

Northwest Corridor Bicycle and Pedestrian Accessibility Study

Summary Report



Denver Regional Council of Governments
Sustainable Communities Initiative
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Acknowledgements

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Introduction: The Need for Connections

The goal of this project is to enhance bicycle and pedestrian access and mobility within the first and last mile of new transit stations.

The state of Colorado and the Regional Transportation District (RTD), along with its local jurisdiction partners, have made significant transportation investments in the Northwest Corridor (the Corridor) in recent years. Along with the Colorado Department of Transportation (CDOT) US 36 Express Lanes Project, which includes the US 36 Bikeway, RTD is currently constructing two FasTracks projects in the corridor: the US 36 bus rapid transit (BRT) Line and a segment of the Northwest Rail Line (from Denver Union Station to Westminster Rail Station), both scheduled to open in 2016. Together, these transportation projects will improve multimodal mobility and access between Denver and Boulder and points in between.

In order to maximize investments that have been made in the Corridor, the Denver Regional Council of Governments (DRCOG), through its Sustainable Communities Initiative (SCI), hosts a partnership of Corridor public and private sector organizations whose goals include enhancing bicycle and pedestrian access and mobility within the first and last mile of new transit stations. The Northwest Corridor Bicycle and Pedestrian Accessibility Study (NW Corridor Study) is charged with the same goal. The project builds upon the 2013 US 36 First and Final Mile (FFM) Study by 36 Commuting Solutions and advances the top priorities identified in that study.

First and final mile transit connectivity for bicyclists and pedestrians has several benefits:

- Provides easier access to transit, which can increase ridership and/or relieve the need for costly automobile parking;
- Encourages active transportation, which is linked to improved personal health and other benefits; and
- Has the potential to result in increased economic activity along bicycle and/or pedestrian routes.

This summary report presents the findings from the NW Corridor Study, which includes the following discrete subject areas: Branding and Wayfinding, Connectivity Improvements, Secure Bicycle Parking, and Bicycle Share. Together, these actions form a holistic approach to enhancing first and final mile connections to NW Corridor transit. This report is supported by five appendices which include reports and drawings related to each of those subject areas, and detailed information about analysis and findings.

Study Area

The study area for this project, shown in **Figure 1**, consists of the following seven transit stations, which comprise the Northwest Corridor:

- Table Mesa BRT Station
- McCaslin BRT Station
- Flatiron BRT Station
- Broomfield BRT Station
- Church Ranch BRT Station
- Westminster Center BRT Station
- Westminster Rail Station

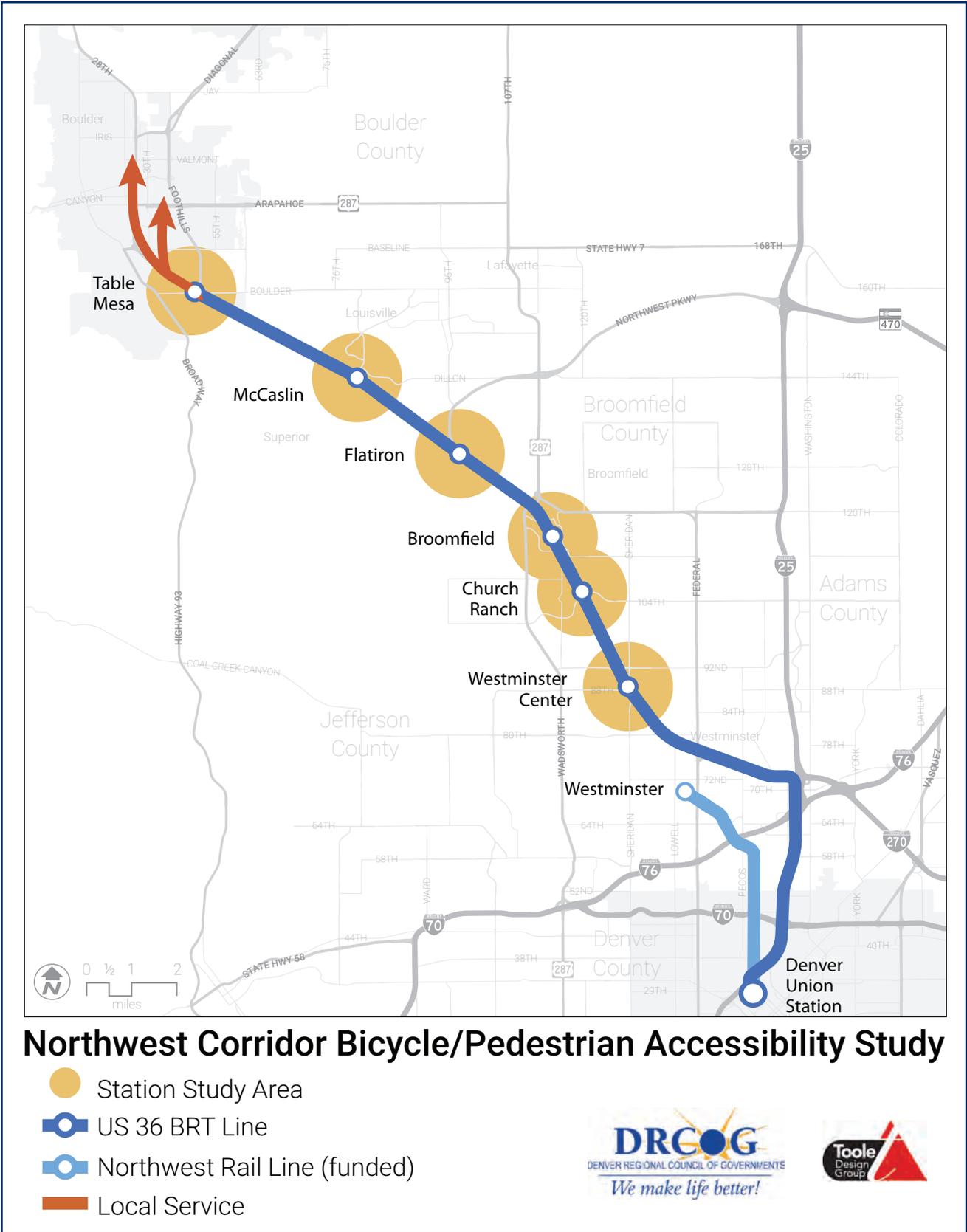


Figure 1: Study Area Map

Scope of Work

The project consultant team was led by Toole Design Group and supported by Cloud Gehshan Associates, Fehr & Peers, and CDR Associates. Each of the four technical tasks of the project followed a similar process including stakeholder coordination, existing conditions analysis, concept development, design, and the development of implementation considerations. Specific information about the scope of each task is discussed below.

The project included detailed study in four subject areas: Branding and Wayfinding, Connectivity Improvements, Secure Bicycle Parking, and Bicycle Share. Together, these actions would form a holistic approach to enhancing first and final mile connections to NW Corridor transit.

Branding and Wayfinding

This task included the design of a uniquely-branded wayfinding signage system to be used in three different contexts:

1. At the Corridor transit stations;
2. Within the station study areas, which are the communities within an approximately one-mile radius around each transit station; and
3. Along the US 36 Bikeway, to supplement and complement the signage already being installed.

The project team conducted three stakeholder workshops throughout the project to understand the system needs for signage, develop sample journeys,¹ and gain feedback on sign design options. At the outset of the project, each station and its surrounding area were visited, and existing wayfinding and signage conditions were analyzed. Based on the goals for the system, the functional and aesthetic requirements for both pedestrian and bicyclists were determined. Schematic design was then completed in three iterations: initial design concepts, refined design concepts, and a preferred design concept. Finally, planning-level costs were developed for the preferred design concept.

