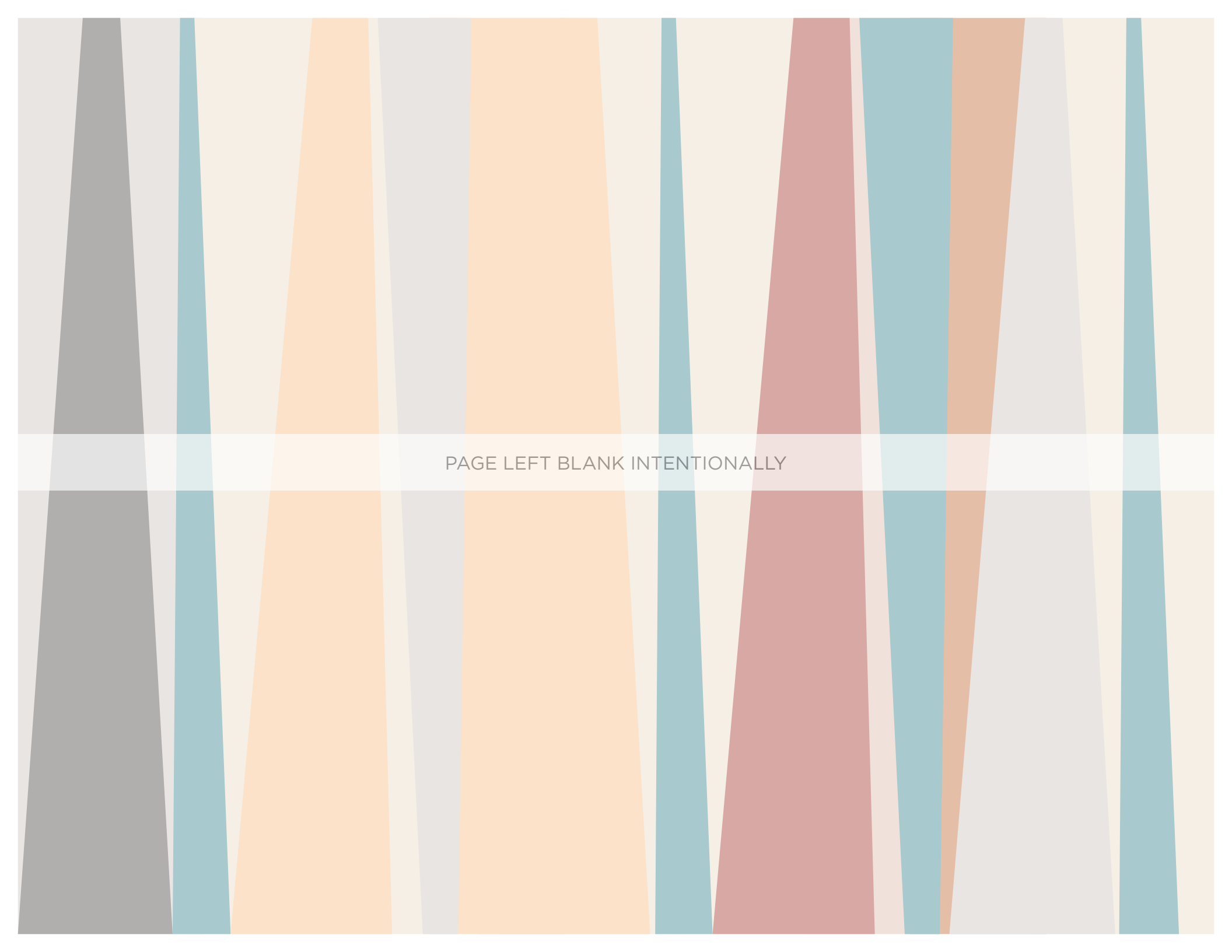




Albuquerque RAIL TRAIL

PART VI - DESIGN RECOMMENDATIONS

NOVEMBER 2021 - *Public Comment Draft*



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Vision

The Rail Trail Framework Plan is a key component of the City of Albuquerque's downtown revitalization. It will create a convenient multi-modal connection between the Rail Yards to the south of Downtown, the Downtown core, and activity centers north of Downtown. It also ties into existing transportation efforts that examine additional stretches of potential trails along and near the existing railroad ROW.

The Rail Trail Vision is informed by the community and trail stakeholders. It outlines the desired future state of the trail and guides the design, development, and implementation of the Rail Trail.

The Albuquerque Rail Trail will transform Downtown's rail corridor into a vibrant and artistic urban trail that creates opportunities for economic development, healthy recreation, and cultural expression. The Trail will connect the diverse communities it travels through and build bridges across those that have been disconnected. Following an ancient path created by footsteps and expanded over centuries by the wheel, the Rail Trail is the next expression of this essential trade route, embracing a resilient future for Downtown Albuquerque.

This Vision will guide future phases to ensure that the ideas and desires from the community are implemented and the Vision achieved.

FIGURE 1. Rendering @ Alvarado Looking South

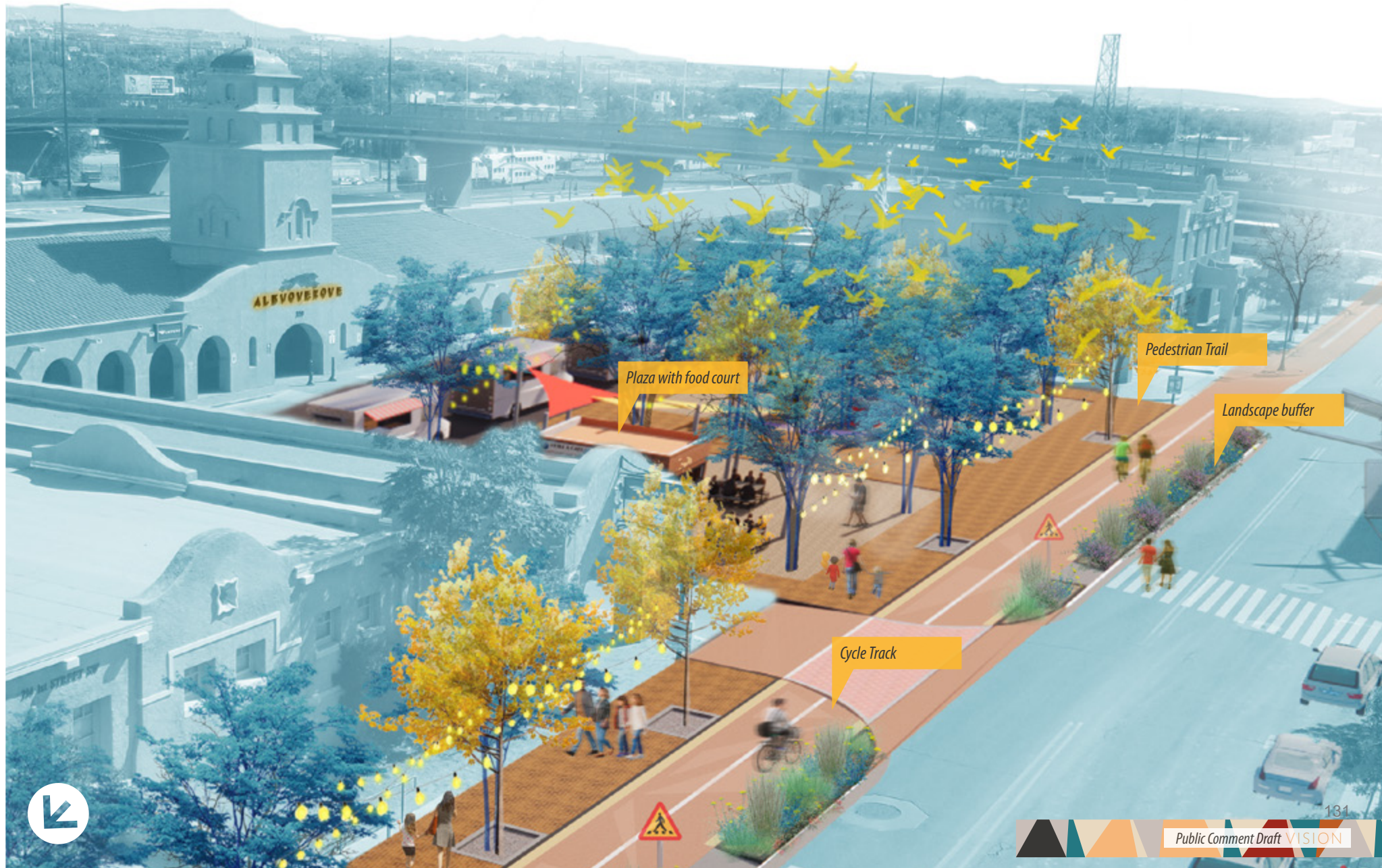


FIGURE 2. Rendering @ Lomas Looking South



FIGURE 3. Rendering @ Marquette Crossing Looking North



Goals

The Rail Trail is envisioned to create a convenient multi-modal connection between the Rail Yards to the south of Downtown, the Downtown core, and activity centers north of Downtown. It also ties into existing transportation efforts that examine additional stretches of potential trails along and near the existing railroad right-of-way.

The Rail Trail Vision is informed by the community and trail stakeholders. It outlines the desired future state of the trail and guides the design, development, and implementation of the Rail Trail.



EQUITY + COMMUNITY ENGAGEMENT

Ensure that the local community benefits from the Rail Trail and develop diverse community support through ongoing engagement activities.



SAFETY

Develop a trail that is safe, accessible, and welcoming to users of all abilities.



CULTURE + ART, HISTORY + FUTURE

Honor and celebrate the unique culture, history, and future of the Rail Trail Corridor by creating numerous opportunities for permanent and temporary art within the trail corridor.



CONNECTIVITY

Provide effective connections to the trail from surrounding neighborhoods, transit stations, and bike networks.



ENVIRONMENTAL IMPACT

Create a sustainable trail that manages stormwater, utilizes local and recycled materials, features native plant species, and offers habitat for pollinator species.



PROGRAMMING ACTIVATION

Ensure the Trail is continuously activated by identifying a management and operations body to steward the Rail Trail.



DESIGN & MATERIALS

Celebrate the unique natural and cultural experience of New Mexico by using locally identifiable building materials inspired by our diverse history, culture, and natural landscapes.



OPERATIONS

Create an operational public-private partnership strategy that recognizes the need for enhanced safety, affordable, durable, and efficient maintenance, and incorporates smart technologies.

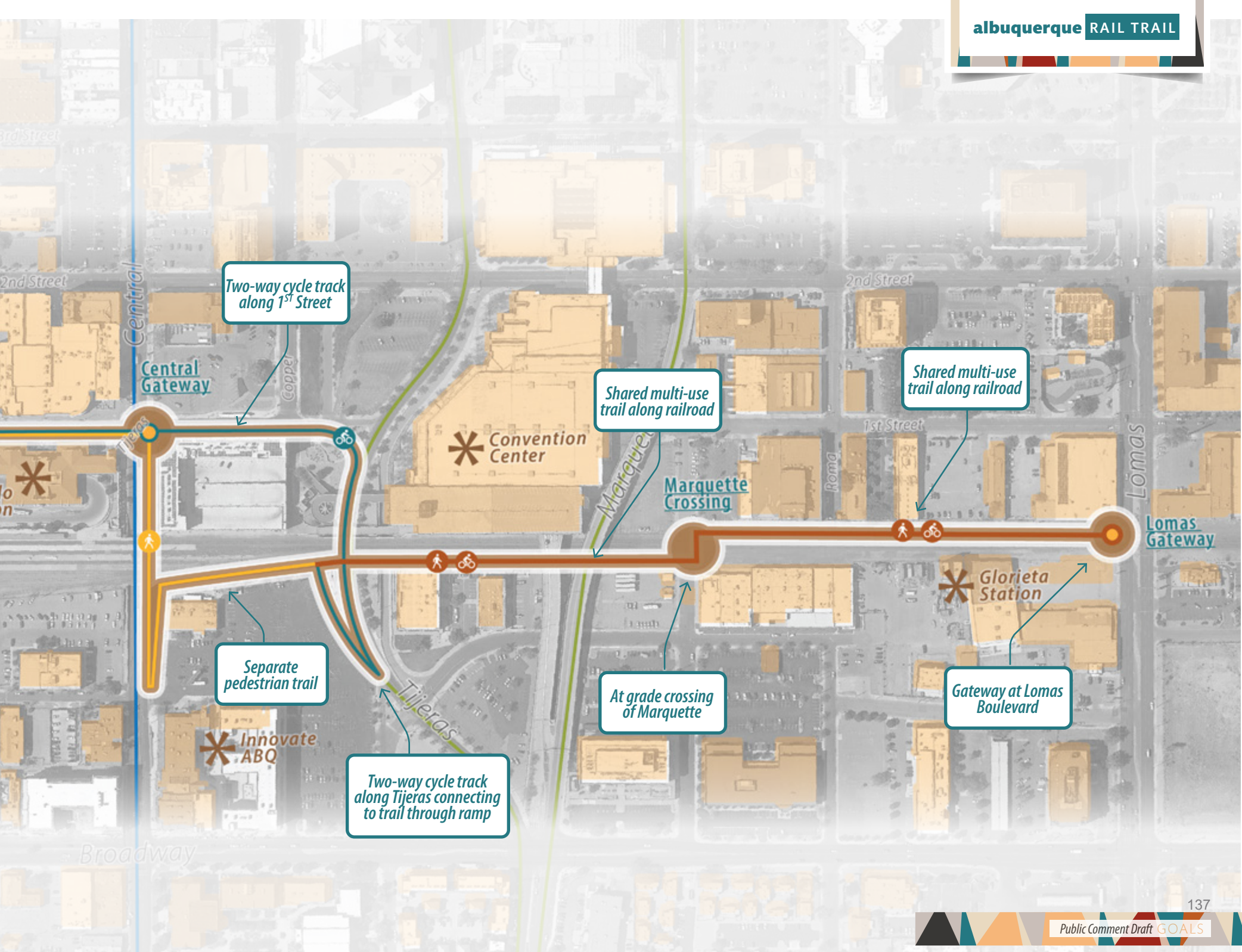


ADJACENT DEVELOPMENT

Encourage adjacent buildings and projects to activate and engage with the trail.

FIGURE 4. OVERALL TRAIL ALIGNMENT





Alignment + Dimensional Standards

ALIGNMENT

The Rail Trail Alignment is located along the existing railroad corridor in the heart of Albuquerque. It travels past the Alvarado Transportation Center, crosses the historic Route 66, and the historic alignment of El Camino Real De Tierra Adentro. The corridor encompasses the historic communities of Barelvas, South Broadway, and Martineztown are located adjacent to the corridor as identified in *“Figure 16. Connectivity” on page 150*. It also connects a number of community assets, both public and private.

- Segment 1** travels along 1st Street on the east side of the right-of-way, between the Rail Yards and Central Avenue.
- Segment 2** travels along Central Avenue crossing under the railroad utilizing the existing sidewalk on the north side of Central Avenue. This part of the segment needs further studying to explore alternative crossings strategies. The segment continues on the east side of the railroad tracks to the Tijeras Avenue bridge.
- Segment 3** travels north on 1st Street from Central Avenue to Tijeras Avenue and continuous east on Tijeras. It connects back to the railroad tracks via a ramp on the south side of Tijeras Avenue.
- Segment 4** travels north along the east side of the railroad tracks to Marquette. At Marquette it crosses the railroad tracks and continues north on the west side of the tracks to Lomas Boulevard.

