map book showing the locations of the historic properties within the APE and Attachment 2 is a summary table of the historic properties within the APE; and

WHEREAS, the 16th Street Mall, a transit way and pedestrian/commercial corridor with three distinct zones (a central zone with a median with two parallel rows of trees, and end blocks where the transit lanes are adjacent with two parallel rows of trees on one side), is individually NRHP-eligible under Criterion A in the areas of Transportation and Community Planning and Development, under Criterion C as an award-winning landscape design by I.M. Pei & Partners, and under Criteria Consideration G as exceptionally significant at the state and local level, because of the Mall’s role in shaping downtown Denver and as embodying a distinctive design by a team of master designers and having the potential to be adversely affected by the Undertaking; and

WHEREAS, FTA, in consultation with the SHPO and other consulting parties, has identified the following character-defining features of the 16th Street Mall transit way historic property: consistent paving pattern design; granite paver units/modules, 1-foot, 5-inch by 1-foot, 5-inch, in three shades, charcoal gray, light gray, and “Colorado red” (specified as White, Black, and Red on the 1980 plans); granite special units of charcoal and light gray for curbs, cuts, drains, and other applications; red oak and honey locust trees planted in specially designed under-pavement concrete root boxes and ringed at the surface with custom-designed grates; custom-designed and -built light standards; street furniture of custom-designed and -built fiberglass trash and flower receptacles; and custom metal street signs on traffic signals and overhead lights; and

WHEREAS, FTA has determined the Undertaking will have an adverse effect on the 16th Street Mall historic property and has consulted with the SHPO and Consulting Parties pursuant to 36 CFR § 800.5.
The adverse effect to the Mall results from shifts in the historic alignment, removal of existing granite pavers, removal of original street furniture and some fixtures, removal and replacement of existing trees, shifts in some tree locations, removal of the specifically designed tree boxes, a change in the number and kinds of tree species, and an additional row of trees added on the asymmetrical ends, increasing the overall number of trees; and

WHEREAS, the FTA has determined the Undertaking would result in no permanent adverse effect on the other 31 historic properties in the APE that will not be directly impacted by the Undertaking; and

WHEREAS, FTA determined that the Undertaking will result in an adverse effect to cultural resources and has consulted with the SHPO and Consulting Parties pursuant to 36 CFR § 800.5. On June 29, 2018, SHPO concurred with this effect determination; and

WHEREAS, in accordance with 36 CFR § 800.6(a)(1), FTA notified the Advisory Council on Historic Preservation (Council) on July 5, 2018, of the adverse effect determination for the Undertaking resulting from impacts to the 16th Street Mall with specified documentation, and the Council responded on July 31, 2018, agreeing to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii); and

WHEREAS, for the purposes of this MOA, “Signatories” are defined as the above-identified Signatories (FTA, SHPO, and Council) and includes the Invited Signatories (RTD and CCD); and

WHEREAS, FTA, together with the Signatories to this MOA, consulted with the Consulting Parties, to resolve the adverse effects of the Undertaking on historic properties; and

NOW, THEREFORE, FTA and the Signatories agree that the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the Undertaking on historic properties.

STIPULATIONS

FTA will ensure that the terms of this MOA are carried out and will require, as a condition of any approval of federal funding for the undertaking, adherence to the stipulations set forth herein.

I. DESIGN-BASED MITIGATION

A. FTA committed during the Section 106 consultation for the Undertaking to include the following design-based measures, which will be carried out by CCD:

1. Retain a granite paver surface in the same three colors of granite pavers
2. Maintain overall design concept of a carpet covering the Mall surface by retaining the pattern from building face to building face (framed with a concrete band at the building facades).
3. Include custom light standards
   a. Existing replicated light standards will be reused
   b. If more are needed, they will be replicated
4. Retain a single row of trees in the design that will remain in line for 12 blocks (the length of the Mall, except the block between Cleveland Place and Broadway).
5. Retain the geometric and spatial relationships within the design
6. Retain the 45-degree diagonal grid pattern
7. Retain the small, medium, and large diamond patterns in the same (or approximately the same) spatial relationship as the original design
8. Retain the transit way
9. Retain the existing locations of shifts in transit way alignment, at Arapahoe and Tremont streets, in keeping with the beginning, middle, and end in the original design.


11. Retain permeability of pedestrians throughout each block.

12. Retain original metal street name signs at intersections.

II. 16TH STREET MALL AT BROADWAY

A. In addition to the measures in Stipulation I, CCD will retain the following elements of the block between Cleveland Place and Broadway.