Connectivity Improvements

This task included the conceptual design of one priority bicycle or pedestrian connectivity improvement at each station. The project team started with the previously-developed FFM Study list of infrastructure recommendations and met with each study area local jurisdiction to identify the priority connection for each station. Conceptual design plans were then developed for each priority connection, using high-resolution aerial photography provided by DRCOG. Based on these designs, construction cost estimates were developed.

Secure Bicycle Parking

This part of the study included conceptual design of secure bicycle parking at all Corridor stations. To complete this task, data was collected and analyzed from site visits and a stakeholder workshop. Additional data was provided by RTD,

¹ Sample journeys are representative routes that a pedestrian or bicyclist could travel along within the study area.

36 Commuting Solutions, and Boulder County. During the data collection phase, Boulder County was interviewed about their Bus-Bike shelter experience, design, and site locations. Conceptual designs were then completed for a total of 11 shelters using aerial photography, and cost estimates were developed.

Bicycle Share

This task included the development of a feasibility study for bicycle share in the Corridor. To complete this task, data was collected and analyzed from site visits and a stakeholder workshop conducted by the project team in October 2014. Additional data was provided by RTD, 36 Commuting Solutions, and from the U.S. Census. The project team worked closely with local jurisdictions along the corridor to identify the key activity centers, develop goals for bicycle share, and recommend technologies for each station study area. The feasibility study introduces the concept of bicycle share and provides bicycle share recommendations for each transit station in the Corridor.

The Northwest Corridor Working Group has a long-standing history of collaborative decision-making, and this project was no exception.

Stakeholder Collaboration

The Northwest Corridor Working Group (CWG) was the primary stakeholder group engaged in this project. Members include specific individuals from the following organizations: DRCOG, RTD, 36 Commuting Solutions, City of Boulder, Boulder County, Town of Superior, City of Louisville, City and County of Broomfield, City of Westminster, Adams County Housing Authority, and CDOT.

The CWG has a long-standing history of collaborative decision-making, and this project was no exception. Some CWG members were involved as early as the project scoping process, and all were engaged throughout the project. **Table 1** summarizes the project meetings held with stakeholders. Effective involvement of the CWG was particularly critical due to the consolidated project schedule. For that reason, the stakeholder process was designed to:

- Build upon previous work;
- Gain buy-in early throughout the process;
- Discuss coordination and implementation considerations amongst the group; and
- End with useful products that can be advanced to the next design phase.

Because this project was already entering a design phase and due to schedule constraints, it did not formally include engagement with the general public. Project staff did present information at two public meetings, however: the US 36 BRT Station Area and Connectivity Open House on November 1, 2014 in Broomfield, and the City of Boulder Transit Projects Open House on December 3, 2014.

Table 1: Summary of Stakeholder Meetings

Date	Study Task	Goals for the Meeting
August 21, 2014	Connectivity Improvements	Information gathering from City and County of Boulder about Table Mesa BRT Station priority connection
September 5, 2014	Secure Bicycle Parking	Presentation of state of the practice, goal setting, feedback on desired designs, features, and locations
September 9, 2014	Branding and Wayfinding	Information gathering, scope definition, goal setting
September 18, 2014	Connectivity Improvements	Information gathering from City of Louisville, Town of Superior and County of Boulder about McCaslin BRT Station priority connection
September 22, 2014	Connectivity Improvements	Information gathering from City of Westminster about Westminster Center and Church Ranch BRT Stations priority connections
October 1, 2014	Connectivity Improvements	Information gathering from City of Broomfield about Broomfield and Flatiron BRT Stations priority connections
October 16, 2014	Bicycle Share	Presentation of state of the practice, goal setting, discussion of technology for each station study area
October 20, 2014	Branding and Wayfinding	Presentation of and feedback on initial design options
October 27, 2014	Connectivity Improvements	Information gathering from City of Westminster and Adams County Housing Authority about Westminster Rail Station priority connection
November 20, 2014	Branding and Wayfinding	Presentation of and feedback on refined design options
December 3, 2014	All	Presentations of and feedback on final findings.

Recommendations: Improving the First and Final Mile

Recommendations are intended to create connected, comfortable, and easy to navigate communities around each station.

Recommendations were developed for each of the study tasks. Particularly when considered as a whole, these recommendations are intended to create connected, comfortable, and easy to navigate communities around each station. The recommendations vary in type and geographic scale and for those reasons, are summarized separately within this section of the report. The maps that follow show each station study area including its relevant existing conditions, future transit service and US 36 Bikeway, proposed connectivity improvement, and proposed secure bicycle parking location(s). More detailed drawings of these proposed features are included in the Appendices and referenced in the Connectivity Improvements and Secure Bicycle Parking sections that follow.