FIGURE 5. Trail Alignment



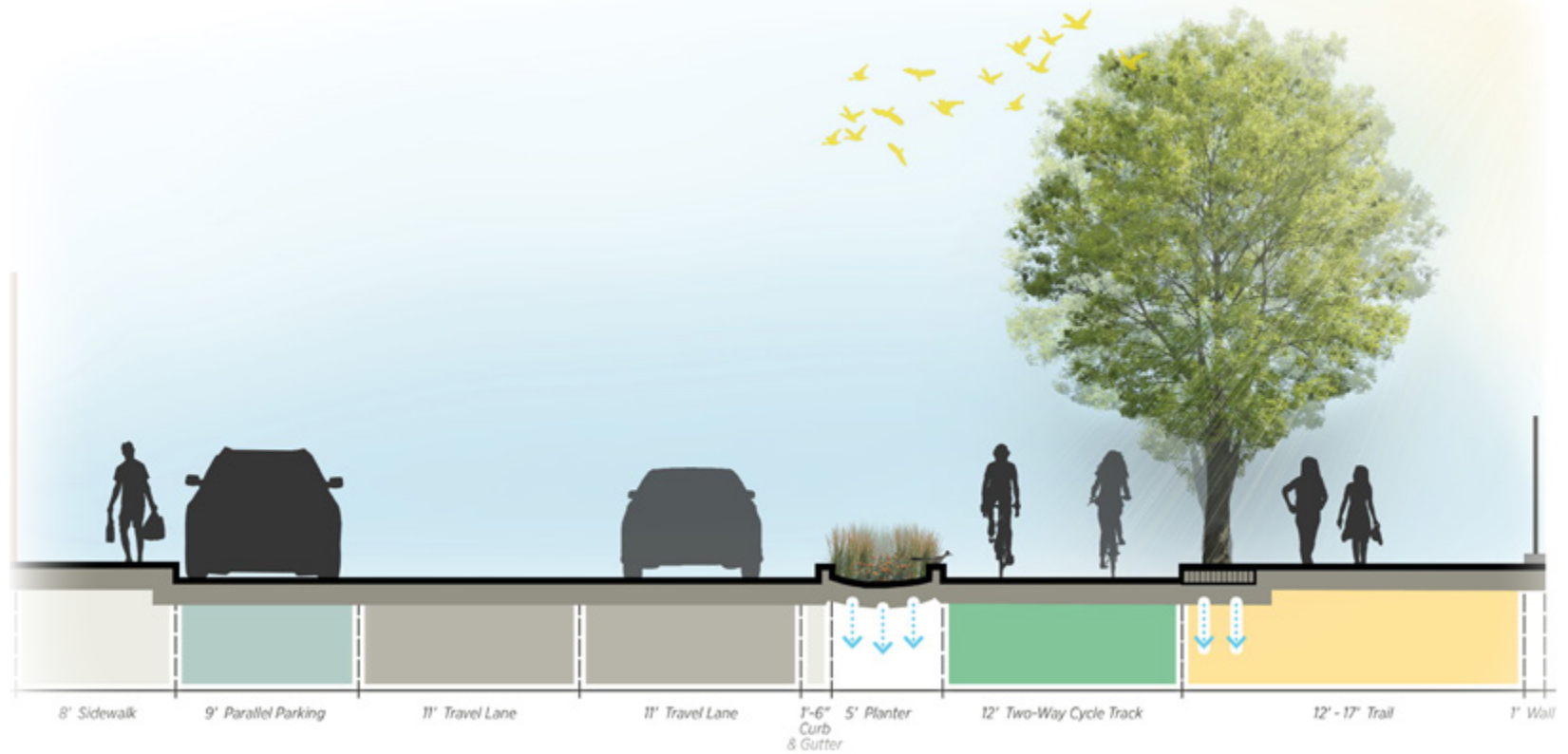
DIMENSIONAL STANDARDS

The Rail Trail takes advantage of existing public right-of-way both along 1ST Street, Central, Tijeras, and the railroad corridor. The overall available right-of-way varies between 14 and 76 feet. It requires a variety of approaches to the trail design and requires additional right-of-way to be obtained in select areas. *“Figure 6. Trail Sections” on page 139*, identifies typical trail sections. These sections are detailed on the following pages with associated dimensional standards.

Trail Dimensional Standards:

- The overall shared multi-use trail width is 14 ft.
- The pedestrian trail south of Central varies between 12 and 17 ft.
- The cycle track between Tijeras and the Rail Yards is 12 ft.
- The trail shall be designed according to the typical sections of Figure 7 to Figure 14.
- In Segment 1, 2, 3, 4, bicycle and pedestrian users will be separated, as identified in *“Figure 5. Trail Alignment” on page 138*.
- Where the trail is adjacent to motor vehicle traffic a vertical barrier shall be installed to buffer the cycle track from moving traffic. This barrier can either be comprised of physical vertical elements or a landscape buffer.
- Raised intersections shall be installed where feasible.



FIGURE 7. Typical Section 1


Dimensional Standards:

Element	Dimensions	Comments
Sidewalk	8 ft.	
Parking	9 ft.	
Travel Land (x2)	11 ft.	
Curb + Gutter	1'-6"	
Buffer	5 ft.	Planter
Cycle Track	12 ft.	
Trail	12-17 ft.	

Context Map:

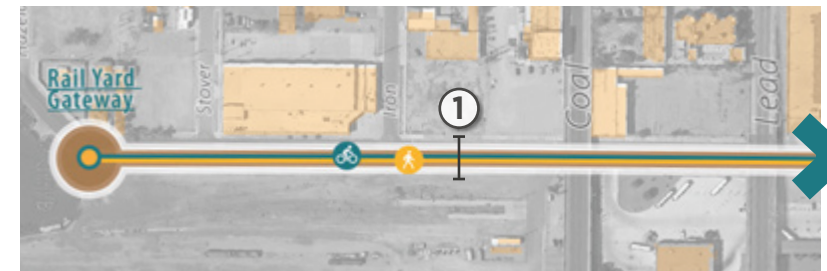


FIGURE 8. Typical Section 2**Dimensional Standards:**

Element	Dimensions	Comments
Sidewalk	8 ft.	
Parking	9 ft.	
Travel Land (x2)	11 ft.	
Buffer	NA	Vertical Element
Cycle Track	12 ft.	
Curb + Gutter	2 ft.	
Trail	12-17 ft.	Tree planters part of Trail right-of-way
Wall	1 ft.	

Context Map:

FIGURE 9. Typical Section 3

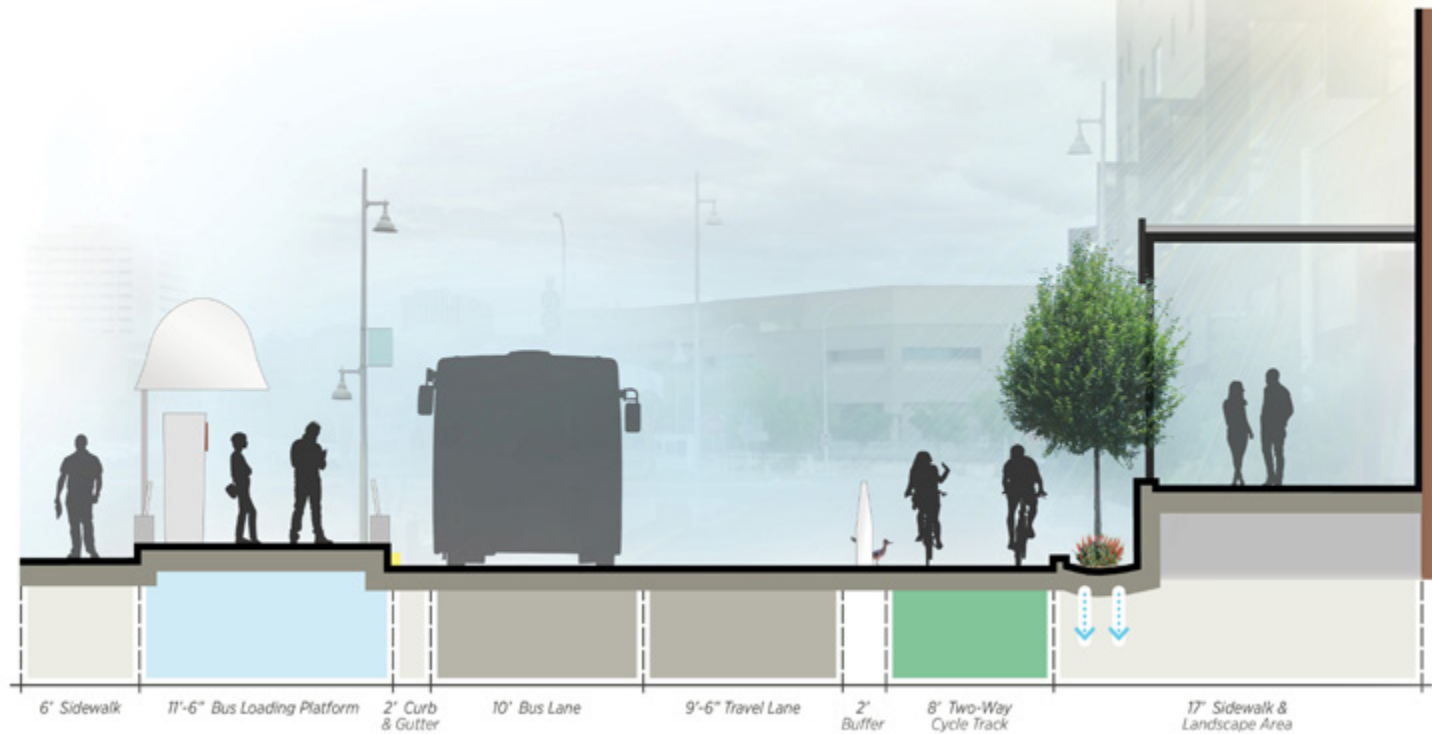

Dimensional Standards:

Element	Dimensions	Comments
Sidewalk	8 ft.	
Curb + Gutter	2 ft.	
Travel Lane	10 ft.	
Bus Lane	11 ft.	
Bus Loading	12 ft.	
Cycle Track	12 ft.	
Trail	12 ft.	Tree planters part of Trail right-of-way

Context Map:



FIGURE 10. Typical Section 4



Dimensional Standards:

Element	Dimensions	Comments
Sidewalk	6 ft.	
Bus Loading	11'-6"	
Curb + Gutter	2 ft.	
Bus Lane	10 ft.	
Travel Lane	9'-6"	
Buffer	2 ft.	Vertical Element
Cycle Track	8 ft.	
Sidewalk + Landscape Area	17 ft.	Includes landscape area

Context Map:

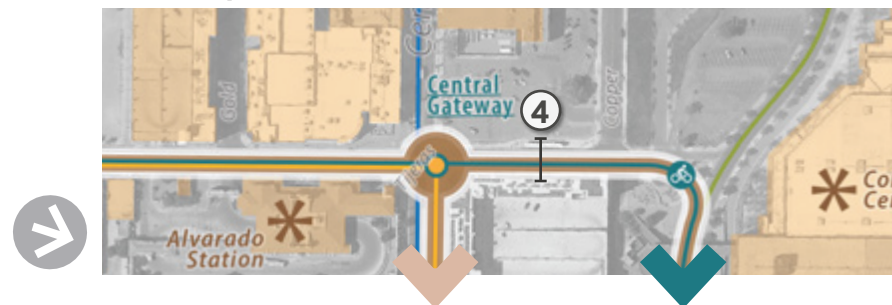


FIGURE 11. Typical Section 5



Dimensional Standards:

Element	Dimensions	Comments
Sidewalk + Landscape Area	15 ft.	Includes landscape area
Cycle Track	10-14 ft.	
Landscape Area	6-10 ft.	Serves as buffer
Travel Lane	11 ft.	Eastbound
Curb + Gutter	2 ft.	

Context Map:

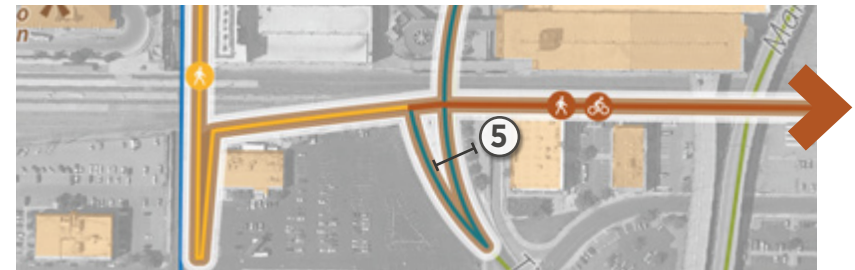
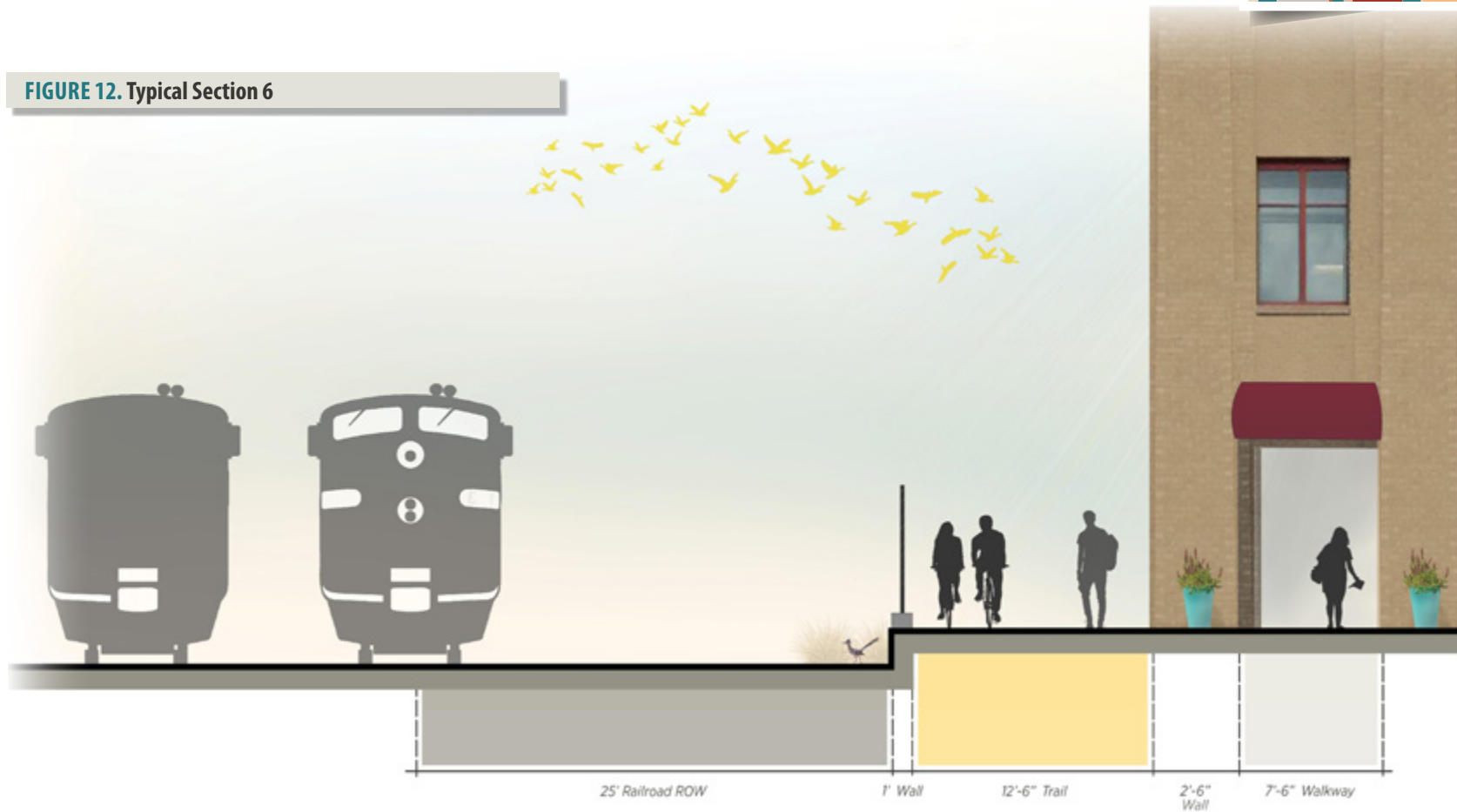