1. Transit way alignment

2. Pedestrian walkway and patio/gathering space

3. Granite paver pattern

4. Granite curb design

5. Light standard locations and replicated light standards

6. Tree locations, but with new trees

7. Fountain

B. CCD will notify Signatories and Consulting Parties of the parts of this block that cannot be retained due to conflict with ADA compliance or pedestrian, bicyclist and transit safety.

III. ENHANCE HISTORIC PROPERTIES FACING THE MALL

A. Historic Property Façade Enhancement Program

[For discussion at Consulting Party Meeting #10 on December 6, 2018]

IV. ENSURE PROTECTION OF HISTORIC PROPERTIES DURING CONSTRUCTION

A. CCD shall provide a third-party contractor to monitor construction-related vibration that will commit to the following:

1. Establish a baseline threshold that takes into account the historic properties adjacent to the 16th Street Mall.

2. Measure vibration levels during construction.

3. Alert the construction contractor and CCD if vibration reaches or exceeds the threshold.

4. If the threshold is continually broken, CCD will choose another construction method, if practical and feasible.

5. If no another construction method is practical and feasible, CCD will work with the adjacent property owner of the historic property to ensure the structure is properly monitored during construction and ensure no damage will occur.

V. ACCESS TO HISTORIC PROPERTIES DURING CONSTRUCTION

A. CCD, in coordination with property owners, shall ensure reasonable access during construction to historic properties in the APE.

1. CCD, in coordination with RTD, the construction contractor, and business owners will implement the Project Management Plan developed in advance of project construction in accordance with the EA (Table 3-2 of the EA).

   a. This Plan will establish access to properties adjacent to the 16th Street Mall, as much as practicable.
B. CCD shall take steps to ensure that its construction contractor shall adhere to the Project Management Plan and to CCD ordinances and standards for maintaining access to properties during construction.

VI. DESIGN REVIEW

A. During the remaining design phases of the Project, RTD and CCD will consult with the Signatories and Consulting Parties regarding elements of the design that could impact the character-defining features of the 16th Street Mall historic property.

1. Signatories and Consulting Parties will have an opportunity to review and comment on elements of the design that could impact the character-defining features in the Design Development document.

2. If the Design Development document doesn't discuss the placement and design of a fountain or fountains, RTD and CCD will consult with Signatories and Consulting Parties regarding the placement and design of fountains separate from the reviews in Stipulation VI.A.1.

3. RTD and CCD will consult in person up to three (3) times with Signatories and Consulting Parties.

4. Following meetings, CCD, in coordination with FTA and RTD, will notify Signatories and Consulting Parties of decisions that have been reached.

B. FTA, in coordination with RTD and CCD, will consider potential effects on historic properties due to design decisions, including but not limited to Americans with Disabilities Act (ADA) requirements, safety, transit operations, pedestrian movements, business access, visibility, and visual alterations.

C. CCD will ensure that the Signatories and Consulting Parties have an opportunity to review and comment on the documents in Stipulations VI.A.1.

VII. UPDATE 16TH STREET MALL MAINTENANCE GUIDELINES

A. CCD, in coordination with DDP, shall update appropriate policies plans, manuals, or guidance for maintenance of the Mall after construction is complete. CCD will develop or update existing maintenance guidelines or manuals to ensure the long-term condition of the rebuilt Mall is maintained.

B. The updated guidelines will include instructions for maintaining the following elements:

1. Texture and color of granite pavers
2. Standards for replacing granite pavers
3. Standards for repairing and replacing mortar joints
4. Standards for replacing or repairing intersections
5. Performance of surface and subsurface drainage system
6. Appeal and functionality of fixed furnishings
7. Health and appearance of trees
8. Condition of subsurface tree infrastructure
9. Functionality and appearance of light standards

C. The appropriate plans, manuals, or guidance will be completed by the end of construction of the Mall.

D. Signatories and Consulting Parties will be given the opportunity to review the updated guidelines.

VIII. DURATION

This MOA will be null and void if its terms are not carried out within ten (10) years from the date of its execution. Prior to such time, FTA may consult with the other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation XI below.
IX. POST-REVIEW DISCOVERIES

See the Unanticipated Discoveries Plan (UDP) in Attachment 3 for more detailed information regarding the steps and procedures to follow.

