

Tennyson Streetscape Improvement Project

30% Conceptual Design: Summary Report



Acknowledgments

The conceptual design phase of the Tennyson Streetscape Improvement Project relied on significant public input. Property owners, business owners and neighborhood residents worked side-by-side to identify project goals and specific site improvements to develop a vision for Tennyson Street. The City and County of Denver along with members of the consultant team would like to thank the following individuals and groups for their commitment to the visioning process:

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Bill Johnston, West Highlands Neighborhood Association
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Jeff Laws, Property Owners
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Tennyson Street Property Owners

Tennyson Street Local Improvement District Board

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Public Workshop Participants

City and County of Denver, Department of Public Works

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Consultant Team

Parks & Gardens, in conjunction with

- *Britina Design Group*
- *V3 Companies*
- *Clanton & Associates*
- *Hydrosystems-KDI*

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Tennyson Streetscape Improvement Project

Project Overview

In 2007, Denver voters approved funding expenditures to be undertaken with the proceeds from the general obligation bonds. Approximately \$2.1 million dollars was allocated to Tennyson Street between 38th and 44th Avenues, excluding Chavez Park and those properties within the existing Tennyson Local Maintenance District to implement streetscape improvements along the business corridor. The budget includes all design, construction, construction management and contingencies. Anticipated construction costs for the project are \$1.4 million dollars. The Tennyson Streetscape Improvement Project qualifies for the 1% for Arts Program. The Denver Office of Cultural Affairs participated in the conceptual phase of the project and will move forward to define the public process for selecting the public art component of the project. Tennyson Street is an urban collector street, with numerous businesses and retail stores in the area. The existing streetscape environment on Tennyson Street from 38th to 44th Avenues is in need of upgrades and enhancements.

Project Background

Tennyson Street, between 38th and 44th Avenues, has a long history as a neighborhood retail district. It is a walkable district with an eclectic mix of retailers, shops, offices and residences. Architecturally, there is great diversity in both density and character, with single family detached Victorian homes on the same block with newly constructed multi-story infill developments built to the property line. When walking or driving along the street, there is a sense that the commercial corridor has been energized by pockets of redevelopment, as well as individual property owners updating existing building facades. It is evident that tremendous potential exists for this neighborhood commercial corridor.

Retail business along the street offers great variety, including a few long-standing restaurants, retailers and businesses that have an established reputation and serve as destinations for local and regional consumers. Most of these long-term merchants own their buildings and/or businesses and have made substantial improvements to existing buildings or constructed new storefronts, including new awnings and signage as well as some new street trees and furnishings. The bulk of the retail within the study area is entrepreneurial; smaller, newer shops and businesses that are less than five years old and lease their spaces.

As an incubator business area, the commercial corridor benefits from the energy and vibrancy of an artistic and eclectic mix of shops and art galleries, most of whom are run by the owners. The experience of walking into a shop and being met by the store owner, who is often the sole proprietor, is alive and well along Tennyson Street. Improvements to the streetscape should capitalize on the passion and commitment of both the established and incubator businesses, helping to create welcoming and dynamic “front door” that reflects the spirit and character of the district and becomes a destination within the Metro Denver Community.



Recent redevelopment includes commercial/residential mixed use projects that front Tennyson Street.



Adaptive reuse of residential properties have resulted in an increase of retail, restaurants and services along Tennyson Street.



Three public workshops provided opportunities for public comment on issues, goals and proposed alternatives.

Existing Conditions Inventory

SURVEY - ROW WIDTH

After completing the field work for the utility corridor survey, it became apparent that due to a lack of field evidence (range points and public survey system land corners) the right-of-way width along Tennyson Street could not be clearly defined. There were minimal surveys on record with the City and County of Denver to use as another reference. The research V3 has completed shows that the center line of Tennyson Street is also a section line. This section line results in different subdivisions east and west of Tennyson Street. As shown on the recorded Official Re-Survey Subdivision Plats, the subdivision east of Tennyson Street is Argyle Park; the subdivision west of Tennyson Street is Mountain View. The Official Survey for both subdivisions does not clearly show a defined right-of-way width; the width varies from 38th to 44th. Due to the variable right-of-way width, determining the correct alignment for the right-of-way was critical to the project. Range points were subsequently recovered or re-established along both sides of the Tennyson Street section line to accurately identify the location of existing property lines. As a result of survey, encroachments have been identified, which will be critical items to note during refinement of the conceptual plan.

