Lakewood
Community Resources

City of Lakewood Trail Inventory & Connectivity Assessment Report

Prepared by: NORRIS DESIGN

December 2016

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NORRIS DESIGN

Acknowledgments

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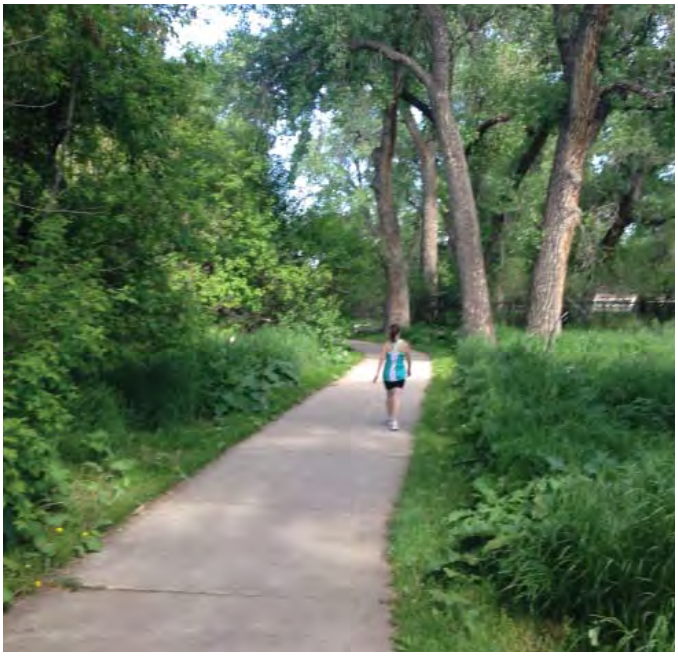
STONE HOUSE BRIDGE



BEAR CREEK GREENBELT WEST OF ESTES STREET

PROJECT FACTS AT A GLANCE

146

SURVEYS FILLED OUT

57

ATTENDEES AT THE TWO PUBLIC MEETINGS

44

INFORMAL INTERVIEWS WITH USERS ON THE TRAIL

180

MILES OF EXISTING SHARED-USE PATHS IN LAKEWOOD

2,300

FEET OF TRAILS TO BE REPAIRED

3,000

FEET OF MISSING TRAIL LINKS

Introduction

The City of Lakewood has demonstrated a longstanding commitment to developing a robust, extensive multi-modal transportation system. Over the past 30 years, the City has actively developed over 100 miles of paved shared-use paths, bike lanes, and equestrian trails. This comprehensive system provides connections throughout the community on major thoroughfares, regional parks areas, such as W.F. Hayden Park and Bear Creek Lake Park, and local neighborhood connections.

Community support to maintain and enhance the trail system is significant. Ridership rates on specific trails remain some of the highest rates within the Denver Metropolitan area. This is due in part to the strategic location of popular routes, such as the Bear Creek and Alameda trails as they provide direct access to the bicycling routes within the Foothills.

The development of this system over numerous years has fostered strong community support and advocacy that help encourage system expansion and on-going planning efforts. The Lakewood Bicycle Advisory Team (LBAT), an organization independent of the City, has been actively engaged in this project by commenting on trail maintenance issues and proposed new routes. Currently, LBAT is helping update the City's overall Bicycle System Master Plan.

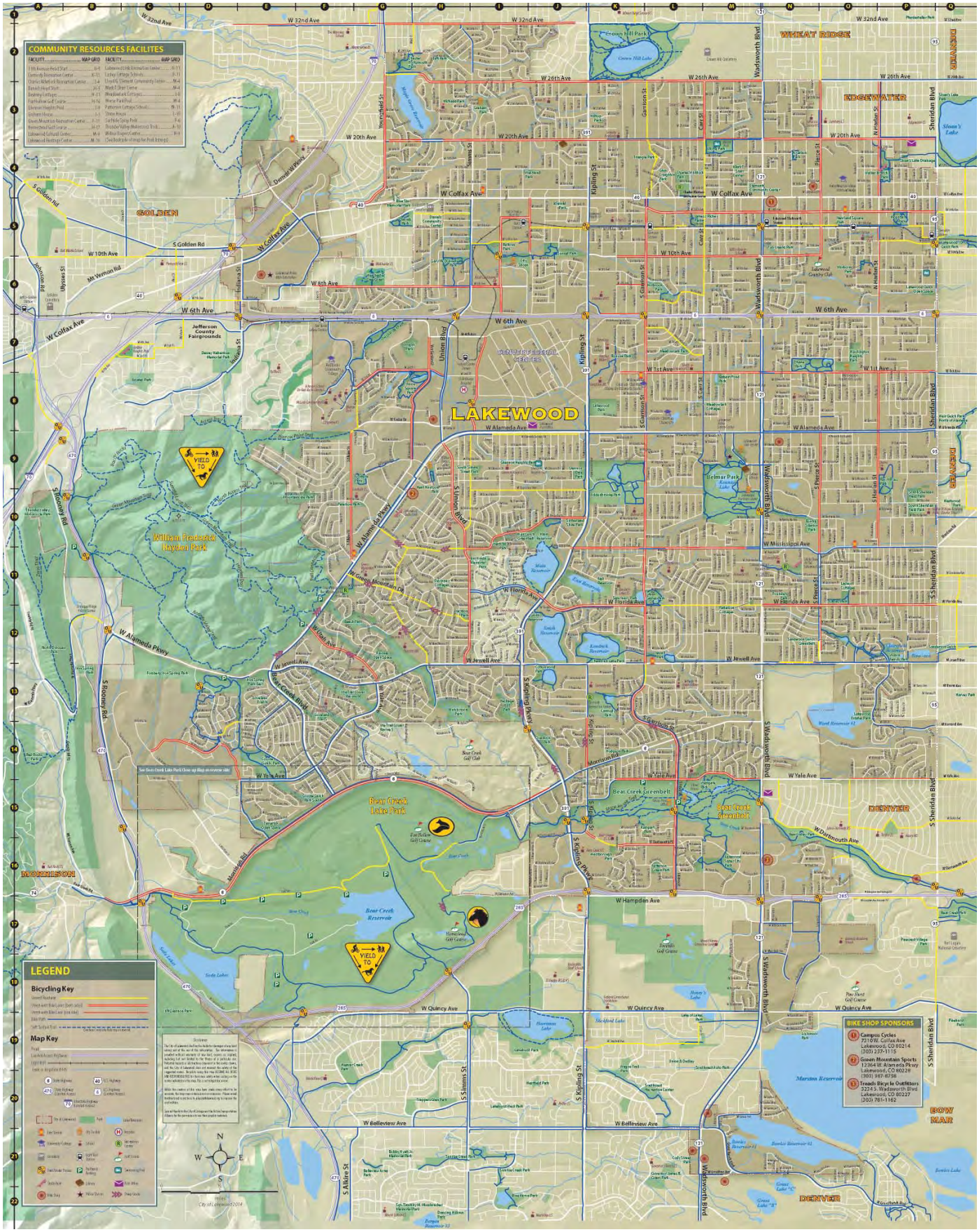
Furthermore, the recent addition of the light rail W Line has expanded the travel options available to residents and has been thoughtfully integrated to connect to the existing bicycle and pedestrian system. This has resulted in a new emphasis on bicycle and pedestrian connections throughout the community and further raised awareness about multi-modal transportation and the importance to routinely maintain and improve the existing trail facilities.

Due to these recent improvements and community support for trail enhancements, the City of Lakewood recognized it is the appropriate time to evaluate the physical condition of the existing trail network and consider new connections.

In the spring of 2016 the City embarked on this Trail Inventory and Connectivity Assessment. This 6-month process was initiated to understand the condition of existing major recreational trail corridors, to identify possible future trail connections and to develop strategies to enhance the overall system. This project was funded in part by a grant from Colorado Parks and Wildlife State Trails Program.

BEAR CREEK GREENBELT

ALAMEDA AVENUE AND UNION BOULEVARD

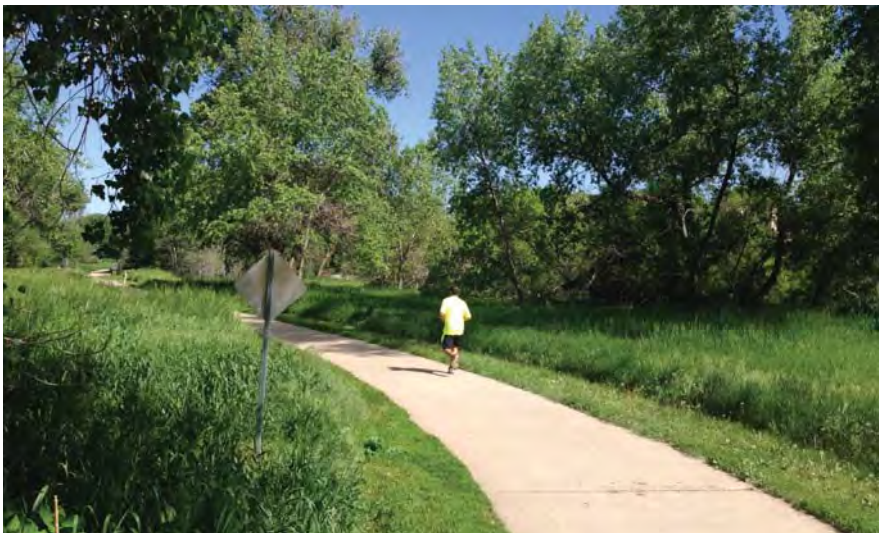


EXISTING CITY OF LAKEWOOD BICYCLE MAP

KIPLING PARKWAY TRAIL AT ILIFF GULCH

ALAMEDA AVENUE AT SOUTH SAULSBURY STREET

The project objective is to provide information and guidance for expansion and maintenance of the trail system. The process looks to increase recreational opportunities and transportation options through improved off-street trail access to parks, recreation, cultural facilities, commercial, transportation centers, and connections to the larger metropolitan area trail system. Also, the study aims to identify strategies to reduce user conflicts and improve user experience on some of the heavily used routes.



BEAR CREEK GREENBELT EAST OF ESTES STREET

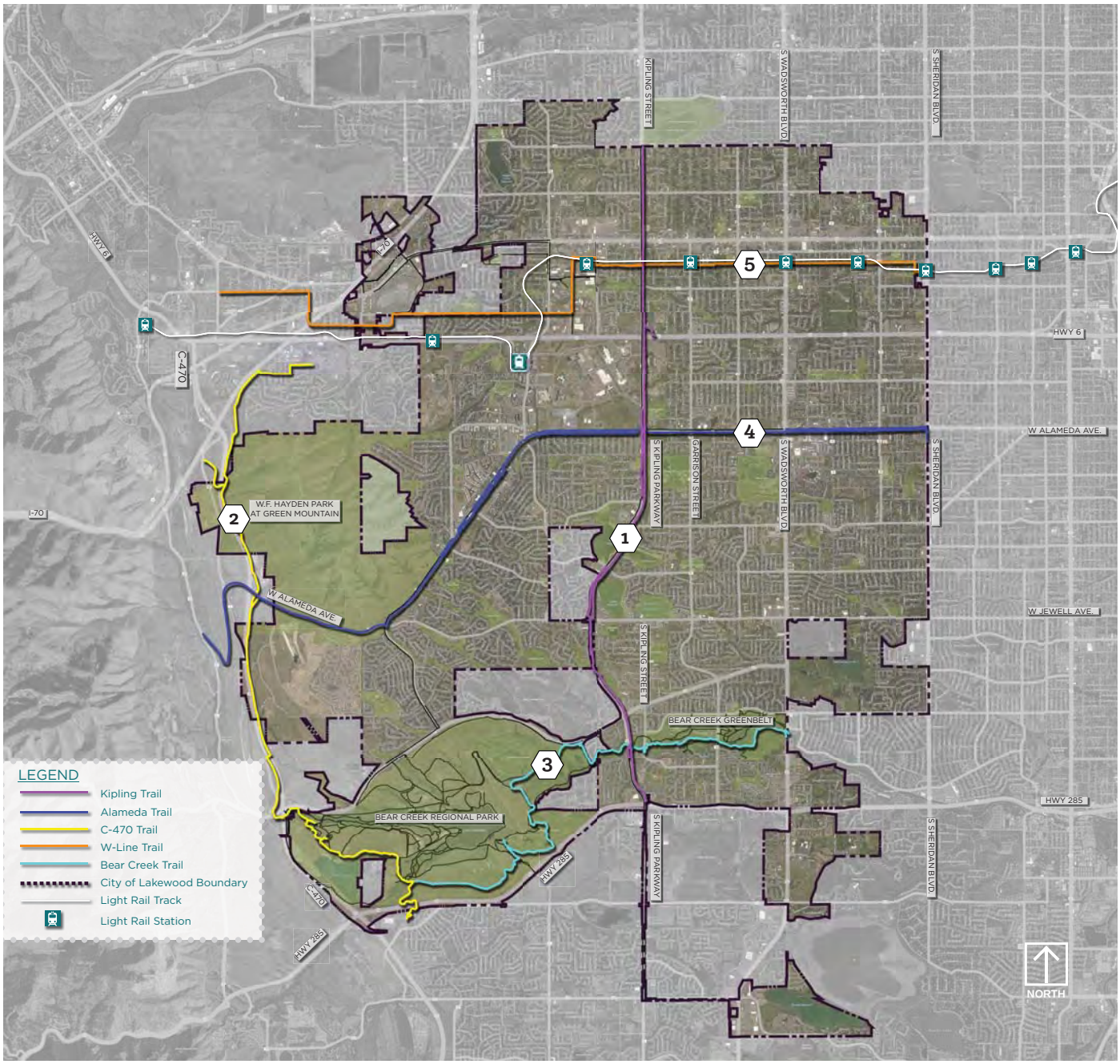
BEAR CREEK AT ESTES STREET

The Trail Inventory & Connectivity Assessment focuses on two phases:

PHASE ONE

Phase 1 involves providing an inventory and evaluation of existing trails for safety, functionality based on the current standards of trail safety, public feedback, and user demand. Five major trail corridors were identified to be included in this study:

1. Kipling Parkway Trail
2. C-470 Trail
3. Bear Creek Trail
4. Alameda Avenue/Parkway Trail
5. W Line Route

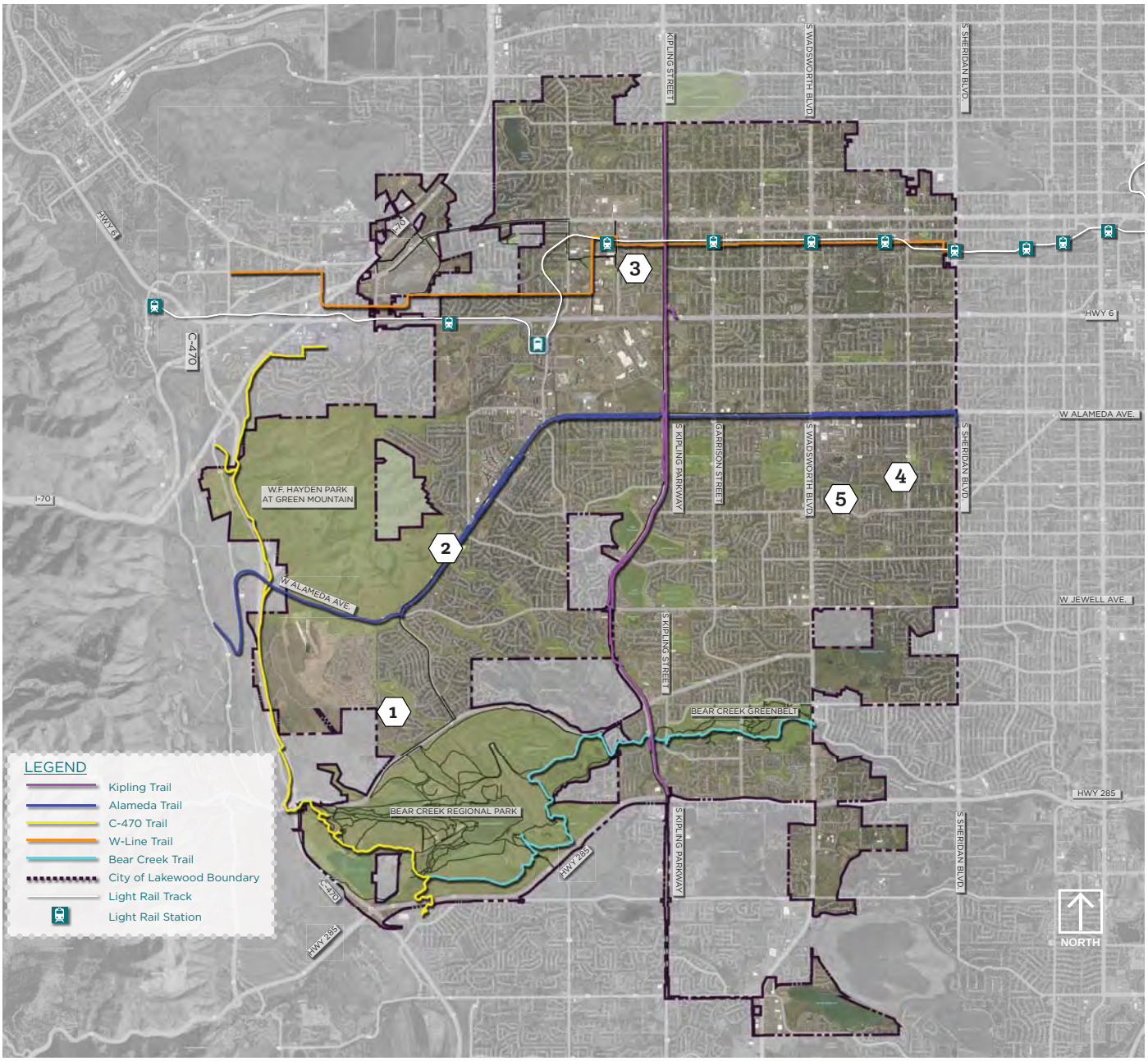


MAP OF EXISTING TRAILS

PHASE TWO

Phase 2 involves the evaluation of five new trail connections and access points. This process will identify preferred trail alignments by reviewing existing right-of-way, and potential parcels that may be impacted by proposed trail corridors. The assessment looked at drainage patterns, utilities, flood plains, and existing vegetation and how they may impact the potential new trail connections. The five areas that were identified to study for new connections are:

1. South Coyote Gulch Park
2. Alameda Ave to Green Mountain Recreation Center
3. Sunset Park to Kipling Street
4. Weir Gulch from Pierce Street to Sheridan Boulevard
5. Bonfils-Stanton Park north to Mississippi Avenue



MAP OF EXISTING TRAILS AND PROPOSED CONNECTIONS

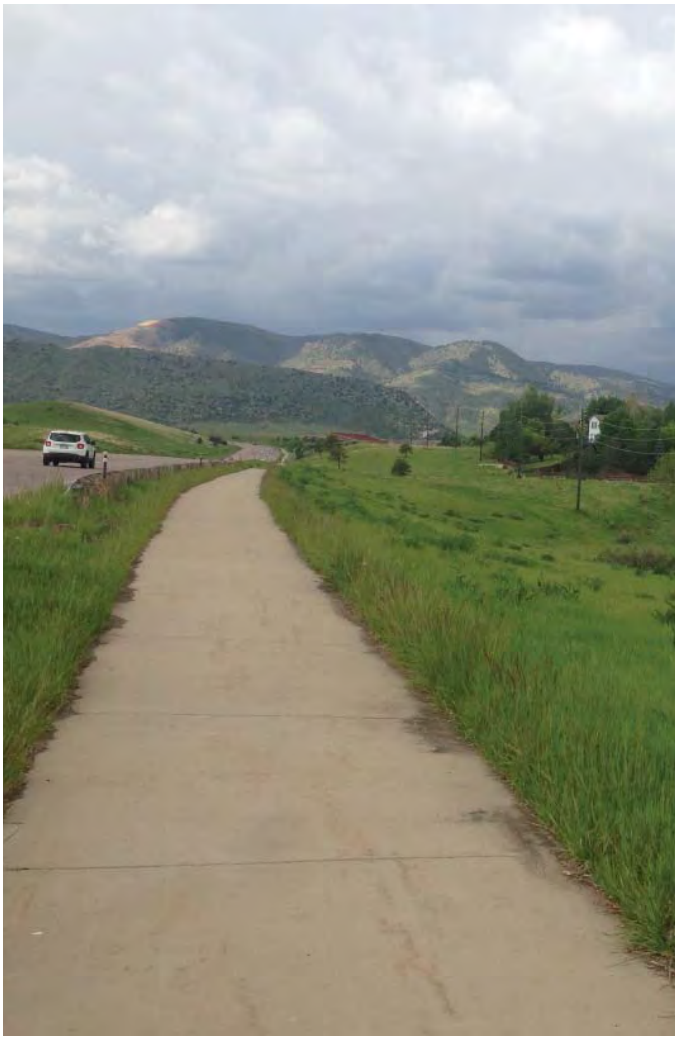
Study Process

This process began in April, 2016 with a kick-off meeting with City of Lakewood staff. At the forefront of the study, numerous meetings were held with city staff to understand safety and maintenance issues, user conflicts, and the overall history of the shared-use system. These meetings were instrumental to help focus on specific areas of the trail system that required a detailed analysis.

