

THE WAY FORWARD:
CHARTING A COURSE FOR OUR CANAL'S NEXT CENTURY

This chapter highlights a series of recommended strategies, each providing a set of supporting actions for the future implementation of the Community Vision Plan for the High Line Canal.

Douglas County: recognizes that the vision for the High Line Canal will evolve over time based on continued planning processes and public input, especially through the local planning authorities; recognizes that there are many possible paths to achieving the vision with "The Way Forward" presenting a number of possibilities; intends to remain actively engaged in the continuing process of evaluating future opportunities for use and management of the High Line Canal; encourages additional engagement with the community and local officials to enhance the planning process.

STRATEGY 1

Create a Roadmap for the
Canal’s Future Physical Form

STRATEGY 2

Build Awareness and
Understanding of the Canal

STRATEGY 3

Continue to Align the Canal’s
Management and Funding
Structure with the Vision

STRATEGY 4

Harness the Community’s
Passion to Promote Stewardship
of the Canal

STRATEGY 5

Capitalize on Existing
Momentum to Take Action Now

STRATEGY 1

Create a Roadmap for the Canal's Future Physical Form

GUIDING PRINCIPLES SUPPORTED



This Vision Plan sets the overall direction for the future of the Canal, while the next stage of planning will continue to develop opportunities to preserve, protect, and enhance the Canal. Canal-wide planning is proposed as well as the development of plans for its five character zones. Planning will touch on all aspects of the Canal—preserving its history, exploring stormwater benefits and opportunities, improving safe access and crossings, protecting ecosystems and natural character, improving maintenance, and improving overall experience while enhancing the distinct character of each of its five character zones.

Framework Plan, including Character Zone Plans, Landscape Design Guidelines, and Trail and Maintenance Standards

PUBLIC FEEDBACK

The framework plan follows this Vision Plan and considers Canal-wide issues at a greater level of detail. The Vision Plan focuses on describing the community's vision for the Canal, and the framework plan will develop detailed projects and physical design opportunities to implement the vision. The framework plan takes the next steps for considering issues of connectivity, environment, recreation, and other planning and design considerations. The framework plan will act as an overarching structure for three additional types of planning, described in more detail below:

- Character Zone Plans
- Landscape Design Guidelines
- Trail and Maintenance Standards

Framework Plan

The framework plan develops an overall approach to the full Canal corridor supported by the additional details of the character zone plans. The planning process should integrate information from other studies including the completed tree inventory and *Reconnaissance Survey and Prioritized Survey Plan: High Line Canal Corridor* (Square Moon Consultants, 2016), as well as analysis and recommendations from other technical studies described below.

The stormwater program will inform the development of the framework plan. The framework plan will incorporate opportunities for stormwater benefits identified in stormwater program, while the framework plan can help ensure all opportunities for stormwater are considered to fully maximize natural and economic benefits to the Canal.

The framework plan is about physical and design opportunities, as well as program and educational potentials. Connectivity should be considered at multiple scales—locally along the Canal and within the context of the region-wide trail system. The framework plan should incorporate conclusions of future management and funding discussions, which should be considered in parallel with this planning process. The framework plan should identify opportunities to strengthen the Canal's role as a regional economic resource in ways that are consistent with the community vision. It would also be an

Strategy 1 at a Glance

Collaborators

- ✓ High Line Canal Conservancy/Public
- ✓ Denver Water
- ✓ Jurisdictions and Districts

OTHER

Urban Drainage and Flood Control District

Public works sections of each jurisdiction along the Canal

Supporting Actions Overview

- Framework plan, including Character Zone Plans, Landscape Design Guidelines, and Trail and Maintenance Standards
- Stormwater Program
- Branding and Wayfinding Plan
- Interpretive and Educational Signage

Recommended Strategy Legend

PUBLIC FEEDBACK

Public feedback is needed for a study. It should be collected through framework plan meetings, providing one integrated process for collecting public input.

QUICK-WIN OPPORTUNITY

These are great opportunities for a near-term project that would bring significant benefits to the Canal and Canal users.