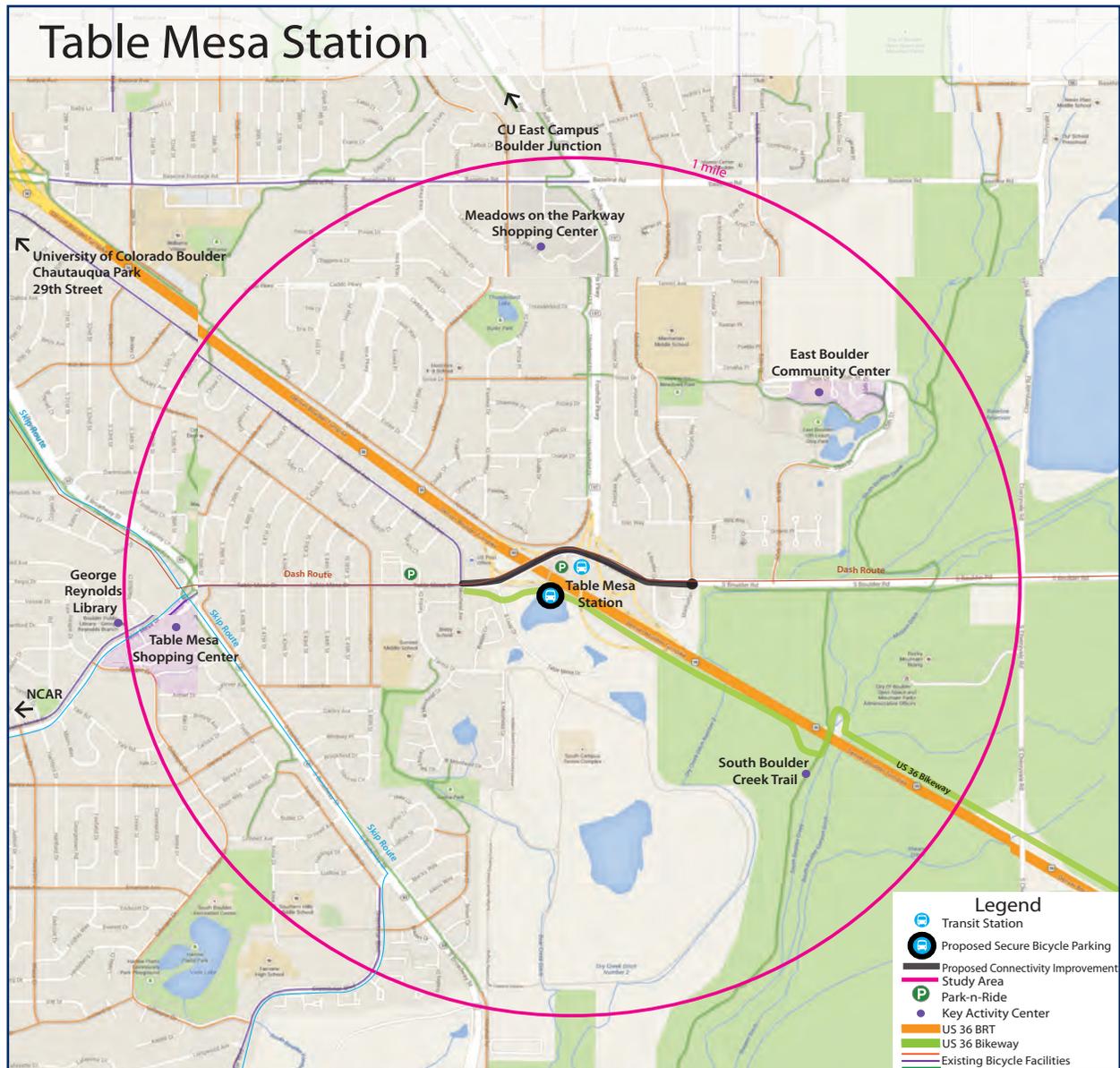


Figure 2: Table Mesa Station Area

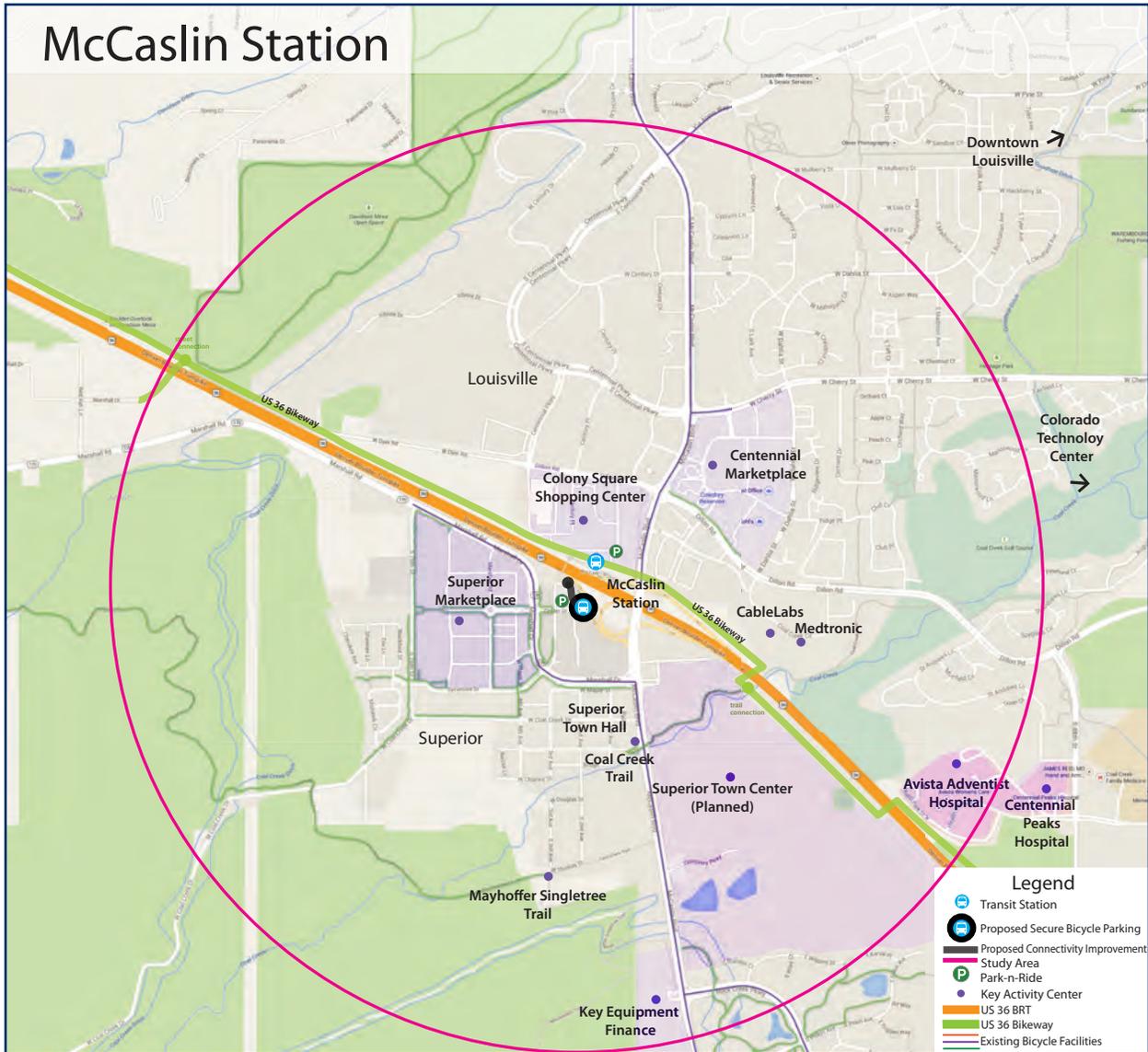


Figure 3: McCaslin Station Area

Note: A secure bicycle parking shelter is planned for the westbound McCaslin WB shelter.

