



WESTMINSTER

Staff Report

TO: The Mayor and Members of the City Council

DATE: October 15, 2014

SUBJECT: Study Session Agenda for October 20, 2014

PREPARED BY: J. Brent McFall, City Manager

Please Note: Study Sessions and Post City Council meetings are open to the public, and individuals are welcome to attend and observe. However, these meetings are not intended to be interactive with the audience, as this time is set aside for City Council to receive information, make inquiries, and provide Staff with policy direction.

Looking ahead to next Monday night's Study Session, the following schedule has been prepared:

A light dinner will be served in the Council Family Room 6:00 P.M.

CITY COUNCIL REPORTS

1. Report from Mayor (5 minutes)
2. Reports from City Councillors (10 minutes)

PRESENTATIONS

1. Bike Facilities Plan Overview

6:30 P.M.

EXECUTIVE SESSION

1. Discussion of strategy and progress on negotiations related to the Westminster Urban Center Redevelopment and the possible sale, acquisition, trade or exchange of property interests, and provide instructions to the Authority's negotiators as authorized by CRS 24-6-402 (4)(a) and 24-6-402(4)(e) - *Verbal*

INFORMATION ONLY ITEMS

1. WURP Street to be Named 'Central Parkway'
2. Annual Tap Fee CPI Adjustment
3. 2nd Period CIP Status Report

Additional items may come up between now and Monday night. City Council will be apprised of any changes to the Study Session meeting schedule.

Respectfully submitted,

J. Brent McFall
City Manager

NOTE: Persons needing an accommodation must notify the City Manager's Office no later than noon the Thursday prior to the scheduled Study Session to allow adequate time to make arrangements. You can call [303-658-2161](tel:303-658-2161) /TTY 711 or State Relay) or write to mbarajas@cityofwestminster.us to make a reasonable accommodation request.



Staff Report

Information Only Staff Report
October 20, 2014



SUBJECT: Bike Facilities

PREPARED BY: Mike Normandin, Transportation Engineer

Recommended City Council Action

Receive a report on progress made implementing the City's adopted Bicycle Master Plan and provide guidance on future implementation.

Summary Statement

The following report provides an overview of the City's Bicycle Master Plan and information pertaining to bike facilities that have been installed or will be implemented in conjunction with the City's 2014 street resurfacing program.

Background Information

On June 27, 2011, City Council adopted the City's 2030 Bicycle Master Plan. A copy of the 2030 Bicycle Master Plan has been provided for each City Council member.

The Bicycle Master Plan addressed the following components that were deemed necessary to define a complete, well-functioning bicycle plan for the entire City:

- **Existing Conditions Analysis**

The results of the analysis indicated that the City has an impressive 105-mile network of existing off-street trails that are shared by pedestrians and bicyclists. The development of on-street bike facilities, which will link to the existing off-street trail system at numerous locations, will significantly enhance mobility for users of non-motorized vehicles.

- **Public Involvement Program**

An extensive public involvement process was defined to guide the development of the Bike Master Plan. Several innovative communication tools were used to obtain input from City elected officials, key City employees, local bicycle advocates, the greater Westminster community and representatives of neighboring municipalities and regional governments. Public input activities utilized included public meetings, web and paper conditions surveys, Westminster corporate employer outreach surveys, key stakeholder interviews, neighboring City and County outreach and web-based social media (e.g. Facebook, Twitter, project website).

- **On-Street Bikeway Network Plan**

The proposed Final Bikeway Network is shown on pages 26 and 27 in the attached Bicycle Master Plan.

- **Guidelines for establishing a Bicycle Parking Plan**
A discussion of bike parking facility types, as well as suggested locations and recommended bicycle parking ratios, are included in this Plan. The recommended bike parking ratios address residential, civic, cultural/recreational, commercial, and industrial land uses.
- **Guidelines for establishing a Bikeway Network Wayfinding and Signing Plan**
Signing is an essential element of any bikeway facility. Signs help users navigate between their origin and destination as well as communicate valuable safety and regulation information.
- **Education, Encouragement, Enforcement and Evaluation Plan**
Beyond engineering a network of safe and appealing bike facilities, education, encouragement, enforcement, and evaluation efforts play a critical role in making the City more bicycle-friendly. In step with this component of the Bicycle Master Plan is a recent citizen request that the City seek League of American Bicyclists “Bicycle Friendly Community” designation. Staff will investigate the effort and resources necessary to attain that specific status over the course of the next few months.