A. If, during Project implementation, CCD uncovers any unanticipated, previously unidentified discoveries, CCD will proceed in accordance with the procedures outlined in the UDP in Attachment 3 and notify FTA and other signatories. No further construction within 30 feet of the discovery will proceed until the requirements of 36 CFR 800.13 have been satisfied.

B. In the event of the discovery of human remains or cultural items such as funerary objects, sacred objects, or objects of cultural patrimony, which are subject to the Native American Graves Protection and Repatriation Act (NAGPRA) and the Archeological Resources Protection Act, work within 50 feet of the discovery will be halted until such time as a Plan of Action is developed in accordance with NAGPRA.

X. PROFESSIONAL QUALIFICATIONS

RTD and CCD shall ensure that all historic preservation and archaeological activities carried out pursuant to this MOA shall be accomplished by or under the direct supervision of a person or persons who meet(s) or exceed(s) the pertinent qualifications in the Secretary of the Interior’s Professional Qualification Standards (48 Federal Register [FR] §§44738-44739) in those areas in which the qualifications are applicable for the specific work performed.

XI. MONITORING AND REPORTING

Each year following the execution of this MOA until it expires or is terminated, RTD and CCD shall provide Signatories and Consulting Parties to this MOA a Summary Report detailing work undertaken pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received during efforts to carry out the terms of this MOA.

IX. DISPUTE RESOLUTION

Should any Signatory to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, FTA shall consult with such party to resolve the objection. If FTA determines that such objection cannot be resolved, FTA will:

A. Forward all documentation relevant to the dispute, including the FTA’s proposed resolution, to the Council. The Council shall provide FTA with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FTA shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the Council, signatories and concurring parties, and provide them with a copy of this written response. FTA will then proceed according to its final decision.

B. If the Council does not provide its advice regarding the dispute within the thirty (30) day time period, FTA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, FTA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA and provide them and the Council with a copy of such written response.

C. FTA’s responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

X. RESOLVING OBJECTIONS FROM THE PUBLIC

At any time during implementation of this MOA, should a member of the public raise an objection pertaining to this MOA or the effect of any activity on historic properties, CCD and
RTD will notify the parties to this MOA and consult with FTA. FTA and RTD shall take the objection into account prior to making a final decision on the matter. FTA will notify the Signatories and Consulting Parties of the final decision.

XI. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the Council.

XII. TERMINATION

If any signatory to this MOA determines that its terms will not or cannot be carried out, that signatory shall immediately consult with the other signatories to attempt to develop an amendment per Stipulation XI, above. If within thirty (30) days (or another time period agreed to by all signatories) agreement on an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, FTA must either (a) execute an MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the Council under 36 CFR § 800.7. FTA shall notify the signatories as to the course of action it will pursue.

EXECUTION of this MOA by FTA, the Council, SHPO, RTD, and CCD, the submission of documentation and filing of this MOA with the Council pursuant to 36 CFR § 800.6(b)(1)(iv) prior to FTA’s approval of the Undertaking, and implementation of the terms of this MOA evidence that FTA has taken into account the effects of this Undertaking on historic properties and afforded the Council an opportunity to comment.
MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL TRANSIT ADMINISTRATION,
THE COLORADO STATE HISTORIC PRESERVATION OFFICER,
AND
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING
IMPROVEMENTS TO THE 16TH STREET MALL
DENVER, DENVER COUNTY, COLORADO

SIGNATORIES:

Federal Transit Administration

__________________________________________________________ Date
Cindy Terwilliger, Regional Administrator

Advisory Council on Historic Preservation

__________________________________________________________ Date
John M. Fowler, Executive Director

Colorado State Historic Preservation Officer

__________________________________________________________ Date
Steve Turner, AIA, State Historic Preservation Officer
MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL TRANSIT ADMINISTRATION,
THE COLORADO STATE HISTORIC PRESERVATION OFFICER,
AND
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING
IMPROVEMENTS TO THE 16TH STREET MALL
DENVER, DENVER COUNTY, COLORADO

INVITED SIGNATORIES:

City and County of Denver

_________________________________________ Date
[insert name and title]

Regional Transportation District

_________________________________________ Date
[insert name and title]
MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL TRANSIT ADMINISTRATION,
THE COLORADO STATE HISTORIC PRESERVATION OFFICER,
AND
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING
IMPROVEMENTS TO THE 16TH STREET MALL
DENVER, DENVER COUNTY, COLORADO

CONCURRING PARTIES:

Downtown Denver Partnership

[insert name and title]

Historic Denver

[insert name and title]

Landmark Preservation Commission

[insert name and title]

Colorado Preservation, Inc.