The trails identified in this project were systematically evaluated by walking or traversing on bicycle at various times to understand weekend use, peak commute times, and midday during the work week. These on-site trips provided opportunities to observe the patterns of pedestrians and bicyclists as well as engage with many of the users to learn their thoughts about the trail system.

The following previous planning and engineering studies were reviewed to provide a baseline understanding of the city's long-range goals for the shared-use path system. Drainage and floodplain issues were considered along with past studies that focused on new trail connections.

- Lakewood 2025: Moving Forward Together
- Lakewood Bicycle System Master Plan 2005
- Federal Center/Union Boulevard Corridor Connectivity Plan 2011
- Upper Weir Gulch Major Drainageway Planning Study 1993



MORRISON ROAD TRAIL WEST OF KIPLING PARKWAY

SHERIDAN STATION

MORRISON ROAD LOOKING EAST

Public Engagement

The Lakewood trail system is considered by many Lakewood residents and bicycle enthusiasts as a significant asset to the city and region. Engaging with trail users and the general public to understand their perspectives, concerns, and ideas was a critical component of this process.

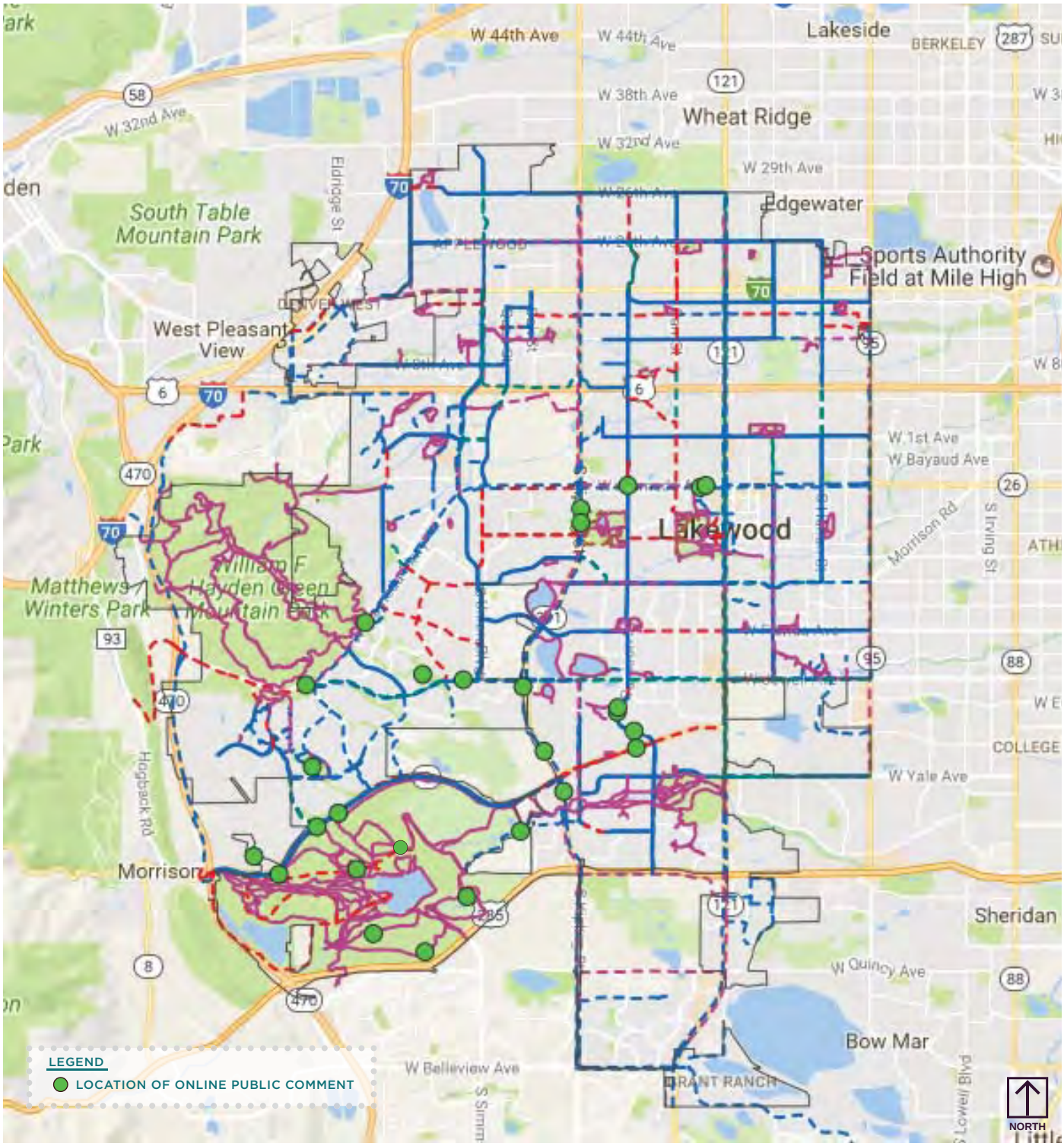
As a member of the project team, Bicycle Colorado, a statewide advocacy organization that provides policy, technical, and community engagement assistance to jurisdictions throughout Colorado played an important role supporting the community engagement process. A member of Lakewood Bicycle Advisory Team (LBAT), they provided updates to the committee and communicated with their partners during the course of the project. They also reviewed document drafts and provided unique insights to support improved access to trails in the five existing corridors examined and the proposed connections.

Two public meetings were held during the study period as well as two brief presentations to the LBAT. Announcements about the meetings were published on the city website, social media, Denver Post, *Lakewood Sentinel*, the *Looking at Lakewood* publication, and in various neighborhood social media sites.

- The first public meeting was held on May 12, 2016 at the Lakewood Cultural Center. The focus of this meeting was to solicit input on the existing trail systems. Preliminary maps were created identifying potential improvement areas and were presented to the public for their review and comments. Approximately 19 people attended this meeting. The team received numerous comments about trail issues and potential improvements to the existing trails.

- The second public meeting was held on July 27, 2016 at the Lakewood Link Recreation Center. This meeting summarized the preliminary analysis of the existing trails, but primarily focused on gaining input on the new trail connections. Approximately 38 people attended this meeting. The project and proposed conceptual routes were well received by those in attendance.

In addition to the public meetings, it was important to provide supplementary opportunities for comment by the bicycle and trail user community and general public. A Google-based mobile comment tool for smart phones was utilized to allow users to post comments while on the trails. These comments were then captured on an online map. A summary of these comments are provided in the appendix.



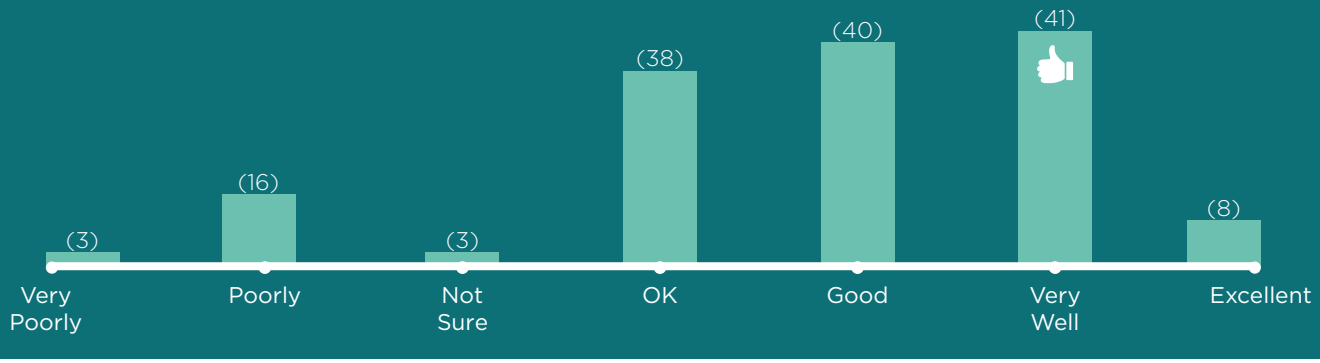
PUBLIC COMMENT MAP

A survey was developed that was placed on the City's website. Team members also reached out to trail users while riding the trails and provided copies of the survey. Overall, over 150 respondents completed the survey. The most common responses were:

1. **Increase trail connectivity**
2. **Provide clearer wayfinding and signage**
3. **Provide additional north/south routes through the community**

WOULD YOU LIKE TO SEE LAKEWOOD BIKE PATH IMPROVED?

HOW WELL DOES THE BIKE PATH SYSTEM CONNECT TO YOUR DESIRED DESTINATION?



WHEN DO YOU USE THE BIKE PATH SYSTEM?

TIME OF DAY

- ★ (19) Mornings
- (12) Midday
- (11) Evenings

FREQUENCY

- (24) 1-2 Times a week
- ★ (48) 3-5 Days a week
- (30) 6-7 Days a week

DAYS

- ★ (97) Weekdays
- (82) Weekends

DURATION

- (13) Less than 1 hour
- ★ (64) 1-2 Hours
- (28) 3-5 Hours or more

***Survey Document and Specific Survey Info / Infographic are located in the Appendix**

PHASE ONE

EXISTING TRAIL INVENTORY & ASSESSMENT

The existing trails that were reviewed in this phase experience a high volume of users. The diverse mix of users includes experienced and casual bicyclists, runners, walkers, dog walkers, and equestrians. The combination of these users can sometimes create conflict as they navigate around each other.

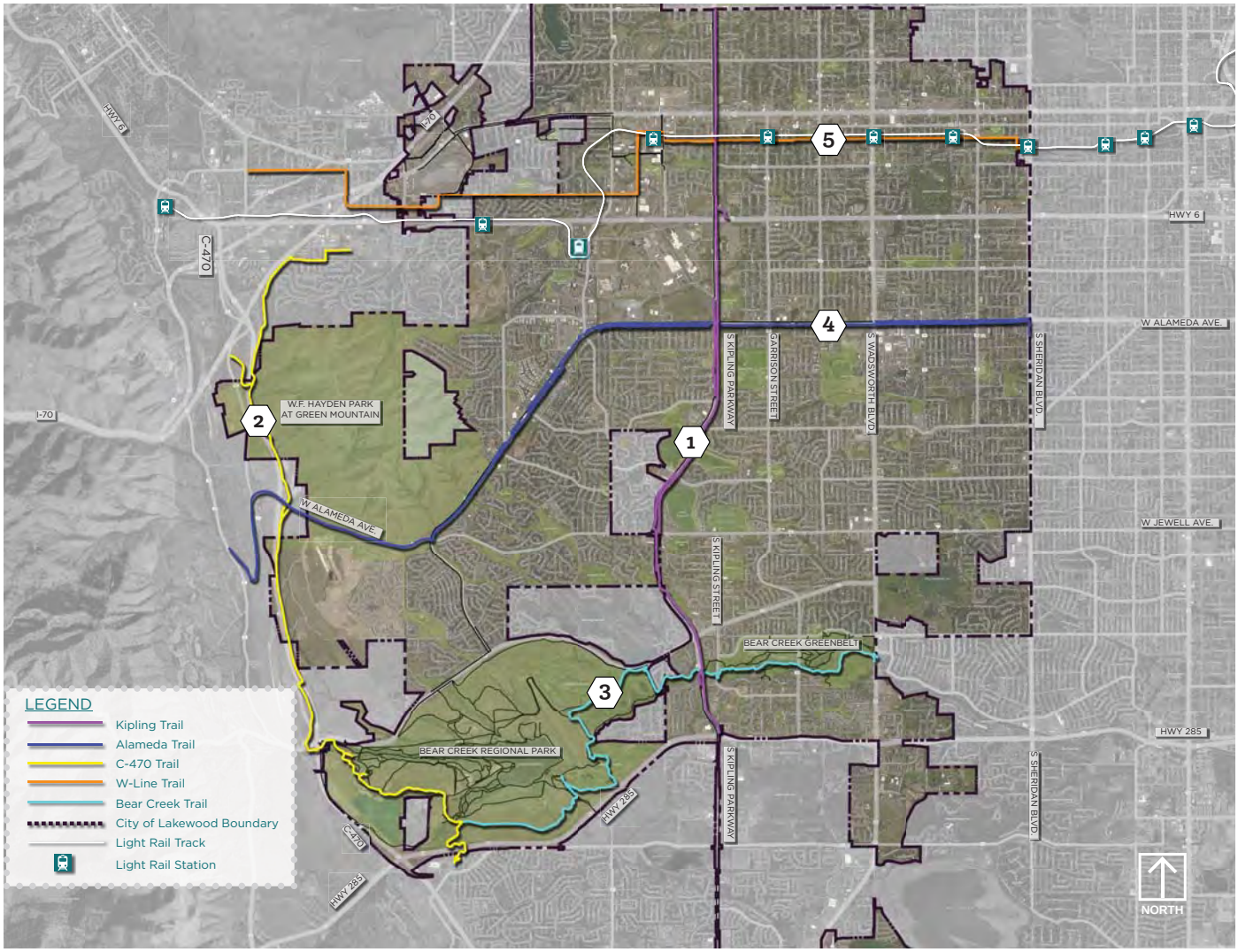
Many of the trail segments were built several years ago and have inadequate trail widths for the volume of use and missing gaps. In specific situations there are issues with safety, accessibility, visibility, and wayfinding.

Five trails are included in this phase:

1. Kipling Parkway Trail
2. C-470 Trail
3. Bear Creek Trail
4. Alameda Avenue/Parkway Trail
5. W Line Trail (D-10)

The project team analyzed the specific trail corridors and reviewed staff and public comments. Building on this information, the next step identified specific focus areas that were evaluated for specific improvements.

The following section describes the five trail corridors in detail. Specific trail improvement recommendations are included on a spreadsheet that references their trail location on a map. This information is included at the end of this section.



MAP OF EXISTING TRAILS

Kipling Parkway Trail

The portion of the Kipling Parkway Trail that is part of this study extends from West 26th Avenue on the north to Highway 285 on the south. The approximate length of this section is 7.30 miles.

Kipling Parkway is a major north/south corridor throughout the City of Lakewood. There are trails located on the west and east sides of this corridor. These trails provide connections to the Bear Creek Trail, commercial centers, significant employment areas such as the Federal Center, light rail, and other shared-use path corridors.

Numerous segments of the trails were built many years ago and do not meet current American Association of State Highway and Transportation Officials (AASHTO) guidelines. There are gaps, sections that are too steep for some riders and less than the minimum standard width of eight feet. Some sections are encumbered by vertical barriers, such as fences and overgrown vegetation that encroaches onto the trails. The pavement in certain areas is in disrepair.

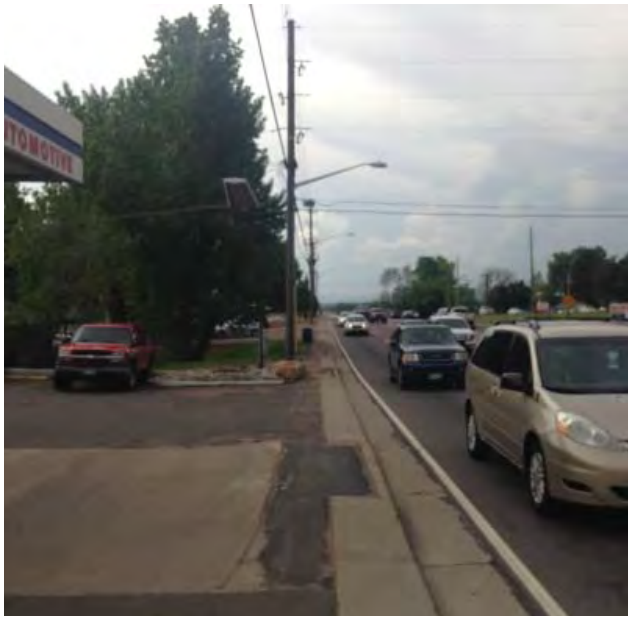
Selected staff and public comments

- Trail switchback south of Jewell at Kipling Parkway is difficult for maintenance operations.
- Concerns about existing 90 degree turn on Kipling Parkway to go under Kipling underpass.
- Trail icing in winter due to lack of sun exposure caused by shading of walls, underpasses, and vegetation.
- Poor condition of existing trail and missing sections from 26th Avenue to 6th Avenue. Missing trail segments to be constructed with redevelopment.
- Existing social trail south of Sunset Park on the west side of Kipling Parkway creates an unsafe situation.
- Significant and abrupt elevations changes adjacent to sections of existing trail

OBSERVATIONS & RECOMMENDATIONS:

KIPLING PARKWAY TRAIL | FROM 26TH AVENUE TO ALAMEDA AVENUE

- North of 16th Avenue the existing right-of-way width is narrow within specific sections and does not provide sufficient width for trails and tree lawns.



KIPLING STREET AT 20TH AVENUE LOOKING SOUTH

KIPLING STREET NEAR 20TH AVENUE LOOKING NORTH

KIPLING PARKWAY TRAIL | FROM 26TH AVENUE TO ALAMEDA AVENUE (CONTINUED)

- The west side of Kipling Parkway from Colfax Avenue to 6th Avenue currently does not provide a shared-use path. Consider trail implementation during redevelopment on adjacent properties.
- Numerous public schools, parks, and social service agencies are located along the east side of Kipling Parkway from 6th Avenue to Alameda Avenue. The existing trail within this section is in various levels of disrepair. The pavement is in poor condition, there are drainage issues and access to these public facilities from the trail needs to be improved. The proximity of the trail to the schools and athletic fields may be an opportunity to pursue a Safe Routes to School grant for infrastructure improvements.

KIPLING STREET AT MAIN STREET

SHARED-USE PATH ON KIPLING STREET NEAR MILLER SPECIAL SCHOOL

KIPLING PARKWAY TRAIL | FROM ALAMEDA AVENUE TO W. JEWELL AVENUE

- The trail pavement condition on the west side of Kipling Parkway south of Exposition is in poor condition.

KIPLING PARKWAY TRAIL AT ADDENBROOKE PARK LOOKING SOUTH

- Consider developing the missing section of trail along the west side of Kipling Parkway from W. Mississippi Avenue to W. Florida Avenue. Grade issues will need to be considered.
- Widen path to 8 feet south of W. Kentucky Avenue on west side of Kipling Parkway.
- The existing fence that is north of W. Jewell Avenue and adjacent to S. Owens Street is in poor condition and does not function as an adequate safety barrier to the steep drop off to the east. Furthermore the fence should be placed two feet away from the existing trail to meet current guidelines and to reduce shading that can create icy conditions during winter. Also, vegetation along this section should be trimmed to improve visibility.

KIPLING PARKWAY TRAIL NORTH OF JEWELL AVENUE

KIPLING PARKWAY TRAIL NORTH OF JEWELL AVENUE

KIPLING PARKWAY TRAIL | FROM W. JEWELL AVENUE TO HAMPDEN AVENUE

- Numerous trail segments in this section have significant changes in elevation and at times can be difficult to traverse.
- Consider trimming vegetation on west side of existing trail and adjacent to the trail underpass that is south of W. Jewell Avenue and north of Morrison Road.