There are various bike facility types identified in the Plan. For the purpose of this discussion, the combination of the following facility types will be referred to collectively as the “bikeway network:”

Off-Street Shared Use Paths

These are sometimes called bicycle trails or bicycle paths. This type of facility is almost always shared with pedestrians, inline-skaters and joggers.

Sidepaths

Sidepaths are a type of Shared Use Path located adjacent to a street. They generally resemble wide sidewalks, and allow for two-way pedestrian or bicycle movement.

Bicycle Lanes

Bicycle Lanes reserve portions of a vehicular right-of way for the exclusive use of bicyclists. At a minimum, they include painted lines, bicycle symbol pavement markings and signs to physically demarcate their trajectory.

Signed Bicycle Route

Signed Bicycle Routes are streets that do not provide exclusive space for bicycle movement. Travel lanes are to be fully shared with motor vehicles. As such, this type of facility is appropriate for those wider and/or less congested streets in which bike travel can be shared comfortably with motor vehicles.

Signed Bicycle Routes with Shared Use Lane Markings

Shared Use Lane Markings, popularly referred to as “sharrows,” consist of a bicycle symbol pavement marking and two chevrons applied to streets too narrow to accommodate bicycle lanes and/or those with design speeds that allow cyclists to travel comfortably within shared travel lanes. A diagram of a sharrow is shown on page 43 of the attached Bicycle Master Plan.

Salient features of the City’s Bicycle Master Plan include the following:

- 132 miles of proposed bikeway network within street rights-of-way

- 28% of the City’s street network will have bikeways
- 5 miles of shared use path (U.S. 36 bike trail) – (4% of network total)
- 46 miles of bicycle lanes – (35% of network total)
- 27 miles of side paths (arterial street sidewalks) – (20% of network total)
- 14 miles of signed bicycle routes – (11% of network total)
- 40 miles of signed bicycle routes with shared land use markings – (30% of network total)
- Approximately 125 physical connections from the proposed on-street bike facilities to the City’s existing off-street trail system

To date, 9.36 miles of bike lanes have been installed on some of the roadways that have been resurfaced as part of the City’s annual resurfacing program. These particular roadways required striping changes in order to accommodate the new bike lanes. Utilization of a new asphalt surface that covered the previous striping configuration provided the opportunity for staff to install the new striping configuration in the most economical manner. The table shown below provides a summary of the locations of the existing bicycle facilities:

EXISTING WESTMINSTER BIKE FACILITIES

10/6/2014

Location	Range	Bike Lane Miles	Year Installed
112th Ave.	Benton St. to Westminster Blvd.	1.9	2011
90th Ave./Field St.	88 th Ave. to Wadsworth Pkwy.	2.5	2012
Legacy Ridge Pkwy.	104 th Ave. to 112th Ave.	2.6	2013
132nd Ave.	Huron St. to Pecos St.	1.1	2013
Irving St.	73 rd Ave. to 76th Ave.	0.9	2013
98th Ave.	Sheridan Blvd. to Westminster Blvd.	0.36	2013

Totals 9.36

As part of the 2014 road resurfacing program, bike lanes will be installed on the following roadways:

- Lowell Boulevard (92nd Avenue to 96th Avenue) – The installation of bike lanes on this section of roadway necessitated the elimination of parking on the east side of Lowell Boulevard. Letters were mailed out earlier this summer to the 59 residents on both sides of Lowell Boulevard in an attempt to obtain feedback. Only three residents responded and indicated that the bike lanes and elimination of parking would create an inconvenience for them. Based upon this meager amount of negative feedback, staff proceeded with the installation of the bike lanes. It should be noted that this bike lane will eventually be

extended to 104th Avenue in the near future since Lowell Boulevard has been designated as a major north-south bicycle corridor within Westminster.

- Lowell Boulevard (88th Avenue to 92nd Avenue) – Install bike lanes
- 92nd Avenue (Grove Street to King Street) – Install bike lanes

The new street paving and the installation of the bike lanes is anticipated to be completed by the end of the 2014 construction season.

The installation of bike facilities throughout the City meets Council's Strategic Plan goal of Ease of Mobility by encouraging alternative modes of travel.