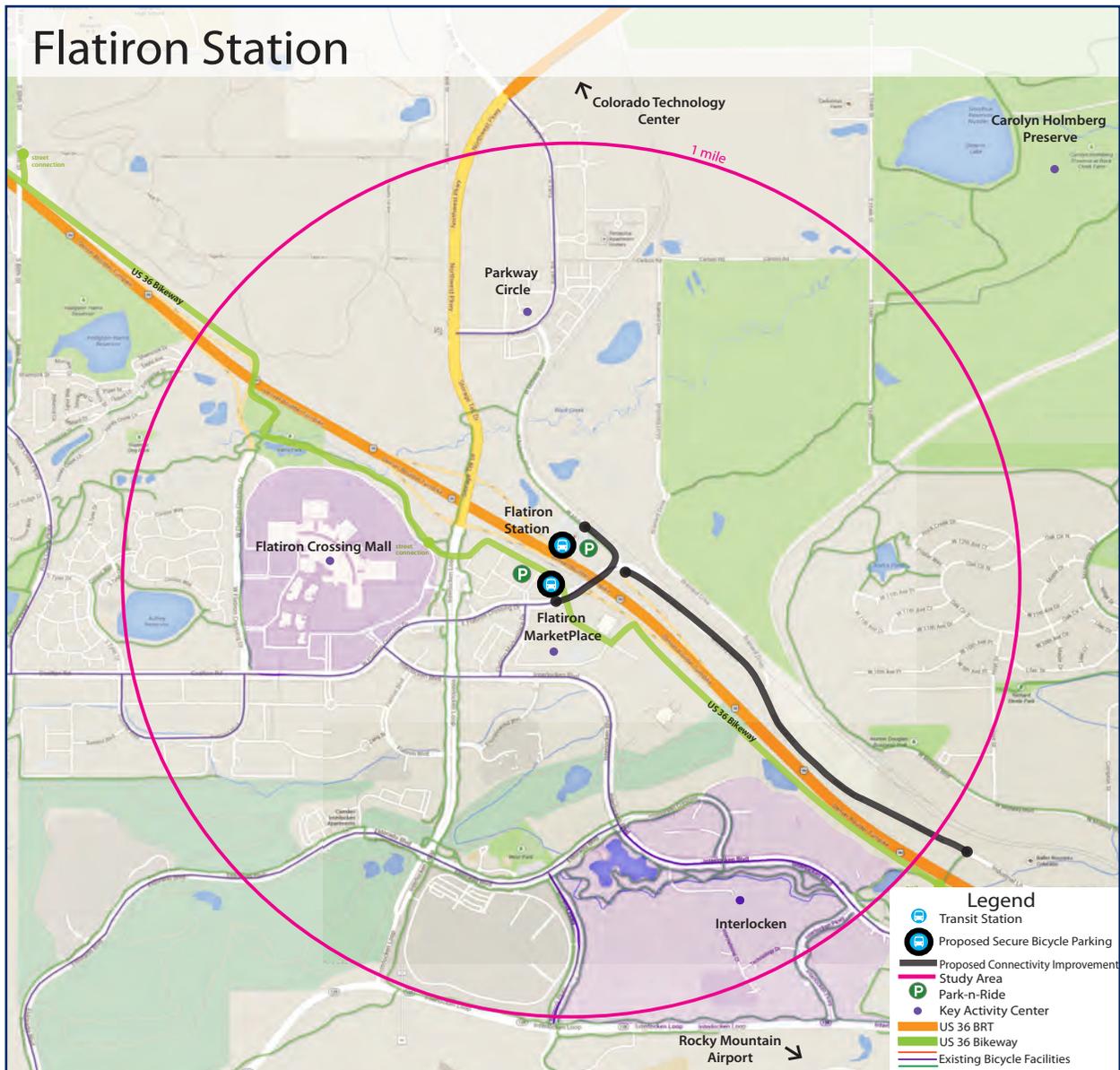


Figure 4: Flatiron Station Area

Notes: Storage Tek Drive is now "Northwest Parkway;" The bicycle trail from Midway to Northwest Parkway is a proposed trail.