STEEP HILL ON KIPLING TRAIL

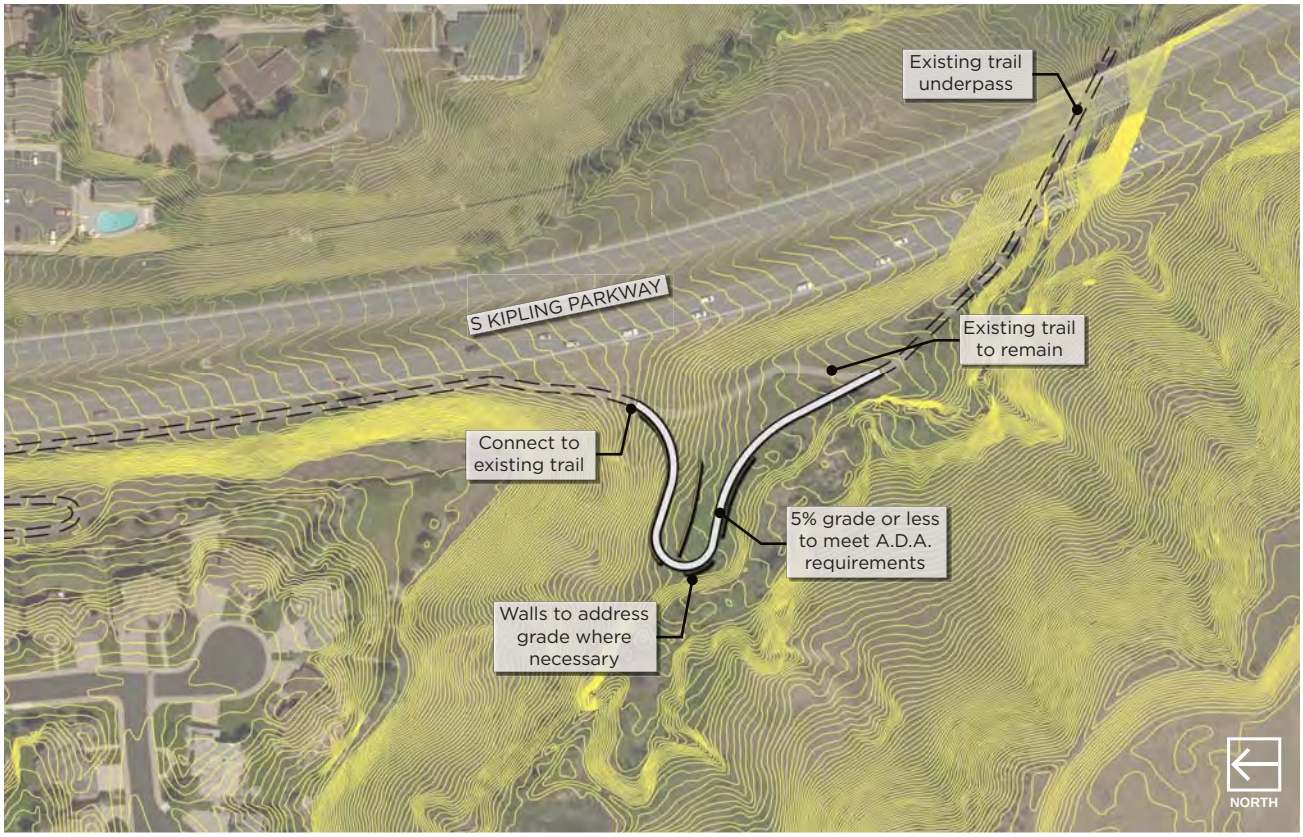
KIPLING TRAIL UNDERPASS

- The railing along the trail at the trail underpass is in poor condition and needs to be replaced.
- The fencing to the east of Kipling Parkway should be removed or repaired.

KIPLING PARKWAY TRAIL BRIDGE RAILING

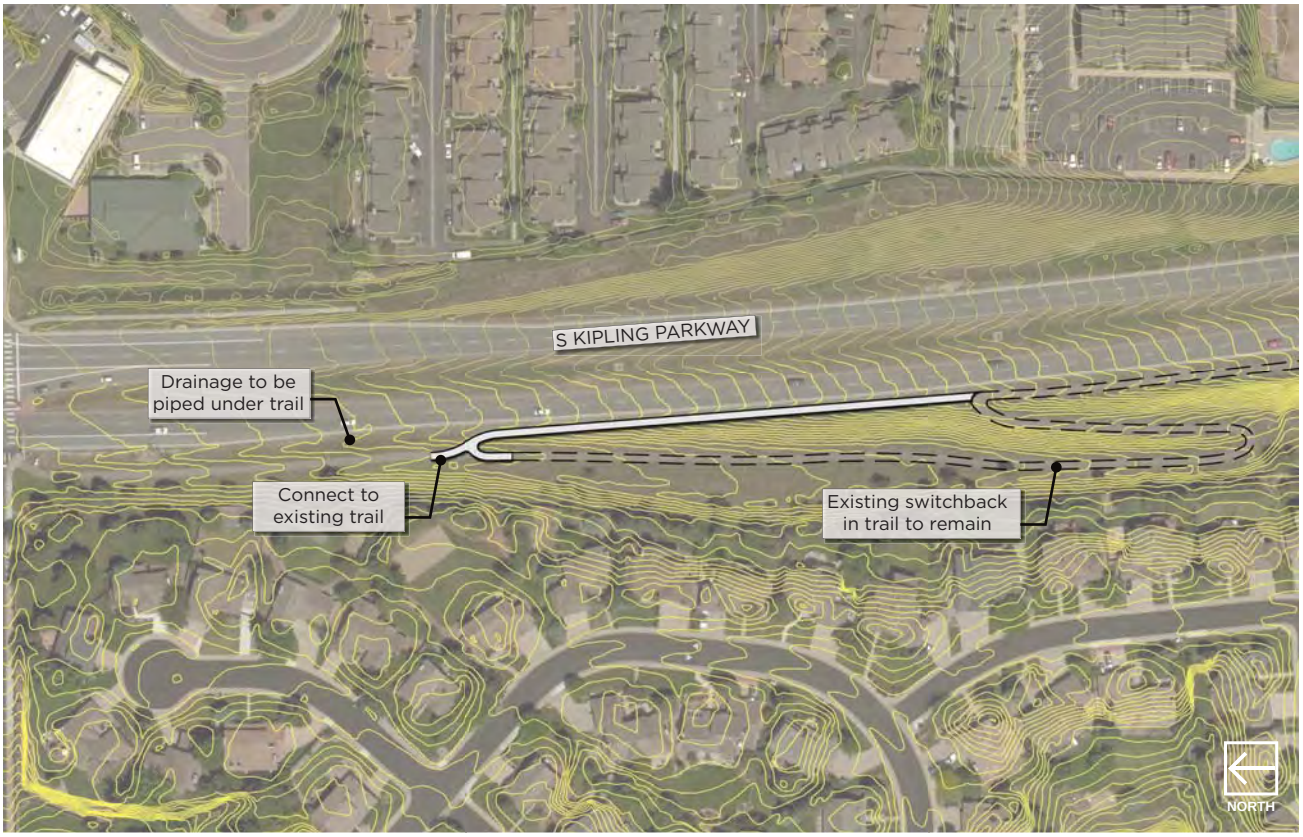
KIPLING RIGHT-OF-WAY FENCE

KIPLING PARKWAY TRAIL | FROM W. JEWELL AVENUE TO HAMPDEN AVENUE



- This section of the Kipling Trail can be difficult for some users traveling from the south to the north. A slope analysis indicated the current slope of this trail is 8% or greater.
- Numerous public comments confirmed this assessment as many comments stated bicyclists have to dismount and walk their bicycle through this trail section.
- The proposed realignment provides a switchback that would be constructed with a slope of 5% or less. Also, walls may be necessary to address grade changes.

KIPLING PARKWAY TRAIL | FROM W. JEWELL AVENUE TO HAMPDEN AVENUE



- Along this section of the Kipling Trail numerous bicyclists have created a social trail to avoid traversing the switchback. This more direct route is likely appealing to many experienced riders and would provide a shorter connection between these two trail points.
- The switchback will remain for users that prefer a more gradual ascent as they traverse from the south to the north.

C-470 TRAIL

The C-470 Trail is located on the west side of Lakewood and approximately extends from 6th Avenue on the north and Highway 285 on the south. The approximate length of this trail is 7.7 miles.

The C-470 Trail is a Colorado Department of Transportation (CDOT) facility. The City of Lakewood provides maintenance on the reach of the trail within the B.C.L.P. and the section north of the C-470 underpass. This trail facility is relatively new and in good condition.

OBSERVATIONS & RECOMMENDATIONS:

- There are a couple of minor erosion and drainage issues along the trail.
- Erosion issues exist at the intersection of the C-470 trail and the C-470 bicycle/pedestrian overpass.

C-470 SHARED-USE PATH AT C-470 BICYCLE/PEDESTRIAN OVERPASS

BEAR CREEK TRAIL

The Bear Creek Trail is approximately 7 miles in length within the City of Lakewood and begins near C-470/285 and Morrison Road and then extends east to Wadsworth Boulevard.

Bear Creek Lake Park is one of the most popular bicycling and walking areas within the City of Lakewood and surounding areas. Over 450,000 people use the park and trails on a yearly basis. The proximity of the park and trail provides access to many foothill bicycle routes and thereby receives a significant amount of very experienced bicyclists, often times traveling at high speeds. Due to the level of use and the aesthetic appeal of the trail and park, it attracts a diverse range of users including walkers of all ages, seasoned bicyclists and equestrian riders. The appeal of the trail sometimes leads to conflicts between users. Also, the presence of the adjacent Fox Hollow Golf Course creates an additional level of conflict between trail users and the golf course.

Portions of this trail along the creek experience minor flooding on occasion which should be addressed with future improvements. There are a number of segments that are constrained in width and have partially obstructed sight lines. Additionally, the trail alignment includes some very sharp turns in specific locations.

Selected staff and public comments

- Wayfinding needs to be improved along the trail. The existing signs are confusing and need to be replaced.
- Consider adding “warning” or “slow down” signage approaching the trail at the Estes Street underpass.
- The trail approach to the bridge located mid-point between Kipling and Estes is at a 90-degree turn. This sharp turn is difficult for users and for maintenance vehicles that remove snow on the trail and bridge.
- Snow and ice removal is difficult for maintenance staff approaching and under the Estes Street Bridge.
- Portions of the trail are blocked by overgrown vegetation.
- Where applicable, consider a secondary, parallel path for pedestrians.
- Consider slightly raising the trail to mitigate flooding.
- The highest level of public complaints along the trail focus on the section between Kipling Street and Kipling Parkway.
- As you traverse from east to west along the trail within the Fox Hollow Golf Course area there is a blind curve before tee box number 12.
- Problem with automobiles and bicyclists going at high speeds within proximity of the Fox Hollow Clubhouse parking lot.
- User conflicts between bicyclists, pedestrians, and maintenance vehicles along Fox Hollow Road.

BEAR CREEK TRAIL

OBSERVATIONS & RECOMMENDATIONS:

BEAR CREEK TRAIL | FOX HOLLOW

- The Fox Hollow Road that leads to the maintenance facility experiences a high volume of bicyclists and maintenance vehicles. This is an area of high user conflict. Options were studied that separated the bicyclists on a side path or expanding the road to provide a wider road section for both users. Due to high costs, it was ultimately decided to keep the road at the current width and alignment but to designate it as a shared roadway.
- Add a striped center line along this section of road to designate travel lanes and direction for all users. Consider Sharrows and "share the road" signage within this section of road.
- Consider marking a portion of the road near the west parking lot as a slow zone. Add slow zone signs and possibly incorporate green paint or thermoplastic within this area to emphasize a slow zone area.

MAINTENANCE ROAD AT FOX HOLLOW GOLF COURSE

BEAR CREEK TRAIL

OBSERVATIONS & RECOMMENDATIONS:

BEAR CREEK TRAIL | FOX HOLLOW GOLF COURSE TO S KIPLING PARKWAY

- Conflicts between bicyclists and pedestrians have occurred on this section of the Bear Creek Trail between Fox Hollow Golf Course and S. Kipling Parkway.
- In order to address this, a separate pedestrian path is proposed that will parallel the existing Bear Creek Trail within this reach. This will improve overall safety on the trail and improve the trail experience for all users.

BEAR CREEK TRAIL WEST OF S KIPLING PARKWAY

BEAR CREEK TRAIL AT S KIPLING PARKWAY

MORRISON ROAD

FOX HOLLOW DR.

S NEWCOMBE WAY

S NELSON STREET

S OAK WAY

S KIPLING PARKWAY

PEDESTRIAN TRAIL TO SHARE EXISTING BRIDGE

CITY OF LAKEWOOD

PEDESTRIAN TRAIL TO PARALLEL EXISTING TRAIL

CULVERT

FOX HOLLOW GOLF COURSE

W DARTMOUTH PLACE

W DARTMOUTH AVENUE

PEDESTRIANS TO CROSS EXISTING BIKE PATH AT CORNER

LEGEND

- Existing Bear Creek Trail
- Other Existing Trails
- Proposed Pedestrian Path

NORTH

BEAR CREEK TRAIL | FROM S. KIPLING PARKWAY TO S. WADSWORTH BOULEVARD

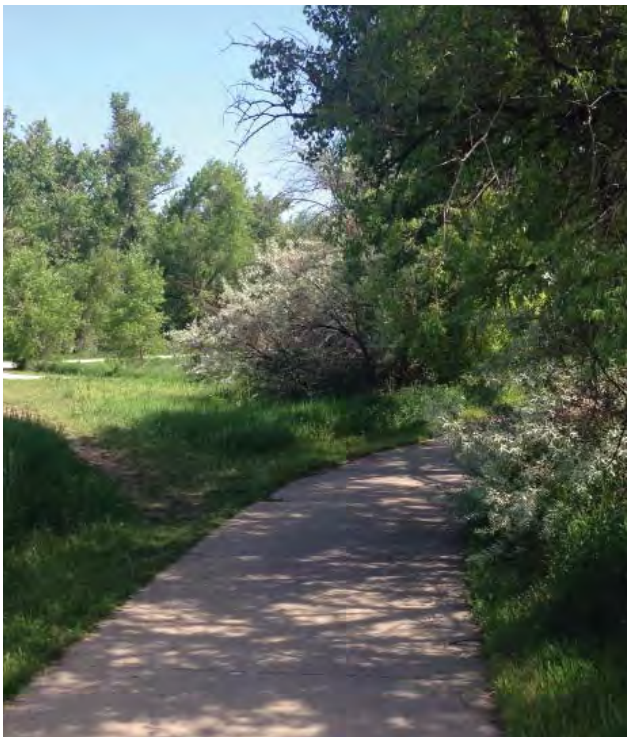
- Assess current wayfinding signage along the trail. Selected wayfinding signage does not provide easy to understand directional guidance. The current Jefferson County Regional Bikeways Wayfinding Master Plan process may provide comprehensive strategies to address wayfinding issues.

EXISTING WAYFINDING ALONG TRAIL

EXISTING WAYFINDING ALONG TRAIL

- In specific locations visibility along the trail is compromised by existing vegetation. Consider selective pruning and removal of trees and shrubs to improve sight lines.
- Shorter sight lines may help control bicycle speeds thereby reducing the speed differential between bicyclists and other users.

OBSTRUCTED VIEWS ALONG BEAR CREEK TRAIL



OBSTRUCTED VIEWS ALONG BEAR CREEK TRAIL

- The trail portion at the underpass of the Estes Street Bridge is constrained in width and has visibility issues due to presence of existing vegetation. Consider pruning vegetation and selective removal of trees.

BEAR CREEK TRAIL AT ESTES ST. LOOKING EAST

BEAR CREEK TRAIL AT ESTES ST. LOOKING WEST

- Add a striped center line east of bridge on trail to designate travel lanes and direction for all users. This approach can help reinforce that users should expect traffic in both directions and encourage users to travel on the right and pass on the left.
- Realign the trail to improve visibility within the vicnity of the bridge.
- Consider adding slow zone signage to the trail as it approaches the west side of the Estes Street Bridge.
- Many comments were received throughout this process about separating bicyclists from pedestrians along the Bear Creek Trail. Identified on the following graphic is a potential location of a separate or attached pedestrian trail that would start at the existing bridge located midway between Kipling Street and Estes Street. Starting at this location and ending near Wadsworth Boulevard is the most feasible section to include an additional trail as it does not require additional bridges, it is completely on public land, and does not impact extensive wetlands that are located north and west of the bridge.

BEAR CREEK TRAIL AT ESTES STREET CONNECTION

BEAR CREEK TRAIL AT ESTES STREET LOOKING EAST

Possible Pedestrian Path Conceptual Renderings

MORRISON ROAD

S KIPLING STREET

W YALE AVENUE

S ESTES STREET

CITY OF LAKEWOOD

PARALLEL EXISTING MAINTENANCE ROAD AND TRAIL

LOW-IMPACT BOARDWALK CROSSING THROUGH RIPARIAN AREA

REALIGN TRAIL AND PROVIDE SIGNAGE/PAVEMENT MARKING TO PROVIDE SAFER ACCESS UNDER THE S ESTES STREET BRIDGE

CITY OF LAKEWOOD

S WADSWORTH BOULEVARD

REPLACE EXISTING BRIDGE WITH A 10' WIDE BRIDGE AT AN ANGLE FOR SAFETY AND MAINTENANCE VEHICLE ACCESS

PEDESTRIANS TO USE EXISTING BRIDGE AND UNDERPASS

W CORNELL AVENUE

S KIPLING PARKWAY

DARTMOUTH PLACE

W EASTMAN PLACE

LEGEND

- Existing Bear Creek Trail
- Other Existing Trails
- Proposed Pedestrian Path

S Kipling St.

New Trail Connection

New Maintenance Road Alignment

Enhance Wayfinding

Remove Existing Maintenance Road

Potential Linear Trail Connections May Be Considered When Existing Curvilinear Trail Alignments Have Obstructed Views Due To Existing Vegetation and Sharp Curves

Trim/ Clear Vegetation For Visibility

Trim/ Clear Vegetation To Enhance Sight Lines

ALAMEDA AVENUE | PARKWAY TRAIL

The Alameda trail corridor is approximately 9.8 miles long and begins at Sheridan Boulevard on the east and ends at C-470 on the west.

Alameda Avenue and Alameda Parkway combine to form a major thoroughfare within Lakewood. It is a significant bicycling route to W.F. Hayden Park, the foothills, and for commuting. The land use patterns along the corridor consist of various sections of commercial, office (Federal Center), residential, and open space (W.F. Hayden Park). In many segments trails exist on both the north and south sides of the corridor, but large missing links remain. These incomplete trails cause bicyclists to navigate on either roads, sidewalks or the existing sections of trails. There are also many undesirable mid-block crossings, driveways, and terrain challenges. Also, many of the sections do not meet the minimum width standard of eight feet.

Selected staff and public comments

- Missing trail along West Alameda Parkway near C-470.
- The trail location at the intersection of Alameda and Union is difficult to traverse with a maintenance truck due to the existing railing.
- Reduce curb cuts along Alameda near Sheridan.
- Consider Sharrows on frontage roads.
- Focus on the trail gaps, such as between Union and Taft and north side of Alameda at Kipling Parkway.
- Difficult to bicycle between on-street and the off-street trail sections.
- Visibility issues caused by vegetation along the north side of Alameda and east of Wadsworth Boulevard.
- Missing section of trail near C-470.
- Remove bollard near Union Avenue that is located in the middle of the trail.

OBSERVATIONS & RECOMMENDATIONS:

- Numerous sections of the trails within the commercial areas are not clearly defined. In these situations at Alameda and Depew St. the trails seem to be extensions of the parking lots and drive aisles. Tree lawns, signage, pavement markings should be installed to define the trail corridor. This will improve safety, further define the bicycling and pedestrian routes, and enhance aesthetics along the corridor.

ALAMEDA AVENUE TRAIL AT
SOUTH DEPEW STREET LOOKING WEST

ALAMEDA AVENUE TRAIL AT
SOUTH DEPEW STREET LOOKING NORTHEAST

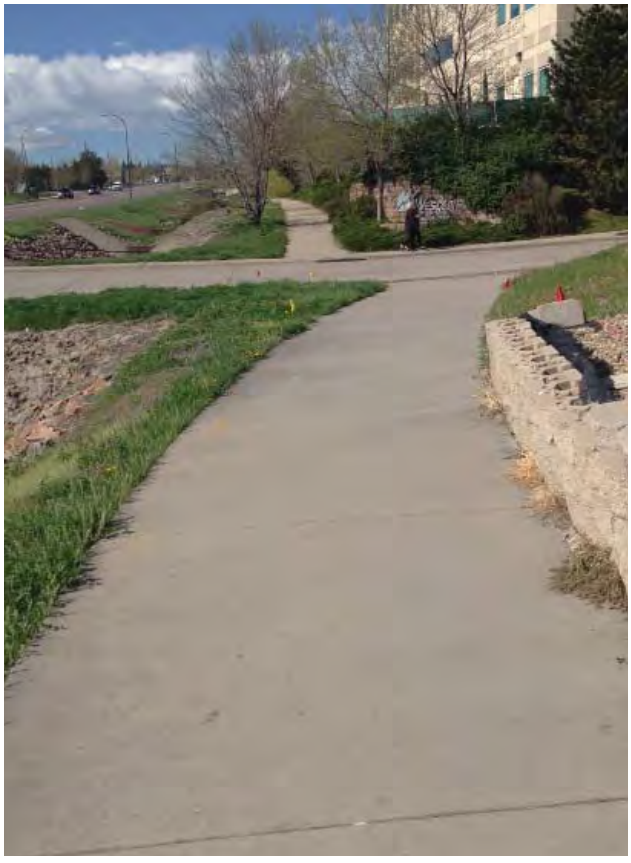
- In many situations along this corridor, accessibility can be an issue for people with mobility and physical challenges. There are sections of the trails along Alameda that do not provide for curb cuts, accessible ramps or other infrastructure elements that would improve accessibility to the trails.