FIGURE 12. Typical Section 6



Dimensional Standards:

Element	Dimensions	Comments
Railroad ROW	25 ft.	
Wall	1 ft.	
Trail	12'-6"	Shade facility
Wall	2'-6"	
Walkway	7'-6"	Part of Springer Square development



FIGURE 13. Typical Section 7

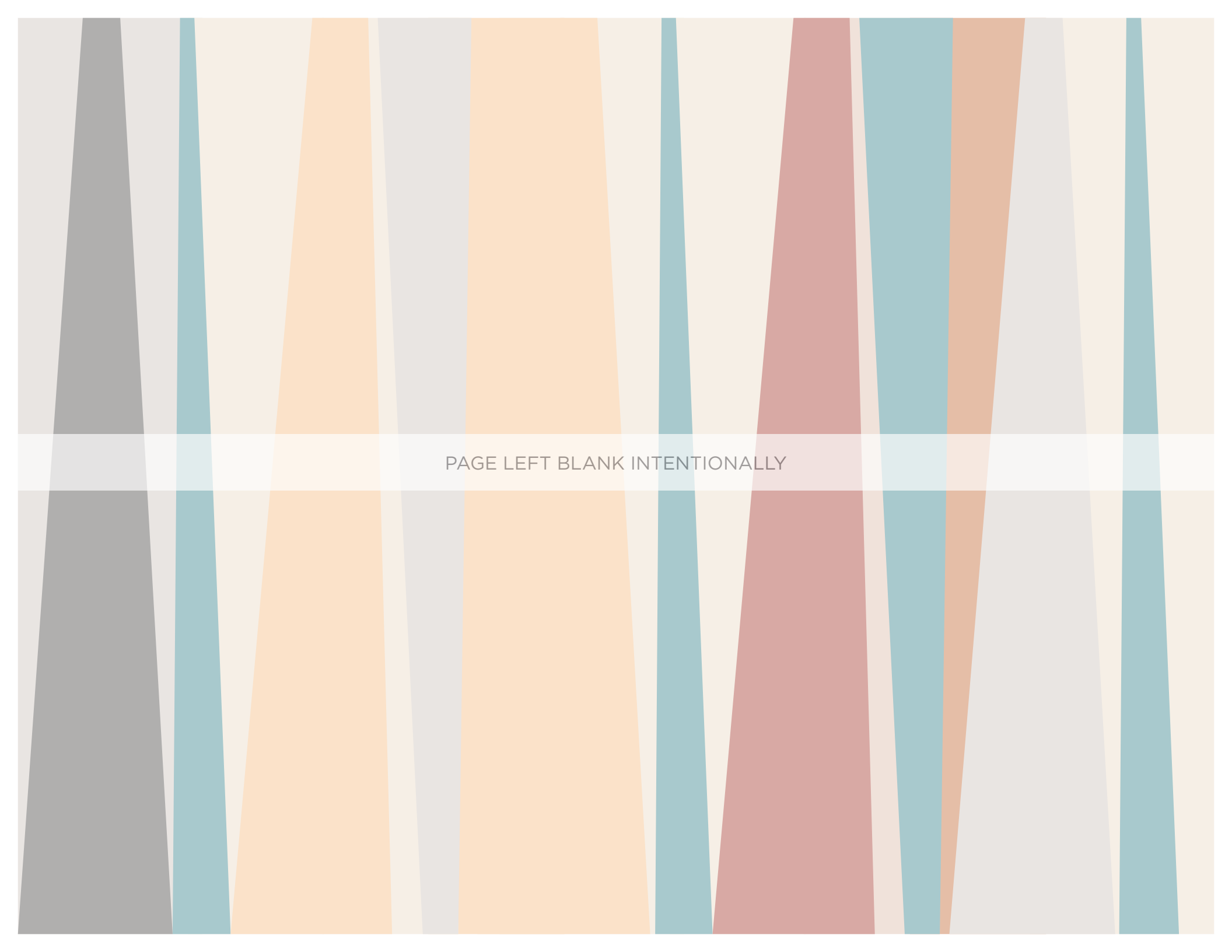


Dimensional Standards:

Element	Dimensions	Comments
Wall	1 ft.	
Landscape Area	7 ft.	
Impact Surface	2 ft.	Part of trail
Trail	10 ft.	
Impact Surface	2 ft.	Part of trail
Landscape Area	3 ft.	

Context Map:





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Connectivity

The Rail Trail creates a connection of important community amenities, the downtown core and historic neighborhoods, centers of employment, public transit and historic corridors, and existing and future trail facilities. This project connects the existing communities, public facilities, trails, and routes identified on the map below.



Key Connections:

- Historic communities of Barelás, South Broadway, Martineztown, Huning Highland, and EDo
- Neighborhood commercial centers including, but not limited to 4th Street, Central Avenue, and Broadway Boulevard
- Downtown
- Transit options including ART, Railrunner, Amtrak, and Greyhound
- Rail Yards, Convention Center, Innovate ABQ, and Glorieta Station
- Existing Trails including 50-mile loop, Lead + Coal bike lanes, El Camino Real historic route, Bosque Trail, and the I-40 Trail
- Future trails including Rail Spur Trail, Rio Grande Trail, and El Camino Retracement Trail alignment

Map “*Figure 16. Connectivity*” on page 150 identifies how the trail should connect to the key connections.

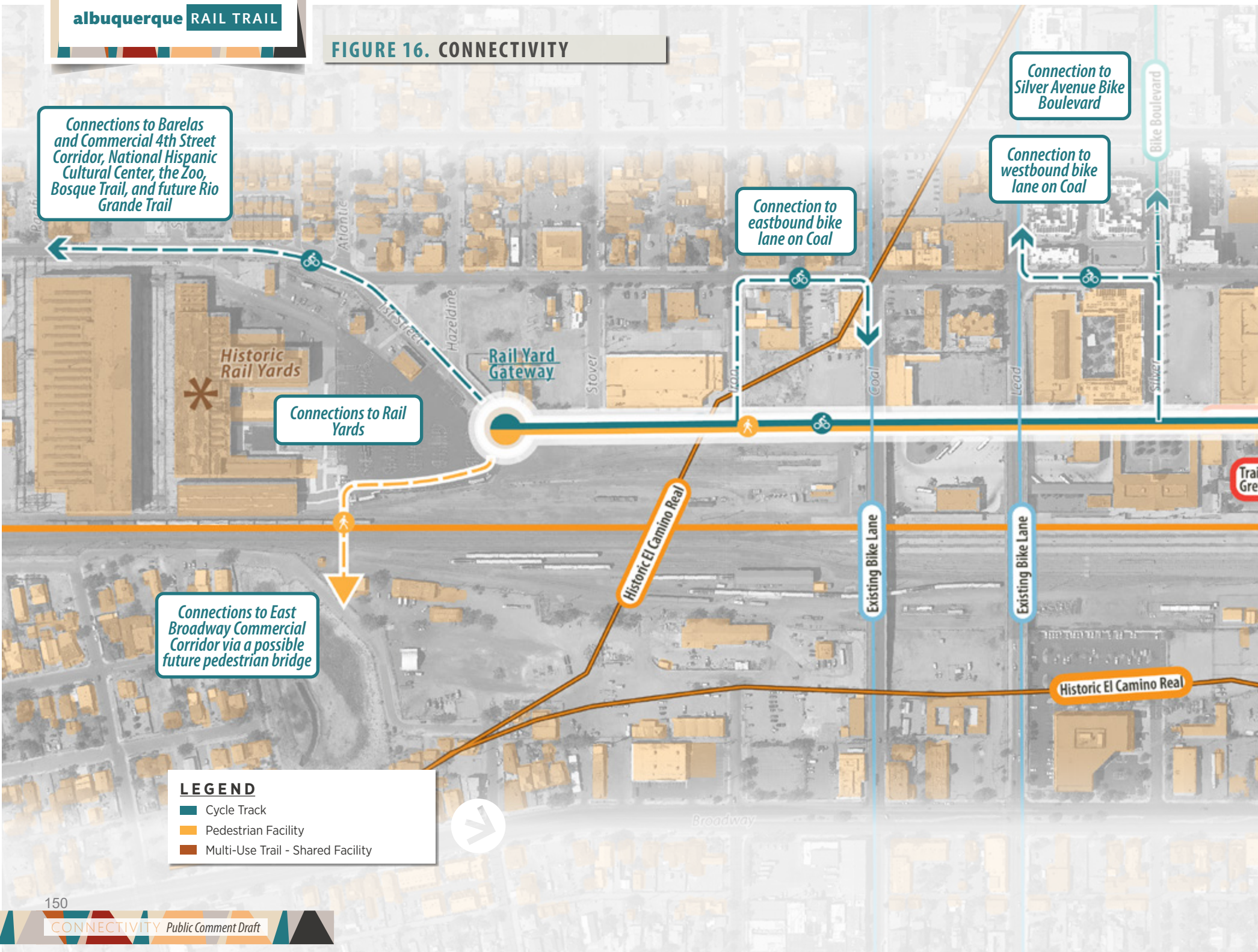
Closing the Loop:

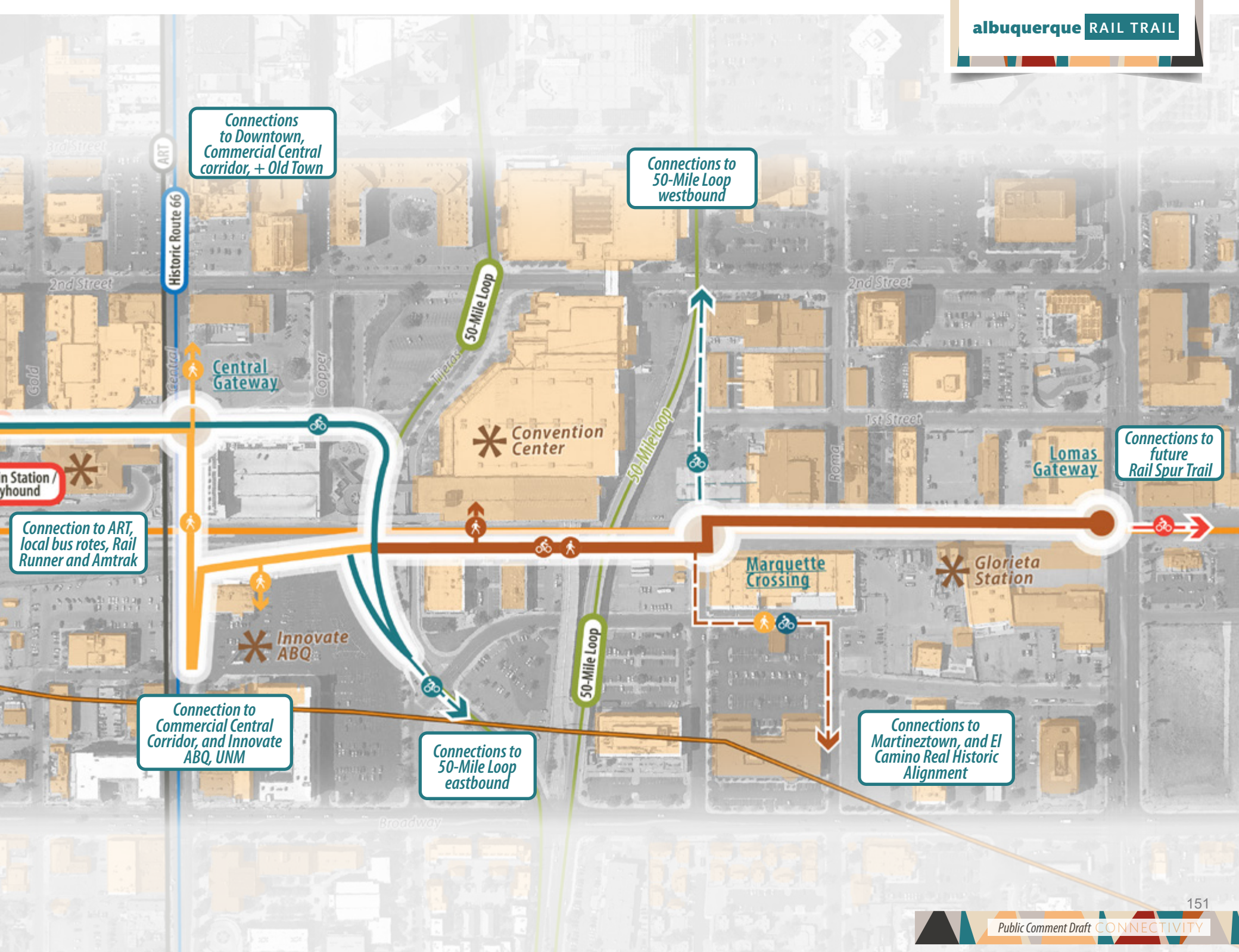
The Rail Trail is envisioned as part of a larger trail loop. This loop will connect major destinations including the Rail Yards, the Rio Grande Zoo, ABQ BioPark, Old Town, the Sawmill District, Downtown, and the Convention Center. At the southern end of the project corridor, a connector exists that links the Barelás neighborhood and the Bosque Trail via a foot bridge accessed through Santa Fe Ave.

FIGURE 15. Trail Loop



FIGURE 16. CONNECTIVITY





Wayfinding + Signage

The Rail Trail is located in an area with multiple periods of historical significance. There is a rich history of the indigenous people that first settled this area, followed by the history of El Camino Real de Tierra Adentro that eventually brought the first Spanish settlers. This is followed by the stories of the railroad and the historic Route 66. These stories can be told with signage to create a connection of trail users to the corridor's history.

There are other destinations along the corridor and beyond that trail users will want to reach. Both directional and interpretive signage can inform and orient users. Trail users who feel comfortable, informed, and empowered will keep coming back.

Trail Directional Signage - Directional signage provides basic information about distances, directions, and destinations, helping trail users plan and navigate their travel routes. Directional signage can also help promote the use of facilities and guide users to commercial, recreational, and public destinations.