Respectfully submitted,

J. Brent McFall
City Manager

Attachment – 2030 Bicycle Master Plan

2030

WESTMINSTER
BICYCLE
MASTER
PLAN



WESTMINSTER

WESTMINSTER, COLORADO 2030 BICYCLE MASTER PLAN

THIS PLAN ADOPTED BY WESTMINSTER CITY COUNCIL

ON JUNE 27, 2011

The City of Westminster, Colorado
Department of Community Development
4800 West 92nd Avenue
Westminster, Colorado 80031

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BICI Planning & Design

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Above: A rendering of potential improvements on Countryside Drive as part of Westminster's new bicycle network.

Below: The proposed 2030 Bicycle Network

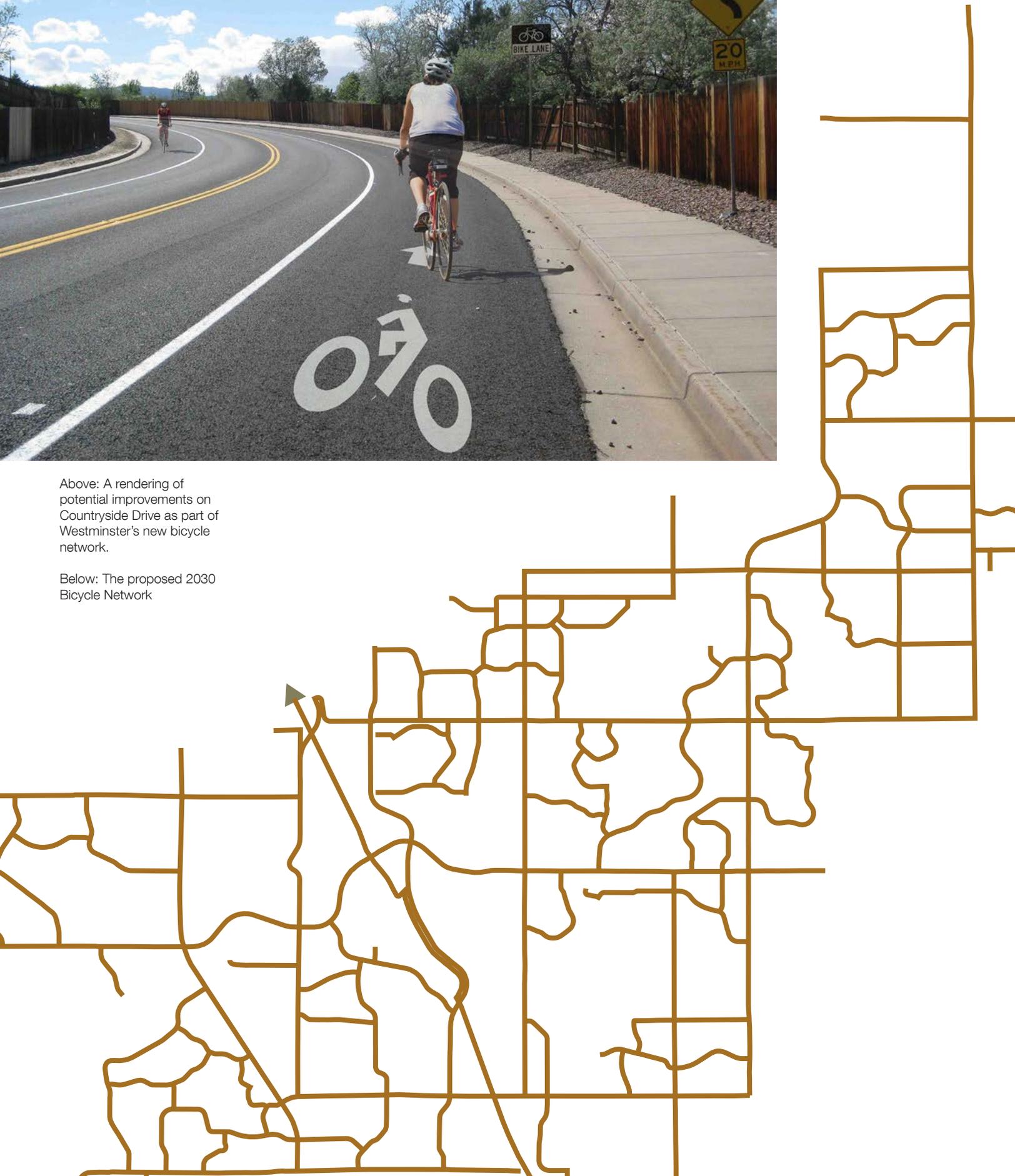


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EXECUTIVE SUMMARY

WHAT IS BICYCLE PLANNING?