[insert name and title]

National Trust for Historic Preservation

[insert name and title]

Lower Downtown

[insert name and title]
ATTACHMENT 1
Area of Potential Effects and Locations of Historic Properties
Map Book 5
Historic Properties and Project Limits
16th Street Mall
November 2018

LEGEND
- Area of Potential Effects
- Project Limits
- Historic Properties
- Historic District

Legend:
- Area of Potential Effects
- Project Limits
- Historic Properties
- Historic District

Scale: 0 10 Feet

Map Book 5
Historic Properties and Project Limits
16th Street Mall
November 2018
ATTACHMENT 2
Summary of Historic Properties within the Area of Potential Effects
## ATTACHMENT 2

### TABLE OF IDENTIFIED HISTORIC PROPERTIES WITHIN THE AREA OF POTENTIAL EFFECTS

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site Name</th>
<th>Address</th>
<th>NRHP Eligibility Status</th>
<th>Finding of Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>5DV.118</td>
<td>Daniels &amp; Fisher Tower</td>
<td>1101 16th Street; 1601 Arapahoe Street</td>
<td>Listed on NRHP</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.135</td>
<td>Denver Dry Goods Company Building</td>
<td>702 16th Street; California Street; and 16th Street</td>
<td>Listed on NRHP</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.136</td>
<td>Masonic Temple Building</td>
<td>1614 Welton Street, 535 16th Street</td>
<td>Listed on NRHP</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.139</td>
<td>Kittredge Building</td>
<td>511 16th Street</td>
<td>Listed on NRHP</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.142</td>
<td>A.C. Foster Building; University Building</td>
<td>910-918 16th Street</td>
<td>Listed on NRHP</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.1725</td>
<td>Independence Plaza Prudential Plaza</td>
<td>1001 16th St. 1050 17th St.</td>
<td>NRHP-eligible</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.1760</td>
<td>Bridgepoint Plaza; Park Central</td>
<td>1110 16th Street; 1515 Arapahoe Street; 1111 15th Street</td>
<td>NRHP-eligible</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.1832</td>
<td>Security Life Building; 1600 Glenarm Place</td>
<td>1616 Glenarm Place</td>
<td>NRHP-eligible</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.1854</td>
<td>Hilton Hotel; Radisson Hotel; Adams Mark Hotel</td>
<td>1550 Court Place</td>
<td>NRHP-eligible</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.1856</td>
<td>Dome Tower; Great West Plaza; World Trade Center</td>
<td>1625 Broadway</td>
<td>NRHP-eligible</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.1877</td>
<td>Zeckendorf Plaza; May D &amp; F Plaza; Hyperbolic Paraboloid</td>
<td>350 16th Street; 1550 Court Place</td>
<td>NRHP-eligible</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.1878</td>
<td>Colorado Federal Savings</td>
<td>200 16th Street</td>
<td>NRHP-eligible</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.1880</td>
<td>Petroleum Club Building; Petroleum Building; 110 Building110 16th Street</td>
<td>110 16th Street</td>
<td>NRHP-eligible</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.1913</td>
<td>Joslin Dry Goods Company Building; Tritch Building; Savoy Grille</td>
<td>934-938 16th Street</td>
<td>Listed on NRHP</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.1914</td>
<td>Federal Reserve</td>
<td>1020 16th Street</td>
<td>NRHP-eligible</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.47</td>
<td>Lower Downtown Denver Historic District</td>
<td>Multiple</td>
<td>NRHP-eligible</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.47.15</td>
<td>Waters Building - Market Center</td>
<td>1642 - 1644 Market Street</td>
<td>Contributes to Lower Downtown Historic District</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.47.37</td>
<td>Hitchings Block</td>
<td>1620 Market Street</td>
<td>Contributes to Lower Downtown Historic District</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.47.7</td>
<td>Liebhardt-Linder Building -- Market Center</td>
<td>1624 Market Street</td>
<td>Contributes to Lower Downtown Historic District</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>Site ID</td>
<td>Site Name</td>
<td>Address</td>
<td>NRHP Eligibility Status</td>
<td>Finding of Effect</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------</td>
<td>--------------------------</td>
<td>-----------------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>5DV.47.96</td>
<td>McCrary Blcok -- Market Center</td>
<td>128 Market Street</td>
<td>contributes to Lower Downtown Historic District</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.493</td>
<td>Symes Building; F.W. Woolworth Company</td>
<td>820 16th Street</td>
<td>NRHP-eligible</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.494</td>
<td>A.T. Lewis and Son Department Store; Holtzman and Appel Block</td>
<td>800-816 16th Street</td>
<td>Listed on NRHP</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.496</td>
<td>Neusteter Building</td>
<td>720-726 16th Street</td>
<td>Listed on NRHP</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.497</td>
<td>Hayden, Dickinson &amp; Feldhauser Building; Colorado Building</td>
<td>1609-1615 California Street</td>
<td>NRHP-eligible</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.499</td>
<td>McClintock Building</td>
<td>1554 California Street</td>
<td>Listed on NRHP</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.500</td>
<td>Steel Building; Fontius Building; Sage Building</td>
<td>1555 Welton; 600 16th Street</td>
<td>Listed on NRHP</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.5297</td>
<td>Liebhardt Building; Cottrell Clothing Company</td>
<td>601 16th Street</td>
<td>Listed on NRHP</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.5298</td>
<td>Walgreens</td>
<td>801 16th Street</td>
<td>NRHP-eligible</td>
<td>No Adverse Effect</td>
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<tr>
<td>5DV.7044</td>
<td>16th Street Mall</td>
<td>1-1300 16th Street</td>
<td>NRHP-eligible</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.8274</td>
<td>Skyline Park</td>
<td>1500-1800 Arapahoe Street</td>
<td>NRHP-eligible</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.842</td>
<td>16th Street Historic District</td>
<td>Multiple</td>
<td>NRHP-eligible</td>
<td>No Adverse Effect</td>
</tr>
<tr>
<td>5DV.9217.1</td>
<td>Denver Street Car Tramway</td>
<td>Under Broadway</td>
<td>NRHP-eligible</td>
<td>No Historic Property Affected</td>
</tr>
</tbody>
</table>
ATTACHMENT 3