ROAD CROWN

After years of asphalt overlays, the Tennyson Street road crown is steeply sloped - eliminating the original 6" curb and 24" gutter. Steeper slopes are difficult for cars to navigate and result in awkward slopes for parallel parked vehicles. The layers of asphalt that create the steep roadway crown also have contributed to the drainage problems along the street - gradually lowering the curb face to 4" or less, and making an uneven flow line for stormwater conveyance to the inlets at 44th and Tennyson.

DRAINAGE

Current drainage along Tennyson does not create positive flows into the drainage system, causing winter ice damming and overflows onto sidewalks in spring and summer rains. Older and damaged sections of sidewalk have resulted in some surface drainage flowing onto private property. The local storm sewer inlets are located at the intersection of 38th and Tennyson and downstream at 44th and Tennyson.

RETAINING WALLS

There are older retaining walls adjacent to the Tennyson Street sidewalks (across from Cesar Chavez Park) that may be located within the public right-of-way. Their close proximity to the right-of-way and existing back of walk results in a very tight construction width. Depending on the proposed improvements, the integrity of the retaining walls could be compromised during construction. NOTE: The retaining walls on the east side of Tennyson located between 41st and 43rd street appear to be failing. The potential for major redevelopment of these properties is significant. The owners of these properties will be contacted as the project moves into final design.



Survey crews excavated existing range points to verify property lines fronting Tennyson Street.



Tennyson Street range point, east side



Recent ice damming at the intersection of Tennyson Street and 44th Avenue



Crowning: Intersection of Tennyson Street and 39th Avenue, west side.



Older retaining walls along the east side of Tennyson Street, across from Caesar Chavez Park.



Sidewalk widths between 38th and 44th Avenue vary, but there are several locations where the sidewalk is too narrow to accommodate increasing amounts of pedestrian traffic.



The right-of-way on the side streets is wider than along Tennyson Street and provides significant opportunities for seating and planting beds. This side street is on the west side of Tennyson at 43rd Avenue.



This side street is on the east side of Tennyson Street at 41st Avenue, adjacent to the Tennyson Terrace LMD and provides an opportunity for seating and gathering.

SIDEWALK GRADES/SLOPES

There are locations along Tennyson Street where the sidewalk cross-slope does not meet ADA standards. In addition the sidewalk does not meet the top back of curb at grade, there is a significant grade separation that creates a tripping hazard and can be an obstacle to vehicles parallel parked when trying to open a door. The pedestrian crossing areas also do not meet current ADA standards for truncated domes on accessible ramps.

SIDEWALK WIDTHS

There is great variety in the existing sidewalks widths, ranging from areas with a 5' detached concrete sidewalk (the smallest sidewalk areas) to larger sections (greater than 12') that have a continuous sidewalk from the curb to the building face. The areas with the largest percentage of continuously wide sidewalks are the side streets that link into Tennyson from the east and west. From 39th through 43rd Streets, there are sections of very wide sidewalks that provide significant opportunity for enhancement.

STREETSCAPE AMENITIES

There are several businesses and property owners that have installed benches, trash cans and other streetscape amenities along the sidewalk or in front of their buildings. Those that exist have been purchased and installed by individual property and homeowners, and reflect an eclectic mix of styles, colors and placements. Within the existing Local Maintenance District (Tennyson Terrace), there is an established palette of benches, trash receptacles and pedestrian pole lights. Improvements are maintained by the existing LMD (between 39th and 41st).

LIGHTING & ELECTRICAL

Existing lighting and electrical are served by overhead telephone poles and cobra-head fixtures. The poles are widely spaced along the street, generally located in tree lawns or along the edges of sidewalks. Aside from acorn lights located along Tennyson Terrace, no pedestrian-scale lighting exists along the corridor.

PEDESTRIAN CROSSINGS

There are two 4-way intersections within the project area, at 44th and 38th Avenues. These intersections also serve as the primary gateways into the district. The 38th Avenue intersection has a wide cross-section, heavy traffic flows and pedestrian ramps that do not meet ADA standards.

GATEWAYS

The most important gateway leading into the Tennyson project area is at the intersection of Tennyson and 38th Avenue. Currently, both the land uses and physical spaces at this gateway do not promote the district or create awareness/desire to enter. 38th Avenue also has a wide cross-section/heavy traffic flows in this area, which limits adjacent residential foot traffic into the district and prevents it from capitalizing on potential shoppers that would have more interest in visiting the district if they could easily cross 38th Avenue.