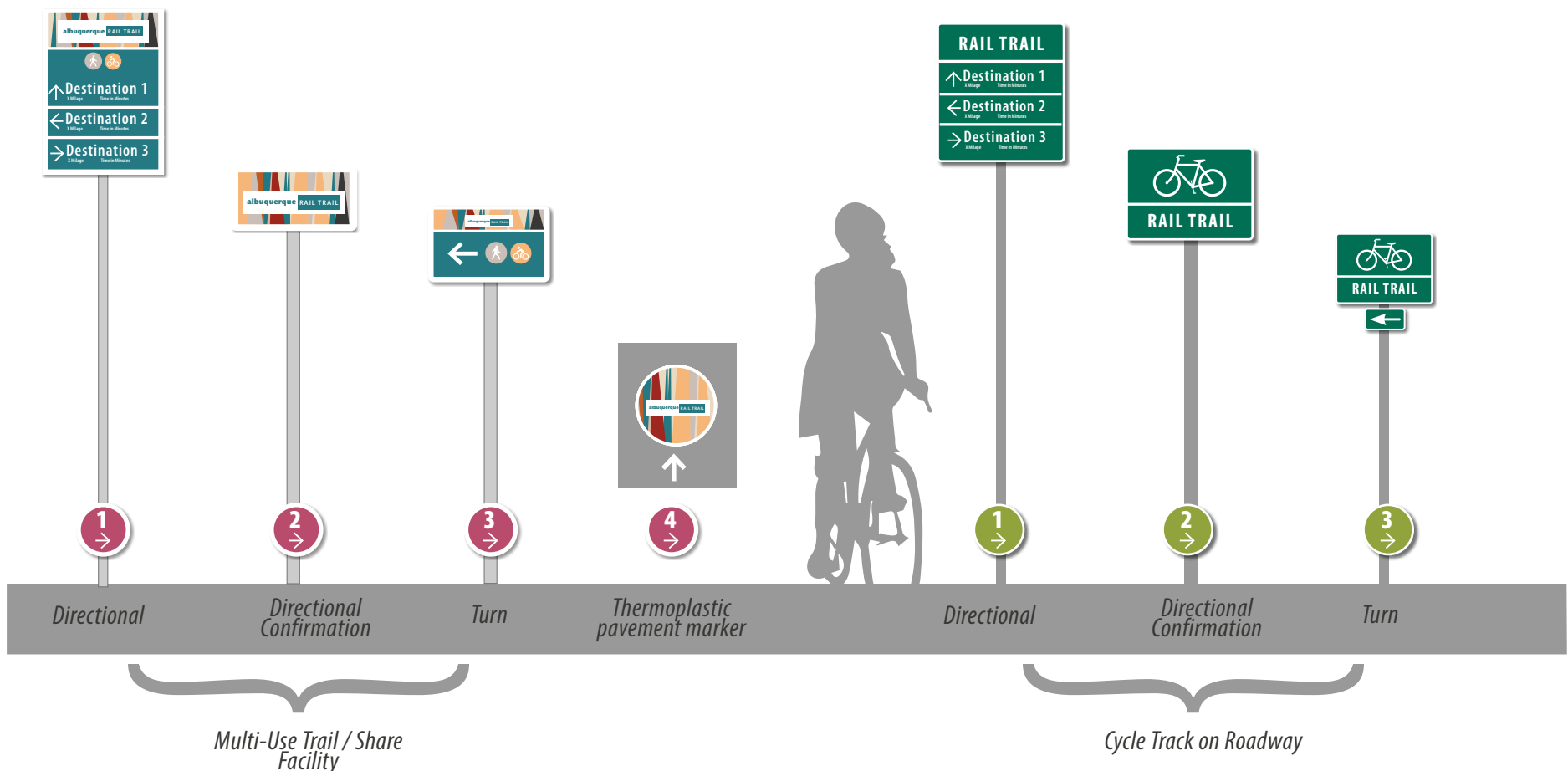
Trail Interpretive Signage - Interpretive signage is a tool of communication to inform and educate trail users of the significance of an area, the specific function of a trail element, or background information on a trail project. In the case of the Rail Trail, interpretive signage will serve to educate about the important history of the corridor and its adjacent communities.

SIGNAGE FAMILY

The Rail Trail signage includes a number of signs where each sign type serves a slightly different purpose. There is directional signage, interpretive signage, and gateway signage. The directional sign family is split into two groups.

The first group focuses on traffic on the multi-use shared portion of the trail. The second group focuses on the cycle track facility located adjacent to the public roadway. Both are split into signs that focus on (1) direction to a destination, (2) confirming a direction, and (3) signaling a turn. This signage should be placed in areas where users are making directional decisions.

Directional Signs:



The interpretive signage family includes poll signs and larger kiosks that feature maps for general orientation. This family includes two types of signs, a smaller poll sign for maps and interpretive information, and a larger kiosk for interpretive information. This signage should be placed in areas of historic significance and at major trail gateways.

Interpretive Signs:

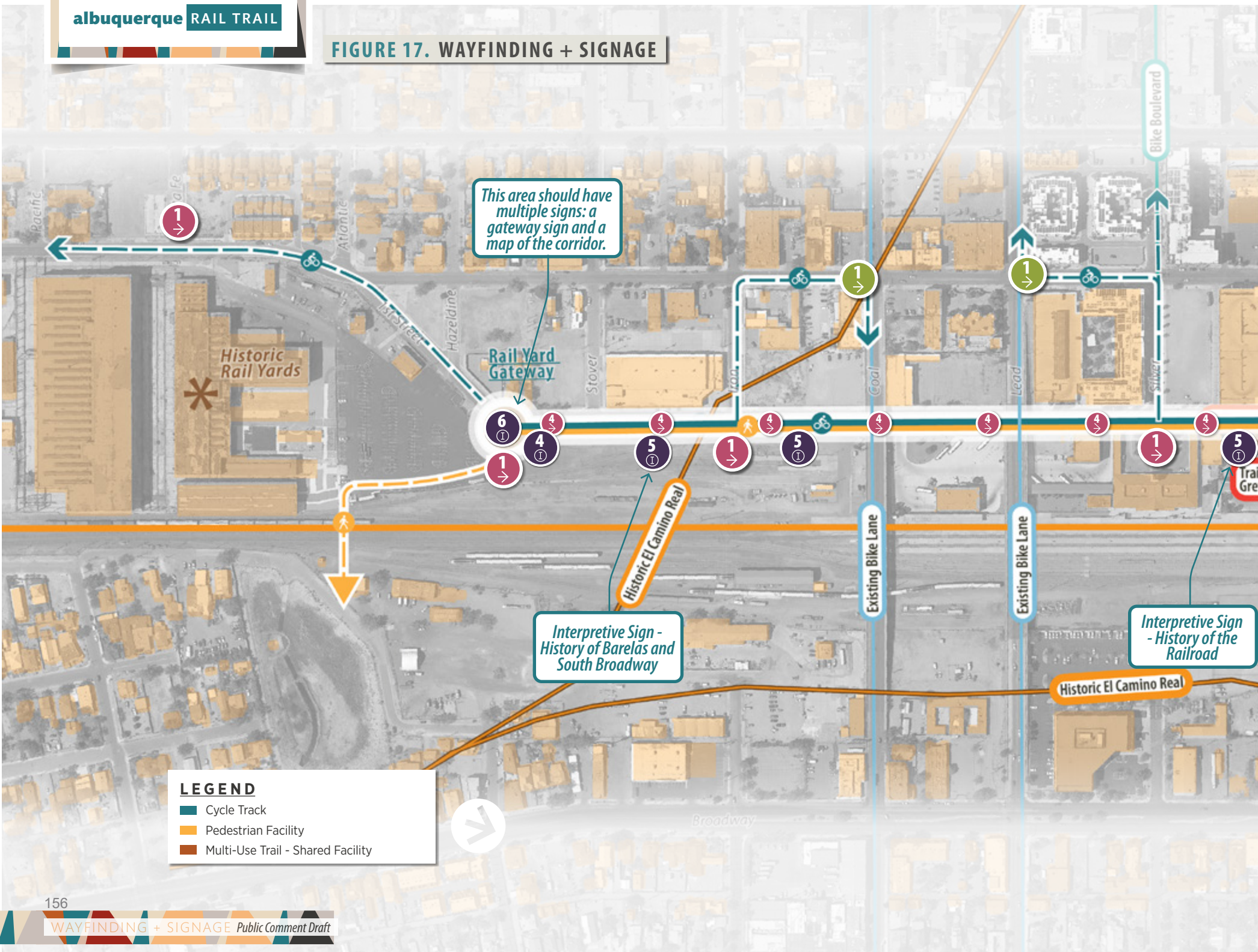


The gateway signage marks the beginning of the trail and creates a sense of arrival. This family includes a smaller gateway sign for smaller points of entry and a larger sign for major gateway areas.

Gateway Signs:

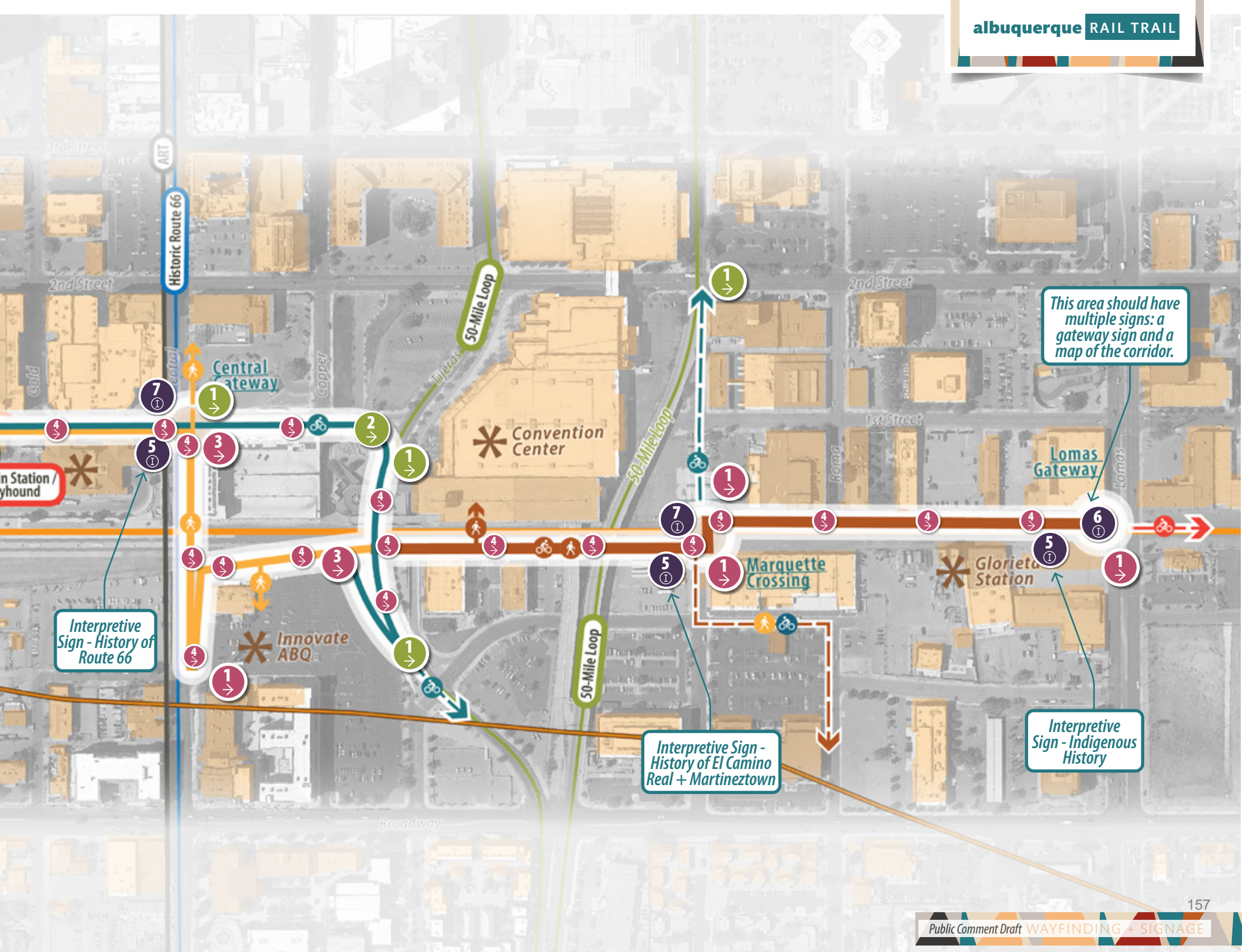


FIGURE 17. WAYFINDING + SIGNAGE



LEGEND

- Cycle Track
- Pedestrian Facility
- Multi-Use Trail - Shared Facility



This area should have multiple signs: a gateway sign and a map of the corridor.

Interpretive Sign - History of Route 66

Interpretive Sign - History of El Camino Real + Martineztown

Interpretive Sign - Indigenous History

Art, Amenities + Development Opportunities

The Rail Trail creates amenities and opportunities to spur trail-oriented development (TOD). The Downtown core lacks some important amenities including pocket parks, trails, and wildlife habitats. The Rail Trail will offer these amenities to enhance overall quality of life, improve property values, and uplift the public health of the adjacent communities and the City as a whole.

Public art will also be a major component of the trail. There will be opportunities along the entire corridor to celebrate and showcase local art and artists. Local art will be part of the primary and secondary nodes. In fact, some of the nodes will be designed by local artists and become art features themselves.

There are also numerous parcels and businesses along the trail and within a short walk of the trail that can take advantage of the trail activities with trail-oriented development. Bringing more people to the area through added amenities and programming will support local businesses, increase eyes on the street, and help activate the rail corridor and downtown core. The following amenities, gateways, and TODs are envisioned as part of the Rail Trail corridor.

-  **Primary Amenities (NODES)** - *A larger amenity that serves the whole community*
-  **Secondary Amenities** - *A smaller amenity that is focused on the needs of the immediate neighborhood*
-  **Gateway Feature** - *A feature installed at major gateways to mark entrance into the trail corridor*
-  **Private Trail Oriented Development** - *A development opportunity on private property*
-  **Public Trail Oriented Development** - *A development opportunity on a City/publicly owned property*

ART, AMENITIES + DEVELOPMENT PRIORITIES

The Rail Trail corridor will include several amenities. Those that are considered important are identified below. Public and private opportunity sites along the corridor are identified on *“Figure 18. Development Opportunities” on page 160* and *“Figure 19. Art + Amenities” on page 162*. Many of the private entities have already included the Rail Trail in their long-term planning. Programming is another pillar that will help make the Rail Trail a strong community asset. Programming elements that should be considered are also listed below:

Amenity Types

- *Permanent + Temporary Public Art*
- *Rest Areas*
- *Shade*
- *Landscape*
- *Parklet, mini plaza*

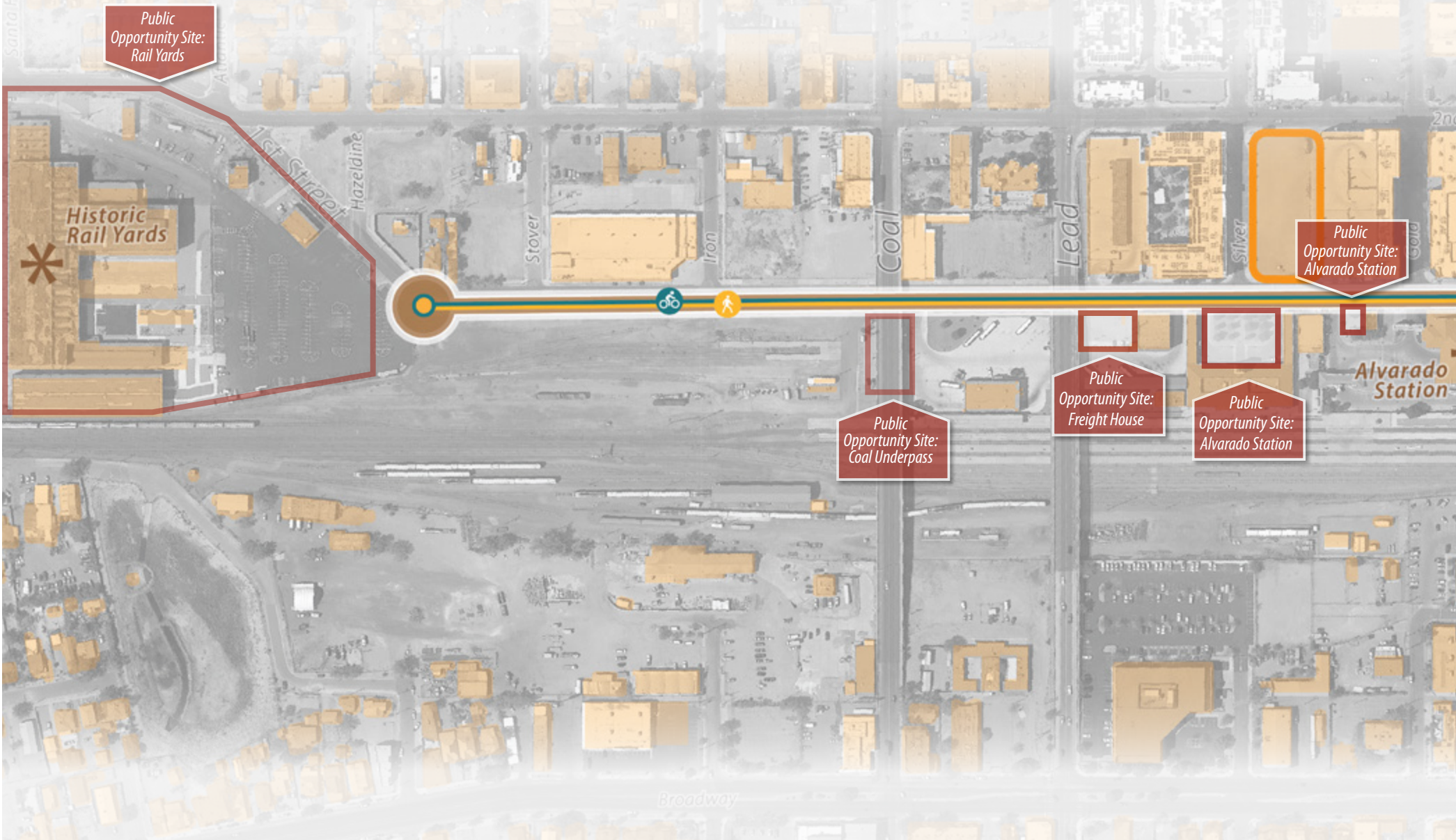
Gateways

- *Lomas, Rail Yards, and Central Avenue*

Programming

- *Trail tours*
- *Trail yoga*
- *Trail fitness classes*
- *Trail walking tour*
- *Trail block party*
- *Trail run*
- *Art walk*