Unanticipated Discoveries Plan
Unanticipated Discovery Plan
for 16th Street Mall
Denver, Denver County, Colorado

December 2018
## Contents

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<tr>
<th>Section</th>
<th>Page</th>
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<td>1-2</td>
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<tr>
<td>1.2 Procedure for Discovery of Human Remains</td>
<td>1-2</td>
</tr>
<tr>
<td>2 Federal, State, and Local Agency Information</td>
<td>2-1</td>
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</table>
## Acronyms and Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>ARPA</td>
<td>Archeological Resources Protection Act</td>
</tr>
<tr>
<td>CCD</td>
<td>City and County of Denver</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
<tr>
<td>CO</td>
<td>Colorado</td>
</tr>
<tr>
<td>Council</td>
<td>Advisory Council on Historic Preservation</td>
</tr>
<tr>
<td>CRS</td>
<td>Colorado Revised Statutes</td>
</tr>
<tr>
<td>DDP</td>
<td>Downtown Denver Partnership</td>
</tr>
<tr>
<td>FTA</td>
<td>Federal Transit Administration</td>
</tr>
<tr>
<td>LA</td>
<td>Louisiana</td>
</tr>
<tr>
<td>MOA</td>
<td>Memorandum of Agreement</td>
</tr>
<tr>
<td>NAGPRA</td>
<td>Native American Graves Protection and Repatriation Act</td>
</tr>
<tr>
<td>NHPA</td>
<td>National Historic Preservation Act</td>
</tr>
<tr>
<td>NPS</td>
<td>National Park Service</td>
</tr>
<tr>
<td>NRHP</td>
<td>National Register of Historic Places</td>
</tr>
<tr>
<td>Project</td>
<td>Improvements to the 16th Street Mall, Denver, Colorado</td>
</tr>
<tr>
<td>QPA</td>
<td>Qualified Professional Archeologist</td>
</tr>
<tr>
<td>RTD</td>
<td>Regional Transportation District</td>
</tr>
<tr>
<td>SHPO</td>
<td>State Historic Preservation Officer</td>
</tr>
<tr>
<td>UDP</td>
<td>Unanticipated Discovery Plan</td>
</tr>
</tbody>
</table>
SECTION 1

Unanticipated Discovery Plan

The Federal Transit Administration (FTA), as the lead federal agency, has determined that the Improvements to the 16th Street Mall (Project) constitute an Undertaking under 36 Code of Federal Regulations (CFR) 800.16(y), which requires compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 United States Code [U.S.C.] § 306108) and its implementing regulations in 36 CFR Part 800.