Bicycle planning is the process of assessing and addressing the needs of a community in the area of bicycle infrastructure, programs, and policies. It involves taking an inventory of the community's existing bicycle resources, and identifying strategies to build upon those resources. Bicycle planning means consulting with the citizens of the community to facilitate their vision of future transportation networks—understanding their concerns, addressing their needs, and crafting a road map to a more bicycle-friendly community. It means assessing the strengths and weaknesses of bicycle resources through on-the-ground observations and public outreach, and finding ways to capitalize on their strengths and minimize their weaknesses.

Ultimately, bicycle planning is about giving a community a viable transportation alternative that complements the existing network—an alternative that encourages lively streetscapes, a healthy population, and a more livable and sustainable environment.

WHY PLAN?

Whether for health, economy, utility, the environment, or pure joy, the bicycle offers an incredibly simple solution to some of society's most vexing problems. After decades of declining use, and being pushed to the margins of society—and our roadways—people are increasingly returning to bicycling in record numbers. This may be attributed to any number of related factors, but it mostly demonstrates the growing need to accommodate bicycling in our communities' physical and social fabric. Indeed, those towns and cities that accommodate bicycling the best are also our country's most healthy, economically competitive, and desirable places in which to live, work, and visit.

In response to this growth in cycling has come the recognition that bicycling is valuable to the community of Westminster, and that it is time for the City of Westminster to undertake its first Bicycle Master Plan.

Moreover, the bicycling industry brings more than \$1 billion dollars to the Colorado's state economy each year. Whether for tourism, sales, events, or maintenance and repair, it's clear that bicycling brings economic benefits to Colorado. However, bicycling also helps keep Colorado communities vibrant, active, and livable—traits that support its reputation as the nation's healthiest state. As Colorado's 7th largest city, The City of Westminster has a vital role to play in sustaining and advancing the health of its local economy, the natural and built environment, and its 110,000 residents. However, because the City does not exist in a vacuum, it must also look outward in contributing to an increasingly dynamic metro-Denver region, and the overall livability of the State of Colorado.

As Westminster's first comprehensive bicycle planning effort, the 2030 Bicycle Master Plan is intended to guide the City in fostering bicycling as a viable, safe, and sustainable form of transportation and recreation. More importantly, the Plan provides a critical foundation for further positioning Westminster as a highly livable, safe, and forward-looking City in which to live, recreate, or do business.

The Westminster 2030 Bicycle Master Plan is comprised of 6 main components. They include:

1. Background and Existing Conditions Analysis
2. Public Involvement Program
3. On-Street Bikeway Network Plan
4. Bikeway Network Wayfinding and Signing Plan
5. Bicycle Parking Plan
6. Education, Encouragement, Enforcement and Evaluation Plan

The realization of the goals set forth in this Plan will require the City to re-balance its local and regional transportation network by altering the way it currently plans, designs, funds, and implements roadway projects. Indeed, the City should first consider its streets and public rights of way not as corridors of auto mobility, but as corridors that enable accessibility—streets that serve people walking, bicycling, taking transit, and driving to their destinations.

BACKGROUND & EXISTING CONDITIONS ANALYSIS

The City of Westminster is not starting from scratch. Already home to an impressive network of off-street shared use paths, the City is far beyond many of its suburban peers. The majority of this network has been built since 1985, the year in which voters approved a local sales tax tied to the ongoing preservation of open space and the development of a bicycle and pedestrian path system.

Today, the city proudly boasts more than 74 miles of off-street paths within 2,928 acres of preserved open space. Combined with dozens of parks and its golf courses, green space comprises 1/3 of Westminster's total land area—one of the highest percentages in Colorado. The Farmers' High Line Canal, Little Dry Creek, Big Dry Creek trails, and the future Walnut Creek Trail, effectively serve as recreational trunk lines for numerous other paths that extend like branches into residential subdivisions, and to nearby schools and commercial centers. By consistently voting to extend the local ¼ cent open space tax, the City's residents clearly continue to value the ongoing development of their open space network.

Despite its success in developing a path system, the City of Westminster has not actively pursued the implementation of a commensurate on-street bikeway network. As a result, the city lacks direct, identifiable, and safe on-street bikeways. The creation of this 2030 Bicycle Master Plan should help motivate the City to put as much effort into developing the proposed on-street network as it did in developing the off-street network. If this is accomplished, Westminster will be a healthier, livable, and economically competitive city.

A summary of Westminster's existing bikeways reveals the current imbalance between the City's on- and off-street bikeways.