CHARACTER / SENSE OF PLACE

Along sections of the block between 38th and 39th Avenues, there is an increased amount of visible trash and graffiti along the street. This block also projects a very 'rough' character with high fences, unadorned, expansive wall facades, parking lots with locked and barred access, vending machines along the street and little continuous storefronts.

LAND USE / ZONING

The current architectural character of the district is an almost 50/50 split between zero-lot-line historic storefronts and single family residences that either retain their residential use, or which have been converted into shops and office spaces.

SUMMARY

The Tennyson corridor contains a number of diverse businesses and services and exhibits an eclectic character that is cherished by local residents and property owners. The arts community is comprised of several long-standing galleries and studios and is home to the longest running First Friday Arts Walk in the city. The corridor serves as both a local and regional destination, but economic vitality and visual continuity are challenged by physical fragmentation and lack of coherence. While Tennyson Terrace serves as a viable link between the north and south sections of the study area and the side streets provide ample space for streetscape improvements, the overall corridor has several sections where lengthy spans of fencing, retaining walls, undulating building setbacks and lack of pedestrian lighting create a lack of continuity in the pedestrian experience.



Local retail businesses and restaurants contribute to the eclectic character of the Tennyson Street corridor.



Tennyson Street is flanked by a variety of architectural styles and building massing, including older residential structures and new multi-family, loft-style redevelopment projects.



Paris's Restaurant, located at the intersection of 44th Ave/Tennyson includes a popular outdoor dining area fronting Tennyson Street.



The intersection of 38th Ave/Tennyson (looking north) includes several properties with curb cuts located on Tennyson and auto-oriented signage.

Public Outreach Summary



The conceptual design process included a series of meetings with a variety of different stakeholders including Property Owners, Task Force Members and Registered Neighborhood Organizations.



Three public workshops were conducted during the conceptual design phase. Public Workshop #1 engaged residents in a series of exercises to identify streetscape issues and concerns.



Public Workshop #2 solicited public feedback on two alternatives for streetscape design improvements.

The public involvement process for the Conceptual Design Phase of the Tennyson Streetscape Improvement Project included several different components:

- Task Force Meetings
- Stakeholder Meetings
- Property Owner Meetings
- Public Workshops

TASK FORCE MEETINGS

Because of the diversity of entities and organizations impacted by streetscape improvements, a Task Force was assembled to ensure that all stakeholders would be represented throughout the planning and design process. The following entities and organizations were represented:

- Arts Community
- Berkeley Regis United Neighbors
- Property Owners
- Residents At-Large
- Restaurant Owners
- Tennyson Alliance
- Tennyson Merchants
- Tennyson Street Residents
- Tennyson Terrace
- West Highlands Neighborhood Association

The Task Force was convened four times throughout the planning and design process. Task Force meeting minutes are included in Exhibit A.

STAKEHOLDER MEETINGS

The consultant team facilitated a series of small group meetings with each of the aforementioned entities/organizations to provide their stakeholders with an opportunity to express their ideas and vision for the corridor. Stakeholder meeting minutes are included in Exhibit B.

PROPERTY OWNER MEETINGS

To ensure that streetscape improvements will be maintained, a Local Maintenance District was formed, which requires individual property owners with Tennyson Street frontage to incur a linear foot tax assessment to offset projected maintenance costs. Property Owners met three times throughout the planning and design process to review issues, design concepts and projected maintenance costs. Property Owner meeting minutes are included in Exhibit C.

PUBLIC WORKSHOPS

Three public workshops were conducted to identify issues, review conceptual streetscape alternatives and review a preferred conceptual plan for Tennyson Street. Public Workshop meeting minutes are included in Exhibit D.

Project Goals

Based on the existing conditions inventory and subsequent public meetings with stakeholders, property owners and local business entities, the following goals were identified to guide the consultant team in the development of conceptual design alternatives.

- Maximize Walkability
- Respect Context
- Acknowledge Maintenance Implications
- Design for Sustainability
- Ensure Code Compliance

These goals were translated into specific design elements contained in two conceptual alternatives and the preferred alternative. The goals were cited consistently throughout the planning process to assist stakeholders and the public in identifying a preferred vision for streetscape improvements.