FTA, in coordination with the Regional Transportation District (RTD) and the City and County of Denver (CCD), proposes to implement improvements to the 16th Street Mall (Mall). The Project proposes to develop and implement a flexible and sustainable design for the Mall to address deteriorating infrastructure, provide equitable and sufficient space for high-quality public gathering opportunities, improve pedestrian and vehicle safety, and continue safe and accessible two-way transit shuttle service on the Mall while honoring the Mall’s use and iconic design through improved drainage, realignment of the 16th Street Mall’s asymmetrical ends, relocation of the transit lanes, conversion of the current median to transit lanes, installation of new street furniture and fixtures, and replacement of the existing granite pavers with new granite pavers;

The FTA is the lead federal agency responsible for the Undertaking and for ensuring that the requirements of Section 106 of the NHPA are fulfilled in accordance with 36 CFR Part 800. Following Section 106 consultation with the Colorado State Historic Preservation Officer (SHPO), identified federally recognized tribes, local consulting parties, and the FTA, it was determined that the Mall is eligible for the National Register of Historic Places (NRHP). The FTA has determined that the Undertaking will result in an adverse effect on the 16th Street Mall historic property.

There is Memorandum of Agreement (MOA) among the FTA, Advisory County on Historic Preservation (Council), and Colorado SHPO to record the resolution measures to resolve the adverse effect to the Mall; the CCD and RTD are Invited Signatories to the MOA. Stipulation IX of the MOA requires that in the event of an unanticipated discovery of cultural resources or historic properties during Project implementation, the CCD will proceed in accordance with the procedures outlined in an Unanticipated Discovery Plan (UDP) and notify the FTA and other signatories. Therefore, this UDP has been developed for use during improvements to the 16th Street Mall.

This UDP will be implemented if new or additional historic properties or cultural resources are encountered during construction, related excavation, or other ongoing activities on the proposed Undertaking. For the purposes of this UDP, cultural resources may include archaeological resources (any site that contains material remains of past human life or activities), historic structures, (any building or structure greater than 50 years of age), linear features (such as a rail line), or other items that possess cultural importance to individuals or a group.

This UDP has been developed through reference to the regulations embodied in the Protection of Historic Properties issued by the Council (revised August 2004, https://www.achp.gov/sites/default/files/regulations/2017-02/regs-rev04.pdf. CH2M HILL
Engineers, Inc. (CH2M), now part of Jacobs Engineering Group, Inc., reviewed Colorado legislation (Colorado Revised Statutes CRS 24-80-401-411 and CRS 24-80-1301-1305, as well as 8 Colorado Code of Regulations 1504-7) that was used in the development of this UDP.

1.1 Procedure when Cultural Materials are Observed

Termed “unanticipated discovery” or “post-review discovery,” the identification of new or additional cultural resources during implementation of an undertaking typically occurs in the case of projects that involve excavation or ground-disturbing activities. The following measures will be implemented if an unanticipated cultural resource discovery is made by CCD, RTD, Downtown Denver Partnership (DDP), FTA, CH2M, any other contractor, or any subcontractor during construction of the proposed Undertaking:

1. Construction activities or related excavation within 30 feet of an unanticipated discovery will be halted and the discovery protected from further disturbance.

2. Within 24 hours of an unanticipated discovery, CCD will notify by telephone the FTA and Colorado SHPO and, in the case of human remains, the Denver County coroner and sheriff.

3. CCD will consult with the FTA and SHPO on the most appropriate course of action for treatment of the unanticipated discovery. This may involve further archaeological study to record, document, or evaluate potential NRHP-eligibility of the inadvertently discovered cultural resources.

4. Specific FTA and SHPO instructions concerning an unanticipated discovery resulting from the notification as previously described will be followed by an Qualified Professional Archaeologist (QPA) or will be under the direct supervision of a person or persons who meet(s) or exceed(s) the pertinent qualifications in the Secretary of the Interior’s Professional Qualification Standards (48 CFR §§44738-44739) in those areas in which the qualifications are applicable for the specific work performed.

5. At a minimum, sufficient archaeological work will be performed on the unanticipated discovery location to stabilize deposits, protect deposits from scavengers or looters, and collect readily available samples (for example, for radiocarbon dating), which may help pinpoint the age of deposits.