- Existing Bikeway Network Miles: ~ 74 miles
- Percentage of City Street Network with Bikeways: 0%
- Number of Bikeways: 4, with numerous branches
- Bikeway Types: 2 (shared use paths, bicycle lanes)
- Bicycle Lanes Miles: > .1 miles
- Shared Use Paths: ~ 74 miles

PUBLIC INVOLVEMENT PROGRAM

A robust public input and communications process was developed to best guide the development of the Westminster 2030 Bicycle Master Plan. Numerous innovative and time-tested communication tools were utilized to obtain input from the City of Westminster's elected officials and municipal employees; local bicycle advocates; the greater Westminster community; and neighboring municipalities and regional governments. They include:

- Two Westminster Bicycle Summits
- Multiple-day Handlebar Survey
- Web and Paper Existing Conditions Survey
- Westminster Corporate Employer Outreach Survey
- Key Stakeholder Interviews
- Neighboring City and County Outreach
- Web-based Social Media Tools (Facebook, Twitter, Project Website).



The Big Dry Creek Trail winds its way through Westminster's extensive open space system.

All input gathered provided the planning team with a deeper understanding of public sentiment towards Westminster's existing bicycling conditions. The input gathered was then used to inform the final recommendations included in this 2030 Bicycle Master Plan.

ON-STREET BIKEWAY NETWORK PLAN

Proposed 2030 Bikeway Network Summary

- Bikeway Network miles: 132 miles
- Percentage of Street Network To Have Bikeways: 28
- Total Number of Bikeway Projects: 102
- Bikeway Types: 7
- Countermeasure Types: 4

Beyond interacting with those already bicycling in Westminster, the Handlebar Survey was used by the planning team to understand the unique characteristics of each street and its surrounding land use context. Analysis included street width, street type, existing land use, urban form, density, traffic control devices, posted speed limits and actual travel speeds, and traffic volume. These elements were considered holistically before assigning the various on-street bikeway types. When conducting this analysis, special attention was paid to how each of these elements affects the perceived and actual comfort for all types of bicyclists.

The City of Westminster currently has three basic street types: local, collector and arterial. To more completely meet the needs of beginner, intermediate, and expert bicyclists, and to advance the viability of active transportation within the city and region, the 2030 Master Plan proposes 132 miles of on-street bikeways along Westminster's street network. The network plan is comprised of three bikeway classes, and eight unique bikeway types. They include:

Class I

- Off-street Shared Use Path
- Sidepath located within roadway right-of-way

Class II

- Conventional Curbside Bicycle Lane
- Conventional Bicycle Lane adjacent to parallel parking
- Buffered Bicycle Lane curbside

Class III

- Signed Bike Route
- Signed Bike Route with Shared Use Lane Markings (Sharrows) adjacent to parking

Additionally, four bikeway countermeasure treatments are recommended to further enhance the visibility, safety, operation, and appeal of the proposed bikeway network. These include:

- Bicycle Boxes
- Peg-a-Tracking
- Bicycle Detection and Pavement Markings
- Bicycle Turn Pockets and Bicycle Refuges

BIKEWAY NETWORK WAYFINDING & SIGNING PLAN

Without an existing on-street bikeway network, there are only a few on-street bicycle signs sprinkled throughout the City. Those signs that do exist are located at sporadic points throughout the city, typically where the off-street Shared Use Path system crosses or adjoins the street network. Those signs that do exist only target people driving, alerting them to the presence of bicyclists.

Westminster's robust shared use path network features a comparatively sparse and incomplete wayfinding system. While path markers are present, the greater system is inconsistent, often leaving large gaps that diminish the value of the existing signs.

Additionally, there appears to be no consistent standard as to when bicycle signs will be installed, as there are numerous possible instances of on-street/off-street interactions in which signs are not present.

To improve these conditions, the bicycle wayfinding and signing plan includes eight actions for improving the entire bikeway network. The recommendations include, but are not limited to identifying appropriate bicyclist warning signs, recommending where to install path markers, and adding clear directional signs, while removing those that are confusing.



Wayfinding signs should include helpful information to aid navigation and improve the overall visibility of the bikeway network.

BICYCLE PARKING PLAN

While bikeways are the most visible element within a bicycle network, cyclists must also have safe and convenient places to store their bicycles. Thus, providing bicycle parking and other “end-of-trip” facilities is critically important to supporting bicycling as a viable mode of transportation. Solutions range from the basic “inverted-U” bicycle rack, to semi-enclosed bicycle shelters, to full bicycle “stations” that often include bicycle storage and repair facilities, showers, lockers, changing rooms, rentals, and even café/social gathering space.