FIGURE 18. DEVELOPMENT OPPORTUNITIES



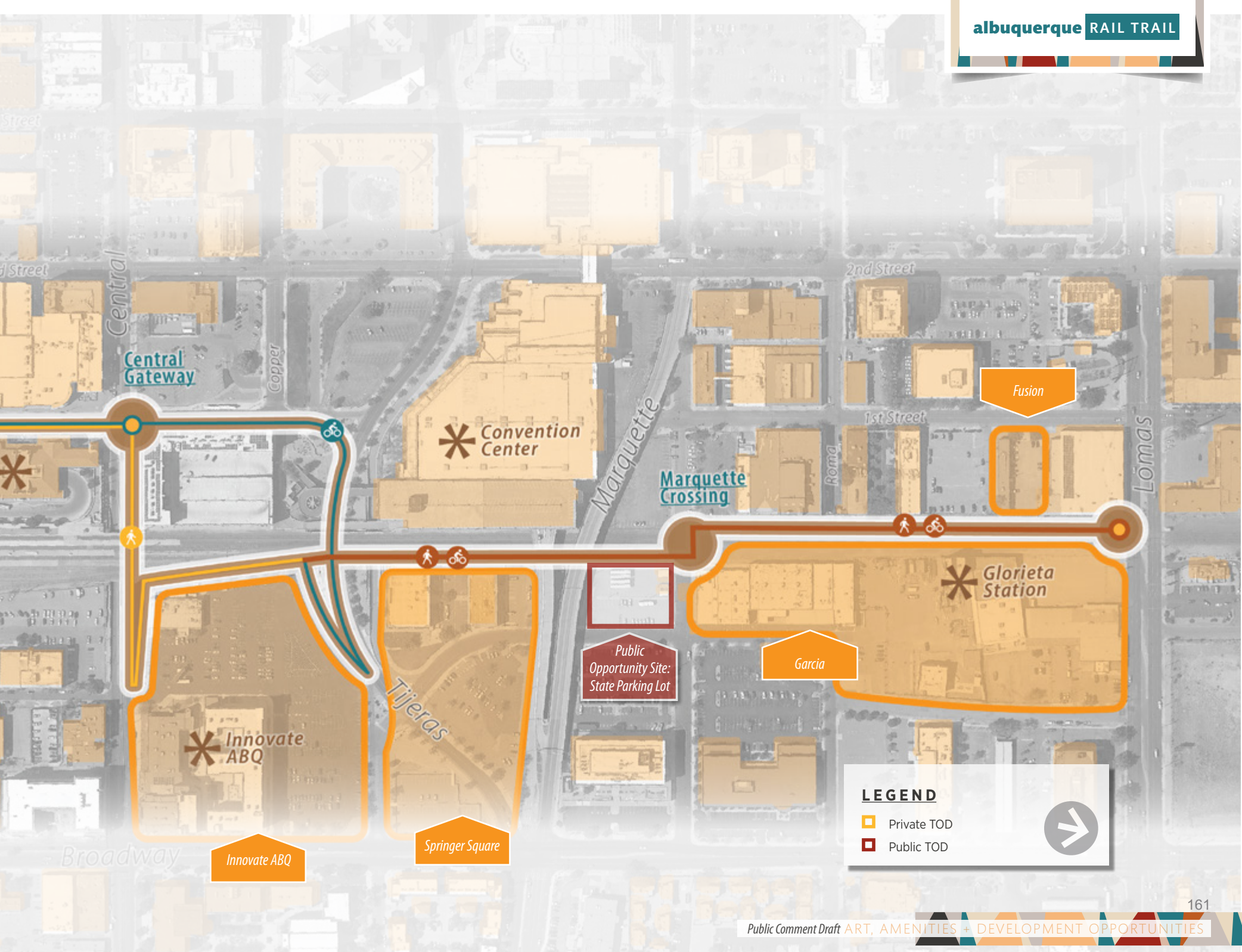
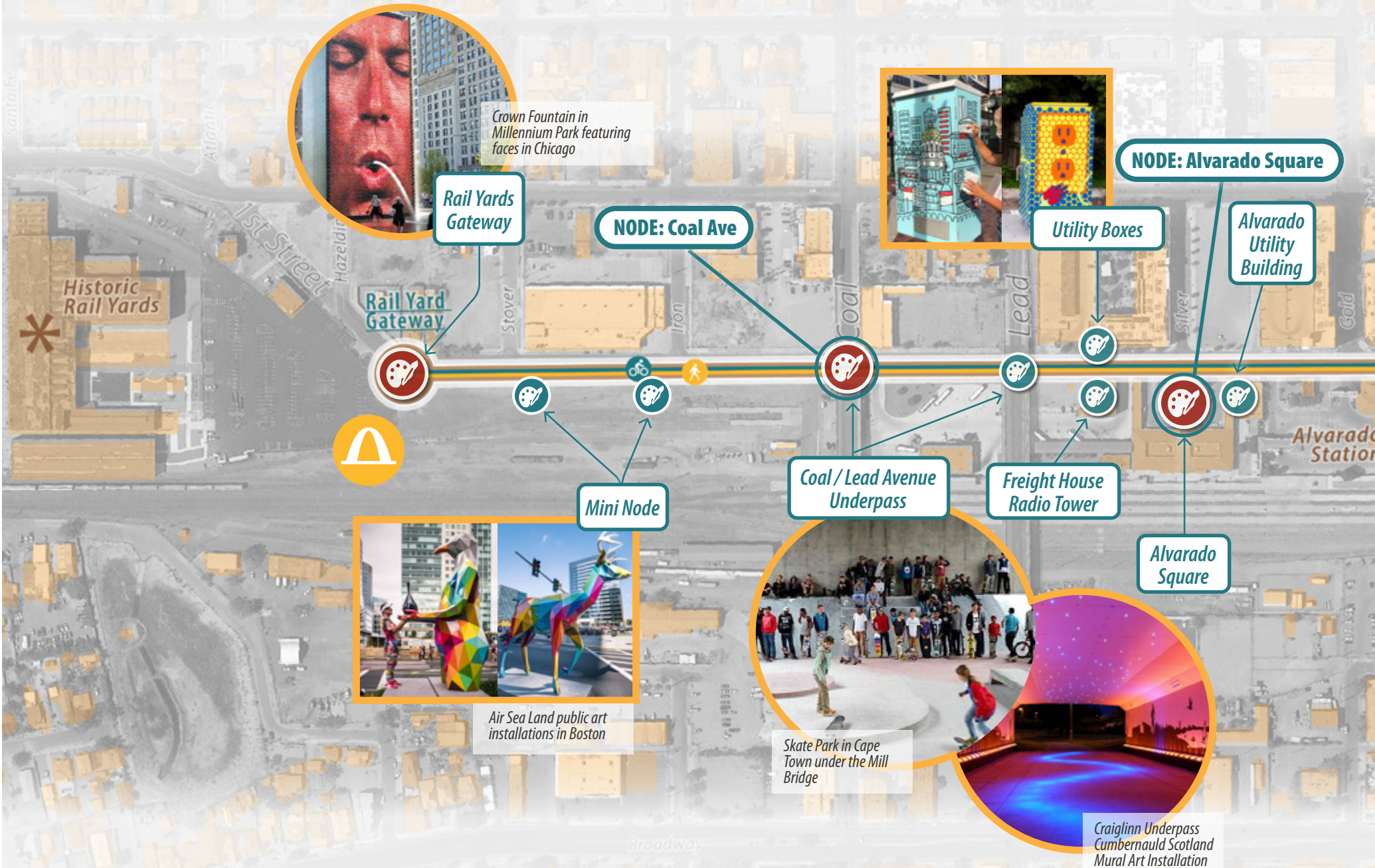


FIGURE 19. ART + AMENITIES





Central Crossing

Interactive wall in Miami, Florida



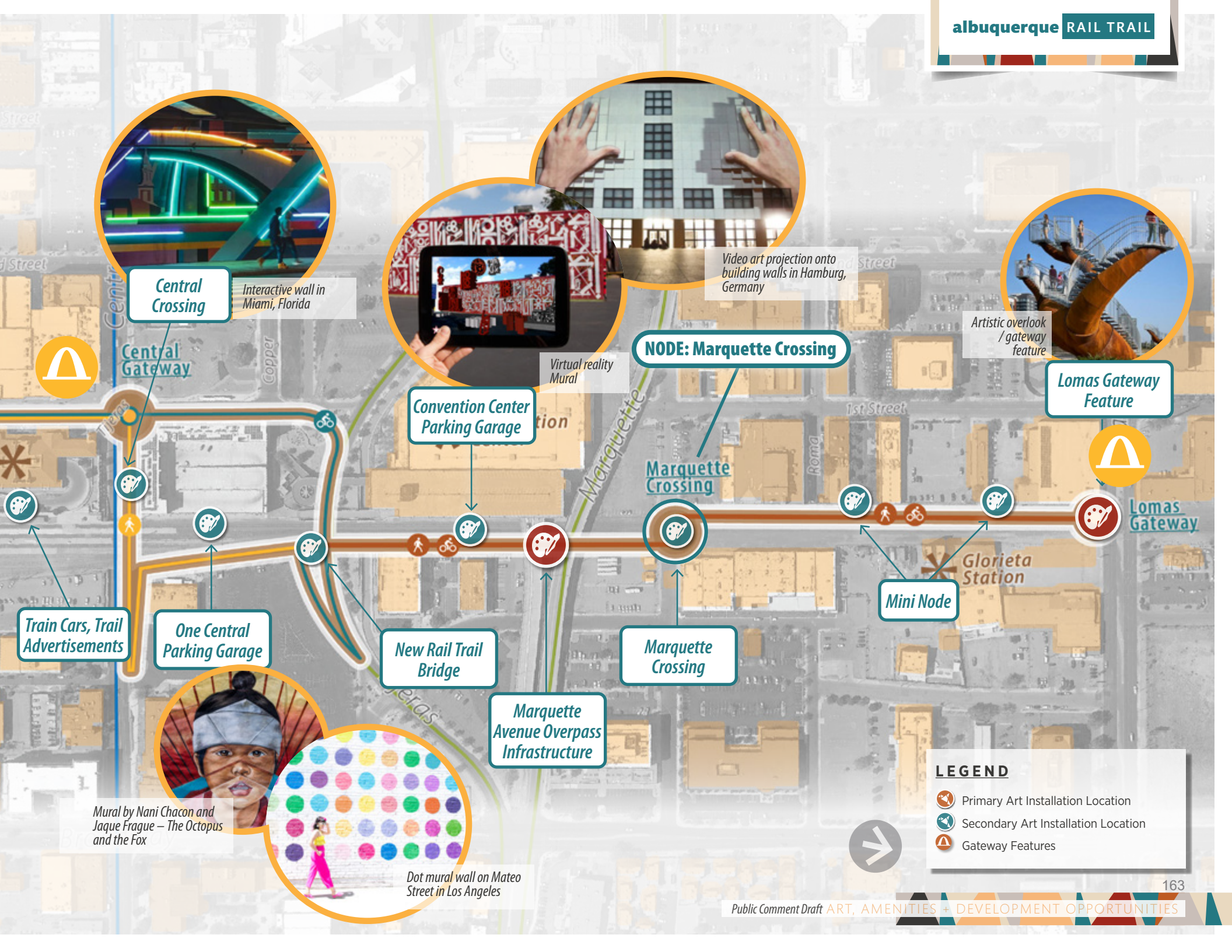
NODE: Marquette Crossing

Video art projection onto building walls in Hamburg, Germany



Lomas Gateway Feature

*Artistic overlook
/ gateway
feature*



*Mural by Nani Chacon and
Jaque Frague – The Octopus
and the Fox*



Dot mural wall on Mateo Street in Los Angeles

LEGEND

- Primary Art Installation Location
- Secondary Art Installation Location
- Gateway Features

Look + Feel

The Rail Trail look and feel is inspired by the natural and cultural uniqueness of New Mexico, its rich history, and the iconic architecture of the historic Albuquerque Rail Yards. It is envisioned to be environmentally sustainable. The overall theme is identified as **Nuevo Eco-Industrial**; where **Nuevo** stands for the uniquely New Mexican character while also being forward-thinking, the **Eco** represents its environmentally sustainable aspects, and the **Industrial** for the urban and railroad-inspired look and feel.

Feel



TRAIL MATERIALS

Paving

Enhanced paving materials are part of the trail design. The trail incorporates areas of base and enhanced paving materials. The enhanced paving is incorporated periodically and associated with nodes, rest areas, or areas of interest. Paving patterns can incorporate artistic elements that are reflected in the paving patterns. **Local artists** shall be part of the paving pattern design if **artistic patterns** are incorporated. The images below show examples of possible trail materials.

BASE PALETTE



Red gravel

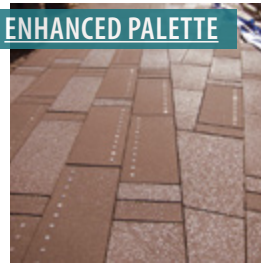


Pavers with steel edging to emulate the railroad tracks



Warm colored concrete

ENHANCED PALETTE



Modern pavers

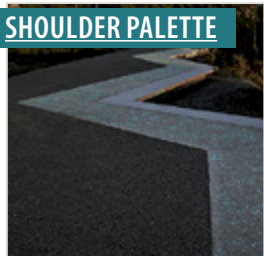


Modern pavers with native inspired patterns



Modern pavers with native inspired patterns

SHOULDER PALETTE



Fluorescent paving strip



Rubber

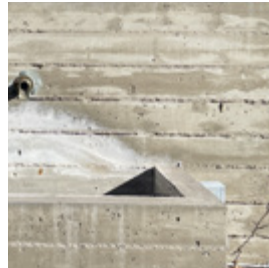
Walls, Fences + Screens

Walls and fences are incorporated along the trail to create a **buffer** between the trail users and the railroad tracks. Between Lomas Boulevard and Marquette, a welded wire fabric fence with board form concrete base will be part of the design. Periodically and at designated rest areas and nodes, **enhanced wall panels** will be incorporated. These can be designed by **local artists**. The images below show examples of possible trail materials.

BASE PALETTE



Board form concrete base



ENHANCED PALETTE



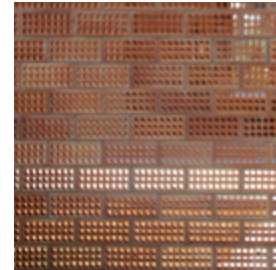
Rammed earth wall



Welded wire fabric fence with board form concrete base



Weathered steel laser cut panels or screens



Perforated brick



Gabion wall

Furnishings

Furnishings are part of the Rail Trail. They are provided periodically and associated with nodes and shade. Furnishings should be durable and reflect the **Nuevo Eco-Industrial** theme of the Rail Trail. The images below show examples of possible trail furnishings.