6. FTA will also consult with any consulting Indian tribes that may ascribe traditional cultural and religious significance to affected historic properties.

7. If neither the SHPO, consulting parties, nor consulting tribes submit any objection to FTA’s plan for addressing the discovery within 48 hours, FTA may carry out the requirements of 36 CFR 800.13, and the Council need only be notified in the event there is an adverse effect.

8. Construction activities will remain halted in the area of the unanticipated discovery until the FTA and SHPO indicate that it may proceed in the area of a specific unanticipated discovery and the requirements of 36 CFR 800.13 have been fulfilled.

1.2 Procedure for Discovery of Human Remains

In the case of an unanticipated discovery of human remains and/or cultural items (such as funerary objects, sacred objects, or objects of cultural patrimony) that are subject to the Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. § 3001-3013, 18 U.S.C.
§ 1170) and the Archeological Resources Protection Act (ARPA) (16 U.S.C. § 470aa Remains and Funerary/Sacred Objects), the CCD and CH2M propose to follow all relevant state and federal laws and recommendations regarding treatment of human remains as referenced in Section 1.1. The CCD recognizes the importance of providing careful and respectful treatment for human remains recovered as an unanticipated discovery or as part of an archaeological investigation. In the event of an unanticipated discovery of human remains, CCD will consult with the FTA and SHPO as to the appropriate federally recognized tribes or other groups with which to consult. In coordination with the FTA, SHPO, and other interested parties, a decision will be made for the treatment of the remains (for example, reburial, preservation in place, scientific study, sacred ritual, or a combination thereof). Pursuant to CRS 24-80-1302, this protocol includes the following:

1. If human remains are encountered, work in the general area of the discovery will stop immediately and the location will be immediately secured and protected from damage and disturbance. During construction activity, the area is to be marked off with clear evident means, such as flagging or tape.

2. All human remains or associated artifacts will be left in place and not disturbed. No skeletal remains or materials associated with the remains will be collected or removed until appropriate consultation has taken place and a plan of action has been developed.

3. The county coroner and medical examiner, local law enforcement, the FTA, the SHPO, and appropriate Indian tribes will be notified immediately. The coroner will conduct an onsite examination within 48 hours of notification to determine whether skeletal remains are human and the degree of their forensic value. If the coroner is unable to make these determinations, local law enforcement, the FTA, or the coroner may request the forensic anthropologist of the Colorado Bureau of Investigation to assist.

4. If the remains are determined to be human but have no forensic value, the coroner will notify the Colorado State Archaeologist of the discovery, who will in turn recommend security measures for the discovery location.

5. The Colorado State Archaeologist will facilitate the remains to be examined by a QPA who meet(s) or exceed(s) the pertinent qualifications in the Secretary of the Interior’s Professional Qualification Standards (48 CFR §§44738-44739). The QPA will determine if the remains are more than 100 years old, evaluate the integrity of their archaeological context, and complete necessary documentation within a timely manner.

6. If human remains are determined to be Native American, the remains will be left in place and protected from further disturbance until a plan for their avoidance or removal can be generated. The State Archaeologist will notify the Colorado Commission of Indian Affairs (Commission). The FTA will consult with the SHPO, Commission, and federally recognized tribal groups to develop a plan of action that is consistent with the NAGPRA guidance.

7. If human remains are determined to be non-Native American, the remains will be left in place and protected from further disturbance until a plan for their avoidance or removal can be generated in consultation with the National Park Service (NPS), the SHPO and other appropriate parties. Historic research and consultation with local authorities and historic experts will be conducted by a QPA to try to determine the possible identity and affiliation of the remains and determine if there are any lineal descendants who should be consulted
concerning the treatment of the remains. Notice of the discovery will be published in local media outlets for at least 3 days to assist in identification of lineal descendants.
Table 2-1 identifies the agency representatives to be contacted in case of unanticipated discoveries.