ALAMEDA AVENUE TRAIL AT
SOUTH JAY STREET LOOKING EAST

ALAMEDA AVENUE TRAIL AT
SOUTH HARLAN STREET LOOKING EAST

- Numerous railings, retaining walls or fences exist along portions of the trails. During opportunities for site redevelopment or trail re-alignment walls, railings or fences should have 2 feet of clearance from any trail.

ALAMEDA AVENUE TRAIL AT
SOUTH URBAN STREER LOOKING EAST



ALAMEDA AVENUE TRAIL AT
WEST VIRGINIA AVENUE LOOKING EAST

W LINE TRAIL

The W Line trail extends from Johnson Road in Golden to the South Platte Trail in Denver. In Lakewood, it runs from Indiana Street to Sheridan Boulevard on the east. The corridor is approximately 3.75 miles.

The W Line Trail primarily aligns with the West Corridor light rail line. During the planning of the light rail, efforts focused on integrating existing pedestrian and bicycle connections to the future light rail stations. This was largely successful, but gaps remain. Consideration for on-street bicycle routes and sidewalks should be focused on the roads that parallel the light rail line.

Selected staff and public comments

- It is difficult to get across Simms Street if you are on the D-10 trail.
- Inconsistencies with maintenance responsibilities between government agencies.
- Snow and ice concerns on routes to light rail stations and platforms.
- Improve lighting along trail.
- Define trail route between Quail Street and Oak Street.

OBSERVATIONS & RECOMMENDATIONS:

- Include Sharrows and signage along on-street routes.
- If redevelopment opportunities arise on properties adjacent to the light rail line, consider the inclusion of sidewalks and the development of a shared-use path.

SHERIDAN STATION

W LINE TRAIL AT SAULSBURY STREET LOOKING WEST

Proposed Project Improvements for Phase One

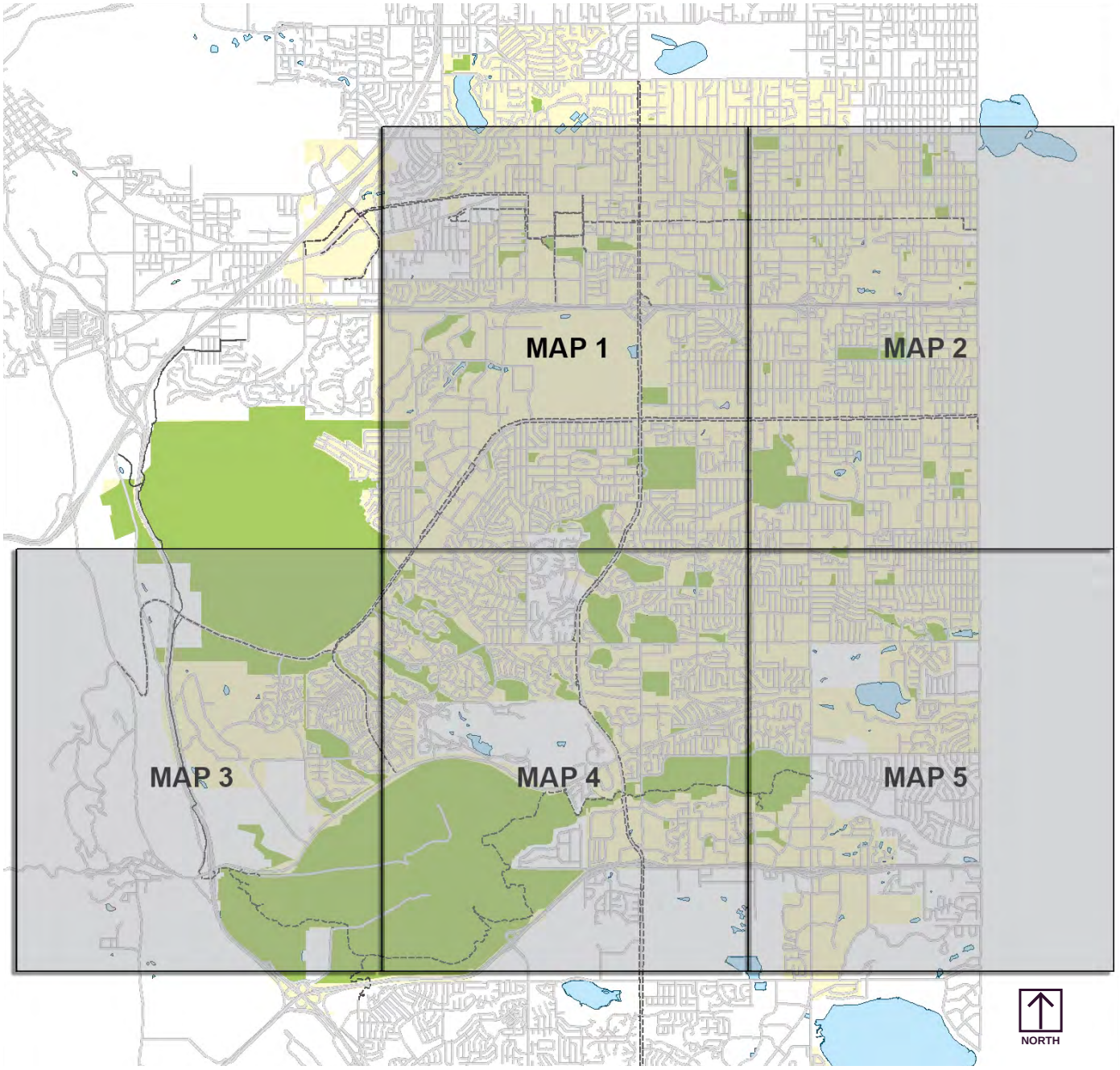
The following maps and spreadsheets include potential future projects and their location. This trail inventory and connectivity assessment process has culminated in the identification of over 100 project improvements that will enhance the pedestrian and bicycle routes included in this study.

In order to determine which projects may be considered a priority for the City of Lakewood, the below factors help rank which projects may be considered low, medium or high priority for implementation.

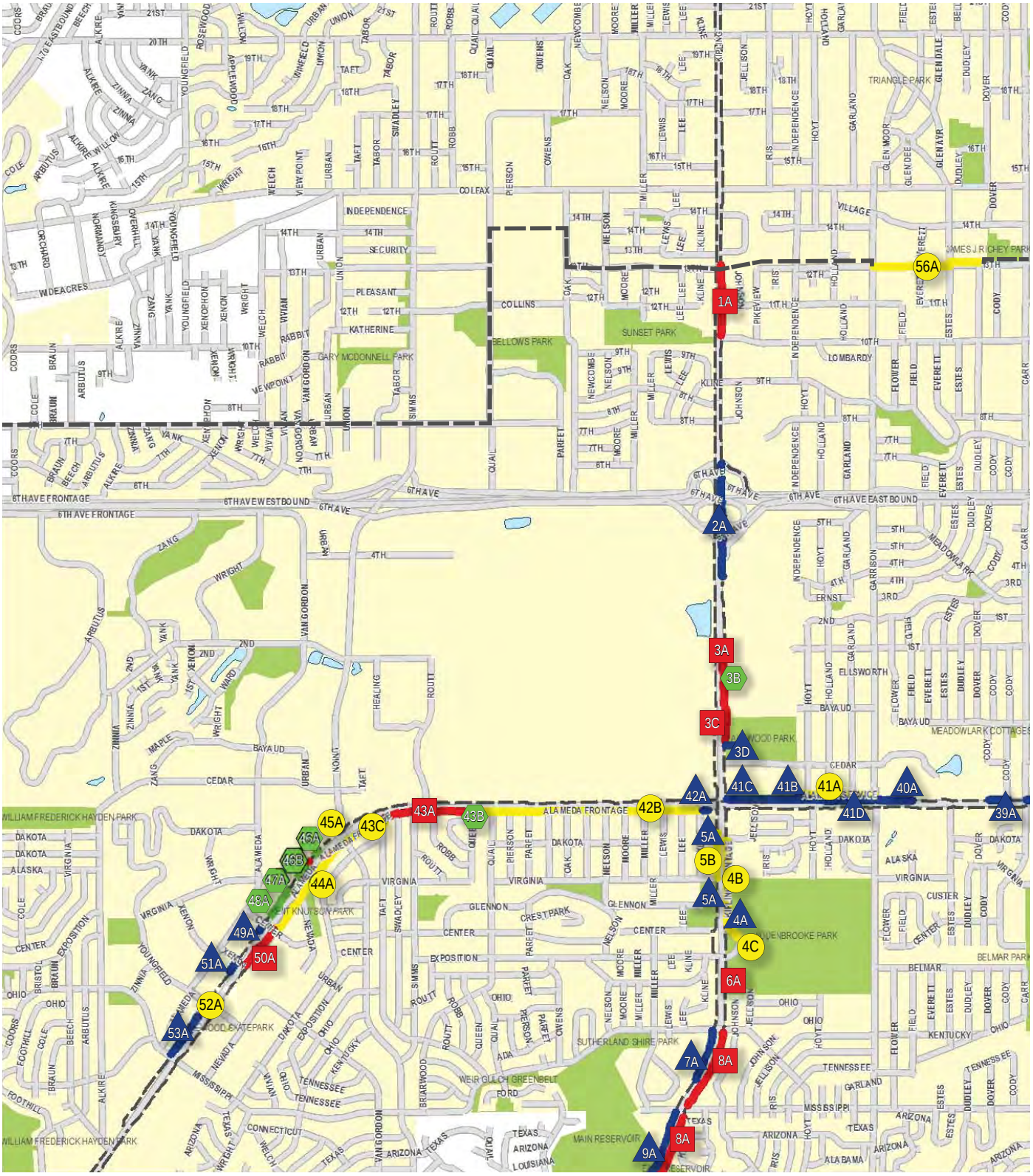
- Improves overall route connectivity and/or completes a missing gap in an existing route.
- Simplicity and low cost for the installation of the improvement.
- Enhances the safety for the pedestrian and bicyclist.
- The public process resulted in numerous public comments recommending the potential improvement.
- The 2005 Lakewood Bicycle System Master Plan also identified and recommended the development of the potential future project.

A high ranked project may meet all or the majority of the criteria. A medium ranked project, to a lesser degree, would meet some of the criteria, but would move up in priority as higher ranked projects are completed. Lower ranked projects may not meet most of the criteria and they may not be critical to the overall connectivity of the routes. In many situations, low priority projects could be included as future redevelopment projects arise that are adjacent to them. Furthermore, numerous low priority projects that warrant improvements are still in adequate condition, but were included as they will likely need repairs or enhancements within five years or more.

The ranking of these improvements may change in the forthcoming years as the City of Lakewood develops annual capital improvement projects and grant funding is awarded to complete specific projects that were identified in this assessment.