Swing Thai Restaurant, located at the intersection of 44th Avenue and Tennyson Street, includes an outdoor dining area and eclectic signage that contributes to the overall character of the street.



The Tennyson corridor includes a significant number of small, independently-owned businesses that occupy older storefronts



Just north of intersection of 44th Avenue and Tennyson Street, the right-of-way increases and results in a wider pedestrian corridor than at the southern end of the study area (38th Avenue). 7

Conceptual Alternatives

Based on public and stakeholder input, two separate alternatives were developed and are described below. Both alternatives include streetscape improvements that increase the walkable area between back of curb and the property line and utilize the wider right-of-way located on the side streets.

Conceptual Alternative A: Neighborhood Rhythm

Alternative A resulted in a strong rhythmic feel that reflects the established design of Tennyson Terrace. Using geometric tree placement and pedestrian lights as a starting point, the 'Neighborhood Rhythm' took advantage of the 10'-14' of right-of-way by maximizing pavement area for walking, displays and events. The site furnishings palette for Alternative A could offer a smooth and refined character. Mobius (no beginning and no end) forms echoed and complemented pavement scoring and referenced the more timeless character of this alternative.

Maximize Walkability of the Street

- Minimum 10' paved sidewalk area
- Pedestrian lighting, street trees, bulb-outs
- Streetscape amenities (benches, lights, trash, planters)

Respect Context

- First Friday: width to accommodate street activity
- Electrical outlets to support additional on-street events
- Simple, clean palette allows for uniform appearance
- Provides a framework for future redevelopment
- Uniform spacing relates to Tennyson Terrace
- Supports Tennyson St. Marketplace Initiative policies
- Supports Blueprint Denver as an "Area of Change"

Acknowledge Maintenance Requirements

- Fixtures (LED), materials (concrete) and plantings (street-hardy trees) were selected for longevity and low-maintenance
- Amenities do not require specialized maintenance

Design for Sustainability

- LED lighting - fixtures use an LED bulb with a warm light
- The fixtures are cut-off (Dark Sky Policy)
- Streetscape furnishings package is constructed of recycled aluminum and steel, with FSC certified wood and environmentally-friendly powder coating
- Proposed amenities encourage walking
- Streetscape materials utilize local/recycled materials

Ensure Code Compliance

- ADA sidewalk cross slopes
- ADA street crossings - accessible ramps and truncated domes per city standards

Conceptual Alternative B: Artistic Movement

The 'Artistic Movement' alternative focused on creating a vibrant experience along the street, with a variety of seating options, increased planting areas along Tennyson and areas to celebrate public art and the creative character of the Tennyson Street. Utilizing the side streets for generous seating and green spaces, Alternative B created additional 'bump-outs' across from some of the side street intersections. Planting beds, trees and recycled pavers result in a series of gathering areas on the side streets. Keeping with the eclectic nature of the district, the 'Artistic Movement' design included several palette combinations of pavement, seating and pedestrian lighting that result in variety and interest within the walking experience. Simple concrete paving details are enriched by concrete seating walls that are integrated with planting beds. Overall, the 'Artistic Movement' palette reflected an energetic, colorful and graceful approach to capturing the character and energy of the emerging Tennyson Street corridor.

Maximize Walkability of the Street

- Minimum 10' paved side walk area w/ bulb-outs
- Wrap streetscape improvements along side streets
- Lighting, street tree, amenities support walking
- Provides a variety of seating and gathering options

Respect Context

- First Friday - width to accommodate street activity
- Electrical outlets to support additional on-street events
- Eclectic, artistic palette reflects neighborhood character
- Art pedestals provide display space for rotating exhibits
- Supports Tennyson Street Marketplace Initiative policies
- Supports Blueprint Denver as an "Area of Change"

Acknowledge Maintenance Requirements

- Fixtures (LED), materials (concrete), plantings (street-hardy trees) were chosen for longevity and low-maintenance
- Amenities do not require specialized maintenance

Design for Sustainability

- LED lighting - fixtures use an LED bulb with a warm light
- Proposed amenities encourage walking
- Streetscape materials utilized local/recycled materials
- Design include permeable planted areas along the street

Ensure Code Compliance

- ADA sidewalk cross slopes
- ADA street crossings: ramps & truncated domes per city standards

Preferred Alternative

Based on feedback received from the Task Force, Property Owners and public after review of the alternative concepts, a Preferred Alternative concept was generated that integrated components of both alternatives, but reflected the primary design concepts illustrated in Alternative B.