No matter the type, bicycle parking is commonly excluded or insufficiently addressed in the planning, urban design, and development process. As a result, accessible, attractive, and safe parking options for both short and long-term use are often under- or oversupplied, and/or poorly sited.

The Westminster 2030 Bicycle Parking Plan is intended to provide all stewards of the Westminster Bicycle Master Plan with the information needed to improve bicycle parking conditions, and by extension, the City's bikeway network.

While countless bicycle parking designs and configurations exist, there are only two basic types, which include six basic sub-types. These include:

Short-Term Parking Facilities

- Bicycle racks
- Self-service bicycle sharing systems.
- Temporary event “valet” parking

Long-Term Parking Facilities

- Semi-enclosed bicycle shelters
- Fully enclosed bicycle lockers
- Fully enclosed bicycle stations/storage rooms

A discussion of the above facilities types, as well as location, performance standards, and bicycle parking ratios are included in this Plan.



Those who choose to bicycle should be rewarded with a safe, convenient, and dignified place to store their bicycle.



Bike Denver's attractive and informative poster campaign demonstrates the many benefits associated with cycling.

EDUCATION, ENCOURAGEMENT, ENFORCEMENT, & EVALUATION PLAN

Expanding the appeal of cycling in Westminster will require the utilization of numerous strategies. These include, but are not limited to, organizing bicycling skills courses, launching motorist and bicyclist safety campaigns, promoting the benefits of bicycling, supporting local bicycle-centric events, utilizing social media and web-based advocacy communication tools, enforcing existing motor vehicle-bicyclist laws, and maintaining traditional communication strategies that position bicycling as a viable option for people who are interested in bicycling, but concerned about safety.

When education, encouragement, and enforcement campaigns are crafted, great care should be taken to appeal to cyclists and non-cyclists alike. Too often such campaigns unintentionally reinforce the widely held belief that bicycling is, and will always be, a marginal activity reserved for children and athletic, risk-adverse men. By contrast, truly successful efforts position cycling as a normal mode of transportation that does not require expensive bicycles, extreme travel patterns, and/or spandex outfits.

While the City of Westminster should take the lead on local bicycle safety issues, most education, encouragement, enforcement, and evaluation campaigns require regional cooperation.

The Westminster 2030 Bicycle Master Plan includes 17 Education, Encouragement, Enforcement, and Evaluation recommendations.

1. BACKGROUND & EXISTING CONDITIONS ANALYSIS



The City of Westminster, Colorado is home to an impressive network of off-street shared use paths. The majority of this network has been built since 1985, the year in which voters approved a local sales tax tied to the ongoing preservation of open space and the development of a bicycle and pedestrian path system. Today, the city proudly boasts more than 74 miles of paths within 2,928 acres of preserved open space. The Farmers' High Line Canal, Little Dry Creek, and Big Dry Creek trails, along with the future Walnut Creek Trail, effectively serve as recreational trunk lines for numerous other paths that extend like branches into residential subdivisions, schools and commercial centers. By consistently voting to extend the local ¼ cent open space tax, the city's residents clearly continue to value the ongoing preservation of open space and the development of a shared use path network.



Despite great success developing this off-street network, The City of Westminster has not actively pursued the implementation of a commensurate on-street bikeway network. The result is a lack of direct, identifiable, and safe on-street bikeways. There also exists a need to develop a more robust approach to bike education, encouragement, enforcement, and evaluation. Along with engineering, these five categories comprise the League of American Bicyclists "5 E's," which are used in determining the relative bicycle-friendliness of a given municipality. These "5 E's" consequently provide the armature on which the Westminster 2030 Bicycle Master Plan is formed.

Top: Westminster's Big Dry Creek Trail provides miles of non-motorized recreation and transportation options.

Bottom: Westminster's thoroughfare network is currently designed for people driving, not people bicycling.

1.1. LITERATURE REVIEW

To become familiar with the City of Westminster's bicycle planning and physical development context, the planning team conducted a review of more than 37 city, county, state, and neighboring municipality plans. This effort ensures that this bicycle planning process is well informed by all past and present planning efforts. Additionally, several large planning initiatives that affect the Westminster Bicycle Master Plan were closely reviewed, including the Highway 36 Corridor Plan, which introduces a regional bicycle path between Westminster and Boulder, the eventual location of RTD's Northwest commuter rail line stations, and the redevelopment of the outmoded Westminster Mall into a walkable, transit-oriented, mixed-use district.