MAP BOOK KEY



MAP BOOK :: MAP 1

0 — 1/2 Mile — 1 Mile

SCALE

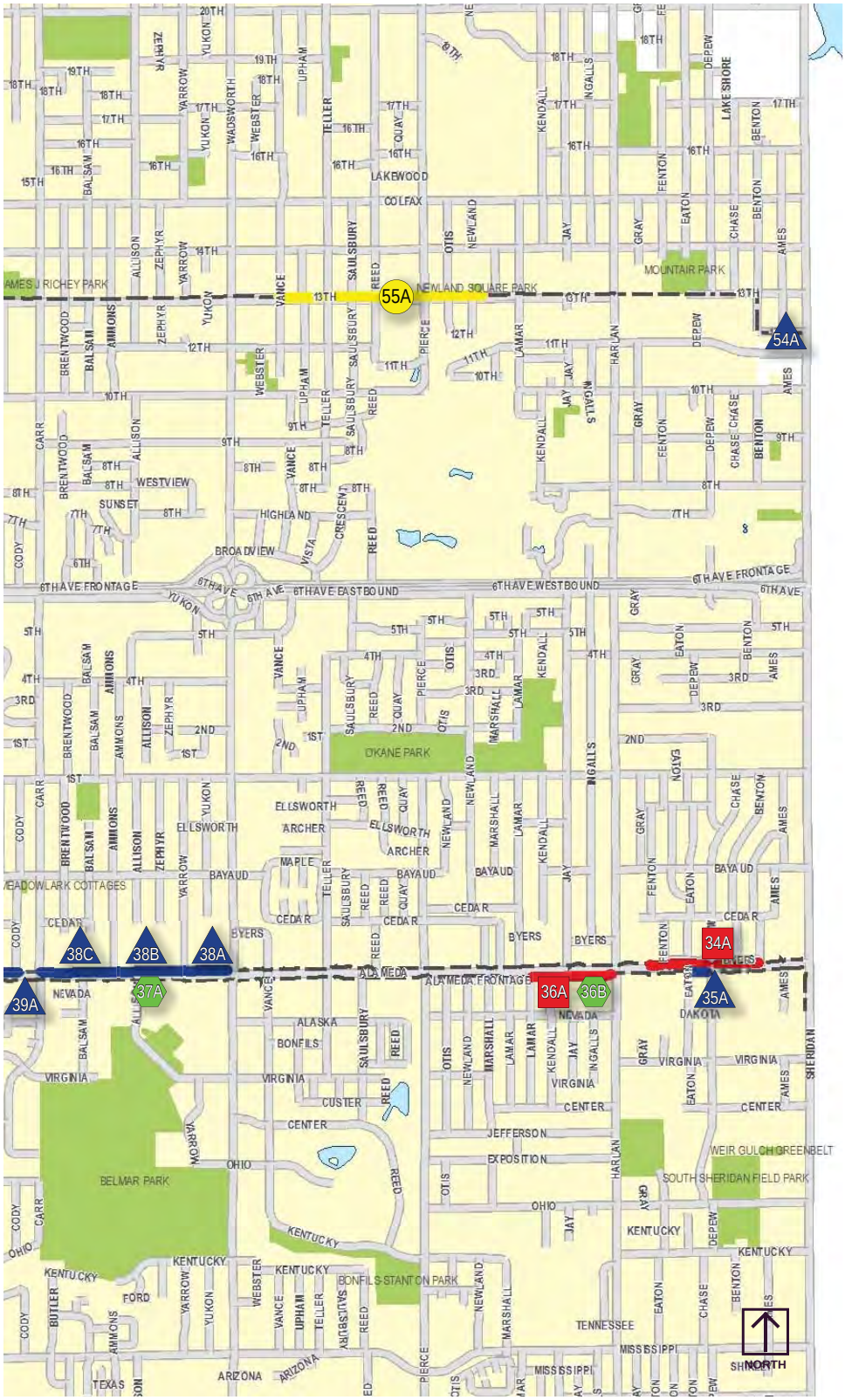
Existing Multi-Use Path

3A Trail Surface Improvements

43D Trail Construction Improvements

43A Safety and Accessibility Improvements

1A Signage / Striping Improvements



MAP BOOK :: MAP 2

0 — 1/2 Mile — 1 Mile

SCALE

Existing Multi-Use Path

3A Trail Surface Improvements

43D Trail Construction Improvements

43A Safety and Accessibility Improvements

1A Signage / Striping Improvements

MAP BOOK :: MAP 3

0 — 1/2 Mile — 1 Mile

SCALE

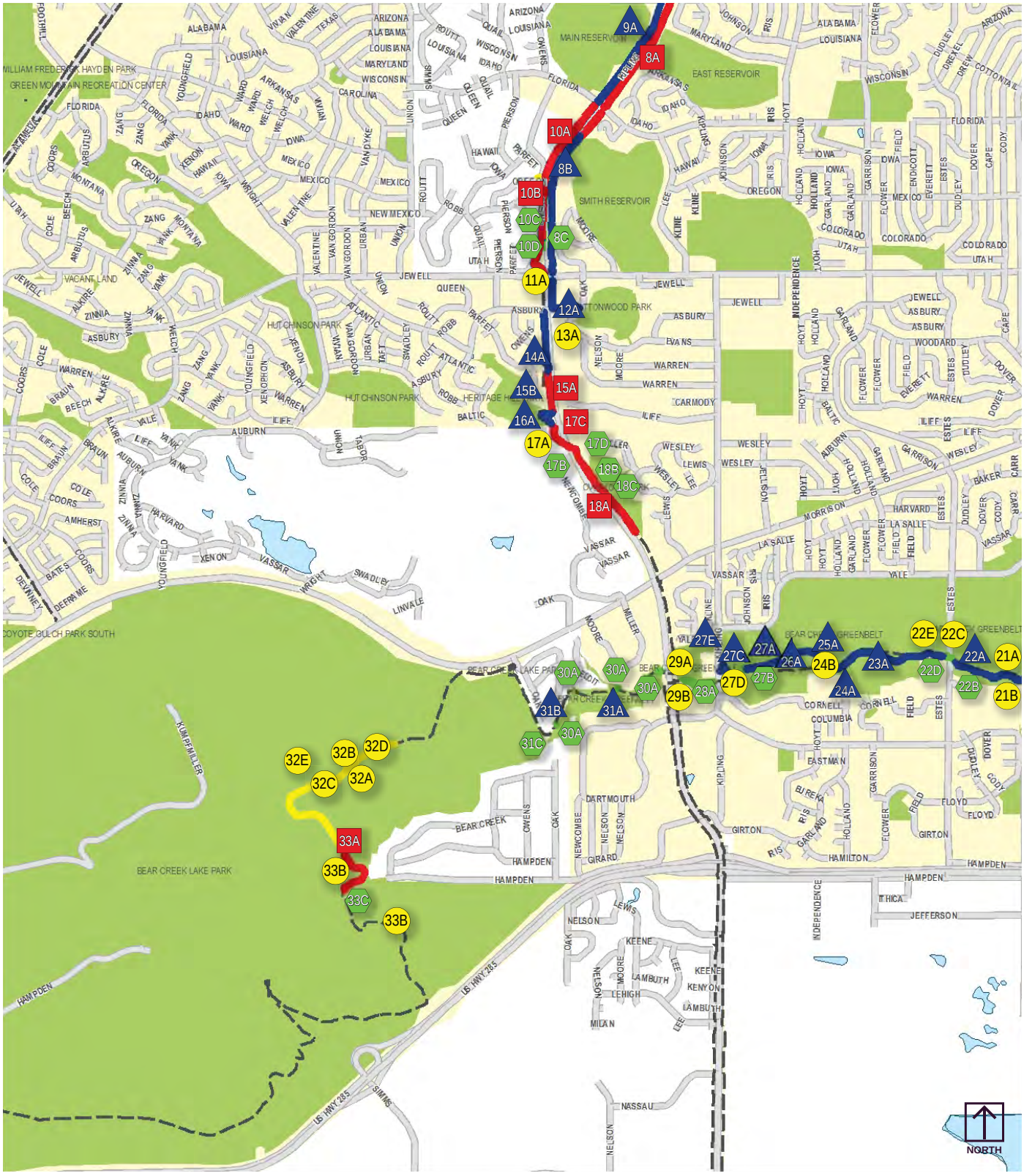
Existing Multi-Use Path

3A Trail Surface Improvements

43D Trail Construction Improvements

43A Safety and Accessibility Improvements

1A Signage / Striping Improvements



MAP BOOK :: MAP 4

0 — 1/2 Mile — 1 Mile

SCALE

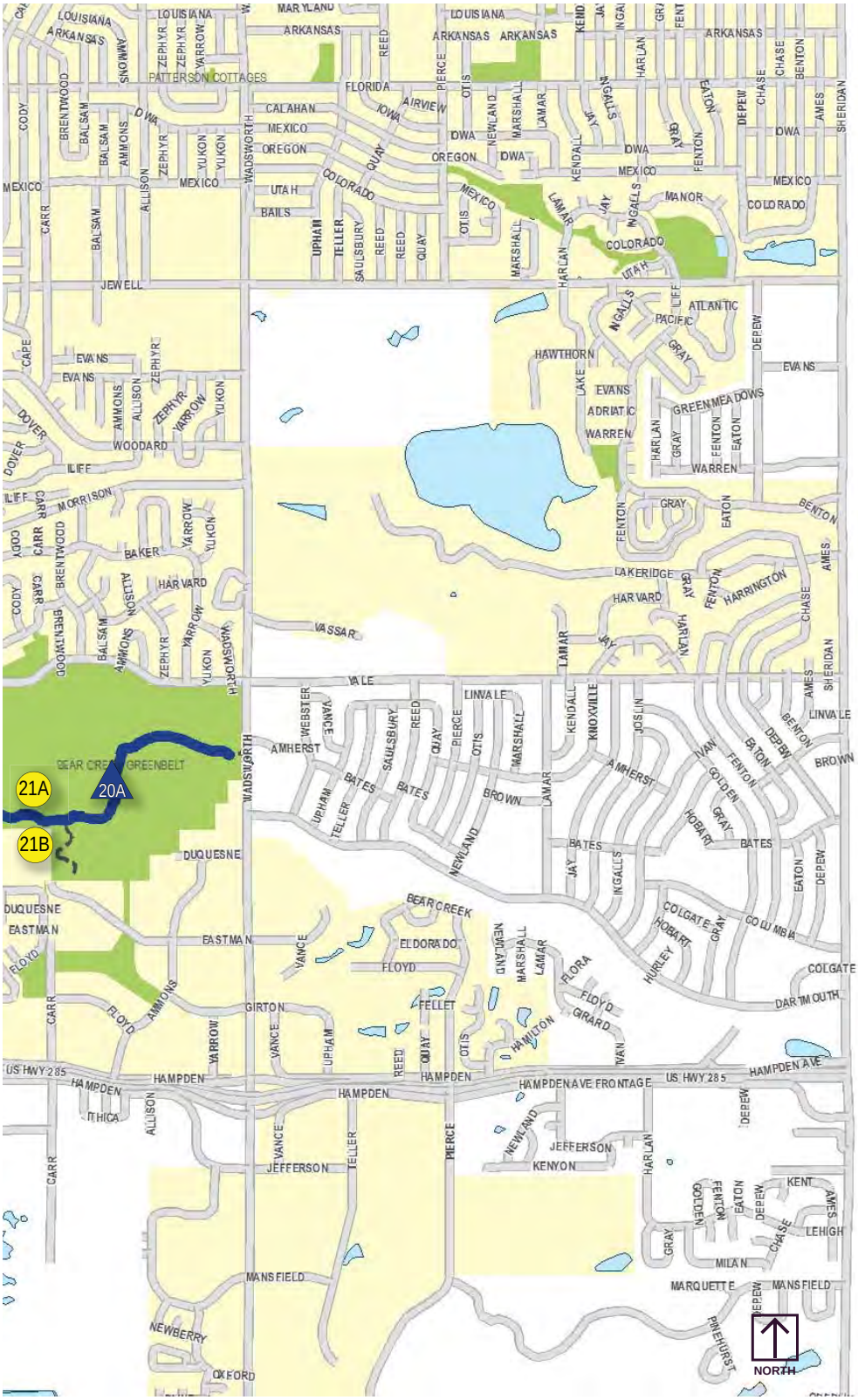
Existing Multi-Use Path

3A Trail Surface Improvements

43D Trail Construction Improvements

43A Safety and Accessibility Improvements

1A Signage / Striping Improvements



MAP BOOK :: MAP 5

0 1/2 Mile 1 Mile

SCALE

Existing Multi-Use Path

3A Trail Surface Improvements

43D Trail Construction Improvements

43A Safety and Accessibility Improvements

1A Signage / Striping Improvements

KIPLING TRAIL									
Map #	**Proj. #**	**Sub #**	**Project Location**	**Project Limits**	**Project Type**	**Priority**	**Quantity**	**Cost**	**Comments**
1	1	A	East of Kipling	W 13TH Ave. to W 10th Ave.	Surface Improvement	Mid	1, 210 LF	$$	Repair cracking concrete trail
1	2	A	East of Kipling	W 6th Ave. to W 6th Ave. Frontage Rd.	Trail Construction	Mid	1,600 LF	$$$	Widen existing sidewalk to 8' wide concrete shared-use path
1	3	A	East of Kipling	Fletcher Miller School to Lakewood Park	Surface Improvement	Mid	2,200 LF	$$$	Repair cracking concrete trail
1	3	B	East of Kipling	Stream South of Fletcher Miller School	Safety Enhancement	Low	150 LF	$$$	Wall and fence need to be moved back 2' from trail
1	3	C	East of Kipling	Lakewood Park	Surface Improvement	High	44 LF	$	Repair walk connection to crosswalk across Kipling
1	3	D	East of Kipling	Lakewood Park	Trail Construction	Low	220 LF	$	Provide connection to park
1	4	A	East of Kipling	S Kipling Frontage Rd	Trail Construction	Mid	1 EA	$	Provide ramp to access roadway/path
1	4	B	East of Kipling	S Kipling Frontage Rd	Signage/Striping	High	1,780 LF	$	Add "Share the Road" and wayfinding signage to S Kipling Frontage Rd
1	4	C	East of Kipling	S Kipling Frontage Rd	Signage/Striping	Mid	1 EA	$	Provide wayfinding signage at intersection to the east of W Exposition Ave. and S Kipling St.
1	5	A	West of Kipling	S Kipling Service Rd	Trail Construction	Mid	2 EA	$	Provide ramps to access roadway/path
1	5	B	West of Kipling	S Kipling Service Rd	Signage/Striping	High	730 LF	$	Add "Share the Road" and wayfinding signage to S Kipling Service Rd
1	6	A	East of Kipling	W Exposition Ave to W Kentucky Dr.	Surface Improvement	Mid	1,085 LF	$$	Replace cracking asphalt trail with 8' wide concrete trail
1	7	A	West of Kipling	W Kentucky Dr to rear of Brunswick Zone	Trail Construction	Low	870 LF	$$	Widen existing walk to 8' wide concrete shared-use path
1 & 4	8	A	East of Kipling	W Kentucky Dr. to Smith Reservoir	Surface Improvement	Low	4,585 LF	$$$$	Replace asphalt trail with concrete as it degrades
4	8	B	East of Kipling	Smith Reservoir to W Jewell Ave	Trail Construction	Low	2,510 LF	$$$	Widen existing walk to 8' wide concrete shared-use path
4	8	C	East of Kipling	Slope North of W Jewell Ave	Safety Enhancement	High	775 LF	$$	Add 42" tall vertical barrier on the west side of the trail at the top of the steep slope to the roadway. Must be a minimum 2' away from trail.
1 & 4	9	A	West of Kipling	W Mississippi Dr. to W Florida Ave	Trail Construction	Low	2460 LF	$$$$	Construct walls and 8' wide concrete trail
4	10	A	West of Kipling	W Florida Ave to north of W Oregon Pl.	Surface Improvement	Low	1,500 LF	$$$	Replace asphalt trail with 8' wide concrete trail as it degrades
4	10	B	West of Kipling	North of W Oregon Pl. to W Jewell Ave	Surface Improvement	Low	2,035 LF	$$$	Replace cracking asphalt trail with 8' wide concrete trail
4	10	C	West of Kipling	Slope North of W Jewell Ave	Safety Enhancement	Mid	1,270 LF	$$$	Remove existing fence and add 42" tall vertical barrier on high side of slope 2' away from trail edge
4	10	D	West of Kipling	Slope North of W Jewell Ave	Safety Enhancement	High	240 LF	$	Trim vegetation away from trail
4	11	A	West of Kipling	South of W Jewell Ave	Signage/Striping	Mid	2 EA	$	Add wayfinding signage at the intersection of the Kipling and Jewell trails
4	12	A	East of Kipling	South of W Jewell Ave to W Ashbury Ave	Trail Construction	Low	950 LF	$$	Widen existing walk to 8' wide concrete shared-use path (including north side of W Ashbury Ave to connect to Cottonwood Park)
4	13	A	East of Kipling	South of W Ashbury Ave	Signage/Striping	Mid	350 LF	$	Add "Trail Ends" Sign
4	14	A	West of Kipling	South of W Jewell Ave to trail switch back	Trail Construction	Mid	700 LF	$$$	Construct 8' wide concrete shared-use path where existing social trail cuts grade parallel to the Kipling & add appropriate drainage improvements
4	15	A	West of Kipling	South of trail switch back	Surface Improvement	Mid	750 LF	$$	Replace cracking asphalt trail with 8' wide concrete trail
4	15	B	West of Kipling	South of trail switch back(directly West of W Iliff Ave)	Trail Construction	Low	100 LF	$	Regrade swale along trail so water and algae do not collect on the trail
4	16	A	West of Kipling	Steep slope north of the Kipling underpass	Trail Construction	Mid	500 LF	$$$	Regrade the trail around the hill to the west to lessen the steep slope
4	17	A	Kipling	Kipling underpass	Signage/Striping	High	430 LF	$	Add "Slow Zone" pavement markings
4	17	B	Kipling	Kipling underpass	Safety Enhancement	High	430 LF	$	Trim vegetation away from trail
4	17	C	Kipling	Kipling underpass	Surface Improvement	Low	600 LF	$	Replace cracking asphalt trail with 8' wide concrete trail
4	17	D	East of Kipling	Kipling underpass	Safety Enhancement	High	40 LF	$	Repair handrail on existing bridge
4	18	A	East of Kipling	South of Kipling underpass	Surface Improvement	Mid	1,680 LF	$$$	Replace cracking asphalt trail with 8' wide concrete trail
4	18	B	East of Kipling	South of Kipling underpass	Safety Enhancement	Low	200 LF	$	Remove and replace deteriorating fence at least 2' away from trail edge
4	18	C	East of Kipling	South of Kipling underpass	Safety Enhancement	Low	350 LF	$	Repair or replace deteriorating fence

C-470 TRAIL									
Map #	**Proj. #**	**Sub #**	**Project Location**	**Project Limits**	**Project Type**	**Priority**	**Quantity**	**Cost**	**Comments**
3	19	A	C-470	Green Mountain Entrance / Pedestrian Overpass	Safety Enhancement	Low	160 L.F.	$	Regrade hill to prevent soil from washing onto trail

PROJECTED PROJECT COST RANGES

$	=	$0 - $50,000	$$$	=	$100,000 - $200,000
$$	=	$50,000 - $100,000	$$$$	=	$200,000 +

BEAR CREEK TRAIL								
Map #	**Proj. #**	**Sub #**	**Project Location**	**Project Limits**	**Project Type**	**Priority**	**Quantity**	**Cost**	**Comments**
5	20	A	Bear Creek	S Wadsworth Blvd. to S Estes St.	Trail Construction	Mid	4,510 LF	$$$	Construct crusher fines walking and running trail
4 & 5	21	A	Bear Creek	Stone House Bridge	Signage/Striping	High	1 EA	$	Replace existing Bear Creek directional sign to show path continuing forward, not turning across the bridge to The Stone House
4 & 5	21	B	Bear Creek	Stone House Bridge	Signage/Striping	Mid	1 EA	$	Orient trail map on south side to have south facing up to be true to the path direction and add "You Are Here" to the graphic
4	22	A	Bear Creek	S Estes St. Underpass	Trail Construction	High	1 EA	$$$$	Realign trail approaches to underpass to allow for better visibility. Remove trees and add walls where necessary
4	22	B	Bear Creek	East of S Estes St. Underpass	Safety Enhancement	High	75 LF	$	Cut back grade south of trail to allow for better visibility
4	22	C	Bear Creek	S Estes St. Underpass	Signage/Striping	High	250 LF	$	Repaint yellow trail center lines and extend on both sides
4	22	D	Bear Creek	S Estes St. Underpass	Safety Enhancement	High	250 LF	$	Trim vegetation away from signage and trail to improve visibility
4	22	E	Bear Creek	West of S Estes St. Underpass	Signage/Striping	High	1 EA	$	Add "Slow Zone" pavement markings
4	23	A	Bear Creek	S Estes St. to Creek Crossing (Existing Bridge)	Trail Construction	Mid	1,985 LF	$$	Construct crusher fines walking and running trail
4	24	A	Bear Creek	Creek Crossing (Existing Bridge)	Trail Construction	Low	1 EA	$$$$	Replace existing bridge at an angle and adjust the trail accordingly
4	24	B	Bear Creek	Creek Crossing (Existing Bridge)	Signage/Striping	High	2 EA	$	Add "Slow Zone" marking on trail to the north and south of the bridge
4	25	A	Bear Creek	North of Creek Crossing (Existing Bridge)	Trail Construction	Low	160 LF	$$$	Construct low-impact boardwalk crossing through riparian area
4	26	A	Bear Creek	Creek Crossing (Existing Bridge) to S. Kipling St.	Trail Construction	Mid	1,600 LF	$$	Construct crusher fines walking and running trail
4	27	A	Bear Creek	East of S. Kipling St.	Trail Construction	Mid	220 LF	$$	Remove existing curve in trail and construct 8' wide concrete shared-use path where maintenance road currently exists
4	27	B	Bear Creek	East of S. Kipling St.	Safety Enhancement	High	260 LF	$	Mow back grasses and remove saplings/low branches on inside of curves to enhance visibility and sight distances
4	27	C	Bear Creek	East of S. Kipling St.	Trail Construction	Low	200 LF	$$	Reroute the existing S Kipling St trail connection to the location of the existing social trail
4	27	D	Bear Creek	East of S. Kipling St.	Signage/Striping	High	3 EA	$	Add "Slow Zone" marking on trail to the north and south of the bridge because there are many access points that make user conflicts more probable
4	27	E	Bear Creek	East of S. Kipling St.	Trail Construction	Low	100 LF	$	Reroute the existing maintenance road to have a t-intersection into trail
4	28	A	Bear Creek	S. Kipling St. to S Kipling Pkwy.	Safety Enhancement	High	650 LF	$	Trim vegetation away from trail to improve visibility
4	29	A	Bear Creek	East of S. Kipling Pkwy.	Signage/Striping	High	1 EA	$	Provide clear signage that the Bear Creek trail continues on the north side of the creek
4	29	B	Bear Creek	East of S. Kipling Pkwy.	Signage/Striping	High	2 EA	$	Provide wayfinding signage for the Kipling trail on both the north and south side of the creek
4	30	A	Bear Creek	West of S. Kipling Pkwy.	Safety Enhancement	High	800 LF	$	Mow back grasses and remove saplings/low branches on inside of curves to enhance visibility and sight distances
4	31	A	Bear Creek	S. Kipling Pkwy. to Fox Hollow Lane	Trail Construction	Mid	4,520 LF	$$$	Construct crusher fines walking and running trail
4	31	B	Bear Creek	S. Kipling Pkwy. to Fox Hollow Lane	Trail Construction	Mid	1 EA	$	Construct culvert to provide crossing
4	31	C	Bear Creek	S. Kipling Pkwy. to Fox Hollow Lane	Signage/Striping	Mid	1 EA	$	Add pedestrian crossing signage and stirping on trail
4	32	A	Bear Creek	Fox Hollow Lane	Signage/Striping	High	1 EA	$	Add "Bike Trail" with left turn arrow signage
4	32	B	Bear Creek	Fox Hollow Lane	Signage/Striping	High	1 EA	$	Add "Trail Ends : Merge With Traffic" sign
4	32	C	Bear Creek	Fox Hollow Lane	Signage/Striping	High	3,900 LF	$	Service Road Sharrows-250' O.C. Max. or wayfinding siganage such as M1-8 Series Route Sign in conjunction with W11-1+W16-1P "Share the Road" Signage
4	32	D	Bear Creek	Fox Hollow Lane	Signage/Striping	High	3,900 LF	$	Add "Slow Zone" marking or green markings on road
4	32	E	Bear Creek	Fox Hollow Lane	Signage/Striping	High	1 EA	$	Add "Stop Ahead" and "Stop" signs
4	33	A	Bear Creek	Curve on the Trail South of Maintenance Building in park	Surface Improvement	Mid	800 LF	$$	Repair cracking concrete trail
4	33	B	Bear Creek	Curve on the Trail of Maintenance Building in park	Signage/Striping	Mid	800 LF	$	Add "Slow Zone" marking on trail
4	33	C	Bear Creek	Curve on the Trail of Maintenance Building in park	Safety Enhancement	High	800 LF	$	Cut back vegetation on the inside of the turn before the neighborhood connection to create clear lines of sight

PROJECTED PROJECT COST RANGES

$	=	$0 - $50,000	$$$	=	$100,000 - $200,000
$$	=	$50,000 - $100,000	$$$$	=	$200,000 +

ALAMEDA TRAIL

Map #	Proj. #	Sub #	Project Location	Project Limits	Project Type	Priority	Quantity	Cost	Comments
2	34	A	North of Alameda	S. Benton St. to S Fenton St.	Surface Improvement	Low	1,270 LF	$$	Replace cracking asphalt trail with 8' wide concrete trail
2	35	A	South of Alameda	S. Depew St to S. Eaton St.	Trail Construction	Mid	250 LF	$$	Define trail through parking lot and limit vehicular access areas
2	36	A	South of Alameda	S. Harlan St to S. Lamar St.	Surface Improvement	Low	1,080 LF	$$	Replace cracking asphalt trail with 8' wide concrete trail
2	36	B	South of Alameda	S. Harlan St to S. Lamar St.	Accessibility Enhancement	Mid	8 EA	$$	Accessible ramp reconstruction at entry drives
2	37	A	South of Alameda	S Allison Parkway	Safety Enhancement	Low	1 EA	$	Relocate push button on southeast corner of intersection closer to the trail surface
2	38	A	North of Alameda	East of S Yarrow St	Trail Construction	Low	160 LF	$	Widen existing walk to 8' wide concrete shared-use path
2	38	B	North of Alameda	West of S Yarrow St	Trail Construction	Mid	630 LF	$	Construct 8' wide concrete shared-use path
2	38	C	North of Alameda	S Yarrow St to S Carr St	Trail Construction	Low	950 LF	$$	Widen existing walk to 8' wide concrete shared-use path
1 & 2	39	A	North of Alameda	West of S. Cody St.	Trail Construction	Low	310 LF	$	Construct 8' wide concrete shared-use path
1	40	A	North of Alameda	S Garrison St to Church Entry Drive	Trail Construction	Low	520 LF	$	Widen existing walk to 8' wide concrete shared-use path
1	41	A	North of Alameda	S Garrison St to W Alameda Service Road	Signage/Striping	Low	1,285 LF	$	W Alameda Service Road Sharrows-250' O.C. Max. or Wayfinding siganage such as M1-8 Series Route Sign in conjunction with W11-1+W16-1P "Share the Road" Signage
1	41	B	North of Alameda	Existing Trail to W Alameda Service Road	Trail Construction	Low	600	$	Construct 8' wide concrete shared-use path
1	41	C	North of Alameda	W Alameda Service Road to S. Kipling St.	Trail Construction	Low	700 LF	$	Widen existing sidewalk to 8' wide concrete shared-use path
1	41	D	North of Alameda	S Garrison St to W Alameda Service Road (Future)	Trail Construction	Low	1,400 LF	$$	Parallel W Alameda Service Road with 8' wide concrete shared-use path
1	42	A	South of Alameda	S Kipling St. to S Kline St.	Trail Construction	Low	90 LF	$	Remove existing asphalt drive extension and replace with detached 8' wide concrete shared-use path
1	42	B	South of Alameda	S Kline St. to S. Queen St.	Signage/Striping	High	3,950 LF	$	Service road sharrows-250' O.C. max. or wayfinding siganage such as M1-8 Series Route Sign in conjunction with W11-1+W16-1P "Share the Road" signage
1	43	A	South of Alameda	S Queen St. To S. Taft St.	Surface Improvement	Low	1,410 LF	$$	Replace asphalt trail with concrete as it degrades
1	43	B	South of Alameda	S Queen St.	Accessibility Enhancement	Low	1 EA	$	Replace degraded accessible ramp
1	43	C	South of Alameda	S Taft St.	Signage/Striping	Low	1 EA	$	Install M1-8 Series Route Sign or similar with arrow to define service road as trail
1	44	A	South of Alameda	S Taft St. To W. Center Ave	Signage/Striping	High	2,530 LF	$	Service road sharrows-250' O.C. Max. or Wayfinding siganage such as M1-8 Series Route Sign in conjunction with W11-1+W16-1P "Share the Road" signage
1	45	A	North of Alameda	West of S. Union Boulevard	Signage/Striping	Mid	1-2 EA	$	Add yield signage to trail at Auto World/Xpress Lube/Peerless Tire Co. entry drive
1	46	A	North of Alameda	S. Urban St.	Safety Enhancement	Low	530 LF	$	Replace barrier on south side of trail to meet AASHTO standards
1	46	B	North of Alameda	East of S. Urban St.	Safety Enhancement	Low	50 LF	$	Move wall 2' away from trail surface
1	47	A	North of Alameda	East of W Virginia Ave	Safety Enhancement	Low	70 LF	$	Move wall 2' away from trail surface
1	48	A	North of Alameda	East of W Center Ave	Safety Enhancement	High	630 LF	$	Trim vegetation away from trail
1	49	A	North of Alameda	West of W Center Ave	Trail Construction	High	180 LF	$	Construct 8' wide concrete shared-use path
1	50	A	South of Alameda	W Center Ave to S Xenon Ct.	Surface Improvement	Low	760 LF	$	Repair existing concrete trail
1	51	A	North of Alameda	West of S Xenon Ct.	Trail Construction	High	230 LF	$	Construct 8' wide concrete shared-use path
1	52	A	South of Alameda	S Youngfield Ct.	Signage/Striping	High	2 EA	$	Add Yield signs on both sides of Youngfield
1	53	A	North of Alameda	W. Mississippi to Safeway Entry Drive	Trail Construction	Mid	470 LF	$$	Construct 8' wide concrete shared-use path

W-LINE TRAIL

Map #	Proj. #	Sub #	Project Location	Project Limits	Project Type	Priority	Quantity	Cost	Comments
2	54	A	North of W-Line	Sheridan Station	Trail Construction	Mid	75 LF	$	Provide pedestrian and bicycle access around the barrier (north side of tracks)
2	55	A	North of W-Line	West of Marshal St. to Vance St.	Signage/Striping	High	2,800 LF	$	Service road sharrows-250' O.C. Max. or Wayfinding siganage such as M1-8 Series Route Sign in conjunction with W11-1+W16-1P "Share the Road" signage. Implement JeffCo Regional Bikeway Wayfinding signs and the West Rail Line Neighborhood Transportation Study
1	56	A	W-Line	Dudley St. to Garrison St.	Signage/Striping	High	1,900 LF	$	Add sharService road sharrows-250' O.C. Max. or Wayfinding siganage such as M1-8 Series Route Sign in conjunction with W11-1+W16-1P "Share the Road" signage. Implement JeffCo Regional Bikeway Wayfinding signs and the West Rail Line Neighborhood Transportation Study

PROJECTED PROJECT COST RANGES

$	=	$0 - $50,000	$$$	=	$100,000 - $200,000
$$	=	$50,000 - $100,000	$$$$	=	$200,000 +

PHASE TWO

NEW CONNECTIONS

The potential new trail connections that were evaluated in this phase involved analyzing slope, drainage, flood plains, public and private ownership of parcels, and rights-of-way.