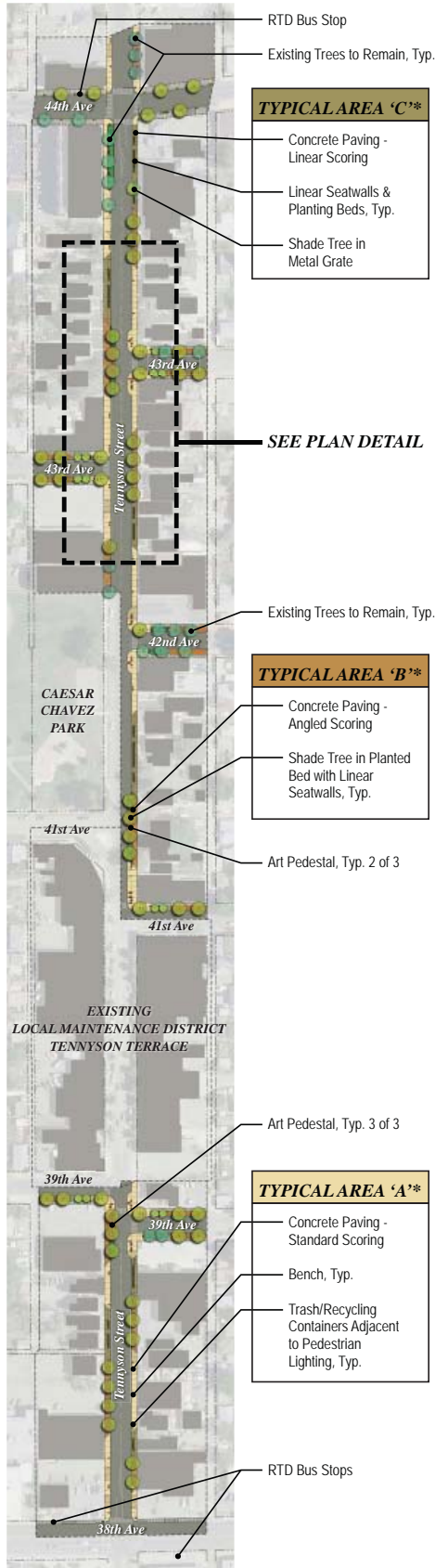
The Preferred Alternative creates a vibrant experience along the length of the Tennyson corridor and includes:

- increased walkability from 38th to 44th Avenues,
- an increase in and variety of seating options,
- street trees
- planting beds along selected sections of Tennyson and side streets, and
- areas to celebrate public art and the creative character of the Tennyson Street.

The Preferred Alternative includes (3) bump-outs that align with side street intersections to improve pedestrian safety and provide additional areas for seating, art displays and street trees. Combinations of planting beds, seating, trees and paving are targeted to the side streets and create a series of gathering areas at each intersection that serve as secondary gateways from adjacent residential neighborhoods to the Tennyson Street commercial corridor.

Keeping with the eclectic nature of the district, the Preferred Alternative includes (3) palette combinations of paving details, seating and pedestrian lighting that result in variety and interest extending from 38th Avenue to just north of the 44th Avenue/Tennyson Street intersection. Simple paving materials are enriched by concrete seat walls and a contemporary furnishings palette. Vertical surfaces of the seatwalls provide opportunity for graphic detailing that will be explored in the final design phase of the project and help to celebrate the strong arts community associated with Tennyson Street.

Overall, the Preferred Alternative reflects a simple, graceful approach to capturing the character and energy of the emerging Tennyson Street corridor, improves pedestrian safety and - by integrating the side streets into the streetscape improvements - provides strong connections from surrounding residential neighborhoods to the energetic and welcoming neighborhood commercial district of Tennyson Street.