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Agency</th>
<th>Phone</th>
<th>Address</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Federal Transit Administration</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Cindy Terwilliger</td>
<td>Regional Administrator/FTA</td>
<td>303-362-2400</td>
<td>Federal Transit Administration, Byron Rogers Federal Building, 1961 Stout Street, Suite 13-301 Denver, CO 80294</td>
<td></td>
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<tr>
<td><strong>Colorado State Historic Preservation Officer</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steve Turner</td>
<td>State Historic Preservation Officer</td>
<td>303-866-3355</td>
<td>History Colorado 1200 Broadway, Denver, CO 80203</td>
<td><a href="mailto:steve.turner@state.co.us">steve.turner@state.co.us</a></td>
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<tr>
<td>Holly Norton</td>
<td>State Archaeologist Deputy SHPO</td>
<td>303-866-2736</td>
<td>History Colorado 1200 Broadway, Denver, CO 80203</td>
<td><a href="mailto:holly.norton@state.co.us">holly.norton@state.co.us</a></td>
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<tr>
<td><strong>Denver County Coroner</strong></td>
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<tr>
<td></td>
<td>Office of the Medical Examiner</td>
<td>303-866-2736</td>
<td>500 Quivas Street Denver, CO 80204</td>
<td><a href="mailto:medcomments@denvergov.org">medcomments@denvergov.org</a></td>
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<tr>
<td><strong>Local Law Enforcement</strong></td>
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<td><strong>CH2M</strong></td>
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<td><strong>Contractor (TBD)</strong></td>
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Section 106 Consulting Parties Meeting

December 6, 2018

Alternatives Analysis and Environmental Clearance
Meeting Agenda

- Introductions
- Recent Activities/Section 106 Summary
- Recap of Historic Denver Proposal
- Update on Edge Delineation Decision
- Discussion on Mitigation for the Adverse Effect
- Schedule and Next Steps
Recent Activities/Section 106 Summary

Alternatives Analysis and Environmental Clearance
Recent Activities/Section 106 Summary

- FTA is preparing white paper/memo documenting decision regarding Historic Denver's proposal.
- White paper will be provided to consulting parties and included in Section 106 consultation record.
- Decision made regarding curb option and edge delineation concept.
- Section 4(f) Evaluation status
Recap of Historic Denver Proposal

Alternatives Analysis and Environmental Clearance
Recap of Historic Denver Proposal

Current Transitions

New Asymmetrical with Reduced Patio/Gathering Area*

New Asymmetrical with Reduced Amenity Zone*
Recap of Historic Denver Proposal

Rationale for not carrying forward proposal for design-based mitigation:
• Doesn't address public use need across length of the project.
• If reduced amenity zone is implemented, design options for furnishings and safety are limited. No space for trees.
• If reduced amenity zone is implemented, provides less space for shuttle stops.
• Changes locations of transitions between "rooms" and the beginning, middle, and end.
Updates to Edge Delineation Design

Alternatives Analysis and Environmental Clearance
Update of Edge Delineation Decision

Hybrid Option

- Furnishing element at end of bus stop
- Detectable Warning pavers at bus stop and ADA crossings
- 4-6” vertical curb
- Textured delineation zone behind curb/flow-line
- Fixed Furnishings: *Design, spacing & quantity to be determined*
- Transit lane indicator *Detailed design to be determined*
Updates to Edge Delineation Design

- Edge delineation features in addition to the vertical curb and pan hybrid granite units:
  - Truncated domes at designated crossings
  - Truncated domes at designated shuttle stops
  - Directional Indicator
  - Transit Lane Indicator
  - Amenity Zone with Fixed Furnishings
Mitigating for the Adverse Effect

Alternatives Analysis and Environmental Clearance
Mitigating for the Adverse Effect

• Draft MOA provided to consulting parties.

• Proposed Stipulations:
  • Design-based Mitigation
  • 16th Street Mall at Broadway
  • Enhance Historic Properties Facing the Mall: Historic Property Facade Enhancement Program
  • Ensure Protection of Historic Properties During Construction
  • Access to Historic Properties During Construction

Alternatives Analysis and Environmental Clearance
Mitigating for the Adverse Effect

- Proposed Stipulations (cont.):
  - Design Review
  - Update 16th Street Mall Maintenance Guidelines
  - Duration
  - Post-review Discoveries
  - Professional Qualification
  - Monitoring and Reporting
  - Dispute Resolution
  - Resolving Objections from the Public
  - Amendments
  - Termination
Schedule and Next Steps

Alternatives Analysis and Environmental Clearance
Next Steps

- Consulting Parties Review Draft MOA: Sent draft MOA to consulting parties electronically
- Consulting Parties send FTA additional comments on Draft MOA by January 4\textsuperscript{th}, 2019.
- SHPO and Consulting Parties to be provided Draft Section 4(f) Evaluation
- Public Review of EA and draft Section 4(f) Evaluation: February 2019
Questions?

Alternatives Analysis and Environmental Clearance