The proposed trail alignments that were presented at the public meeting were well received. Proposed cost estimates for the new connections are provided at the end of this section. Additionally, comment cards from the public meeting are included in the appendix.

The following areas are included in this phase:

1. South Coyote Gulch Park
2. Alameda Ave to Green Mountain Recreation Center
3. Sunset Park west to Kipling Street
4. Weir Gulch from Pierce Street to Sheridan Boulevard
5. Bonfils-Stanton Park north to Mississippi Avenue

South Coyote Gulch Park

The proposed trail route is located within an open space with significant elevation changes. The site is adjacent to single family homes. The proposed route will provide connections from W. Yale Avenue to W. Morrison Road completing an important, off-street link from W. F. Hayden Park to B.C.L.P. The proposed route will connect to existing neighborhood trails as well.

Due to the existing sloped topography, sections of the proposed trail will likely include retaining walls and railings.

Coyote Gulch trail design and implementation will require additional public input. In addition, alternate routes exist at nearby Indiana Street and Bear Creek Boulevard. Due to these connections this route may not rank as a high priority project.

COYOTE GULCH AT SOUTH ELDRIGE COURT LOOKING WEST

CITY OF LAKEWOOD

COYOTE GULCH PARK

EXISTING COYOTE GULCH TRAIL

REMOVE AND REROUTE EXISTING TRAIL

S. GLADIOLA WAY

MID-BLOCK CROSSING WITH PEDESTRIAN REFUGE ISLAND

W. YALE AVENUE

EXISTING 3:1 SLOPE

1

WALL WITH SAFETY BARRIER

EXISTING 10%

COYOTE GULCH

EXISTING 3:1 SLOPE

WALL WITH SAFETY BARRIER

PROPOSED 10' TRAIL

WALL WITH SAFETY BARRIER

EXISTING 2:1 SLOPE

W. CORNELL AVE

S. ELDRIDGE CT

BEAR CREEK BOULEVARD

CONNECTION TO EXISTING CROSSING

2

WALL WITH SAFETY BARRIER

COMMUNITY ACCESS REMOVE FENCE

WALL WITH SAFETY BARRIER

3

EXISTING 4:1 SLOPE

ADD WAYFINDING SIGNAGE

CONNECT TO W. MORRISON ROAD TRAIL

CITY OF LAKEWOOD

4

W. MORRISON ROAD

PROJECT LOCATION

ALAMEDA

KIPLING

WADSWORTH

N

0’ 50’ 100’

NORTH

West Alameda Avenue to Green Mountain Recreation Center

This connection will provide a local trail from the existing Alameda trail to the Green Mountain Recreation Center. Due to steep, inaccesible slopes, a direct connection from the back of the Recreation Center to Alameda is not feasible. The proposed plan includes the development of an on-street route with Sharrows and also enhances a portion of the trail along W. Green Mountain Drive.

TRAIL AT SOUTH ARBUTUS PLACE CUL-DE-SAC LOOKING WEST

ALAMEDA TRAIL AT GREEN MOUNTAIN RECREATION CENTER LOOKING NORTHEAST

PROPOSED WAYFINDING SIGNAGE (2 SIDED) TO PROVIDE DIRECTIONS TO WILLIAM FREDERICK HAYDEN PARK

W. GREEN MOUNTAIN DR.

WIDEN EXISTING WALK TO 8'

PROPOSED CROSSWALK

CHURCH OF JESUS CHRIST OF LATTER DAY SAINTS

EXISTING 8' TRAIL

NARROW, STEEP AREA PREVENTS TRAIL ACCESS ON NORTH SIDE OF THE BUILDING

EXISTING RETAINING WALL

WILLIAM FREDERICK HAYDEN PARK

W. ALAMEDA PARKWAY

WIDEN EXISTING 6' TRAIL TO 8' TRAIL

2:1 SLOPE

3:1 SLOPE

GREEN MOUNTAIN REC. CENTER

MAIN ENTRANCE AND BIKE RACK

STEEP SLOPES PREVENT TRAIL ACCESS WITHOUT LARGE RETAINING WALLS

EXISTING 8' TRAL

CITY OF LAKEWOOD

2:1 SLOPE

PROPOSED WAYFINDING SIGNAGE

EXISTING 8' TRAIL

S. ARBUTUS PL.

ADD SHARROWS TO PROVIDE WAYFINDING

CITY OF LAKEWOOD

PROPOSED ON-STREET BICYCLE ROUTE

W. FLORIDA DR.

PROPOSED WAYFINDING SIGNAGE (2 SIDED) TO PROVIDE DIRECTIONS TO WILLIAM FREDERICK HAYDEN PARK

W. FLORIDA DR.

PROJECT LOCATION

ALAMEDA

KIPLING

WADSWORTH

N

0' 30' 60'

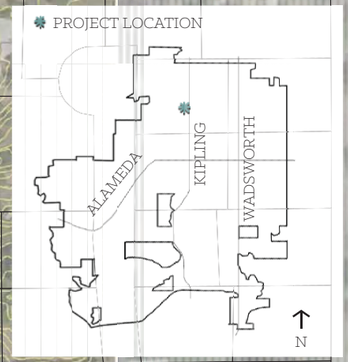
NORTH

Sunset Park west to Kipling Street

Sunset Park is a neighborhood park that is located south of W. 12th Avenue and west of Kipling Parkway. A trail exists within the park and extends to the west from Sunset Park. The proposed route would extend the existing trail east through an undeveloped portion Sunset Park to Kipling Parkway. This reach is heavily used by the neighborhood as evidenced by extensive social trails.

SUNSET PARK MAINTENANCE ROAD LOOKING EAST

SUNSET PARK TRAIL LOOKING WEST



W. 12TH AVENUE

MILLER STREET

OAK STREET

SUNSET PARK

EXISTING 8' TRAIL

1

CONNECT TO EXISTING TRAIL

2

3

EXISTING 8' TRAIL

PROPOSED TRAIL REALIGNMENT

ALTERNATIVE TRAIL ALIGNMENT WITH GRADE SEPARATED CROSSING

POTENTIAL FUTURE UNDERPASS FOR TRAIL AND CREEK

PROPOSED 8' TRAIL

ADD 8' DETACHED OR 10' ATTACHED TRAIL AT TIME OF FUTURE DEVELOPMENT AND / OR CITY ACQUISITION OF PUBLIC RIGHT-OF-WAY

GRADE SEPARATED CROSSING

KIPLING STREET

POTENTIAL CONNECTION TO 10TH AVE BIKE LANE (CREEK CROSSING REQUIRED)

POTENTIAL CONNECTION TO HIGH SCHOOL

LAKEV HIGH SCI

W. 9TH PLACE

W. 9TH DRIVE

OAK STREET

NEWCOMBE STREET

MILLER COURT

MILLER STREET

ADD 8' DETACHED OR 10' ATTACHED TRAIL AT TIME OF FUTURE DEVELOPMENT AND / OR CITY ACQUISITION OF PUBLIC RIGHT-OF-WAY

W. 9TH AVENUE

KLINE DRIVE

0' 50' 100'

NORTH

Weir Gulch from Pierce Street to Sheridan Boulevard

The concept of a trail connection through the Weir Gulch has long been considered an important future regional shared-use path connection. A large percentage of the gulch is encumbered by a flood plain and existing riparian vegetation, thereby it is not suitable for development, but offers an opportunity for a multi-use trail corridor through a greenway of existing vegetation.

The study of the Weir Gulch involved an analysis of the flood plain, location of public utilities, identifying public right of ways and easements, feasibility of crossing the existing gulch, and ownership of adjacent parcels.

Three options were developed with the goal to provide a connection from the existing route at the intersection of Pierce Street and West Kentucky Drive to the existing City of Denver trail on the east side of Sheridan Boulevard, just north of West Exposition Avenue.

Trail implementation within Weir Gulch will involve subsequent neighborhood and larger public input to explore trail construction and use impacts.

Interim Route

» This proposed route consists of on-street routes that utilize the existing bicycle lanes along Pierce and Harlan streets as well as the inclusion of other road segments to complete the route. The application of Sharrows or additional bicycle lanes should be considered.

Preferred Route

» This alternative utilizes an existing utility corridor, underutilized right-of-way, and a City of Lakewood parcel to provide for this connection. Three stream crossing are proposed that may be required for this trail alignment. The remainder of this route will ultimately connect to Sheridan Boulevard via W. Kentucky Avenue.

Long Term

» This option is the Preferred Route alignment and includes developing a trail segment along the stream east of Depew Street to provide a direct connection to the City of Denver trail. This alignment would include a grade separated crossing at Sheridan Boulevard.

WIER GULCH AT SOUTH PIERCE STREET LOOKING EAST

WEST KENTUCKY AVENUE AT SOUTH HARLAN STREET LOOKING EAST

W. JEFFERSON PLACE
W. EXPOSITION AVENUE
S. OTIS STREET
S. MARSHAL STREET
PROPOSED ON-STREET BICYCLE ROUTE ADD SHARROWS
RAY ROSS PARK CITY OF LAKEWOOD
DENVER CO CONGREGATION OF JEHOVAS WITNESSES BARNUM UNIT LLC
FLOODPLAIN
CITY OF LAKEWOOD
EXISTING WEIR GULCH TRAIL (DENVER)
SOUTH SHERIDAN FIELD PARK CITY OF LAKEWOOD
PUBLIC SERVICE COMPANY OF COLORADO
ACCESS TO PARK
WIDEN WALK TO 8' CITY OF DENVER
W. OHIO AVENUE
ADD SHARROWS
EXISTING BIKE LANES
PUBLIC SERVICE COMPANY OF COLORADO
S. KENDALL STREET
S. JAY STREET
EXISTING BIKE LANES
S. FENTON STREET
PROPOSED ON-STREET BICYCLE ROUTE
S. DEPEW STREET
ACCESS TO SCHOOL AND PARK
CITY OF LAKEWOOD
BRADY EXPLORATION HIGH SCHOOL
CITY AND COUNTY OF DENVER
R.L. MINISTRIES
S. SHERIDAN BOULEVARD
CITY OF LAKEWOOD
PUBLIC SERVICE COMPANY OF COLORADO
W. KENTUCKY DRIVE
W. KENTUCKY AVENUE
RIGHT-OF-WAY
RIGHT-OF-WAY
W. KENTUCKY AVENUE
EXISTING SIGNALIZED INTERSECTION
WIDEN EXISTING WALK
S. OTIS STREET
S. NEWLAND STREET
S. MARSHAL STREET
WEST METRO FIRE PROTECTION DISTRICT
S. HARLAN STREET
PROPOSED ON-STREET BICYCLE ROUTE (PER 2005 LAKEWOOD BICYCLE SYSTEM MASTER PLAN) ADD SHARROWS
S. PIERCE STREET
CITY OF LAKEWOOD
RIDGEWOOD ASSOC. LMTD. PARTNERSHIP

PROJECT LOCATION
ALAMEDA
KIPLING
WADSWORTH
N

0’ 100’ 200’
NORTH

W. OHIO AVENUE

S. HARLAN STREET

FLOODPLAIN

EXISTING BIKE LANES

PROPOSED CROSSWALKS

PUBLIC SERVICE COMPANY OF COLORADO

PROPOSED 10' TRAIL

WIDEN EXISTING WALK TO 8 MIN. WIDTH

W. KENTUCKY AVENUE

CITY OF LAKEWOOD

S. KENDALL STREET

S. JAY STREET

EXISTING FLOODPLAIN

PROPOSED '0' TRAIL THROUGH EXISTING R.O.W.

PROPOSED WAYFINDING SIGNAGE

W KENTUCKY AVE.

PROPOSED BIKE CROSSING

PROPOSED STREAM CROSSINGS

RIGHT-OF-WAY

ALTERNATIVE TRAIL ALIGNMENT (TO AVOID COSTLY GULCH CROSSING) TRAIL EASEMENTS REQUIRED)

WEST METRO FIRE PROTECTION DISTRICT

SEE BONFILS-STATON PARK CONNECTION

S. PIERCE STREET

S. OTIS STREET

S. NEWLAND STREET

S. MARSHALL STREET

CITY OF LAKEWOOD

W. TENNESSEE AVENUE

PROJECT LOCATION

ALAMEDA

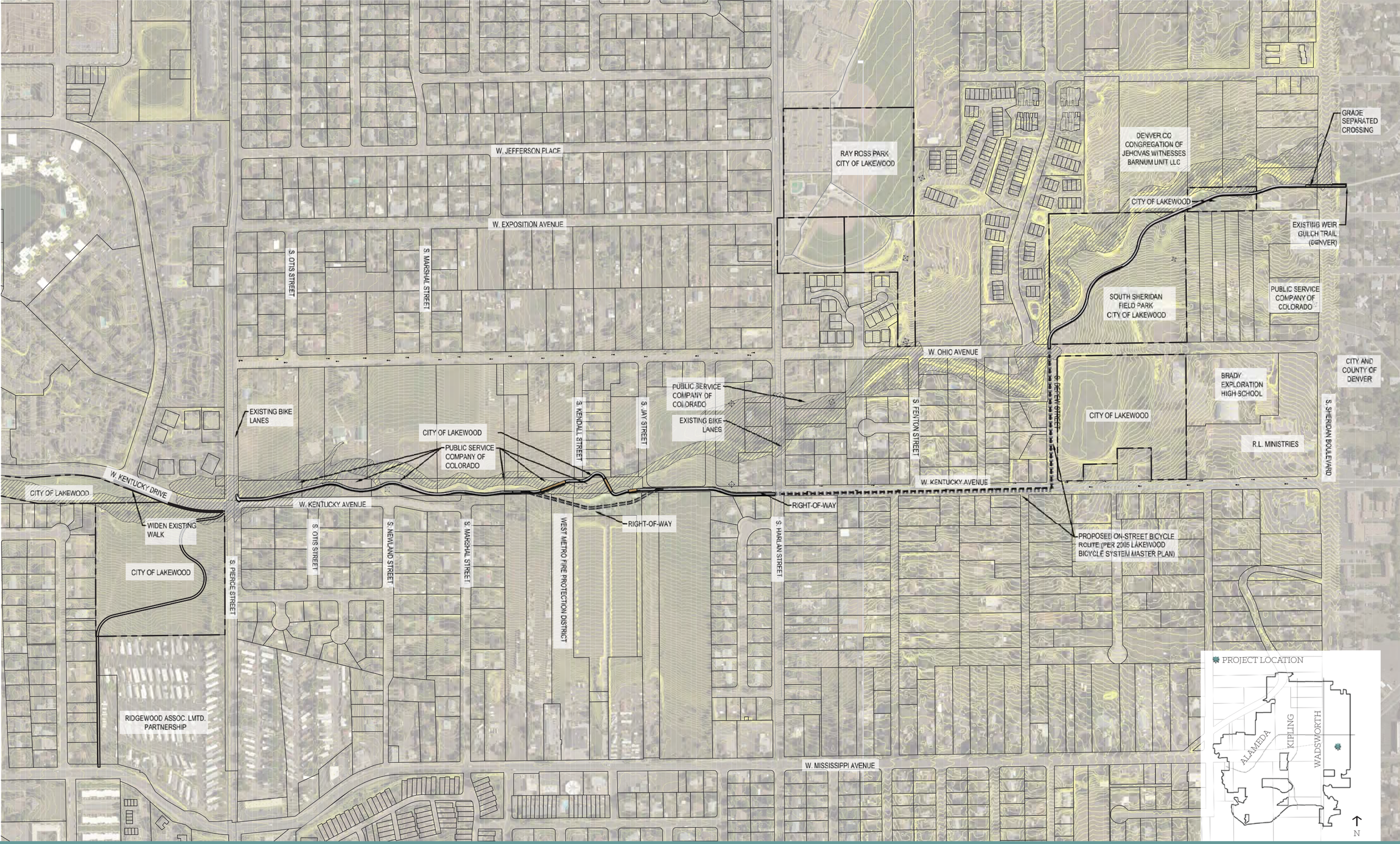
KIPLING

WADSWORTH

N

0' 50' 100'

NORTH


W. JEFFERSON PLACE
W. EXPOSITION AVENUE
S. OTIS STREET
S. MARSHAL STREET
RAY ROSS PARK
CITY OF LAKEWOOD
DENVER CO CONGREGATION OF JEHOVAS WITNESSES BARNUM UNIT LLC
GRADE SEPARATED CROSSING
CITY OF LAKEWOOD
EXISTING WEIR GULCH TRAIL (DENVER)
SOUTH SHERIDAN FIELD PARK CITY OF LAKEWOOD
PUBLIC SERVICE COMPANY OF COLORADO
W. OHIO AVENUE
S. DEPEW STREET
S. FENTON STREET
CITY AND COUNTY OF DENVER
BRADY EXPLORATION HIGH SCHOOL
CITY OF LAKEWOOD
R.L. MINISTRIES
S. SHERIDAN BOULEVARD
EXISTING BIKE LANES
CITY OF LAKEWOOD
PUBLIC SERVICE COMPANY OF COLORADO
S. KENDALL STREET
S. JAY STREET
PUBLIC SERVICE COMPANY OF COLORADO
EXISTING BIKE LANES
W. KENTUCKY DRIVE
CITY OF LAKEWOOD
W. KENTUCKY AVENUE
RIGHT-OF-WAY
RIGHT-OF-WAY
W. KENTUCKY AVENUE
WIDEN EXISTING WALK
CITY OF LAKEWOOD
S. PIERCE STREET
S. OTIS STREET
S. NEWLAND STREET
S. MARSHAL STREET
WEST METRO FIRE PROTECTION DISTRICT
S. HARLAN STREET
PROPOSED ON-STREET BICYCLE ROUTE (PER 2005 LAKEWOOD BICYCLE SYSTEM MASTER PLAN)
RIDGEWOOD ASSOC. LMTD. PARTNERSHIP
W. MISSISSIPPI AVENUE
PROJECT LOCATION
ALAMEDA
KIPLING
WADSWORTH
N

Bonfils-Stanton Park South to Mississippi Avenue

The proposed route goes through an underutilized park space and includes a connection to W. Mississippi Avenue, which would provide connections to the Link Recreation Center, and to the Weir Gulch Trail. Additionally, the development of a trail through this underutilized park will create passive recreational opportunities within the park space. Any proposed trail or park development should include a security assessment due to the low visibility of parts of the property.