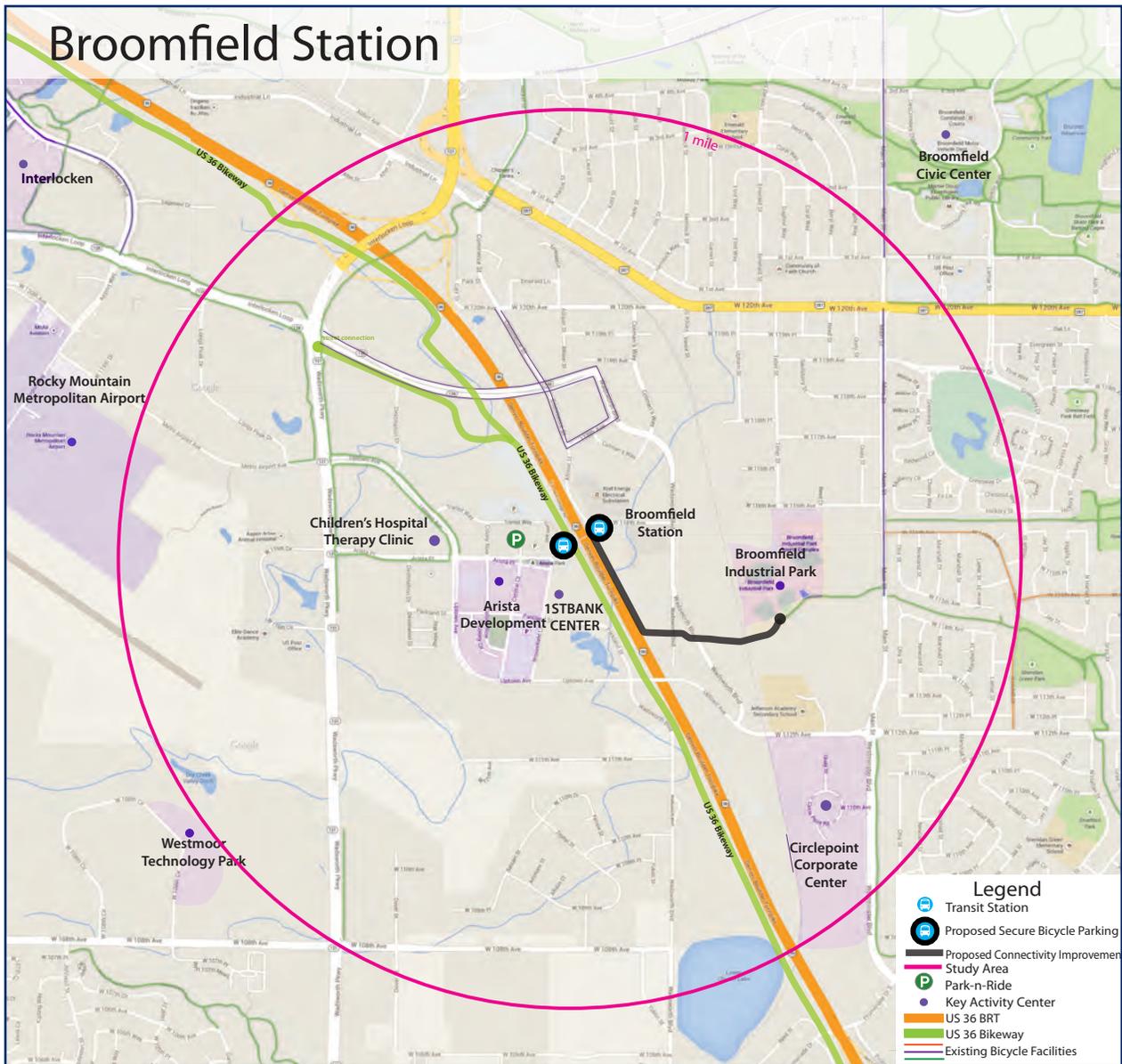


Figure 5: Broomfield Station Area

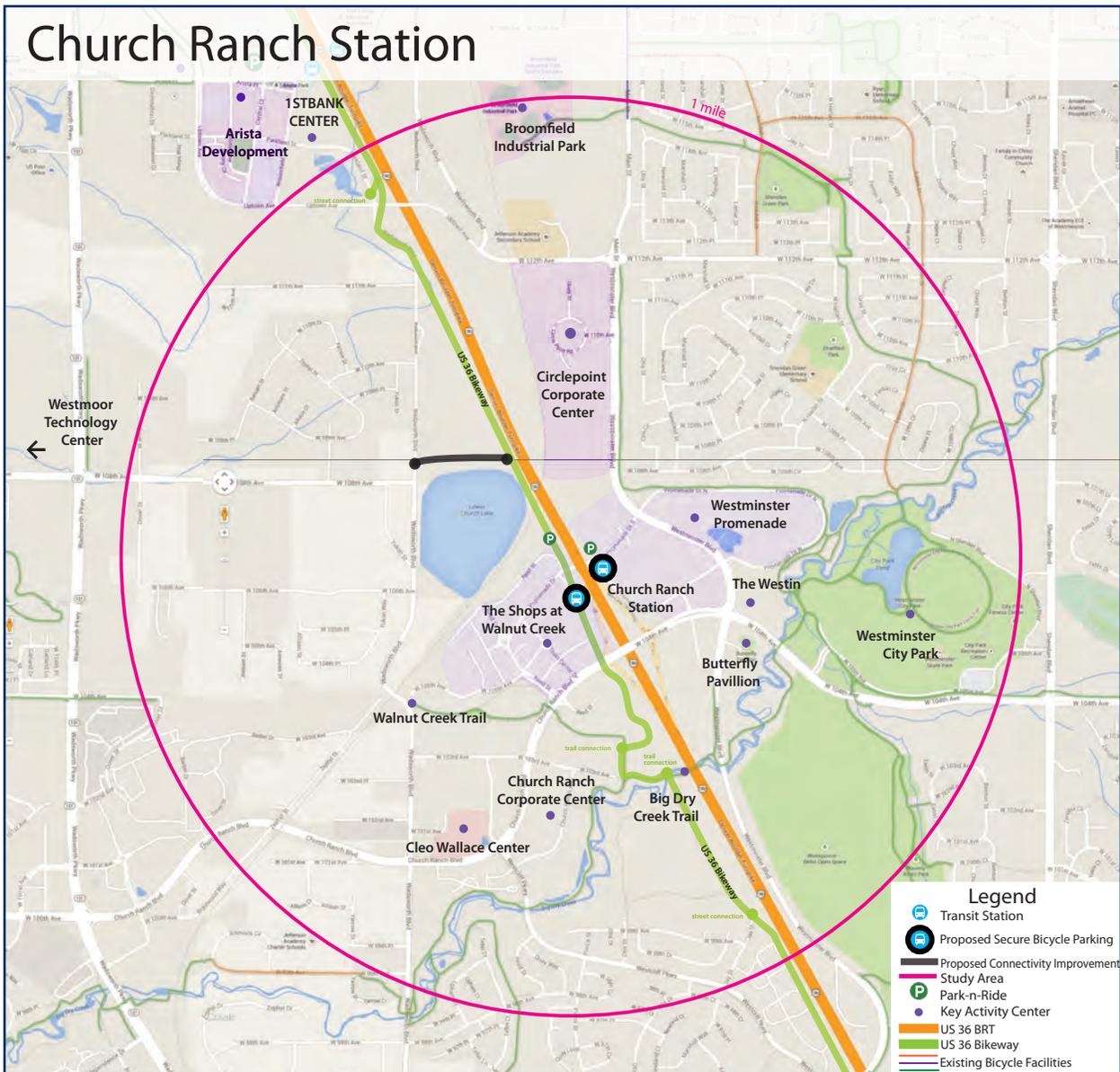


Figure 6: Church Ranch Station Area

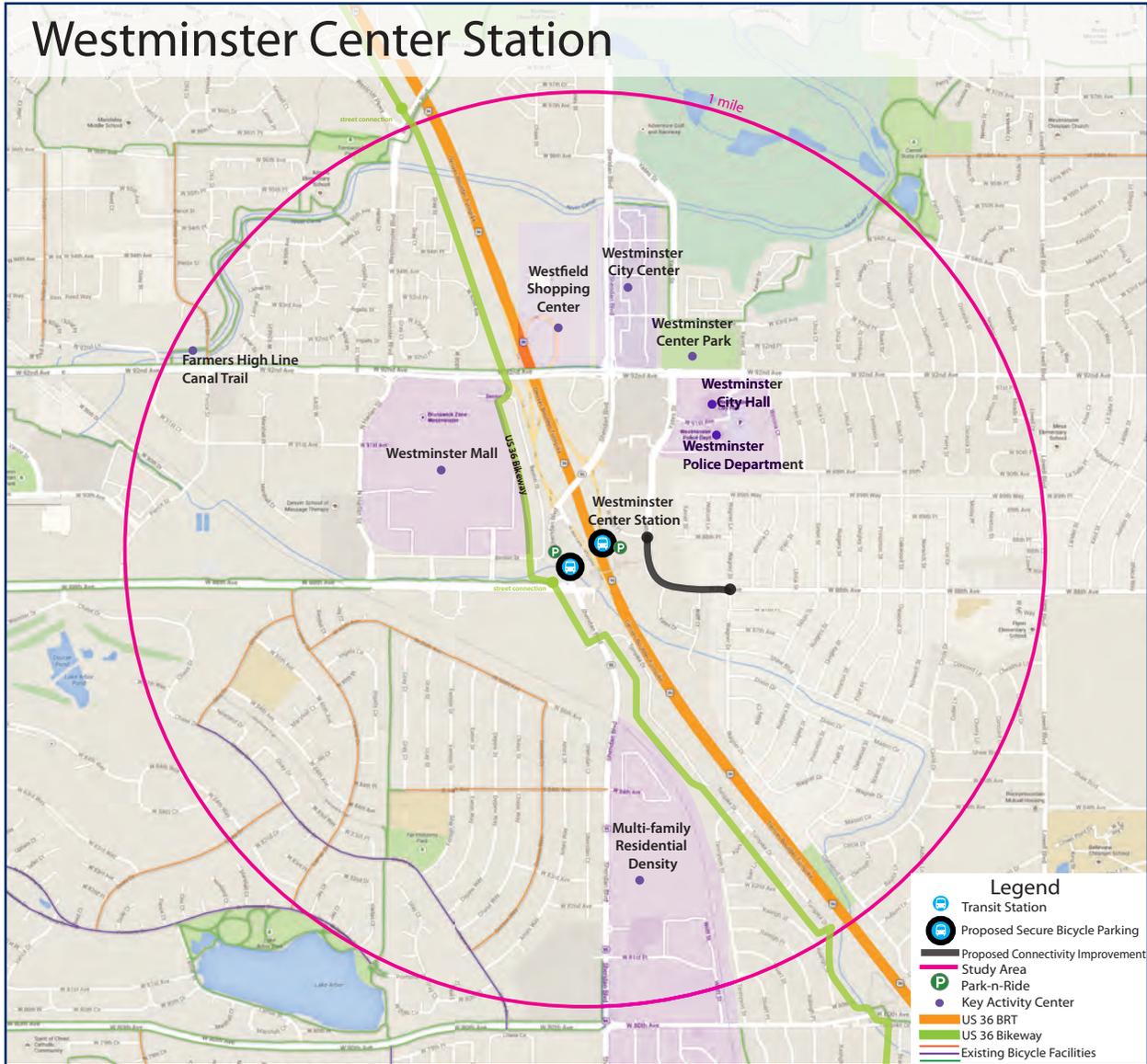


Figure 6: Westminster Center Station Area

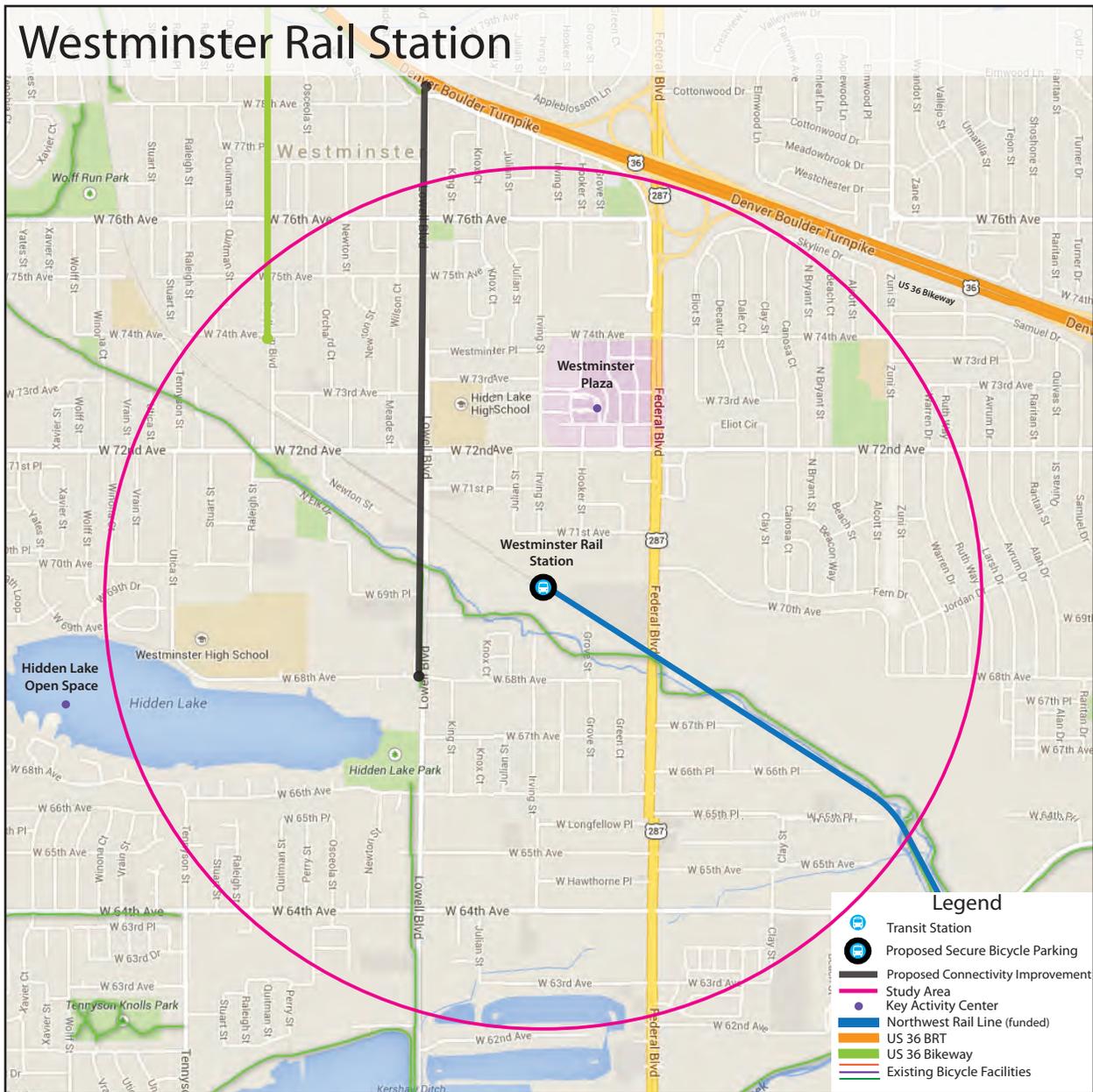


Figure 8: Westminister Rail Station Area

Branding and Wayfinding

The development of a unified, unique brand for the Corridor for use on wayfinding signage was one of the top priorities identified in the FFM Study. Due to the large size of the Corridor, the numerous communities spanned, and the diversity of existing and proposed visual elements, this task was complex and the intent visionary.

The Northwest CWG previously developed a vision, goals, and objectives for the Corridor. Based on this work, the following principles were developed to guide the work of the Branding and Wayfinding planning:

- Creates a sense of welcome and access.
- Helps people navigate to and from their destinations as easily as possible.
- Unifies and elevates the brand message and identity of the region, its towns, and its partners.
- Helps people understand the resources available and how to get to them.

Based on those principles, sample journeys—representative routes that a pedestrian or bicyclist could travel along within the study area—were developed for each station to understand the needs of a sign system that would serve the stations, the station study areas, and the US 36 Bikeway. Graphic standards were developed, including recommended typefaces and logos.

The proposed sign system would be deployed in the manner shown in **Figures 10** and **11**.

The proposed wayfinding sign system would unify and elevate the identity of the Corridor, its communities, and its partners. The system would be a unique amenity for pedestrians and bicyclists within this multimodal corridor.



Figure 9: Sample of the Logos in the Corridor



Sign Type	Sign Purpose/Messaging	Recommended locations
Pedestrian Orientation Kiosk	Directional messaging Local and regional map Information about bus network, bike network and secure bicycle parking	Near station platforms and at major community hubs/public facilities



Directional signage- low pole and overhead option	Directional messaging to destinations within FFM	Pedestrian-friendly areas near stations
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Sign Type	Sign Purpose/Messaging	Recommended locations
FFM Bicycle signage Bike route Identification - pole-mounted	Identifies bike routes	In communities On and off-road bike routes



Bike Directional sign	Up to three directional messages With mileage	On designated bike routes 15'-50' before intersection
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Bike Route Identification - Pavement marking	Identifies and guides cyclists on off-road bike routes with directional arrow	On sidewalks/multi-use paths May also be used on US 36 Bikeway at intersections to show the continuation of the bikeway *these do not replace standard MUTCD on-street pavement markings; these are to clarify where a bike route begins, ends or turns when it is not on a roadway
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Northwest Corridor

Figure 10: Recommended Sign Types and Placement - Pedestrian and Bicycle

Note: Larger versions of the sign designs can be found in Appendix A.



Sign Type	Sign Purpose/Messaging	Recommended locations