Looking beyond the City of Westminster, the planning team analyzed existing bicycle infrastructure and the current bicycle planning efforts of the surrounding municipalities. The review guided this planning process so that Westminster's future on-street bikeways contribute to an ever-expanding regional bikeway system.

Beyond reviewing existing and ongoing plans, Westminster's existing bicycle conditions were primarily documented and reviewed by utilizing the Handlebar Survey methodology, whereby the



1.1: The redevelopment of the Westminster Mall will provide the city with a walkable, mixed-use center. (Image: Van Meter Williams Pollack LLP)

The complete list of plans reviewed during this planning effort includes:

- City of Westminster Zoning Code and Land Use Map
- City of Westminster Guidelines for Traditional Mixed Use Neighborhood Developments
- Westminster Center Urban Reinvestment Project and Mall Redevelopment Massing Study
- City of Westminster Strategic Plan (2009-2014 -2023)
- City of Westminster Traffic Volume Counts (2010)
- 36 Corridor Bike Links Map
- City of Westminster Trails Plan Map
- City of Westminster Existing Trail System Map
- City of Westminster Metzger Farm Open Space Master Plan (2010)
- City of Westminster Site Development Standards (Chapter 7)
- City of Westminster Streetscape Improvement Projects (2010-2011)
- City of Westminster Roadway Plan (2008)
- City of Westminster Pedestrian and Bicyclist Crash Data (2009)
- City of Arvada Trails Plan (2001)
- City of Arvada Trails and Open Space Master Plan (2001)
- City of Arvada Citywide Bicycle System Summary (2009)
- City of Arvada TOD Access Plan, Citywide Bicycle System Overview & Connections (2009)
- City of Broomfield Existing Trail System Map
- City of Broomfield Existing Trail Conditions Map
- City of Broomfield Proposed Trails Map
- City of Broomfield Open Space, Parks, Recreation, and Trails Master Plan (2005)
- City of Northglenn Parks and Trails Map
- City of Northglenn Parks And Greenways Map
- City of Thornton Existing Public Parks, Open Space, and Trails Map
- City of Thornton Parks and Trails Master Plan Map
- City of Thornton Proposed Community and Regional Trails Network
- City of Thornton Parks, Open Space, and Trails User Map (2007)
- DRCOG's 2010 Guidelines for Successful Pedestrian and Bicycle Facilities in the Denver Region
- Adams County Parks, Trails, and Open Space Map
- Adams County Trail Map (1999)
- Jefferson County Open Space Master Plan Update (2008)
- Jefferson County Existing and Potential Trails Map (2008)
- Jefferson County Open Space System Map (2008)
- City of Davis, California Bicycle Master Plan (2009)
- City of Boulder, Colorado Bicycle Master Plan (2006)
- City of Boulder, Colorado Transportation Plan (2008)
- City of Denver Bicycle Master Plan Update (2001)

planning team bicycled throughout the entire city. The Handlebar Survey process, detailed in Section 2.2, made use of physical mapping, photography, extensive note taking, and interviews with bicyclists.

The results of this work—along with Westminster City staff recommendations, the print, online and Westminster corporate employer outreach surveys, and key stakeholder interviews—played an instrumental role in establishing the Westminster 2030 Bicycle Master Plan.

1.2 STREET NETWORK

Westminster's street network is primarily structured for motor vehicle movement and storage. Specifically, the city exists within a quasi-irregular, regional super-grid of arterial roadways spaced at approximately 1.5 mile (north-south) and 1.0 mile (east-west) intervals.

Analysis reveals that Westminster's older residential neighborhoods, located south of 88th Avenue, between Sheridan and Federal Boulevards, were developed primarily within a gridded network of curvilinear and rectilinear residential streets and commercial avenues. However, all other portions of the city—those built largely in the last 30 years—feature a pattern of disconnected collector and cul-de-sac streets located between the regional arterial super-grid. While this pattern keeps traffic away from the neighborhood interiors, it greatly limits the permeability of the city's street network, effectively forcing the majority of motor vehicle trips onto a limited number of arterial roadways. The congestion caused by this pattern has ultimately been used to substantiate the need to widen streets to their maximum width. Such conditions are not conducive to bicycling, especially when there exists little to no on-street bicycle infrastructure in place, as is the case in Westminster.