SOUTHWEST CORNER OF BONFILS-STANTON PARK LOOKING NORTHEAST

WEST KENTUCKY AVENUE AT SOUTH PIERCE STREET LOOKING SOUTHWEST AT BONFILS-STANTON PARK

BONFILS STATON PARK
CITY OF LAKEWOOD

CONNECT TO EXISTING TRAIL

W. KENTUCKY DRIVE

WIDEN EXISTING WALK TO 8' MIN. WIDTH

STEEP CLIMB TO EXISTING TRAIL

EXISTING SOCIAL TRAIL

5% SLOPE

9% SLOPE

CITY OF LAKEWOOD

ADA COMPLIANT TRAIL ALIGNMENT

10% SLOPE

EXISTING BIKE LANES

CTY OF LAKEWOOD

PROPOSED WAYFINDING SIGNAGE

NARROW DRAINAGE EASEMENT CORRIDOR

RIDGEWOOD ASSOC. LMTD. PARTNERSHIP

8' PATH ON SOUTH SIDE OF MISSISSIPPI AVENUE

PUBLIC SERVICE COMPANY OF COLORADO

PUBLIC SERVICE COMPANY OF COLORADO

PUBLIC SERVICE COMPANY OF COLORADO

PUBLIC SERVICE COMPANY OF COLORADO

W. KENTUCKY AVENUE

CITY OF LAKEWOOD

W. TENNESSEE AVENUE

W. KENTUCKY AVENUE

S. PIERCE STREET

S. OTIS STREET

S. NEWLAND STREET

S. MARSHALL STREET

S. UPHAM STREET

S. TELLER STREET

S. SAULSBURY STREET

S. REED STREET

O'CONNELL MIDDLE SCHOOL

W. MISSISSIPPI AVENUE

LAKEWOOD LNK RECREATION CENTER

PROJECT LOCATION

ALAMEDA

KIPLING

WADSWORTH

N

0' 50' 100'

NORTH

Lakewood Trail Inventory and Connectivity Assessment

New Trail Connection :: Cost Estimates

Sunset Park	Quantity	Unit	Cost/Unit	Price
8' Wide Concrete Trail	9,280	SF	$ 7.50	$ 69,600
8' Wide Concrete Trail with Retaining Wall	1,920	SF	$ 18.00	$ 34,560
			TOTAL	$ 104,160

Green Mountain Rec Center	Quantity	Unit	Cost/Unit	Price
10' Wide Concrete Trail	2,400	SF	$ 7.50	$ 18,000
8' Wide Concrete Trail	9,280	SF	$ 7.50	$ 69,600
Crosswalk	45	LF	$ 300.00	$ 13,500
2-Sided Wayfinding Signage	2	EA	$ 900.00	$ 1,800
1-Sided Wayfinding Signage	1	EA	$ 750.00	$ 750
Standard Sharrow	5	EA	$ 375.00	$ 1,875
Turning Sharrow	2	EA	$ 375.00	$ 750
			TOTAL	$ 106,275

Coyote Gulch	Quantity	Unit	Cost/Unit	Price
10' Wide Concrete Trail	10,750	SF	$ 7.50	$ 80,625
10' Wide Concrete Trail With Retaining Wall & Railing	11,350	SF	$ 15.00	$ 170,250
8' Wide Concrete Trail	1,040	SF	$ 7.50	$ 7,800
Crosswalk	220	LF	$ 300.00	$ 66,000
1-Sided Wayfinding Signage	2	EA	$ 750.00	$ 1,500
			TOTAL	$ 326,175

Bonfils Stanton Park	Quantity	Unit	Cost/Unit	Price
10' Wide Concrete Trail	17,880	SF	$ 7.50	$ 134,100
8' Wide Concrete Trail	4,240	SF	$ 7.50	$ 31,800
2-Sided Wayfinding Signage	2	EA	$ 900.00	$ 1,800
Easement Acquisition	14,300	SF	$ 10.00	$ 143,000
			TOTAL	$ 310,700

Weir Gulch :: Interim Route (On-street) :: Pierce to Sheridan	Quantity	Unit	Cost/Unit	Price
Standard Sharrow	42	EA	$ 375.00	$ 15,750
Turning Sharrow	2	EA	$ 375.00	$ 750
			TOTAL	$ 16,500

Weir Gulch :: Perferred Route (No Stream Crossings) :: Pierce to Harlan*	Quantity	Unit	Cost/Unit	Price
10' Wide Concrete Trail	25,400	SF	$ 7.50	$ 190,500
10' Wide Concrete Trail With Retaining Wall & Railing	1,220	SF	$ 15.00	$ 18,300
Crosswalk	25	LF	$ 300.00	$ 7,500
2-Sided Wayfinding Signage	1	EA	$ 900.00	$ 900
Easement Acquisition	45,400	SF	$ 10.00	$ 454,000
			TOTAL	$ 671,200

Weir Gulch :: Perferred Route (Stream Crossings) :: Pierce to Harlan*	Quantity	Unit	Cost/Unit	Price
10' Wide Concrete Trail	23,440	SF	$ 7.50	$ 175,800
10' Wide Concrete Trail With Retaining Wall	1,220	SF	$ 15.00	$ 18,300
130' Long Stream Crossing Bridge	1	LS	$ 570,000.00	$ 570,000
70' Long Stream Crossing Bridge	1	LS	$ 280,000.00	$ 280,000
40' Long Stream Crossing Bridge	1	LS	$ 175,000.00	$ 175,000
Crosswalk	25	LF	$ 300.00	$ 7,500
2-Sided Wayfinding Signage	1	EA	$ 900.00	$ 900
Easement Acquisition	51,700	SF	$ 10.00	$ 517,000
			TOTAL	$ 1,744,500

Weir Gulch :: South Sheridan Field Park	Quantity	Unit	Cost/Unit	Price
10' Wide Concrete Trail	16,100	SF	$ 7.50	$ 120,750
Sheridan Blvd. Pedestrian Overpass/Underpass	1	LS	$ 570,000.00	$ 570,000
Crosswalk	25	LF	$ 300.00	$ 7,500
Easement Acquisition	9,000	SF	$ 10.00	$ 90,000
			TOTAL	$ 788,250

*Full Build Out Options assume bike lane from Harlan to Sheridan will have been previously constructed. For entire cost of Pierce to Sheridan for either Full Build Out Option, add the cost of the bike line striping in the Intial Build Out.

GENERAL RECOMMENDATIONS AND RESOURCES

This study involved an on the ground analysis of trail corridors with varying types of context, from busy commercial corridors, creek-side trails, and trails along major arterial roads. To address this wide range of conditions we reviewed the American Association of State and Highway Transportation Officials (AASHTO) for the development of bicycle and trail facilities. In some situations, these guidelines may not be achievable to due physical constraints of existing trails; however, with redevelopment opportunities these guidelines should be considered. Below, we have included a number of general standards that should be considered with trail improvements.

Design speed

- For general design of shared-use paths, a bicycle design speed of 18-20 mph is desirable.
- The stopping sight distance for a design speed of 20 mph is 127 feet.

Width of paths

- Minimum recommended width is eight feet with 10 feet preferred.
- In constrained situations the width can be reduced down to eight feet.
- A width of 10-14 feet is recommended for trails that routinely carry more than 300 total users in peak hours.

Path clearance

- Minimum clearance of two feet on both sides of the trail
- When adjacent to a steep slope a clearance of five feet of level ground is recommended as well as the incorporation of a vertical barrier
- An overhead, vertical clearance of 10 feet is recommended across any trail

Pavement markings

- Exercise restraint in the use of “sharrows” so drivers fo not become immune to their presence.
- Only use “sharrows” on local streets.
- Install “sharrows” only to provide wayfinding.

City staff and members of the public provided a wide range of comments that could be applied to many trail segments within the overall study. There are a few overarching ideas that could be considered and are listed below:

- The City of Lakewood is a major contributor to and should implement the designs and recommendations of the Jefferson County Wayfinding Master Plan study that is currently underway, as soon as funding and other project components permit. The study will identify a wayfinding signage program that is compatible with the recommendations and conclusions of this study.
- As the City develops specific plans and designs for existing trail improvements and new trail connections they should consider engaging with the Colorado Chapter of the American Council on the Blind to consider the needs of sight impaired individuals.
- The City of Lakewood should consider a branding system that may include pavement markings for specific corridors that will help users better navigate the overall trail system.

User Conflict Strategies

The City of Lakewood's extensive trail system attracts a diverse group of trail users from all over the Denver metropolitan area. On various trails, one will typically encounter experienced and casual bicyclists, walkers, runners, dog walkers, and equestrian riders. The demand can be quite high during times of peak trail use, consequently resulting in conflicts among users.

The City has been proactive with regard to this issue by putting up signs to remind users of trail etiquette and other safety measures. Furthermore, with the increasing demand, safety concerns, and public comments, the City continues to address user conflicts to ensure the trail system will be a safe and aesthetically pleasing environment for all levels of users.

A few overall strategies to address user conflicts are:

- Develop a trail etiquette public education and outreach campaign
- Develop a comprehensive signage system to enhance attention to trail speed limits, trail curves, intersections, and other potential areas of conflict
- In high use trail corridors, consider secondary paths to separate users

The following pages provide recommendations and strategies focused on trail user conflicts from national and regional level organizations. This information should be evaluated to determine if they could be applicable approaches for trail user conflicts in the City of Lakewood.

The below information was taken from a review of the Minnesota DOT Bikeway Design Manual.

For safety and traffic flow, pedestrians and bicyclists may need to be separated. Be sure to maintain the same configuration for a continuous segment, because conflicts will occur at transition points. There are two approaches to separation:

- Move slower users to a shoulder or slow-lane
- Provide separate paths for each user group

With higher volumes, increased separation using pavement markings or separate paths (two-way or one way) is desirable.

Separating pedestrians from bicyclists can be accomplished by signing and striping on a shared-use path, or by providing a bike path that is separate from a parallel sidewalk or pedestrian path. Separating bicycles from pedestrians is recommended in any of the following cases:

- Where conflicts between bicycles and pedestrians during peak user periods or other times are likely to present safety concerns
- In city centers and where buildings or bus stops are adjacent to the pedestrian and bike network
- Where peak daily pedestrian and bicycle user volume is greater than 2,000 individuals per day
- Where peak hour bicycle traffic is greater than 100
- Where both pedestrian and bicycle traffic occur at high volumes
- When there is likely to be a combination of use for fast or long-distance bicycling with use by less skilled bicyclists and/or pedestrians (especially children, people who are disabled, inline skaters or senior citizens)

SOURCE: MN/DOT BIKEWAY FACILITY DESIGN MANUAL
CHAPTER 5: SHARED-USE PATHS, PAGE 142 | HTTP://WWW.DOT.STATE.MN.US/BIKE/PDFS/MANUAL/CHAPTER5.PDF

The below information was taken from a review of the Conflicts on Multiple-Use Trails sponsored by the Federal Highway Administration and The National Recreational Trails Advisory Committee.

The following techniques were provided from trail managers in response to a survey by the Rails to Trails Conservancy.

- Provide signage to inform users about crowded conditions
- Education on trail etiquette
- Meeting with user groups
- Expanding facilities due to high demand
- Post speed limits

Additional, recommendations within this document include the following:

- Paint a centerline on heavily use shared-use paths. This can help communicate that users should expect traffic in both directions (Flink and Searns 1993) and encourage users to travel on the right and pass on the left.
- Separate uses at trailheads and for the first (most crowded) stretches of the trail. These separate segregated trails could then converge, perhaps a mile from the trailhead, after users are more spread out.
- Design adequate sight distances.

SOURCE: FEDERAL HIGHWAY ADMINISTRATION & THE NATIONAL RECREATIONAL TRAILS ADVISORY COMMITTEE
1. SYNTHESIS OF THE MULTIPLE-USE TRAIL LITERATURE AND PRACTICE, SECTION B | HTTPS://WWW.FHWA.DOT.GOV/ENVIRONMENT/RECREATIONAL_TRAILS/PUBLICATIONS/CONFLICTS_ON_MULTIPLE_USE_TRAILS/CONFLICTS.PDF

The below information was taken from the City of Colorado Springs Urban Trail in Colorado Springs webpage.

The 2000-2010 Parks, Recreation and Trails Master Plan identified a three-tiered system approach for their trail planning. This approach considers how various users will utilize the trail system and how each tier will be designed to accommodate users and thereby reduce conflicts.

Tier 1 trails are multi-purpose trails that can accommodate a variety of trail users including walkers, joggers, recreational bikers, commute bikers, roller-bladers, and horseback riders (as appropriate) within the same trail corridor. A soft shoulder on each side of the trail is provided to reduce user conflicts. The main trail tread is a single, twelve-foot trail paved with concrete. The soft shoulder consists of crushed gravel, and provides a four-foot surface adjacent to or separated from the main tread (depending on site conditions).

Tier 2 trails act as “feeder” trails for the Tier 1 trails, and consist of a single, twelve-foot trail paved with concrete or asphalt. A four-foot soft shoulder on the side of the trail consists of crushed gravel or mowed grass.

Tier 3 trails are generally located in the mountains or foothills, and are less improved than a Tier 1 or 2 trail. Tier 3 trails are typically a four- to six-foot wide soft surface tread with no shoulders. Most users are hikers, mountain bikers and equestrians.

Urban Trail Design Standards for Multi-use Trails in Colorado Springs

For both Tier 1 and 2 trails, the following design guidelines are recommended for user safety:

- Design with a minimum sight distance of 125 feet; if unattainable, provide adequate signage
- Use handrails or fencing along steep drops within five feet of the trail
- Provide center lane striping
- Provide a minimum tunnel or underpass width of ten feet and height of twelve feet, if feasible
- Separate the trail from adjacent roadways by at least twelve feet where feasible
- Design with a minimum turning radius of forty feet
- Avoid sharp curves and low head room; if unavoidable, provide appropriate signage
- Avoid the use of surface grates or depressions that could catch bicycle tires — cross-slope at two percent to allow for proper drainage
- Restrict grades of five percent to a distance of 500 feet
- Avoid any grade steeper than eight percent

Tier 3 trails have the following guidelines:

- Design with a minimum turning radius of twelve feet
- Use handrails or fencing along steep drops within five feet of trail
- Avoid sharp curves and low head room; if unavoidable, provide appropriate signage
- Cross-slope at two percent to allow for proper drainage
- Allow for pruning and mowing opportunities of five feet on either side of the trail, where feasible

For all trails, the following amenities should be included in the design, with a greater amount of these services provided along Tier 1 and 2 trails:

- Provide clearly illustrated and properly located signage with informational, interpretive and regulatory messages.
- Incorporate picnic tables, benches and landscaping.
- Provide trailheads that include parking and signage at appropriate locations.
- Comply with ADA requirements where possible in trail design as well as in the design of restrooms, picnic benches, and trailhead parking areas.

For all trails, the following measures should be taken, where feasible, to minimize short-term and long-term impacts to adjacent natural resources:

- Locate trails in scenic locations, but not within or immediately adjacent to sensitive vegetation or significant wildlife habitat.
- Provide and adequate buffer up to 100 feet between trail development and wetland areas.
- Revegetate upland areas disturbed by trail development as appropriate for continuity with the surrounding natural vegetation communities.
- Minimize cut and fill slopes adjacent to the trail.

SOURCE:
HTTPS://COLORADOSPRINGS.GOV/PARKS-RECREATION-AND-CULTURAL-SERVICES/PAGE/URBAN-TRAILS-COLORADO-SPRINGS

Additional Resources

Equestrian Design Guidebook for Trails, Trailheads, and Campgrounds

- Chapter 3: Designing Horse Trails
  http://www.fs.fed.us/t-d/pubs/pdfpubs/pdf07232816/pdf07232816dpi72pt03.pdf

Toronto Multi-Use Trail Design Guidelines

- Toronto Transportation Services | Parks, Forestry and Recreation
  https://www1.toronto.ca/City%20Of%20Toronto/Transportation%20Services/Cycling/Files/pdf/TORONTO%20MULTI-USE%20TRAIL%20DESIGN%20GUIDELINES-December%202014_Fina_4.pdf

Rails to Trails Conservancy: Designing for User Type

- Webpage, Designing for User Type
  http://www.railstotrails.org/build-trails/trail-building-toolbox/trail-building-and-design/designing-for-user-type/

Next Steps & Funding Resources

This study examined selected trail corridors throughout the City of Lakewood to assess various levels of improvements that considered trail safety, re-alignments, on-going maintenance issues, and missing trail segments. Additionally, design development level plans were developed for new trail connections. The public was involved throughout the course of the process. Numerous public comments and surveys were received as well as two public meetings were held.

These plans, recommendations, cost estimates, and a successful public process create a foundation to move forward with potential project identified in this study. The scale and cost of the various projects provide the City with opportunities to evaluate which project are best suited for CIP funding, grant opportunities or to be included with a public or private redevelopment project that may include a trail corridor identified in this document.

The study is grounded in Lakewood's commitment to multi-modal transportation, health and wellness, and dedication to routinely improve the existing shared-use path system. This level of planning positions the City in a favorable situation for grant opportunities. Below is a list of organizations and funding sources that may be applicable to numerous trail related projects involving capital improvements, community engagement, Safe Routes to School, and programming.

CDOT

RTD

DRCOG

Jefferson County Open Space

Jefferson County Public Health

Colorado Parks & Wildlife's Trails Program

Bicycle Colorado

GOCO

Colorado Health Foundation

LiveWell Colorado

APPENDIX

Trail: _____

Date: _____

Lakewood Bike Path Questionairre

Thank you for taking the time to fill out a short survey on the Lakewood bike path system. Your answers to these questions will help to inform future planning around this system.

1. Is your primary use of the Lakewood bike path system for:
   - ___ Recreation
   - ___ Health and exercise
   - ___ Commuting
   - ___ Other (please specify) _____

2. What is your primary activity (or activities) on the Lakewood bike path system?
   - ___ Walking
   - ___ Hiking
   - ___ Biking
   - ___ Running
   - ___ Rollerblading
   - ___ Other (please specify) _____

3. Which neighborhood do you reside in within Lakewood/Denver/adjacent communities?

4. How well does the bike path system connect to your desired destination(s)?

5. Typically, what day(s) of the week do you use the bike path trail system, and for what length of time?

6. What would you like to see improved with the Lakewood bike path system?

7. Have you had any safety problems with the trail surface, visibility, or other users? Please explain.

8. Other Comments:

*For additional information about this survey or the bike path and paved trail planning project, please contact John Paliga with the City of Lakewood Community Resources Department; JohPal@lakewood.org, (303)987-7815.

If you prefer to mail or email your responses, please send this form to Bill Mahar, Project Manager at Norris Design at: 1101 Bannock St. Denver, CO 80204, or bmahar@norris-design.com.