Historic Resources Research and Planning: Integrated with Framework and Character Zone Plans

Preserving and sharing the Canal's historic significance and historic resources begins with additional research and planning. The recently completed *Reconnaissance Survey and Prioritized Survey Plan: High Line Canal Corridor* (Square Moon Consultants, 2016) began the process of documenting historic resources along the Canal and sources related to its history and evolution. Its "Recommendations" chapter outlines next steps for historic research, survey, and documentation, along with designation and preservation, education, and interpretation. As an integrated part of the framework and character zone plans, historic resources considerations should include the following items recommended in previous study:

- **Research and Cataloguing:** Filling in documentation gaps by organizing existing Denver Water records, coordinating with Denver Water to obtain additional records, and completing primary research
- **Documentation:** Recording the full story of the Canal
- **Survey:** Finishing the Canal survey, including coordinating with History Colorado Center

Sharing the history of the Canal is an integral part of the Canal's story. Historic resources information would contribute to the signage package for interpretive signage about historic resources and to the development of a Canal history intended for a public audience (see Strategy 2).

opportunity to provide a listing of potential zoning tools to support the community vision. Each jurisdiction would consider which tools, if any, might be appropriate for their community and consistent with their local long-range plan (*see also* "Continue to coordinate with local jurisdictions and districts" in Strategy 3).

The first stage of the framework plan should include confirming boundaries to be used in the character zone plans.

Public Input: One, Integrated Process for All Strategy 1 Planning

Continued public involvement in Strategy 1 planning is critical. Although many of the following proposed plans need public input, public meetings should be completed as a single, integrated process. This way, community members can attend a single meeting to provide input on any High Line Canal planning efforts underway.

The Framework Plan Could Address Issues Like the Following:

- Connectivity along the Canal
- Regional connectivity
- Maximizing stormwater benefits
- Historic resources
- Recreational infrastructure needs
- Physical enhancements
- Cultural and community assets
- Additional adjacent open space and land conservation opportunities
- Wildlife habitat and open space connections
- Education opportunities
- Health and wellness
- Gateways and wayfinding
- Economic development
- Overall approach to programming and destinations

Meetings should occur throughout the region in each of the character zones. Each meeting should be structured with two distinct parts:

1. Canal-wide Feedback: Provide materials and feedback opportunities for topics related to the whole Canal (same materials at all meetings)
2. Character Zone Feedback: In support of each area's character zone plan, provide materials and feedback specific to the character zone (different materials by character zone)

Broad, diverse input is critical to ensure the framework plan, character zone plans, and other studies reflect perspectives of the Canal's diverse residents. A variety of tactics will be needed, along with a special focus on hard-to-reach populations, who are less likely to attend traditional public meetings. Youth engagement opportunities should be considered as well, including opportunities to provide feedback at public meetings plus separate kid-focused outreach opportunities.

Character Zone Plans

Character zone plans each focus on a specific area of the Canal, addressing more detailed considerations as well as issues specific to each character zone. For example, character zone plans should define recreation, physical enhancements, and other projects and associated cost estimates. Character zone plans should be structured in a different manner as determined within the framework plan; this structure should further define and delineate these sub-areas.

Like the framework plan, these local plans should incorporate recommendations from previous planning, the Vision Plan, local agency zoning and land planning, and technical studies. Character zone plans should be completed in parallel with the framework plan, with their final recommendations integrated into the final framework plan.

Landscape Design Guidelines

Part of the framework plan, landscape design guidelines provide direction to achieve a comprehensive environment along the Canal greenway that is memorable, unique, and enjoyable; economical and practical to maintain; responsible to functional and

environmental constraints; and in which all parts of the Canal relate to each other to establish an integrated whole consistent with this community vision. Developed in parallel with branding and signage design, the landscape design guidelines should draw upon the branding to provide recommendations for physical elements and design consistent with this identity. The signage design should feel consistent with the elements recommended through landscape design guidelines.

The purpose of landscape design guidelines is to encourage visual unity and functional consistency in the overall preservation and enhancement of the Canal environment, while at the same time creating a distinctive and pervasive sense of place appropriate for the Canal's five character zones. The guidelines do not prescribe specific designs for the Canal, but rather establish a design direction and series of performance objectives for landscape character.