Bench with colorful base



Corten steel circular planter with seating



Cantilever concrete bench



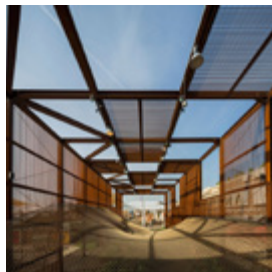
Scaffolding boards benches

Shade

Shade is an integral part of the trail. Both **natural** and **structural shade** will be provided. This will offer relief from the elements, create wildlife habitat, collect stormwater runoff, and reduce the heat island effect. Structured shade can also serve as **artistic elements**. The images below show examples of possible shade structures.



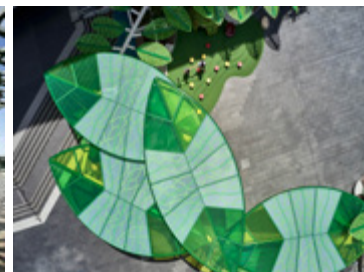
Custom butterfly roof shade structure



Shade structure emulating traditional New Mexican latilla shade structure



Artistic shade structure



Artistic shade structure



Artistic shade structure

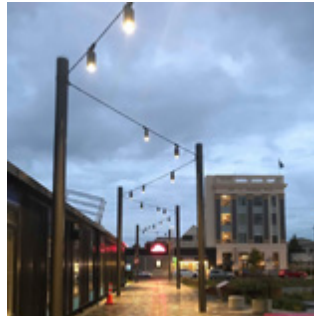
Lighting

Lighting should be installed throughout the trail corridor. Proper lighting will increase trail **safety** and reduce the number of accidents. Bright lights are also generally recognized as deterrents of criminal activities. There are several options for trail lighting. Factors that influence lighting choices include overhead clearance, trail location, trail features, types of trail users, and weather.

- *Wired lighting is expensive, however with good design and quality components, it can be the easiest to operate and maintain.*
- *Solar lights will power themselves and are the most environmentally-conscious option. However, tree canopies can interfere with the efficiency of solar lights. Therefore, the location of solar lights needs to be carefully considered.*



Traditional pole lights



String lights



Solar lights



Solar lights

Colors

The Rail Trail color palette includes base colors and pop colors inspired by the New Mexican landscape, culture, and architecture. It incorporates **warm colors** with **browns, yellows,** and **orange** tones. The pop-color palette also includes red and turquoise to highlight elements of the trail. The muted palette supports public art and allows the art stand out. Murals, sculptures, and art installations will also inject pops of color and interest.

BASE COLORS



POP-COLORS

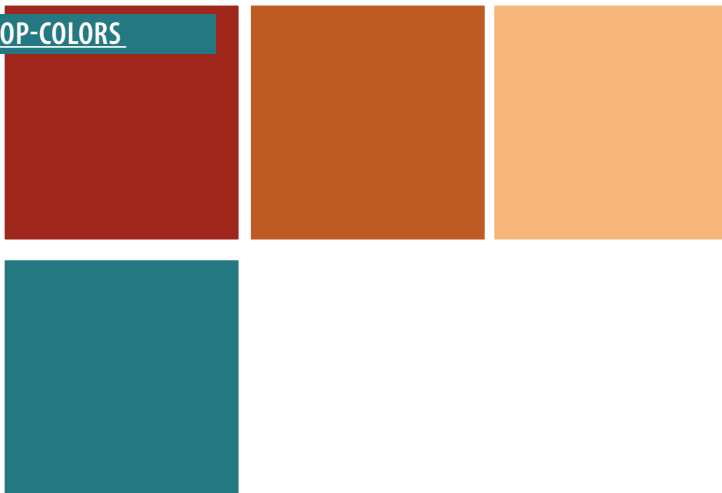


Illustration of the color palette applied to the Rail Trail corridor.

Landscape

The Rail Trail landscape is comprised of native and locally adapted species that provide consistent shade, environmental benefits, and habitat while highlighting traditional and cultural uses. Shade trees provide a consistent, comfortable experience for trail users while helping to sequester carbon and manage stormwater within the trail corridor. The plant palette includes a number of native grass species, wildflowers, and groundcovers that provide a variety of textures and colors along the trail, while creating habitat for pollinators. New Mexico's strong cultural tradition of utilizing native plants for healing will be celebrated with specialty planting areas featuring medicinal species.



Meadow landscape



Undulating landscape



Landscape Design

There are two different options proposed for the overall trail landscape concept; the **‘Meadow’ landscape** palette and the **‘Undulating’ landscape** palette. The meadow landscape is envisioned for the north end of the trail, from Central to Lomas. The undulating landscape is envisioned south of central, where the urban streetscape conditions may warrant a more traditional xeric landscape.

- **‘Meadow’ landscape** - *This design consists of wildflowers and grasses. This landscape will offer a soft edge and create wildlife and pollinator habitats throughout the year. Shade trees will be planted at specific intervals to offer ample shade and to provide other environmental and social benefits. The meadow planting would create the sense of a lush environment without relying on heavy irrigation. Subtle variations would occur as different species establish where there are differences in shade, concentration of water, and reflective heat from adjacent buildings. Seasonal changes would occur as species cycle through growth, bloom, seed, and dormancy at differing times throughout the year. While the maintenance of a meadow landscape does not need to be intensive, it is quite different from what the City of Albuquerque crews are used to. If there are maintenance concerns with this approach, the undulating landscape could be applied throughout the trail.*
- **‘Undulating’ landscape** - *This design features a more traditional xeriscape style, with shrubs and trees planted in a gravel landscape strip along the trail. Banks of ornamental grasses alternate with flowering ground covers. The alternating species and heights create an undulating effect, reinforcing the sense of movement for trail users while providing variety and visual interest. Shade trees will be planted at specific intervals to offer ample shade.*

Throughout the trail, there are high visibility areas that warrant an enhanced landscape treatment. The locations of these enhancement areas are identified in [“Figure 25. Landscape Palette” on page 174.](#)

Enhanced landscape areas may include a higher concentration of plant materials, and plant materials with a higher maintenance requirement may be considered. The enhanced landscape palette may include seasonal color to create interest in high traffic areas, and areas close to gateways, nodes, and community amenities. The base landscape palette has a lighter application with fewer plant species with a focus on ease of maintenance and lower initial implementation cost. Both the enhanced and base landscape palette would provide a consistent tree canopy along the corridor.

In addition to the landscape palette, the design includes **planters with medicinal plantings**. Planters will be associated with seating areas as illustrated in [“Figure 22. ‘Undulating’ Landscape” on page 172](#) and [“Figure 24. ‘Meadow’ Landscape” on page 173.](#)

FIGURE 21. 'Meadow' landscape Palette



FIGURE 22. 'Undulating' Landscape

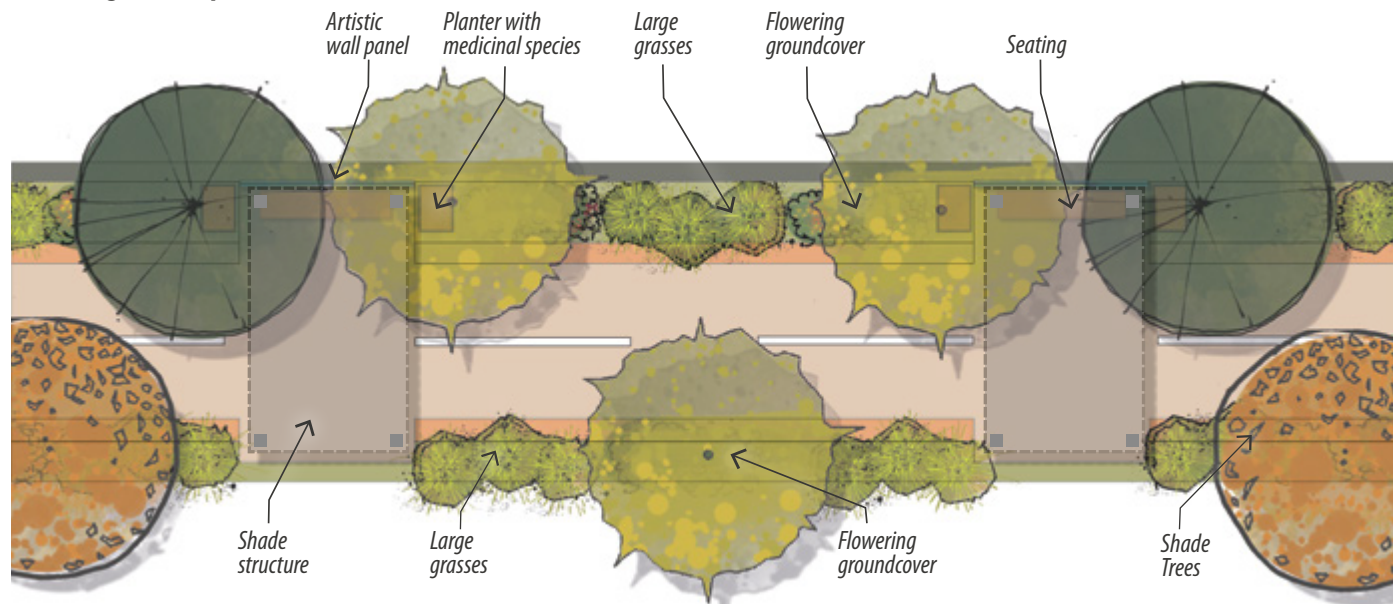


FIGURE 23. 'Undulating' Landscape Palette



FIGURE 24. 'Meadow' Landscape

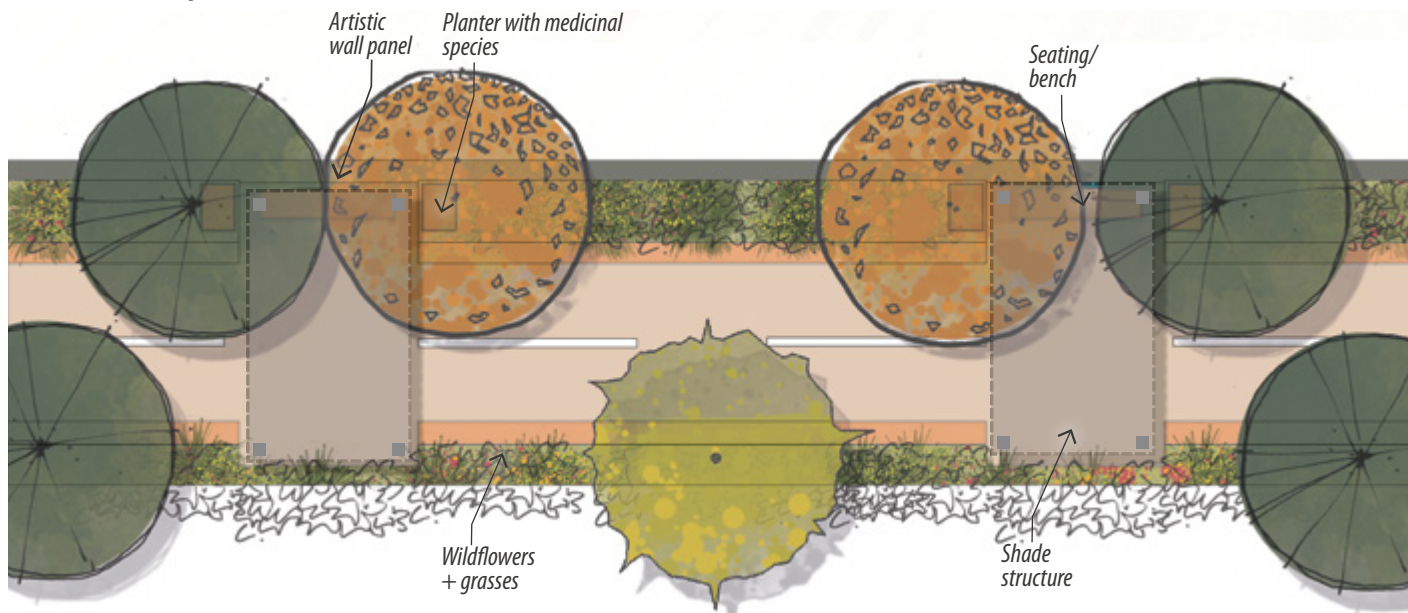
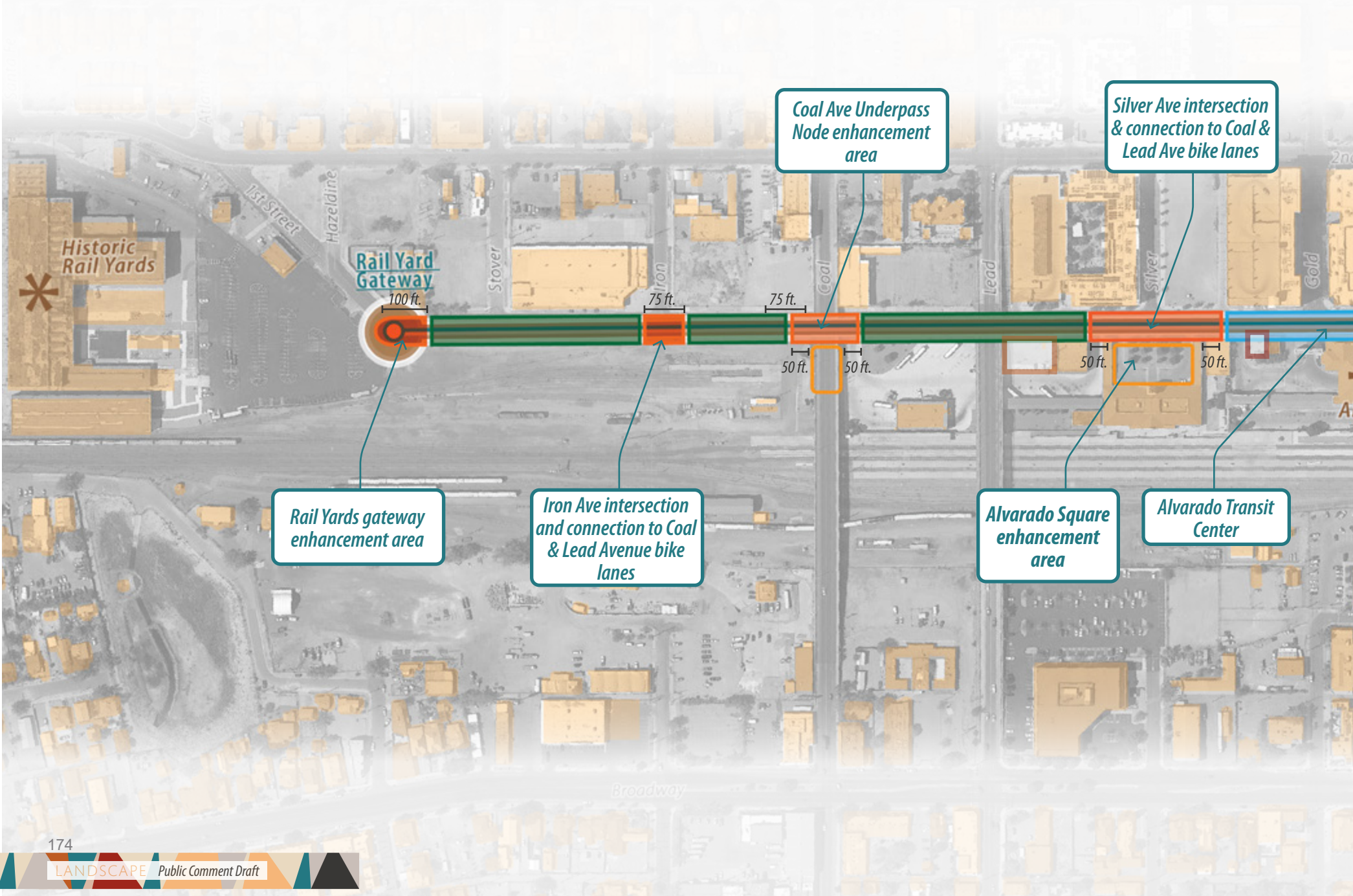
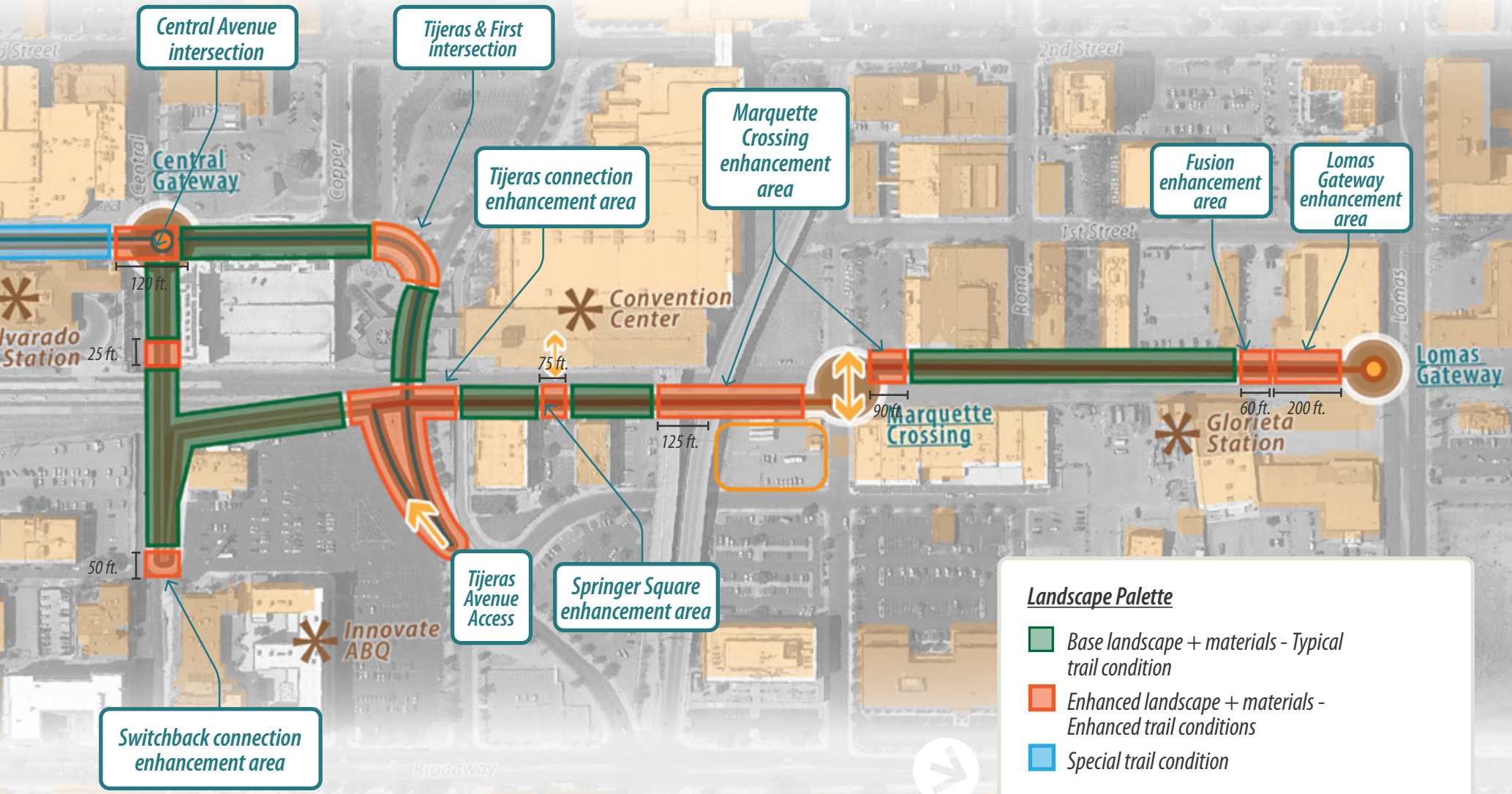