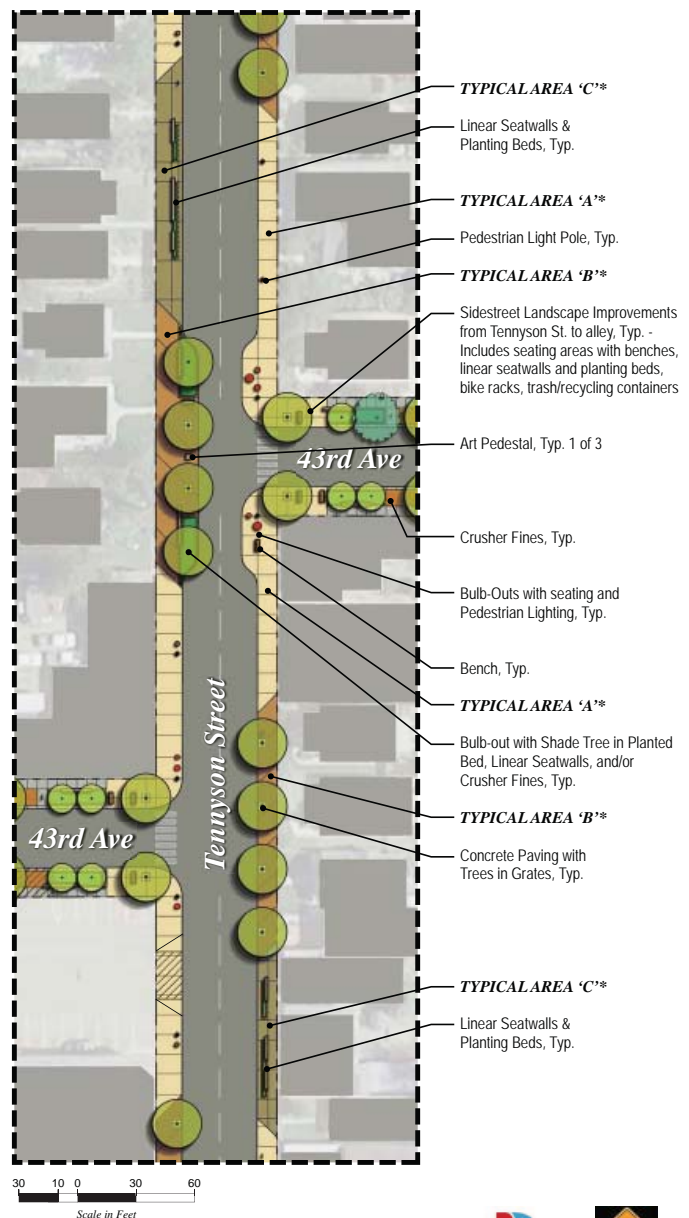


* Color of Typical Areas is for diagram purposes only and does not represent actual color of paving.

PROJECT GOALS

- | | |
|---|--|
| 1 MAXIMIZE WALKABILITY | Intersection improvements:
10' wide continuous pedestrian corridor;
Pedestrian lighting |
| 2 RESPECT CONTEXT | Anticipate future redevelopment:
Integrate opportunities for on-street art displays;
Electrical improvements to support events / 1st Fridays |
| 3 ACKNOWLEDGE MAINTENANCE IMPLICATIONS | Durable materials: hardy/xeric plant materials;
Minimize irrigation needs;
No specialized maintenance requirements |
| 4 PROMOTE SUSTAINABILITY | LED pedestrian lighting: "Dark Skies" compliant;
Integrate/utilize recycled materials;
Water quality improvements; Recycling containers |
| 5 ENSURE CODE COMPLIANCE | ADA improvements;
Crosswalks |

PLAN DETAIL



DESIGN DETAILS



Slab seat walls adjacent to planted beds



Planter beds adjacent to sidewalks with adjacent seating



Varied levels and sources of night-time lighting create variety and interest along the after-dark streetscape



Pedestals for public art can double as seating areas until pieces are installed (a metal welding plate allows for rotation of art elements)



Scored and sand-finished concrete sidewalks are the standard



Seatwalls can be used to channel stormwater into adjacent planted beds



Open and airy trees - seat wall detailing



Intersection bulb-outs increase pedestrian safety and provide areas for outdoor seating, planters and light poles

SITE FURNISHINGS



LED pedestrian lights are energy-efficient, low-maintenance, dimmable, night-sky friendly and are designed to protect the light source from hail damage, high winds and environmental exposure



City standard 'puck' light will replace existing cobra-head fixtures



Recycled aluminium benches are powder-coated for durability and accented with warm hardwoods



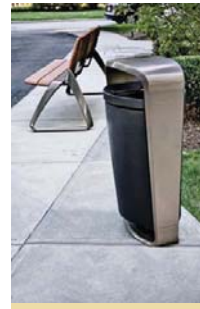
Planter pots with a small footprint provide areas for color



Artistic and durable tree grates increase the walkable surface area of the street, while still providing a healthy place for trees to grow