Landscape design guidelines typically include the following:

- Principles and goals for landscape types (for the Canal, this would include principles for preserving/enhancing the identity of each character zone)
- Kit of parts: recommendations for planting, furnishings, and other elements; some elements will be consistent along the Canal, and others will support the preservation of different identities of each character zone
- Principles for placement of the elements

Landscape Types

The Canal should be understood as a composition of several related landscape types, each of which has a desired set of qualities that contribute to the Canal as a whole. Landscape design guidelines prescribe a set of principles and goals for each type, and offer examples of how the landscape should be preserved for all future implementation. For the High Line Canal, this should include the following:

- Design principles by character zone, addressing trail surface, width, and overall character
- Canal trailheads and gateways
- Pause places along trail
- Parking

Character Zone Plans Could Address Issues Like the Following:

All Character Zone Plans Would Address	Examples of Character-Zone-Specific Issues	
<ul style="list-style-type: none"> ▪ Physical enhancements: visitor experience and special character of zone ▪ Trailheads ▪ Parking ▪ Connections to adjacent open spaces and other uses ▪ Wildlife habitat enhancement ▪ Open space preservation and prioritizing land acquisition ▪ Viewshed protection ▪ Historic resources, building on findings of Historic Resources Study ▪ Integrating findings from second crossing study ▪ Local connectivity (pedestrian bridges over Canal) ▪ Integrate findings from stormwater program, identifying opportunities for stormwater benefits ▪ Demographic trends and needs by zone, including equity needs ▪ Off-Canal connectivity opportunities: for example, connections to nearby amenities, alternate on-street routes for more direct travel connections (shortcuts), and neighborhood loop trails ▪ Opportunities for local quick-win projects: for example, tree planting, prairie restoration, and other native plantings 	Wild Canyon	<ul style="list-style-type: none"> ▪ Visitor experience, including parking and wayfinding at trail beginning ▪ Historic interpretive signage ▪ Wildlife viewing and education
	Rolling Foothills	<ul style="list-style-type: none"> ▪ Development ▪ View corridor preservation ▪ Closing of Plum Creek gap ▪ Maintenance of tree canopy and vegetation ▪ Continued focus on serving diverse users
	Wooded Village	<ul style="list-style-type: none"> ▪ Tree planting and preservation ▪ Vegetation maintenance ▪ Open space preservation ▪ Crossing improvements
	Urban Refuge	<ul style="list-style-type: none"> ▪ Trail spurs connecting to shops and restaurants ▪ Connections to schools and parks ▪ Commuting route connections ▪ Connections to regional employment centers ▪ Closing of Wellshire Golf Course gap ▪ Programmed areas (group gathering spaces, integration with nearby active recreation areas, etc.)
	Prairie Retreat	<ul style="list-style-type: none"> ▪ Program and activation of underused areas (public art, group gathering spaces, integration with nearby active recreation areas, etc.) ▪ Increased awareness and use by residents with improved visitor experience and historic education ▪ Native prairie plantings and wildlife habitat ▪ Completion of gaps in the trail (including I-70 underpass connection) and connection to the Rocky Mountain Arsenal and other trails ▪ Economic development and property values that are Canal-friendly ▪ Connections to regional employment centers, shopping, restaurants, schools, parks, and Denver International Airport

- Relationships to adjacent land uses—both positive and ones that need screening
- Relationship to important cultural and historic landmarks

Landscape Elements

The Canal's landscape also contains a whole host of objects, materials, and elements that contribute to the character and quality of the experience along the Canal. Landscape design guidelines can help provide a framework for the unification of these elements across the Canal as well as recommendations to establish identities appropriate for each character zone. Guidelines prescribe both the composition quality standard for the element itself, as well as principles for the arrangement and siting of elements. For the Canal, the elements should include the following:

- Planting: drought-tolerant species, composition, and character; with maintenance considerations incorporated here or addressed separately in trail and landscape maintenance standards described below.
- Furnishings: seating, trash receptacles, bicycle facilities, lighting if appropriate
- Materials: trail surface materials, fencing, and walls
- Signage developed in parallel through branding, wayfinding, and signage design should be consistent with the character of these elements

Most importantly, the guidelines should grow out of a robust engagement process of meetings and workshops between the consultant team, the High Line Canal Conservancy, Denver Water, the HLCWG, the High Line Canal Core Team, maintenance staff from all entities that maintain the Canal and greenway, and the community. These conversations will help establish which elements are consistent along the Canal, and which elements vary by character zone. Including maintenance staff in the process ensures selected elements will be durable and easy to maintain.