US 36 Bicycle signage Distance-to-destination sign	Upcoming bikeway intersections with mileage	On US 36 Bikeway Between directional signs
Directional sign	Way to Denver/Boulder Stations Corridor communities Station areas, when bikeway intersects directly with station pathways (such as Church Ranch and Broomfield) Mileage	15'-50' before intersection
US 36 Bikeway diagrammatic map	All bikeway intersections and amenities (such as restrooms)	At major bikeway intersections (such as BRT Stations)

Figure 11: Recommended Sign Types and Placement - US 36 Bikeway

Note: Larger versions of the sign designs can be found in Appendix A.

Recommended Design

After developing numerous options for the sign design, CWG members unanimously recommended a single option as the preferred design. The reasons the CWG preferred this option included:

- It is simple and legible
- The single color tones help minimize varying design elements throughout the Corridor
- The mountain silhouette and blue color link to the Flatiron Flyer branding
- The landscape element provides a sense of place

The preferred design is shown in **Figure 12**. More details about the design, including more images of example signs and the development process for the design, can be found in Appendix A.



Figure 12: Branding Elements of the Recommended Sign Design
 Note: Larger versions of the sign designs can be found in Appendix A.

Connectivity Improvements

The identified connectivity improvements build off of the connections identified in the FFM Study and were a joint effort by the project team and local jurisdictions. For some communities, the connections can be “easy wins” meaning projects that could be implemented quickly due to relative cost and a low level of controversy or complexity. In other communities, connections are more complex and will require further evaluation before they can move forward. The improvements listed in **Table 2** were based on recommendations from each local jurisdiction, and are shown in the Design Plans in Appendix B. The improvements are also shown diagrammatically in **Figures 2 through 8**.

Table 2: Summary of Priority Connectivity Improvements

Transit Station	Local Jurisdiction	Priority Connectivity Improvement
Table Mesa Station	City of Boulder	Add bicycle facility upgrades to Table Mesa Drive from Morehead Avenue to Manhattan Drive to mitigate conflict zones.
McCaslin Station	City of Louisville, Town of Superior and Boulder County	Add a clear bicycle route at the station to reduce bus/bike/pedestrian/vehicle conflicts and increase access to transit and bicycle parking.
Broomfield Station	City and County of Broomfield	Add a shared-use path from Broomfield Industrial Park to the Park-n-Ride bridge on the east of US 36.
Flatiron Station	City and County of Broomfield	Widen the existing sidewalk along Midway Boulevard/Industrial Lane to create a shared-use path and extend the path to the Hoyt Street bridge.
Church Ranch Station	City of Westminster	Add a bicycle connection between Westmoor Office Park/Green Knolls Subdivision and the US 36 Bikeway. This off-street connection will begin at 108 th and Wadsworth Boulevard and cross to the north of Lower Church Lake to the US 36 Bikeway.
Westminster Center Station	City of Westminster	Add bicycle lanes on 88 th Avenue between Wagner Drive and the Park-n-Ride.
Westminster Rail Station	City of Westminster	Add bicycle lanes or shared lane markings on Lowell Boulevard between US 36 and 68 th Avenue.