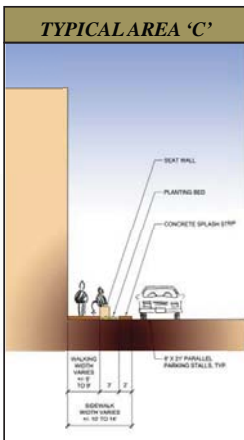
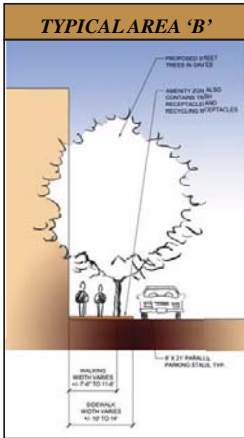
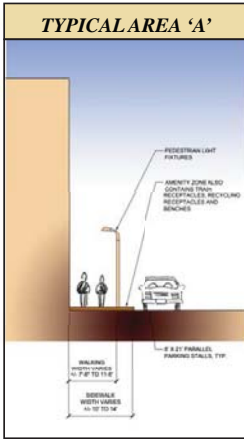


Bike racks provide safe areas to store bikes and promote local neighborhood access



Slim-profile trash and recycling bins are made of recycled and powder-coated aluminium and polyethylene (all streetscape furnishings from this line can be fabricated in a range of colors and finishes - the final design will reflect local preferences)





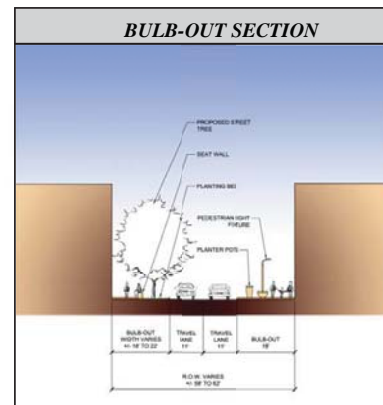
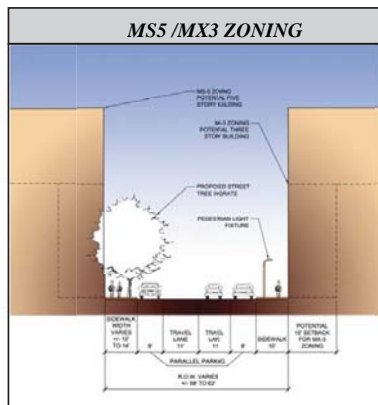
CONCEPTUAL ILLUSTRATION



Proposed



Existing



STREET TREE SPECIES ALTERNATIVES



Red Oak



American Linden



Ash



Hackberry



Honey Locust

Maintenance Considerations

Maintenance responsibilities associated with proposed streetscape improvements will be assumed by the Tennyson Street Local Maintenance District and funded by an assessment based on linear footage of properties fronting the Tennyson Street right-of-way. In order to understand the maintenance requirements, the consultant team together with city staff and property owners developed a preliminary list of potential maintenance considerations. Specific design elements and subsequent maintenance considerations for those elements may be added and/or deleted as the streetscape design is refined in response to existing conditions, technical requirements and/or cost considerations.

1. Street Trees, Planting Beds, Planters/Pots: Irrigation – Water
2. Street Trees, Planting Beds, Planters/Pots: Irrigation – Repair
3. Street Trees: Pruning
4. Planted Beds: Maintenance
5. Planted Pots: Seasonal Plantings
6. Planted Pots: Maintenance
7. Tree Grates: Enlarging the opening as trees mature & cleaning out trash/debris
8. Benches: Inspection, Repair, Vandalism, Graffiti Removal
9. Bike Racks: Inspection, Repair, Vandalism, Graffiti Removal
10. Trash and Recycling Receptacles: Inspection, Repair, Vandalism, Graffiti Removal
11. Trash and Recycling Removal: Assume \$12/hour rate at 4 hours/week
12. Lighting (Pedestrian and Specialty): Energy Costs
13. Lighting (Pedestrian and Specialty): Bulb Replacement
14. Concrete Paving and Seatwalls: Inspection, Power Washing, Sweeping, Repair, Graffiti Removal,
15. Snow Removal: by occupant/owner
16. Pavers: Sweep sand into joints, reset pavers as needed
17. Art Pedestals: sanding, bolt replacement, etc
18. Gateway Element: Maintenance Repair, Cleaning

Opinion of Probable Maintenance Costs

The following costs are conceptual and based on costs incurred by other Local Maintenance Districts, estimates from service providers, local knowledge of consultant team members and other communities with similar streetscape maintenance requirements located throughout the Front Range. The range of costs provided for 6.5 blocks is extremely preliminary in nature and will fluctuate during the refinement of the design and will depend on the methodology and maintenance regimes selected by the Tennyson Streetscape Local Maintenance District. Additionally, specific design elements and subsequent maintenance costs for those elements may be added and/or deleted as the streetscape design is refined in response to existing conditions, technical requirements and/or cost considerations.