Trail and Landscape Maintenance Standards

Maintenance of the Canal and greenway should support the character defined in this Vision Plan, contribute to the desired identity of each character zone, and create a safe, beautiful, and healthy environment. Trail and landscape maintenance standards result in Canal-wide and character-zone-specific best practices for tree, trail, and vegetation maintenance.

Crossings Improvements—Integrated with Character Zone Plans

Crossing improvements should be an integrated consideration of the character zone plans. Improving crossings along the Canal is a significant need to ensure safer, more convenient access to all of the Canal's users—walkers, bicyclists, equestrians, and others. Each character zone plan should evaluate and provide recommendations for safety improvements for intersections along the Canal.

This analysis should follow the model of the previous crossing study completed for Arapahoe County (*Feasibility Study for High Line Canal Crossings*, Felsburg Holt and Ullevig, 2014), extending this methodology to evaluate high-priority intersections outside of the original study area. Like the original study, the HLCWG would identify intersections to study within each character zone. The final character zone plans should include analysis of each crossing, recommendations for the best alternative, and next steps. HLCWG's Crossing and Safety Task Group would again provide oversight and technical input. Next steps would include prioritizing improvements and securing funding to implement recommendations.

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Also an integrated part of the framework plan, maintenance standards will follow the development of the landscape design guidelines. The difference between design guidelines and maintenance standards is that landscape design guidelines provide principles for selecting and locating elements, while trail and landscape maintenance standards provide detailed recommendations for long-term maintenance and care of the Canal's landscape, trail, and vegetation, in addition to other maintenance needs like trail surface maintenance, safety patrols, and snow removal (in some areas).

The development of maintenance standards should draw from information collected in the recent tree inventory, *High Line Canal Preservation and Enhancement Study* (Mike Holweger, Applied Design Services, 2012), and other previous studies relating to tree health and management.

The maintenance study would address the following topics, Canal-wide and/or by character zone as relevant:

- Trees, shrubs, and turf/groundcover maintenance
- Canopy management
- Noxious weed management
- Best management practices for irrigation of new trees
- Trail maintenance, including snow removal if relevant
- Inspection and litter removal
- Sustainable landscape maintenance strategies including integrated pest management and low-mow areas
- Metrics for tracking performance (including costs) and measuring progress
- Technologies for asset management
- Guidelines for volunteer management

Development of the maintenance standards should include focus groups with maintenance staff at Denver Water and managing jurisdictions/districts. Input from existing maintenance staff is critical to gain an understanding of existing practices, challenges, and goals, and later to provide feedback about recommendations.

The public should also have an opportunity to provide feedback about proposed maintenance standards as they relate to Canal character in each character zone.



Stormwater Program

The public outreach sessions confirm a great interest by the public to maintain vegetation along the Canal corridor. Stormwater is a potential green infrastructure concept that improves water quality to receiving streams and possibly supports area drainage planning that also introduces more water into the Canal. This concept should continue to advance.

Denver Water will continue to lead coordination with Urban Drainage and Flood Control District and the public works/water departments of each jurisdiction along the Canal to work toward a long-term future for the Canal from a stormwater perspective. Urban Drainage and Flood Control District will lead development of a stormwater operational model of the Canal in 2017 and begin a broader master plan to evaluate regional stormwater management adjacent to the Canal.

2017 may include implementing multiple demonstration projects along the Canal such as Wellshire, Greenwood Village, and Shea Homes within Douglas County, with the potential for others, to test assumptions from the previous feasibility study. The demonstration projects will also be utilized to resolve potential permitting, legal, and management challenges associated with utilizing the Canal for stormwater benefit.