For many Corridor communities, the proposed connectivity improvements are “easy wins”— projects that could be implemented quickly due to relative cost and low level of controversy or complexity.

Cost estimates were developed for each improvement; these are summarized in the Implementation section of this report. Costs of the improvements range from \$9,000 to \$4.8M; however, most are under \$200,000.

Secure Bicycle Parking

There are currently 332 bicycle parking spaces at the six Park-n-Ride facilities along US 36. The spaces are generally a mixture of bike racks, bike trees, bike lockers and, at Table Mesa, a Bus-Bike shelter. As these facilities transition to become BRT Stations, and as the Westminster Rail Station is constructed, it is important to provide high-quality and secure bicycle parking to complement and potentially replace some share of existing bicycle parking. The desire for secure bicycle parking in the Corridor was identified as the top priority during the US 36 FFM Study, and was identified during a 2014 RTD customer survey as the number one preference for improving bicycling to stations.

Bike-n-Ride shelters would store between 38 and 62 bikes, and could easily increase in size based on demand.

Bike-n-Ride Name

During the project process, the CWG recommended that the name used for the secure bicycle parking shelters should be Bike-n-Ride. For example, the McCaslin Bike-n-Ride would be located at the McCaslin BRT Station. This naming convention was desired due to its alignment with other RTD transit terminology (Park-n-Ride, Call-n-Ride, etc.), its clarity, and its applicability to various types of transit (as opposed to the existing Boulder Bus-Bike naming).

Designs

The Boulder County Bus-Bike shelters were the basis for the designs produced as part of this project. Key features of these shelters include: galvanized steel mesh, roof protection, and secure key-card entry. Based on consultation with bicycle parking manufacturers, anticipated 2020 AM peak boardings for each transit station, and existing bicycle parking quantities, three shelters sizes were developed: high, with space for 62 bikes; standard, with space for 50 bikes; and low, with space for 38 bikes. Space would be provided by a mixture of inverted-U racks and double tier style racks. All shelters would be 19'x26'.



Figure 13: Image of McCaslin Eastbound Proposed Bike-n-Ride

Locations

Appendix C includes conceptual design plans depicting the proposed locations for the Bike-n-Ride facilities. Designs were prepared for a total of 11 shelters at the seven stations in the Corridor. The locations were based on:

- Preliminary locations provided by RTD and 36 Commuting Solutions
- Guidance obtained from the Secure Bicycle Parking Stakeholder Workshop, and subsequent CWG coordination
- Adherence to various goals related to site selection, including:
 - Locating the shelter on public property: RTD, CDOT, or local jurisdiction
 - Locating the shelter to provide a high level of access and visibility to the US 36 Bikeway and other bicycle routes
- Minimizing conflicts with or impacts to existing stormwater facilities
 - Limiting drainage and wetland impacts
 - Utilizing existing infrastructure such as concrete pads
 - Protecting existing above and below ground utilities

The final secure bicycle parking shelter site locations should be coordinated and approved by RTD or the identified property owner.

The Broomfield and Flatiron Stations have the most potential for bicycle share.

Bicycle Share

Bicycle share systems are becoming more popular in the U.S., with over 40 systems now operating, 13 of which were added in 2013 alone. Bicycle share is a high profile, fast, and relatively inexpensive way to change a city's transportation infrastructure and to offer an effective first and final mile solution to support large-scale transit investments. For the Corridor, bicycle share would be primarily intended to complement and extend the reach of transit, support commuting trips, grow bicycling in the Corridor, and support economic development.

Based on stakeholder feedback gathered in October 2014, it was determined that one bicycle share system would not necessarily fit the Corridor due to each station study area's unique characteristics and the Corridor's large geographic area. However, bicycle share integration is desired along the corridor. Therefore, bicycle share recommendations were developed on a station-by-station basis, with considerations given to the long-term implementation a fully-integrated, automated bicycle share system. Ideally, this system would integrate with the existing employer- and privately-provided systems to provide a holistic, public/private system oriented for the first and final mile of commuting trips in the corridor.

The stations with the most potential for short- and long-term implementation of bicycle share are the Broomfield and Flatiron BRT Stations which have a significant number of large employers located at least one mile from the station. The McCaslin BRT Station may also have potential with two key employment

campuses between one and four miles from the station. The Table Mesa BRT Station is already part of a planned Boulder B-cycle expansion. The Westminster Rail, Westminster Center BRT, and Church Ranch BRT Stations have less potential for near-term employer-provided bicycle fleets but may be good candidates for a future automated bicycle share system.

Automated smart bike systems include a fleet of bicycles with independent locks and other technology fitted to the bicycle so that it can be picked up and dropped off anywhere within the service area. Although smart bikes have not been implemented on a large scale to date, these systems offer the flexibility needed to serve the area’s low density land uses in the most affordable manner. The CWG should monitor the upcoming launches of citywide smart bike systems, such as in Phoenix, to understand how this type of program could be implemented in each station study area and along the Corridor.

Table 3: Preliminary Bicycle Share Recommendations

Transit Station	Station Area Characteristics	Recommended Bicycle Share Technology	
		Near-Term	Long-Term
Table Mesa Station	Low-density, residential, and close to parks and open spaces.	Smart Dock System (Boulder B-cycle expansion)	
McCaslin Station	Commercial land uses with some single-family and multi-family residential densities. Proximity to bicycle network and open spaces.	Employer-Provided Bicycle Fleets	Smart Bike System
Broomfield Station	Transit-oriented development, including residential and commercial and a significant portion of vacant and undeveloped land. Major employment centers.	Employer-Provided Bicycle Fleets	Smart Bike System
Flatiron Station	Mostly commercial uses, major employment centers, and some single-family residential. Proximity to trails and open spaces.	Employer-Provided Bicycle Fleets	Smart Bike System
Church Ranch Station	Commercial land uses and visitor attractions. Low-density residential.	Hotel-Provided Bicycle Fleets	Smart Bike System
Westminster Center Station	Commercial land uses, low-density residential with a small concentration of multi-family residential density.	N/A	Smart Bike System
Westminster Rail Station	Low-density residential with open spaces and recreational opportunities.	N/A	Smart Bike System

Implementation Considerations: Moving Forward

The recommendations range in cost and complexity, but many could be implemented relatively easily given the appropriate resources.

The implementation of the study recommendations would substantially improve bicycle and pedestrian connectivity and access around the Corridor transit stations. The recommendations range in cost and complexity, but many could be implemented relatively easily given the appropriate resources. The primary resources needed include funding and collaboration, both summarized in this final section of the report.

Phasing and Cost Considerations

Branding and Wayfinding

Planning-level cost estimates, for budgetary purposes only, were developed for the recommended sign types. Appendix A includes costs for the sample journeys identified. These costs should be taken as an example of what could be included in an overall station or station study area cost estimate. The cost estimate for a station, station study area, or US 36 Bikeway segment will depend on a variety of factors including sign types chosen, number of signs, and number of routes signed.