FIGURE 25. LANDSCAPE PALETTE





'Meadow' landscape Palette

The 'Meadow' landscape includes grasses and wildflowers to offer year-round interest and habitat for pollinators and wildlife. The list below outlines a number of suitable species that should be incorporated.



Bouteloua curtipendula 'Vaughn' –
Sideoats Grama



Bouteloua gracilis 'Hachita' –
Blue Grama



Hilaria James 'Viva' – Galleta



Oryzopsis hymenoides
'Paloma' – Indian Rice Grass



Sorghastrum nutans –
Indian Grass



Sporobolus cryptandrus –
Sand Dropseed



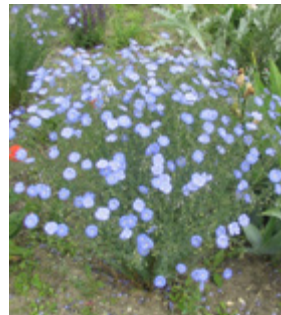
Oenothera pallida – White
Evening Primrose



Baileya multiradiata – Desert
Marigold



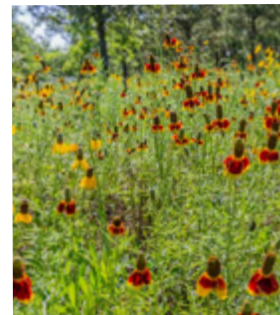
Oenothera hookeri – Evening
Primrose



Linum lewisii – Blue Flax



Dalea purpurea var *purpurea*
– Purple Prairie Clover



Ratibida columnifera forma
pulcherrima – Mexican Hat

'Undulating' Landscape Palette

The 'Undulating' landscape includes ornamental grasses, shrubs, groundcover, and trees. The list below outlines a number of suitable species that should be incorporated.

Grasses



*Blonde Ambition Blue
Grama (Bouteloua gracilis
'Blonde Ambition')*



*Karl Foerster Reed Grass
(Calamagrostis acutiflora)*

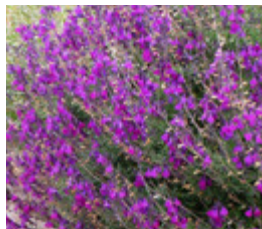


*Llano Indian Grass
Sorghastrum nutans Llano*

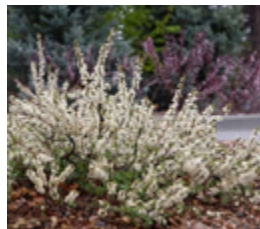


*Standing Ovation
Little Bluestem Grass
(Schizachyrium scoparium
Standing Ovation)*

Shrubs/Groundcover



*Ultra Violet Salvia
(Salvia Ultra Violet
PP#21,411)*



*Pawnee Buttes Sand Cherry
(Purmus Besseyi)*



*Damianita
(Chrysactinia mexicana)*



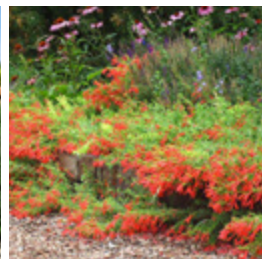
*Fringed Sage
(Artemisia frigida)*



*Yellow Sundrops
(Calylophus hartwegii)*



*Germander
(Teucrium chamaedrys)*



*Orange Carpet Creeping
Hummingbird Trumpet
(Zauschneria garrettii
Orange Carpet)*

Trees Palette

Trees offer numerous environmental, economic and social benefits. Trees remove air pollution and reduce ozone particulates. Trees also store carbon from the air and reduce stormwater runoff, helping to stop pollutants like oil, antifreeze, detergents, and pesticides from entering into the Rio Grande. In addition, trees also help reduce energy consumption and energy related cost by cooling nearby areas. In addition to the environmental and economic benefits they also increase the visual qualities of a place, absorb noise, and create a natural habitat for birds and insects, while creating a sense of place.

The Rail Trail tree palette includes trees that are considered ‘climate-ready’. These trees are specifically selected because they perform well in the Albuquerque climate and will continue to perform even if the annual temperatures become more extreme.



Common hackberry (*Celtis occidentalis*)



Honey locust (*Gleditsia triacanthos*)



Japanese pagoda Tree (*Sophora japonica*)



Lacebark elm (*Ulmus parvifolia*)



Chinese pistache (*Pistacia chinensis*)



Zelkova (*Zelkova serrata*)

Tree Species:

Name	Size
Chinese pistache (<i>Pistacia chinensis</i>)	Medium
Honey locust (<i>Gleditsia triacanthos</i>)	Large
Japanese pagoda Tree (<i>Sophora japonica</i>)	Large
Common hackberry (<i>Celtis occidentalis</i>)	Medium
Netleaf hackberry (<i>Celtis reticulata</i>)	Medium
Zelkova (<i>Zelkova serrata</i>)	Medium

Medicinal Plant Palette

New Mexico's tradition of healing with medicinal herbs is well documented and internationally recognized. Traditional healers, Las Curanderas, continue to play an honored role in our communities and are revered for their knowledge of native plants and traditional remedies. During public outreach, it was expressed on numerous occasions that this important cultural tradition should be celebrated along the trail. Specialty planting areas can be developed with healing plants and interpretive signage. A short list of the more common species is as follows:



Globemallow – Sphaeralcea spp.



Mormon Tea – Ephedra torreyana



Cota – Thelasperma megapotamicum



Antelope Horns – Asclepias asperula



Mallow – Malva neglecta



Lavender – Lavandula spp.



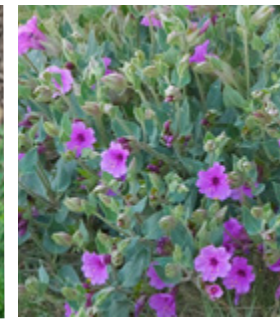
Mountain Mugwort – Artemisia franserioides



Rattlesnake Broom – Gutierrezia sarothrae



Rue – Ruta graveolens



Wild four-o'clock – Mirabilis multiflora

IMPLEMENTATION

The implementation of the Rail Trail is facilitated through the *Implementation Matrix* and the *Design Specifications* detailed in this section. This section details the various actions to implement the various trail goals.

TABLE 1. Implementation Matrix

Element	Goal	#	Action
EQUITY + COMMUNITY ENGAGEMENT	Ensure that the local community benefits from the Rail Trail and develop diverse community support through ongoing engagement activities.	1	Develop an equity dashboard to establish baseline metrics and monitor the impact of the trail on key issues such as affordability, income, commercial vacancy, etc.
		2	During future design and development phases engage adjacent communities and property owners of Baretas, South Broadway, and Martineztown. Invite key stakeholders to decision making meetings.
		3	Develop a Rail Trail equity plan addressing principles outlined in Part III Outreach.
SAFETY	Develop a trail that is safe, accessible, and welcoming to users of all abilities.	4	Explore the feasibility of a bicycle police substation with bicycle repair.
		5	Further define 'Smart Cities' infrastructure and identify best practices for responsible video surveillance for safety and analytics.
CULTURE + ART, HISTORY + FUTURE	Honor and celebrate the unique culture and history of the Rail Trail Corridor by creating numerous opportunities for permanent and temporary art within the trail corridor	6	Engage an artist as part of the design team to create enhanced paving patterns, fencing, shade structures, and other trail infrastructure elements.
		7	Implement temporary art along the trail alignment to bring people to the site even before it is built, creating excitement and garnering public support.
		8	Develop interpretive sign themes and curate the text and graphics.
		9	Include public art commission with each phase of trail development.
CONNECTIVITY	Provide effective connections to the trail from surrounding neighborhoods, transit stations, and bike networks.	10	Study the following connections: Central crossing for improved pedestrian and bicycle access. Baretas, South Broadway, Martineztown, Silver Bike Boulevard, Lead/Coal bike lanes, MLK bike lanes, Bosque Trail, 50-mile loop, and I-40 trail, and develop strategies to enable easy and safe access between routes.
		11	Install directional signage to connecting trails, neighborhoods, and destinations. Connections are identified in Part VI, Wayfinding and Signage .
		12	Conduct a feasibility study and cost estimate for the Greater Downtown Urban Trail.
PROGRAMMING ACTIVATION	Ensure the Trail is continuously activated by identifying a management and operations body to steward the Rail Trail.	13	Develop a strategic plan for Friends of the Rail Trail and hire an executive director.
		14	Develop an online presence to build a Trail following and way for interested parties to engage and contribute.
		15	Implement programming events before trail is built to create momentum and a "buzz".
		16	Develop a Rail Trail programming plan that creates a roadmap for events, art, and trail related activities. Events should be focused on recreation, arts, culture, and education. The Rail Trail programming plan should be updated on an annual basis.

TABLE 1. Implementation Matrix

Element	Goal	#	Action
DESIGN & MATERIALS	Celebrate the unique natural and cultural experience of New Mexico by using locally identifiable building materials inspired by our diverse history, culture, and natural landscapes.	17	Engage design team to develop full design and engineering documents.
		18	Explore Central Crossing alternatives and resolve outstanding concerns with NMDOT.
OPERATIONS	Create an operational public-private partnership strategy that recognizes the need for enhanced safety, affordable, durable, and efficient maintenance, and incorporates smart technologies.	19	Develop a maintenance manual/schedule for the trail/trail landscape and contract responsible parties.
		20	Support the formation of a private sector partnership group to provide additional security and manage programming of Rail Trail.
		21	Determine maintenance responsibilities for City Department and Friends of the Rail Trail.
FUNDING	Identify construction and art funding to ensure enhanced design for optimal user experience.	22	Seek capital outlay appropriation from the State.
		23	Identify a variety of construction funding sources including GO Bonds, Department of Transportation grants, Rails to Trails Conservancy, and private funders.
		24	Identify and apply for funding for public art.
		25	Identify funding for installation of fiber optics along the trail.
ADJACENT DEVELOPMENT	Encourage adjacent buildings and projects to activate and engage with the trail.	26	Issue an RFP for adaptive reuse of the Freight House.
		27	Review trail alignment and consider zoning changes that will require adjacent development to orient and design their buildings towards the trail.
PROPERTY ACQUISITION	Acquire key easements and properties required to construct the trail and implement the Framework Plan.	28	Obtain easement for required trail width adjacent to Innovate ABQ property.
		29	Obtain easement for required trail width adjacent to Springer Square property.
		30	Work with State to transfer ownership of Tewa parking lot at Marquette and Commercial.
		31	Work with leaseholder to negotiate utilization of Marquette underpass.
		32	Acquire Coal underpass from BNSF.

TABLE 2. Design Specification

Incorporate sustainable and recycled materials where possible to construct the trail and trail amenities.

Incorporate Low Impact Development (LID) strategies including capturing stormwater runoff from all impervious surfaces and reduce the overall use of impermeable surfaces.

Incorporate lighting that supports dark night skies.

Incorporate solar power where feasible (for example, solar lighting).

Use native, drought tolerant plants species as identified in Part VI.

Incorporate educational signage to inform about the local ecosystem, ecosystem functions, and strategies to reduce the impact of human activities.

Plant shade trees every 30 feet on center where feasible. Where trees are not feasible due to trail width, install shade structures at regular intervals.

COST ESTIMATE + PHASING

The trail corridor covers approximately one mile, portions of which are located along the railroad corridor. It includes a number of physical barriers and challenges associated with the existing rail and roadway infrastructure. Therefore, phases are broken into sizeable portions to make the implementation manageable and cost effective.