Denver Water currently serves approximately 70 customers with the High Line Canal. Denver Water is committed to meeting the contractual obligations to these customers in order to provide them service. However, there are likely more efficient and sustainable ways to provide service and Denver Water will need to explore these with the High Line Canal customers. If stormwater demonstration projects are implemented while customers are still being served with the High Line Canal, there will be a transitional period where the Canal must serve both functions. This must be managed in a collaborative way by Denver Water, the customers, Urban Drainage and Flood Control District, and the municipal stormwater jurisdictions along the Canal. A plan to manage this transition will be developed along with implementation of the demonstration projects.

Branding and Wayfinding Plan

PUBLIC FEEDBACK | QUICK-WIN OPPORTUNITY

Improving wayfinding signage is a quick-win opportunity to significantly improve the Canal experience along its full length. Today, signage varies significantly along the Canal, and in some areas it can be difficult for walkers, runners, equestrians, and cyclists to find their way. The first step of improving signage is this two-phase branding and signage package.

Emerging Technologies For Wayfinding

Bluetooth beacons¹ enable a more engaged interaction between people and the spaces they move through. In these wayfinding systems, the signs are equipped to emit a signal for a certain range surrounding the sign. When a park visitor (who has location services enabled on their phone) walks by the sign, the sign pushes an alert to the person about a nearby destination based on the sign's content. LinkNYC is a great example of how Bluetooth beacons can be incorporated into a larger sign pylon.² However, one of the distinct advantages is the relatively small size of the beacons, so they can be incorporated in very small enclosures. Although there are different manufacturers, all are about the same size.³ Apps like Beacondo can be utilized to link users with the markers as they journey throughout a space.⁴

¹ <https://www.tnooz.com/article/sita-beacons-americanairlines/>;
<https://segd.org/wayfinding-and-internet-place>

² <http://www.theverge.com/2015/12/28/10674634/linknyc-new-york-public-wifi-installation-photos-gigabit>

³ <http://www.metmuseum.org/blogs/digital-underground/2015/beacons>

⁴ <http://www.beacondo.com/>

This plan should include developing a consistent brand for the Canal and designing wayfinding signage and maps. The **brand** should provide a visual translation of the community-driven vision described in this document. The brand design should include an overall brand for the Canal, as well as sub-brands, including taglines, for each character zone. The Canal brand development should include the opportunity for public feedback, which should be integrated with framework plan meetings.

Signage should have a consistent, recognizable look throughout the Canal, but would include elements that vary by character zone. The wayfinding signage package should include design of an integrated family of signage supporting basic navigation along the Canal. This would include the design of the following types of signage:

STRATEGY 1

- Gateway signage at the beginning and end of the Canal, and potentially smaller gateway signage marking transition between character zones
- Trailhead markers
- Trailhead kiosk with map
- Free-standing map
- Directional signs—indicating for example, distance and direction to nearby landmarks/destinations, restrooms, parking, and transit stops
- A standard set of mileage markers
- Identification markers: for example, cross-street names or adjacent park or landmark names
- Rules and Regulations signs
- Ground-plane markers for orientation: for example, towards the mountains or towards the airport
- Other basic information: for example, information about accessibility including trail surface

Signage design should consider ADA and accessibility needs, as well as non-English speakers. Standard icons¹ should be used to increase understanding, and translation functionality should also be considered as part of the wayfinding app. Wayfinding signage design should also look ahead to the next phase of interpretive signage design. Sign posts should be considered to allow for the later addition of panels of interpretive content or regulatory information.

The branding and wayfinding plan should also include developing a **series of maps for wayfinding**. This should include an overall map which can be used on the **map signs** on the Canal, and also adapted into a **printable version** and **interactive online map**. Supplementing these tools, a **wayfinding app** could be considered as part of this scope, or developed as a separate tool. The idea is to create a supplemental tool for improving navigation along the Canal.