Comments Received from Surveys:

Name of trail where survey was taken:

- Bear Creek (23)
- Alameda (6)
- C-470 (1)
- D10/West Line (14)

1. Primary Use of the Lakewood Bike Path System

- Health and Exercise (101)
- Recreation (96)
- Commuting (39)
- Dog walking (2)
- Training for Racing (1)
- Work (1)
- Remove graffiti (1)
- To get to 13th Ave. (1)
- To see wildlife (1)

2. What is your primary activity on the Lakewood Bike Path System?

- Biking (108)
- Walking (68)
- Running (33)
- Hiking (18)
- Work (2)
- Dog walking (1)
- Skiing (1)
- Equestrian (1)
- Rollerblading (1)
- Electric skateboard (1)
- Scooter (1)

4. How well does the bike path system connect to your desired destination?

- Excellent (8)
- Very well (41)
- Good (40)
- Ok (38)
- Poorly (16)
- Very Poorly (3)
- Not sure (3)

Loose responses:

- Inability to traverse 6th to Sheridan Station cuts out an effective commute
- Signage needs improvement

- More north/south routes are needed
- Need light rail to extend east and west
- Wheat Ridge is difficult to access
- Good for running errands, but trail system is poor for longer rides (more than 5-10 miles roundtrip)
- Connects for needs such as a grocery store
- Great going west, but wish it went further east
- The trail is very useful, and easy to follow
- Wide and usually clean – nice now with porta-pots
- Golden access is beneficial
- Lots of connectivity
- There are many pieces missing
- Does not connect well. I have to take streets to get to bike paths.
- Trails are few and far between for equestrians
- Garrison and Wadsworth corridor south of 6th and north of Alameda are busy and inhospitable to pedestrians/runners.
- The north side of Indiana Street in Solterra is too narrow causing bikes to be forced to ride on the sidewalks OR cause slowdown in traffic. inconsistent sidewalks on Alameda between Green Mountain HS and 470
- I wish there was a path that would connect our neighborhood in Green Mountain to the Bear Creek Greenbelt near Fox Hollow. Currently, we have to ride in the shoulder on Morrison Road.
- Walkers are sometimes discouraged from using trails due to the high speeds of bikers

5. What day(s) of the week do you use the bike path system and for what length of time?

- "Varies" (13)
- Time of Day
    - Mornings (19)
    - Midday (12)
    - Evenings (11)
- Days
    - Weekdays (97)
    - Weekends (82)
- Frequency
    - 1-2 times a week (24)
    - 3-5 days a week (48)
    - 6-7 days a week (30)
- Duration
    - Less than 1 hour (13)
    - 1-2 hours (64)
    - 3-5 hours or more (28)

Loose Responses:

- First time user (1)
- Only use March-October (1)

- Use on weekdays only because too crowded on weekends (1)

6. What would you like to see improved with the Lakewood bike path system?

- No recommended improvements (17)
- Listed recommended improvements (62)

Repeated Responses:

- Need increased trail connectivity and better access (27)
- Need more or clearer wayfinding/signage (11)
- Want to see more user-separated paths, particularly separation between bikers and hikers (10)
- More north/south routes (9)
- Need more trails and routes overall (8)
- Need more dedicated street bike lanes/protected bike lanes (7)
- Need to repair paths (7)
- Need better bike path infrastructure connecting trail arteries (7)
- Need pedestrian/bike crosswalks and safety features in conjunction with cars (7)
- Need more trail maintenance (ex. trimming tree branch and shrub overgrowth, mowing) (6)
- User right-of-way education/practice (6)
- Want to see more off-road pathways/dirt trails (6)
- Need improvement to connection around, under/over 6th Ave. as it is difficult and unsafe (5)
- Need bike speed limits (4)
- Need more paved paths or request a specific path be paved (4)
- Need to widen paths for better multi-use function (4)
- Need (detached) sidewalks at various places (3)
- Need trail striping/centerline (3)
- Need water fountains (2)

One-time Responses:

- More playgrounds along the paths so it's easy to get to a playground from any house in Lakewood (even if one of the walkers in your party is under the age of 5)Westbound access to the mountains
- More overpass/underpass crossings at busy streets
- Better equestrian multi-use trails
- Not all trails have to be paved
- Users do not clean up dog poop
- Dog owners need to use leashes
- Slower bikers
- More trail maintenance; glass and debris removal
- Need more trash cans
- More restrooms along path
- Bear Creek and 285 Path goes up on a hill and curves out onto the road and connects on the other side. It would be nice to avoid this situation.
- Simms north of 6th trail is a great option but needs attention
- Better and clearer route between Bear Creek & South Platte Bike Trails

- Trails have improved since 2015!
- If a trail/path has to end, provide substantial notice and direct to alternate route
- Water on path/maintenance after snowfall
- Wish the trail went further east, and had points of shade
- Connection from Sheridan going west
- Kipling to Bear Creek
- Add bike paths to every station along the light rail
- Need a better way to deal with RTD crossing(s)
- West of Carr St. I would like to see better lighting at night (and also throughout the trail) as I don't always feel sage as a female.
- Better, updated maps that show connections to other trail systems.
- Mowing the path margins and removing thistles

7. Have you had any safety problems with the trail surface, visibility, or other users?

- No problems (56)
- Listed problems (47)

Repeated Reponses:

- Bikers' speed makes other users uncomfortable (19)
- Poor signaling/respect between users; misunderstanding of right-of-way (19)
- Poor trail maintenance makes unsafe (10)
- Visibility issues (8)
- Issues with close proximity to cars (6)
- Use of earbuds/other distractions by users on trails makes it hard to communicate (6)
- Un-cleared paths; buildup of snow, ice or mud (5)
- Trail does not always feel safe or secure (5)
- Certain paths are too narrow (4)
- Dogs on very long leashes or no leash (5)
- Poor trail signage makes unsafe (3)
- Some trails are too mixed use (4)
- Not enough protection from cars (3)
- Lighting-specific issues (3)
- Issue where no center-line striping (2)
- Dangerous merges of bike lanes into traffic (2)

One-time Reponses:

- Can we remind walkers to share the path as well?
- Inconsistent connections
- Avoid Kipling and Wadsworth
- More direct main Bear Creek routing signs at other minor bike path intersections.
- The trail is in good shape after having been repaired
- Trail surface and visibility are good
- Snow/ice safety issues

- Water on path makes dangerous for turning
- Riding on Alameda Ave. from the bike path on the west side of green mountain to where it meets Alameda Parkway/Bear Creek is very dangerous
- Crossing 6th Ave. at Union/Simms is only possible on the west walkway and this is "iffy" at best
- Alameda – Bear Creek to C470 is becoming dangerous
- Safety issues arise when the trail intersects with any of the north/south roads. It would be beneficial if the cars had a stop sign and bike/peds had the right of way on these north/south routes.
- I occasionally have had close run-ins with pedestrians on the path where sharp corners are present or overgrown shrubs block sight distance as a cyclist.
- The change in bike path lane at Garrison and Alameda makes the path more dangerous.
- Platte Trail could be wider
- Trails could be more well-lighted at night. This would be very beneficial to users, particularly women.

8. Other comments

- Good/nice trail (4)
- The only way to leave a bike at a light rail station is to have bike lockers available for public use. What are the chances of this happening?
- It is too difficult to realize the full potential of the RTD light rail as a bike/train commuter with 6th Avenue not being permeable to bike traffic.
- Thanks for keeping Garrison clean for biking!
- Trails are reliably plowed within 24 hours
- Tarmac behind grocery store 90 degree turn near there
- This is an important study, thanks for working on this transportation method
- Nice trail but there is a lot of trash
- Would like to see connectivity improved in regards to the DRCOG Master Plan
- Take pictures during different seasons
- The trails are beautiful
- Great wide paved path, but needs a few more signs
- Love this park! (Bear Creek)
- Excellent path, continue your good work!
- Safety on access roads should be considered; I got hit by a car on 13th Ave.
- This is one of the best systems in the world.
- Add reflective (paint) lines to the sides of the trails
- I love the trails
- I love our trail system! Overall it is very well maintained. Keep up the great work! There are 2 places that need attention that come to mind:
  1. Crossing the intersection at Lowell Blvd on the Bear Creek Trail is very dangerous. Traffic comes from 3 ways and cars have very little time to see pedestrians. Without a stoplight, underpass, or overpass it is an accident waiting to happen. I understand that this is not within Lakewood city limits, but it needs to be addressed.
  2. The pavement is in bad shape on the Bear Creek Trail near the bridge that connects the trail to the parking lot at Stone House. Our trails are the gem of our city and why living here is great!

Which neighborhoods in the Denver Metro Region are represented by users in this survey:

- Denver
- Lakewood
- Littleton
- Edgewater
- Aurora
- Wheat Ridge
- Golden
- Arvada
- Englewood
- Morrison
- Evergreen
- Unincorporated Jefferson County

NORRIS DESIGN

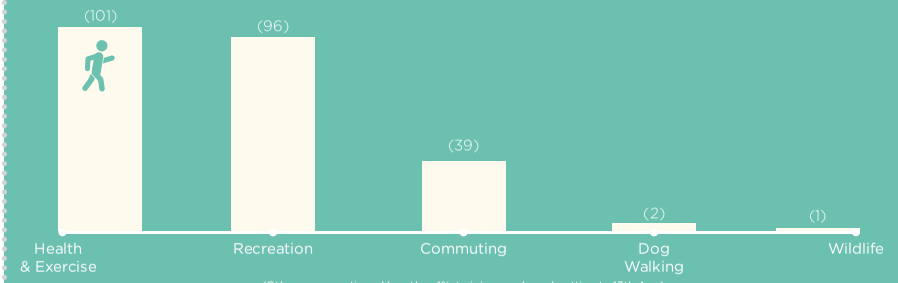
LAKEWOOD BIKE PATH | SURVEY RESULTS | 07.22.16

Lakewood Community Resources

LOCATIONS REPRESENTED BY USERS IN THIS SURVEY:

- Denver
- Lakewood
- Littleton
- Edgewater
- Aurora
- Wheat Ridge
- Golden
- Arvada
- Englewood
- Morrison
- Evergreen
- Unincorporated Jefferson County

PRIMARY USE OF THE LAKEWOOD BIKE PATH SYSTEM:



(Other uses mentioned less than 1%: training, work, and getting to 13th Ave.)

WOULD YOU LIKE TO SEE LAKEWOOD BIKE PATH IMPROVED?

Most common responses:

- #1 Need increased trail connectivity.
- #2 Need clearer wayfinding and signage.
- #3 More North/South routes.

WHEN DO YOU USE THE BIKE PATH SYSTEM?

TIME OF DAY

- ★ 45% Mornings
- 29% Midday
- 26% Evenings

DAYS

- ★ 54% Weekdays
- 46% Weekends

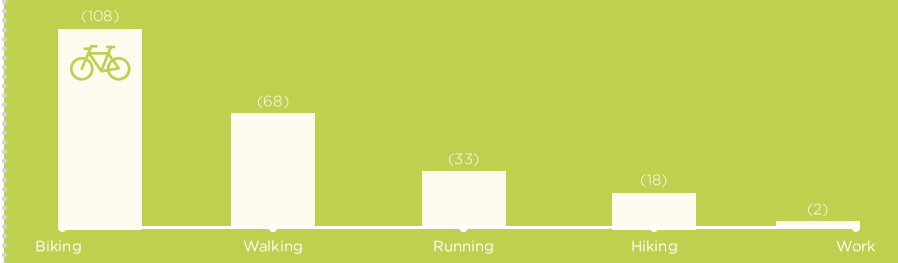
FREQUENCY

- 24% 1-2 Times a week
- ★ 47% 3-5 Days a week
- 29% 6-7 Days a week

DURATION

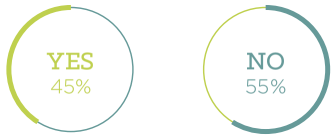
- 12% Less than 1 hour
- ★ 61% 1-2 Hours
- 27% 3-5 Hours or more

PRIMARY ACTIVITY ON THE LAKEWOOD BIKE PATH SYSTEM:



(Other activities mentioned less than 1% include: dog walking, skiing, equestrian, roller-blading, electric skateboards, and scooters.)

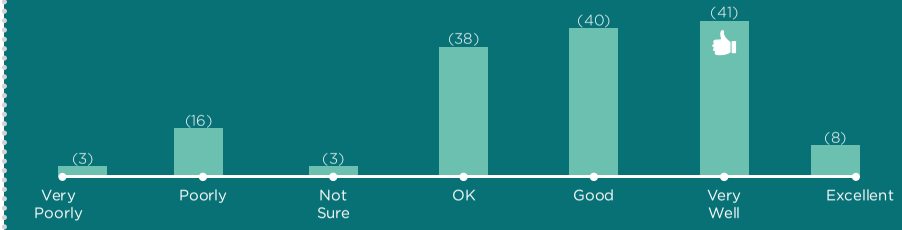
HAVE YOU HAD ANY SAFETY PROBLEMS WITH THE TRAIL SURFACE, VISIBILITY, OR OTHER USES?



Most common responses:

- #1 Bikers on trail ride too fast.
- #2 Misunderstanding of right-of-way.
- #3 Poor trail maintenance makes it unsafe.

HOW WELL DOES THE BIKE PATH SYSTEM CONNECT TO YOUR DESIRED DESTINATION?



SURVEY COMMENTS FROM PUBLIC MEETINGS

1. I'd like to see dog leashes limited to a fixed length of 5-6' on the Bear Creek Trail. The extendable leashes are virtually invisible and dangerous to bikes.

2. When building paths, need walking trails separate from bike paths.

3. Weir Gulch priority but want to keep open space as protected as possible.

4. Kipling would be great since there are really no options currently.

   Weir Gulch would be nice but what happens at Sheridan? This path also has issues in Denver. I wouldn't use the Denver portion. I've tried it recently and it is dangerous and difficult.

5. All suggested trails look like improvements but connecting Hayden Park and Bear Creek Trails is a priority.

   I don't think there is great value for separate trail to Green Mtn. Rec. Center unless it is on existing streets.

   Top priority-Coyote Gulch Trail & Weir Gulch.

   Very important to create ways for less bike/ped. conflict.

6. Connect C470 path with top of Coyote Gulch Path, which now ends at dog park. Take advantage of existing tunnel used by Mt. bikers. Minimal cost to pave to N side of Alameda to have a stage area for road bikers and mt. bike/hiker trail head.

   Coyote Gulch lower connection Yale to Morrison would just replace use of nearby Indiana St. sidewalk. I think it would be pretty, but not "needed" very greatly at this time.

   I'd like to see a paved route around Green Mt. Park – currently tough to get to from S side to N side via E side. A big circle would attract lots of rec. riders. Great views!

7. It would be great to separate walkers/runners from cyclists where possible along Bear Creek multi-use trail. It works great on the South Plate Trail (South of River Point).

   Wayfinding west of Kipling along the E-W bike path (D-10) needs improvement. We've tried to ride it coming west from Denver but have gotten "lost."

   I fully support the Coyote Gulch connection (Yale-Morrison Rd). I use the social trail "connection" now though. It's a struggle.

8. Thanks very much for soliciting public comment! The Sunset Gulch trail looks very promising to connect better to the neighborhood. The Kipling stretch is a great idea but please be mindful of the private property that runs alongside the street. One side of the street having sidewalks should be sufficient-both sides seems impossible. Liked hearing the Jeffco Wayfinding has selected the D 10 trail in Lakewood to improve signage- this is great and will help alleviate some problems along the West Line. The City should follow through. More info on that should be great.

9. Separate runners and walkers / bicyclist trail along Bear Creek.

   Like Sunset Park Plan but need safe crossing light on Kipling.

10 For the suggested connection between the back of the Green Mtn. Rec. Center and Alameda, please consider that there are currently no crosswalks (across Alameda) at the point where the new connection would tie into the existing multi-use trail. Please examine placement of a crosswalk between multi-use trail (on southside) and the main parking/staging area for William Hayden / Green Mtn. Park.

11 I am personally most excited about Weir Gulch. I like the route through more natural areas but is sensitive to private property issues. I use the path through Bonfils-Staton already. The only benefit to me of the paved path would be on muddy and snowy days. The current social path goes where people want to walk. The proposed paved path is less direct, though it might be more pretty. I don't have conflicts when I walk along Bear Creek, maybe because I walk on the dirt paths.

12 Green Mountain Rec-Why note access off Grn. Mnt. Rd. and save costs, just signage needed.

Sunset Park-Stay on Miller, seems minimal traffic. Don't do bike trail on Kipling. Use a lesser N/S street.

13 Priority: Wide enough, or better, separate parallel trails for bikes vs peds./dogwalkers/families in Coyote Gulch.

Coyote Gulch is well used. This project would make it safer. Thank you.

Imperative on these trails: Right-of-way signage regularly spaced along the trails.

Recreational paths or recreational mobility paths record as name for this project. Please do not call them "Bike Paths."

14 Difficult to find balance between walkers, bikers, tricycles, etc.

Appreciate working with developer prior to build out.

Very uncomfortable with eminent domain.

Be sensitive that surveys reflect all cohorts-not just one coalition.

Review naming of path-if called a bike path by default, it implies bike has priority of use.

15 When the bicyclists have to register their bikes and pay fees like we do for cars, they can demand all the bike lanes they want, but not until then. I also have a problem with bicyclists not abiding by traffic laws and then being rude about it too! I ride a bike, but I don't expect the world to bow down to me as I ride by-I don't think they should either. I think the people west of Kipling have given up enough-they should not be made to give up more than they already have for RTD.

16 Great to see more North/South routes and work on Kipling. I realize that bike trails are the goal, but it seems having sidewalks at the very least would be great. The bike trail would be nice but it does not seem feasible and am afraid that would kill the process so why not look at sidewalks? Also how are you getting over/under Kipling? Sunset Gulch looks great and would give a nice east/west path. If you do it to Kipling, could you carry it to Garrison?

Notice talked about D-10 but not discussed! Not sure why there are competing D-10 work being done. This meeting talk about how priority of Lakewood and residents are North/South, talked about how the D-10 will have way paint and better signage to improve trail system and that one 8' bike trail/path is going the way of the dinosaurs so why push the proposed trail from Kipling to Oak that has so many

issues and is now proposed at 8ft? You have such great opportunity with existing and proposed Sunset which people commented that they use to improve it without the proposal issues.

17 Development of Weir Gulch would do some relief on Bear Creek.

18 Cost is very important to me. We have a lot of priorities for where "public money" should go. It seems the trails in Lakewood are pretty good so let's spend money on bigger priorities. Whether Fed/State grant or Lakewood sales tax, these are still included in "public money." Thank you for the presentation.

19 I have lived in Jeffco since 1973, and in Lakewood for approximately 30 years. I am blind and utilize all of Lakewood paved paths with my husband on a tandem bicycle. I heavily use the W. Alameda Corridor path, between Sheridan and Garrison, for recreation and to travel to businesses, medical appointments, bus stops, light rail, ward #2 meetings, events... For me connectivity would be possible and safe with: painted crosswalks on the north side of Alameda and Harlan to cross east-west (with the 5800 project, this gets more use), tree trimming along the ballfield, the south side of Alameda between Depew and Harlan is hurting (installing a sidewalk on the east and north sides of Discount Gas and the strip mall, is crucial), will the diagonal curb cuts be brought up to code or is Lakewood willing to eliminate them? ie. Benton, Fenton, Jay. (this would help line the path up with curbs/blends. It has been suggested to me that RTD may have ADA funds available to help with access to bus stops.) On August 3, 2016, I did some Orientation and Mobility Training with Patty Wagner of A3-American Council of the Blind.

COMMENTS FROM GEO LENS MOBILE APPLICATION

1 **COMMENT LOCATION:** Alameda at South Yarrow Street

This is a tough section to connect through while the construction is occurring. Riders and pedestrians on the north side of Alameda must either cross over or use the street for a few hundred feet. When there's traffic on Alameda this can be intimidating.

2 **COMMENT LOCATION:** Alameda and South Allison Parkway

This tends to be a dangerous intersection on a bicycle. There is a heavy volume of cars turning into and out of the grocery store and they don't always take notice to bikes and pedestrians. When it is darker, there is poor lighting on the crosswalk area and it makes visibility of bikes and pedestrians very difficult.

3 **COMMENT LOCATION:** Alameda and South Garrison Street

I'd like to see a little more effort put into identifying the share the road areas for bicycle travel in the intersection. Those new green areas that you've been using are pretty nice and might be just the thing for the intersection at Garrison and Alameda.

4 **COMMENT LOCATION:** West side of Kipling near northwest corner of Addenbrooke Park

The trail needs to be repaved here and it would be good to widen it also.

5 **COMMENT LOCATION:** West side of Alameda just north of the entrance into Addenbrooke Park

The bushes and trees need to be trimmed here.

6 **COMMENT LOCATION:** North side of Alameda near intersection of West Florida Drive

Puncturevine is prevalent on this stretch of trail.

7 **COMMENT LOCATION:** Open space north of Jewell Avenue and South Wright Street

There are already single track trails in the open space drainages from Green Mountain. Better connectivity of these trails to Hayden Park would be fantastic.

8 **COMMENT LOCATION:** Alameda Parkway at Bear Creek Boulevard

Run the street cleaners more often out on to Rooney Road to keep the bike shoulder cleaner.

9 **COMMENT LOCATION:** Coyote Gulch Open Space

There is a short section of open space between the paved trail and the basketball court at Coyote Gulch Park that is a well-worn dirt path. It would be nice to have this paved so that further erosion does not occur and the chances of someone tripping are much less.

10 **COMMENT LOCATION:** Bear Creek Lake Regional Park between Morrison Road and Kumpfmiller Drive

Need a single track connection to N park Trail in here to avoid having to ride Morrison Road.

11 **COMMENT LOCATION:** Kumpfmiller Drive and northwest of Bear Creek Lake

Love the new paving on Bear Creek Park loop. This is a great road bike circuit and connection to other Front Range routes.

12 **COMMENT LOCATION:** Bear Creek Lake Regional Park, southwest of Bear Creek Lake

There is an asphalt paved trail in Bear Creek Lake Park on the west slope of Mt. Carbon. The asphalt is in really bad shape and could be repaved or replaced with a concrete paved trail.

13 **COMMENT LOCATION:** Bear Creek Lake Regional Park, south of Bear Creek Lake

Good work on finishing the concrete path repairs around Bear Creek Lake Park.

14 **COMMENT LOCATION:** East side of Bear Creek Lake Regional Park near South Oak Way

It would be nice to have a bridge or shallow water crossing here for mountain bikes.

15 **COMMENT LOCATION:** East side of Kipling near West Washburn Place

This portion of the Kipling path has a sharp drop off on the downhill side. It could use some fill dirt to eliminate a hazard if someone were to veer off the path.

16 **COMMENT LOCATION:** East Side of Kipling Parkway near West Wesley Drive

The path adjacent to Kipling between Bear Creek and Alameda Parkway is in poor shape in numerous places and needs repairs and repaving.

17 **COMMENT LOCATION:** Morrison Road near South Holland Street

A bike path along Morrison Road would be ideal. Especially after the development of Green Gables is complete. Those residents will want a connection to Bear Creek Lake.

18 **COMMENT LOCATION:** West side of Kipling Parkway just south of West Jewell Avenue

This portion of the Kipling bike path is not plowed in the winter. Lakewood should annex this into the city and maintain it for the good of the local community.

Lakewood
Community Resources