Table 4: Summary of Estimated Sign Unit Costs*

Sign User	Sign Type Description	Total Unit Cost*
Pedestrian	Orientation kiosk - stone base illuminated	\$11,940
	Orientation kiosk - post & panel non-illuminated	\$4,125
	Pedestrian directional - low mount version	\$1,515
	Pedestrian directional - overhead version	\$1,690
Bicycle - with new posts	Bike route identification	\$1,060
	Directional signage (large)	\$1,840
	Bikeway signage - distance to destination	\$1,765
	Directional signage (small)	\$1,720
	Bike route identification - pavement marking	\$275
	Bikeway diagrammatic map	\$1,665
Bicycle - bandit-strap mounted to existing poles	Bike route identification - round sign	\$855
	Directional signage (large)	\$1,630
	Bikeway signage - distance to destination	\$1,515
	Directional signage (small)	\$1,465
	Bikeway diagrammatic map	\$1,465
Bicycle - Bike-n-Ride Shelter	Thermoform illuminated "lollipop" ID sign	\$4,855
	Orientation/map panel	\$2,680
	Large ID panel	\$3,510
	Mountain Graphic Panels (6)	\$3,466

*Note: Costs do not include a contingency. At this level of planning and schematic design, a 20 percent contingency should be applied to signage cost estimates. Costs shown in Table 4 include both material and installation cost, but do not include costs such as design, engineering, or maintenance costs.

Connectivity Improvements

The estimated construction cost for each recommended connectivity improvements is show in **Table 5**. Details about the costs, including assumptions and methodology, are included in Appendix B.

Table 5: Connectivity Improvement Cost Estimates

Transit Station	Priority Connectivity Improvement	Estimated Construction Cost
Table Mesa Station	Add bicycle facility upgrades to Table Mesa Drive from Morehead Avenue to Manhattan Drive to mitigate conflict zones.	\$193,000
McCaslin Station	Add a clear bicycle route at the station to reduce bus/bike/pedestrian/vehicle conflicts and increase access to transit and bicycle parking.	\$9,000
Broomfield Station	Widen the existing sidewalk along Midway Boulevard/ Industrial Lane to create a shared-use path and extend the path to the Hoyt Street bridge.	\$4,793,000
Flatiron Station	Connect the existing sidewalk on Midway Boulevard/ Industrial Lane to the Hoyt Street bridge with an on-street bicycle facility and a continuation of the eight-foot sidewalk.	\$948,000
Church Ranch Station	Add a bicycle connection between Westmoor Office Park/Green Knolls Subdivision and the US 36 Bikeway. This off-street connection will begin at 108 th and Wadsworth Boulevard and cross to the north of Lower Church Lake to the US 36 Bikeway.	\$174,000
Westminster Center Station	Add bicycle lanes on 88 th Avenue between Wagner Drive and the Park-n-Ride.	\$59,000
Westminster Rail Station	Add bicycle lanes or shared lane markings on Lowell Boulevard between US 36 and 68 th Avenue.	\$27,000

Appendix C contains details about potential Bike-n-Ride shelter phasing and future implementation decisions to be made.

Secure Bicycle Parking

Based on costs received from parking manufactures and cost information received from Boulder County, cost estimates for the various Corridor Bike-n-Ride facilities are shown in **Table 6**. The probable costs represent a preliminary estimate that can serve as a guideline and refined based on the final site locations, desired bicycle parking spaces, and structural and geotechnical engineering for each shelter. The cost estimates include facility warranty, engineered stamped drawings with geotechnical/technical survey, a steel enclosed structure with wire mesh and secure doors, bicycle rack components, signage materials, shelter lighting, and the construction fee to install the shelter. The estimates do not include administrative, internal, or lifecycle costs, which may include: key card access-controlled software; end user support; server hardware; and annual utility, cleaning, or miscellaneous maintenance and repair costs.

Appendix C contains information about potential phasing of the Bike-n-

Ride facilities. Table Mesa (EB side), Westminster Center (both sides), and Westminster Rail were determined to be the highest priority locations, based on a variety of factors. The CWG should consider this prioritization as funding becomes available.

Table 6: Proposed Bike-n-Ride Cost

Station	Shelter Capacity	Probable Cost
Table Mesa	High	\$81,000
McCaslin	Standard	\$78,000
Flatiron	Low	\$75,000
Broomfield	Standard	\$78,000
Church Ranch	Low	\$75,000
Westminster Center	High	\$81,000
Westminster Rail	Standard	\$78,000

Bicycle Share

Phasing considerations for a Corridor or station-specific bicycle share system were presented in **Table 3** in the previous section of this report. Most station study areas could move forward with an employer-provided bicycle fleet in the near-term. As most station study areas develop and densify the bicycle share technology can transition to a smart bike system.

Continued Collaboration

The Northwest CWG is a well-established coalition of agencies with a stake in the Corridor’s future transportation and built environment. The CWG has been making collaborative decisions for years, and with the leadership of DRCOG, 36 Commuting Solutions, and others, that is expected to continue. As such, the Corridor is in a strong place to continue to implement improvements. The following sections describe suggested next steps and collaboration for each type of recommendation.

Branding and Wayfinding

Stakeholders have brought up a number of items that should be discussed as part of the next steps for Corridor implementation.

- Decision-making around wayfinding sign details. While a preferred sign design was selected during this project process, the details of the design—such as exact colors, messaging and placement—will need to be decided during the next, more detailed, design phase.
- Roles and responsibilities. A number of questions remain about who would fund and maintain the sign system.
- Integration between these recommendations and RTD/ individual community actions. The proposed signs would be primarily placed on RTD,

The CWG should continue to collaborate with DRCOG, 36 Commuting Solutions, and other agencies.

CDOT, and local jurisdiction property. Many of these properties—the transit stations, the US 36 Bikeway, and some of the individual communities—have existing or proposed signage of their own. More coordination is needed to ensure integration between sign systems and to obtain necessary permits for sign installations.

Connectivity Improvements

The collaboration needed to implement proposed connectivity improvements is relatively straightforward, as most of the improvements are located on local jurisdiction property. Each community should coordinate internally and with others, as needed, to ensure final design and construction of the improvements. For improvements limited to pavement markings and signage, local jurisdictions should explore the implementation of these during routine street maintenance projects.

A central agency should assume responsibility for aspects of Bike-n-Ride shelter operations and for advancing bicycle share along the corridor.

Secure Bicycle Parking

A number of next steps related to roles and responsibilities of constructing and operating Bike-n-Ride shelters were brought up during this project.

- Roles and responsibilities. Questions about who would pay for, maintain, and operate the shelters need to be addressed in the short term.
 - A central agency, such as 36 Commuting Solutions, should be the clearinghouse for the customer service operations of the shelters. For example, they might operate and maintain the website where customers could sign up for a key card and obtain information about Bike-n-Rides.
 - The entity responsible for maintaining the shelters, or each shelter, needs to be determined. Based on Boulder County's experience, maintenance needs are minimal. Minimum maintenance needs include power washing, trash removal, and periodic inspection.
- Operations structure. The maintenance and operations of the shelters could be partially funded by a fee-for-service key card, advertising on the shelters themselves, local governments, and/or RTD. How the shelters are operated, including how information technology is managed and who pays for electricity, is important to determining funding needs as well as roles and responsibilities.

Bicycle Share

Stakeholders stated a desire for coordinated management of bicycle share systems, especially due to the overlapping jurisdictions between station study areas. A central agency (such as 36 Commuting Solutions) should take on responsibility for advancing bicycle share along the corridor. This organization would be responsible for coordinating stakeholders and making decisions around the development of the system, monitoring progress in the industry, and taking on near-term efforts. In the near term, the central agency should develop central resources for employers, apartment building managers, and other private entities to provide bicycle fleets at their locations.

Over the long term, the agency should work with RTD and local agencies to implement a high-technology, publically-available bicycle share system at the seven stations and key destinations as outlined Appendix D. Ideally, this bicycle

share system would integrate with systems implemented in the near-term to create a holistic, public/private system oriented for the first and final mile of commuting trips in the corridor. The central agency may assume responsibility for fundraising, planning, and implementing the bicycle share system, including the purchase of equipment. They may also take on operations or transition this responsibility to a third party.

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