¹ For example, National Park Service's *UniGuide Standards*

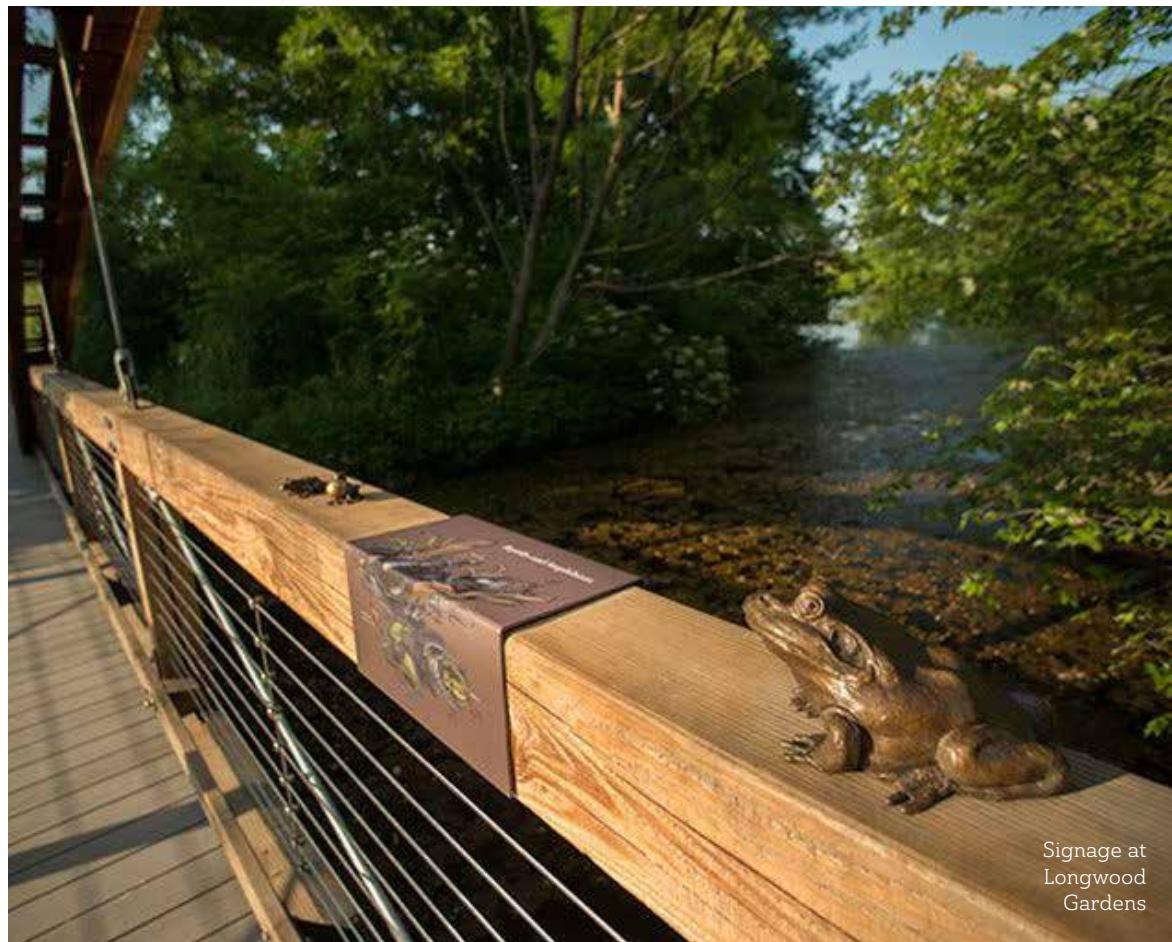
Interpretive and Educational Signage

PUBLIC FEEDBACK | QUICK-WIN OPPORTUNITY

Interpretive signage would include the development and design of interpretive signage and related content along the Canal and could be completed later. Signage will help share the story of the Canal's history, water context, wildlife, and beyond. Additional details about historic interpretation opportunities are available in the *Reconnaissance Survey and Prioritized Survey Plan: High Line Canal Corridor* (See Chapter 5, pages 112-113).

This signage package should consider **physical signage** as well as opportunities to integrate **digital content**, **geocaching**, and **other interactive elements**.





Signage at
Longwood
Gardens



Marjorie Perry
Nature Preserve



Existing mileage
markers along some
parts of the Canal