The Opinion of Probable Construction Costs outlined in Part VI is based on the Design Recommendations and Technical Analysis. It is intended to establish funding targets for the aspirational vision contained in the Framework Plan. While the opinion of probable costs aims to be comprehensive, it cannot contain each and every bid item that may be necessary to build the trail due to the preliminary nature of this document. Costs included in this opinion are based on the current market conditions in October 2021. Due to volatility in the construction market a 20% contingency has been included in all phases. Options to adjust the phasing limits and/or reduce overall construction costs may be considered as funding is secured for the trail.

TABLE 3. Opinion of Probable Construction Costs Quantity Summary

Phase 1a: Marquette Crossing	\$2,000,000	<i>Under construction</i>
Phase 1b: Lomas - Tijeras	\$2,886,000	
Phase 2: Tijeras - Central Ave	\$1,988,000	
Phase 3: Tijeras Access + 1 ST Street to Central Ave	\$2,424,000	
Phase 4: Alvarado Station	\$990,000	
Phase 5: 1 ST Street - Gold Ave to Coal Ave	\$2,371,000	
Phase 6: 1 ST Street - Coal Ave to Rail Yards	\$2,580,000	

Total	\$15,239,000
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TABLE 4. Funding Sources:

City Transportation Funds (committed):	\$3,000,000
City Lodgers Tax (committed):	\$2,000,000
State Legislative Request:	\$5,000,000
Federal Infrastructure Grant:	\$5,239,000
Total	\$15,239,000

FIGURE 26. Trail Phasing

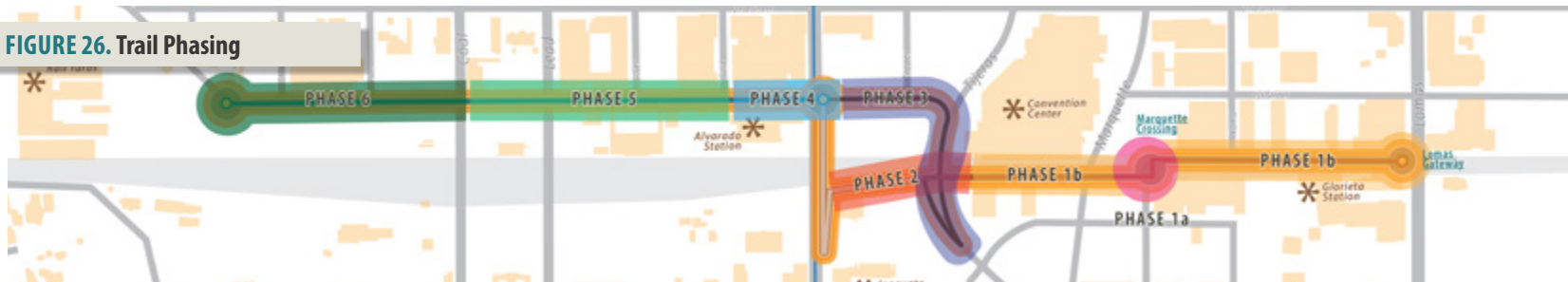


TABLE 5. PHASE 1B: LOMAS TO TIJERAS

Item	Quantity	UNIT	Unit Cost	Total
Mobilization	1	LS	\$125,000	\$125,000
Demolition	1	LS	\$40,000	\$40,000
Earthwork	1	LS	\$60,000	\$60,000
Utility Allowance	1	ALLOW	\$50,000	\$50,000
Broadband Features	1	ALLOW	\$100,000	\$100,000
Layout and Staking	1	ALLOW	\$7,500	\$7,500
Traffic Control	1	LS	\$7,500	\$7,500
Trail Surface	14452	SF	\$15	\$216,780
Landscaping Area	8085	SF	\$6	\$48,510
Fencing	1785	LF	\$60	\$107,100
Enhanced Trail Surface	9185	SF	\$25	\$229,625
Enhanced Landscape Area	7,350	SF	\$10	\$73,500
Enhanced Fencing	807	LF	\$120	\$96,840
Retaining Wall	425	LF	\$200	\$85,000
Trees	60	EA	\$500	\$30,000
Custom Shade Structure	5	EA	\$50,000	\$250,000
Trail Striping	1	ALLOW	\$25,000	\$25,000
Trail Lighting	1	ALLOW	\$150,000	\$150,000
Gateway Art Feature	1	ALLOW	\$150,000	\$150,000
Site Furnishings	1	ALLOW	\$100,000	\$100,000
Wayfinding Signage	1	ALLOW	\$30,000	\$25,000
Subtotal - Phase 1B				\$1,977,000
20% Contingency				\$396,000
Total w/ Contingency				\$2,373,000
7.875% NMGR				\$187,000
Total Phase 1B Construction Costs				\$2,560,686
Design Fees estimated at 10% w/ tax				\$276,000
Artist Fee Allowance				\$50,000
Total Phase 1B Project Cost				\$2,886,000

LEGEND

ALLOW - Allowance

CY - Cubic Yard

EA - Each

LF - Linear Foot

LS - Lump Sum

SF - Square Foot

TABLE 6. PHASE 2: TIJERAS TO CENTRAL AVENUE

Item	Quantity	UNIT	Unit Cost	Total
Mobilization	1	LS	\$85,000	\$85,000
Demolition	1	LS	\$20,000	\$20,000
Earthwork	1	LS	\$30,000	\$30,000
Utility Allowance	1	ALLOW	\$25,000	\$25,000
Broadband Features	1	ALLOW	\$50,000	\$50,000
Layout and Staking	1	ALLOW	\$7,500	\$7,500
Traffic Control	1	LS	\$7,500	\$7,500
Tijeras Bridge	1	LS	\$450,000	\$450,000
Trail Surface	5975	SF	\$15	\$89,625
Landscaping Area	3535	SF	\$6	\$21,210
Fencing	860	LF	\$60	\$51,600
Enhanced Trail Surface	665	SF	\$25	\$16,625
Enhanced Landscape Area	200	SF	\$10	\$2,000
Enhanced Fencing	400	LF	\$120	\$48,000
Retaining Wall	100	LF	\$150	\$15,000
Trees	30	EA	\$500	\$15,000
Custom Shade Structure	3	EA	\$50,000	\$150,000
Trail Striping	1	ALLOW	\$7,500	\$7,500
Trail Lighting	1	ALLOW	\$75,000	\$75,000
Bridge Art Allowance	1	ALLOW	\$150,000	\$150,000
Site Furnishings	1	ALLOW	\$35,000	\$35,000
Wayfinding Signage	1	ALLOW	\$10,000	\$10,000
Subtotal - Phase 2				\$1,362,000
20% Contingency				\$272,000
Total w/ Contingency				\$1,634,000
7.875% NMGR				\$129,000
Total Phase 2 Construction Costs				\$1,763,000
Design Fees estimated at 10% w/ tax				\$190,000
Artist Fee Allowance				\$35,000
Total Phase 2 Project Cost				\$1,988,000

LEGEND

ALLOW - Allowance

CY - Cubic Yard

EA - Each

LF - Linear Foot

LS - Lump Sum

SF - Square Foot

TABLE 7. PHASE 3: TIJERAS ACCESS AND 1ST STREET TO CENTRAL AVE

Item	Quantity	UNIT	Unit Cost	Total
Mobilization	1	LS	\$110,000	\$110,000
Demolition	1	LS	\$100,000	\$100,000
Earthwork	1	LS	\$40,000	\$40,000
Utility Allowance	1	ALLOW	\$25,000	\$25,000
Broadband Features	1	ALLOW	\$95,000	\$95,000
Layout and Staking	1	ALLOW	\$10,000	\$10,000
Traffic Control	1	LS	\$15,000	\$15,000
Roadway Improvements	1	LS	\$260,000	\$260,000
Cycle track Surfacing	15520	SF	\$8	\$124,160
Trail Surface	1765	SF	\$15	\$26,475
Landscaping Area	16760	SF	\$6	\$100,560
Fencing	395	LF	\$60	\$23,700
Enhanced Trail Surface	6795	SF	\$25	\$169,875
Enhanced Landscape Area	7,120	SF	\$10	\$71,200
Enhanced Fencing	320	LF	\$120	\$38,400
Concrete Stairs	26	CY	\$750	\$19,500
Handrail	150	LF	\$45	\$6,750
Retaining Wall	320	LF	\$200	\$64,000
Trees	45	EA	\$350	\$15,750
Trail Striping	1	ALLOW	\$15,000	\$15,000
Lighting	1	ALLOW	\$100,000	\$100,000
Public Art Allowance	1	ALLOW	\$150,000	\$150,000
Site Furnishings	1	ALLOW	\$65,000	\$65,000
Wayfinding Signage	1	ALLOW	\$30,000	\$10,000
Subtotal - Phase 3				\$1,655,000
20% Contingency				\$331,000
Total w/ Contingency				\$1,986,000
7.875% NMGR				\$156,000
Total Phase 3 Construction Costs				\$2,143,000
Design Fees estimated at 10% w/ tax				\$231,000
Artist Fee Allowance				\$50,000
Total Phase 3 Project Cost				\$2,424,000

LEGEND**ALLOW** - Allowance**CY** - Cubic Yard**EA** - Each**LF** - Linear Foot**LS** - Lump Sum**SF** - Square Foot

TABLE 8. PHASE 4: ALVARADO STATION

Item	Quantity	UNIT	Unit Cost	Total
Mobilization	1	LS	\$40,000	\$40,000
Demolition	1	LS	\$40,000	\$40,000
Earthwork	1	LS	\$10,000	\$10,000
Utility Allowance	1	ALLOW	\$25,000	\$25,000
Broadband Features	1	ALLOW	\$25,000	\$25,000
Layout and Staking	1	ALLOW	\$5,000	\$5,000
Traffic Control	1	LS	\$5,000	\$5,000
Sidewalk	9952	SF	\$8	\$79,616
Curb and Gutter	532	LF	\$35	\$18,620
Header Curb	347	LF	\$30	\$10,410
Cycle Track Surfacing	3950	SF	\$8	\$31,600
Asphalt Pavement	997	SY	\$50	\$49,850
Accessible Ramp	7	EA	\$5,000	\$35,000
Trail Surface	2830	SF	\$15	\$42,450
Enhanced Trail Surface	4622	SF	\$25	\$115,550
Enhanced Landscape Area	560	SF	\$10	\$5,600
Loading Dock	753	SF	\$30	\$22,590
Guardrail	361	LF	\$60	\$21,660
Trail Striping	1	ALLOW	\$15,000	\$15,000
Lighting	1	ALLOW	\$60,000	\$60,000
Public Art Allowance	1	ALLOW	\$-	\$0
Site Furnishings	1	ALLOW	\$20,000	\$20,000
Trees	5	EA	\$500	\$2,500
Wayfinding Signage	1	ALLOW	\$30,000	\$10,000
Subtotal - Phase 4				\$691,000
20% Contingency				\$138,000
Total w/ Contingency				\$829,000
7.875% NMGR				\$65,000
Total Phase4 Construction Costs				\$894,000
Design Fees estimated at 10% w/ tax				\$96,000
Artist Fee Allowance				\$0
Total Area Phase 4 Cost				\$990,000

LEGEND**ALLOW** - Allowance**CY** - Cubic Yard**EA** - Each**LF** - Linear Foot**LS** - Lump Sum**SF** - Square Foot

TABLE 9. PHASE 5: 1ST STREET - GOLD AVE TO COAL AVE

Item	Quantity	UNIT	Unit Cost	Total
Mobilization	1	LS	\$105,000	\$105,000
Demolition	1	LS	\$120,000	\$120,000
Earthwork	1	LS	\$40,000	\$40,000
Utility Allowance	1	ALLOW	\$100,000	\$100,000
Broadband Features	1	ALLOW	\$90,000	\$90,000
Layout and Staking	1	ALLOW	\$15,000	\$15,000
Traffic Control	1	LS	\$15,000	\$15,000
Sidewalk	9740	SF	\$8	\$77,920
Curb and Gutter	1805	LF	\$35	\$63,175
Header Curb	985	LF	\$30	\$29,550
Cycle Track Surfacing	12950	SF	\$8	\$103,600
Asphalt Pavement	3942	SY	\$50	\$197,100
Accessible Ramp	18	EA	\$5,000	\$90,000
Trail Surface	10095	SF	\$15	\$151,425
Landscaping Area	630	SF	\$6	\$3,780
Fencing	0	LF	\$60	\$0
Enhanced Trail Surface	2535	SF	\$25	\$63,375
Enhanced Landscape Area	370	SF	\$10	\$3,700
Enhanced Fencing	0	LF	\$120	\$0
Trees	30	EA	\$500	\$15,000
Trail Striping	1	ALLOW	\$25,000	\$25,000
Trail Lighting	1	ALLOW	\$100,000	\$100,000
Art Allowance	1	ALLOW	\$150,000	\$150,000
Site Furnishings	1	ALLOW	\$50,000	\$50,000
Wayfinding Signage	1	ALLOW	\$10,000	\$10,000
Subtotal - Phase 5				\$1,619,000
20% Contingency				\$324,000
Total w/ Contingency				\$1,942,000
7.875% NMGR				\$153,000
Total Phase 5 Construction Costs				\$2,095,000
Design Fees estimated at 10% w/ tax				\$226,000
Artist Fee Allowance				\$50,000
Total Phase 5 Project Cost				\$2,371,000

LEGEND**ALLOW** - Allowance**CY** - Cubic Yard**EA** - Each**LF** - Linear Foot**LS** - Lump Sum**SF** - Square Foot

TABLE 10. PHASE 6: 1ST STREET - COAL AVE TO RAIL YARDS

Item	Quantity	UNIT	Unit Cost	Total
Mobilization	1	LS	\$75,000	\$75,000
Demolition	1	LS	\$100,000	\$100,000
Earthwork	1	LS	\$30,000	\$30,000
Utility Allowance	1	ALLOW	\$75,000	\$75,000
Broadband Features	1	ALLOW	\$90,000	\$90,000
Layout and Staking	1	ALLOW	\$10,000	\$10,000
Traffic Control	1	LS	\$10,000	\$10,000
Sidewalk	8857	SF	\$8	\$70,856
Curb and Gutter	2283	LF	\$35	\$79,905
Header Curb	2429	LF	\$30	\$72,870
Cycle Track Surfacing	14384	SF	\$8	\$115,072
Asphalt Pavement	4094	SY	\$50	\$204,700
26' Drive Pad	1	EA	\$10,000	\$10,000
Accessible Ramp	6	EA	\$5,000	\$30,000
Trail Surface	11738	SF	\$15	\$176,070
Landscaping Area	8340	SF	\$6	\$50,040
Fencing	750	LF	\$60	\$45,000
Enhanced Trail Surface	2550	SF	\$25	\$63,750
Enhanced Landscape Area	1,475	SF	\$10	\$14,750
Enhanced Fencing	215	LF	\$120	\$25,800
Trees	30	EA	\$500	\$15,000
Custom Shade Structure	3	EA	\$50,000	\$150,000
Trail Striping	1	ALLOW	\$7,500	\$7,500
Trail Lighting	1	ALLOW	\$75,000	\$75,000
Art Allowance	1	ALLOW	\$100,000	\$100,000
Site Furnishings	1	ALLOW	\$50,000	\$50,000
Wayfinding Signage	1	ALLOW	\$30,000	\$25,000
Subtotal - Phase 6				\$1,771,000
20% Contingency				\$355,000
Total w/ Contingency				\$2,126,000
7.875% NMGR				\$167,000
Total Phase 6 Construction Costs				\$2,293,000
Design Fees estimated at 10% w/ tax				\$247,000
Artist Fee Allowance				\$40,000
Total Phase 6 Project Cost				\$2,580,000

LEGEND
ALLOW - Allowance

CY - Cubic Yard

EA - Each

LF - Linear Foot

LS - Lump Sum

SF - Square Foot



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