Item	Probable Range of Maintenance Cost
Irrigation (Water) Trees/Planted Beds/Pots	\$1,800 - \$2,500 yr
Irrigation (Maintenance)	\$1,500 - \$2,000 yr
Tree Pruning	\$750 - \$1,000 yr*
Planted Beds (Maintenance)	\$750 - \$2,000 yr
Planter Pots: Seasonal Plantings	\$1,500 - \$2,500 yr
Planter Pots (Maintenance)	\$1,200 - \$2,500 yr
Tree Grates: Enlarging	\$600 - \$750 yr*
Tree Grates: Cleaning	\$900 - \$1,500 yr
Benches: Maintenance, Repair, etc.	\$1,000 - \$2,000 yr
Bike Racks: Maintenance, Repair, etc.	\$1,000 - \$1,500 yr
Trash/Recycle Receptacles: Main, Rep, etc.	\$750 - \$1,000 yr
Trash and Recycling Removal (hourly vs. contract)	\$3,000 - \$11,200 yr
Lighting: Energy (burn time x energy costs)	\$750 - \$1,200 yr
Lighting: Fixture Replacement	\$900/yr in reserve*
Con. Paving/Seatwalls: Maint, Repair, etc. (360 SF)	\$2,000 - \$3,500 yr*
Snow Removal	\$0 – TBD (seasonal)
Unit Paver Maintenance	\$100 - \$2,000 yr*
Art Pedestals	\$750 - \$1,000 yr
Gateway	\$500 - \$1,000
Reserve Funds	\$500 - \$1,000**
Conceptual Sub - Total	\$20,250 - \$42,050 yr
20% Contingency	\$4,050 - \$8,410 yr
Conceptual Annual Total	\$24,300 - \$50,460 yr

*These items may not require annual maintenance

**It is recommended that the LMD establish a reserve fund of approximately \$8,000.00 to cover unanticipated maintenance costs.

Opinion of Probable Annual Maintenance Costs per Linear Foot: \$7.02 - \$14.58/LF

Strategic Access Planning

The following information was generated to assist property owners and merchants in understanding potential strategies for maintaining access during construction. Once construction documents have been finalized, the city will work closely with the contractor to develop an access plan for the duration of the construction cycle.

Pedestrian Access

- Pedestrian access will be maintained throughout construction within the project limits.
- Tenants with access fronting Tennyson Street will need temporary construction access erected during normal business hours.
- Pedestrian detours need to attract attention to the streetscape improvements that will generate excitement for the pending changes.
- Possible sidewalk closures and/or detours to the opposite side of the street may be required.

Vehicular Access

- Vehicular access along Tennyson may be subject to lane closures during construction hours.
- In sections where sidewalks improvements are under construction, there may be a need to temporarily close access to on-street parking. The timing and scheduling for potential parking impacts will be clearly communicated and diagrammed before and during construction. Designated staging and storage areas for construction will need to be identified to stakeholders. Possible temporary construction easements for under-utilized private parking lots may be an option to keep the Tennyson Street right-of-way as unimpeded as possible.

Tenant Access

- Normal business hours will need to be communicated with the general contractor.
- Access to the business will be maintained during normal business hours
- Alley access for each parcel will be identified during the stakeholder interviews to determine where loading/unloading operations are provided.

Possible Construction Sequence

- Parallel parking along streetscape construction areas may be closed for staging and construction access.
- Existing parkway sidewalks and landscaping will likely be removed sequentially in sections.
- Section sizes and sequences will be determined using input from stakeholders and by the necessity to maintain access to businesses
- After new parkway sections are constructed, pedestrian traffic would be routed to the new sections in order for removal and replacement to proceed sequentially.
- Any electrical or irrigation conduits required would also be placed within the sections as they are constructed.