Fortunately, the city's extensive shared use path (trail) system and policy of encouraging pedestrian and bicycle paths through cul-de-sacs provide some mitigation. However, while this network is amenable to recreational bicycling, it is frustrating to bicyclists searching for efficient and direct trips to specific destinations, such as working or shopping locations. Bicyclists using thin road bike tires may find the network difficult to navigate because of the crushed gravel conditions. Finally,

PRE-1945 SUBURBAN NETWORK

POST-1945 SUBURBAN NETWORK

RECENT SUBURBAN NETWORK



1.3: Westminister's network has become increasingly disconnected.

because of the shared use path network's tributary configuration, wayfinding remains difficult if one is not already familiar with the system.

1.3 LAND USE

Like many suburban American cities, Westminister's regulatory practice of separating land uses by function—e.g. commercial, residential, industrial, etc., has directed commercial and employment districts to locate adjacent to high volume streets, away from residential neighborhoods. Such land use patterns, in combination with a disconnected street network, effectively isolate rather than knit together the city's neighborhoods. As a result, access to daily destinations is challenging when traveling on foot or by bicycle. Indeed, the existing arterial streets engender high motor vehicle volumes and speeds, which do not provide a comfortable environment for non-motorized transportation. At present, south Westminister, Bradburn Village, and the Westminister Mall redevelopment plans provide working examples of a more balanced and integrated land use and transportation network pattern.

1.4 EXISTING BIKEWAY NETWORK

While the city's existing bikeways map (see pages 10 and 11) reveals a lack of on-street bicycle facilities, it also demonstrates that the city's shared use path network provides a well-developed framework for advancing non-motorized recreation and transportation.

Navigating Westminister's off-street network can be difficult, especially for those unfamiliar with the system. While some wayfinding signs are sporadically located throughout the network, they are not particularly legible, and there exists two different design configurations. In key locations, such as where a pathway splits, directional signs are often missing. At present, there are few bikeway network or caution signs along city streets, hindering cyclist safety and reducing the legibility of the network. Specific wayfinding and signing recommendations are located in Section 4: Wayfinding and Signing Plan.

1.5 BICYCLE COLLISION DATA

During the period of 2000 to 2009, a total of 151 collisions involving bicycles occurred on public streets and were reported to the City. In 99 of these crashes, the cyclist was reported as injured and needed medical attention. One cyclist death was reported in 2004. Other information about the



EXISTING BIKEWAY NETWORK

- 74 Total bikeway network miles
- 2 Bikeway types: Shared Use Paths & Bicycle Lanes
- 74 Miles of Shared Use Paths
- >.1 Miles of Bicycle Lanes
- 0 Percentage of city street network with bikeways
- Number of main bikeways, 4 with numerous branches



Left: 1.3: While cul-de-sacs greatly limit network connectivity, they can be fused together with non-motorized connections.
(Photo Credit: Google Earth)

Right: 1.4: Numerous key decision points along Westminster's Shared Use Path system lack wayfinding signs.

crashes, such as date, time, vehicles involved and a brief summary of the cause of the crash is also available for each incident.

The map on pages 12 and 13 shows the number and location of these bicycle-related crashes during this period. Other details of each incident have been omitted in order to focus on the spatial and numerical relationships of crashes. The purpose of this map is to understand where bicycle accidents are occurring, which specific corridors are most dangerous for cyclists, and what areas have the highest concentration of bicycle crashes. This information will help the City to better plan for future bicycle education, engineering and enforcement efforts.

Bicycle-related accidents tended to cluster around highly trafficked corridors and intersections, and areas where the off-street network encounters the street network. Neither of these two facts is surprising. Crashes are happening along busy streets, such as Federal Boulevard, 92nd Avenue and Wadsworth Parkway, because they have higher automobile speeds that put cyclists at risk. These corridors highlight the need for bicycle facilities to counteract these trends. Interfaces with the off-street network also see high rates of collisions, as these key areas feature high volumes of cyclists. This stresses the need for the City to prioritize signing and other roadway treatments to ensure the continued safety of Westminster's cyclists at these junctions.

The southeastern section of the city, below 76th Avenue, had the highest incidents of cyclist-related crashes. The section of 72nd Avenue between Sheridan Boulevard and Zuni Drive had 18 reported crashes in the period from 2000 to 2009. Other arterials, such as Lowell Boulevard and Federal Boulevard experienced frequent incidents of crashes. Unsurprisingly, the intersection of Federal Boulevard and 72nd Avenue, the two busiest corridors for this quadrant of the city, saw the highest number of bicycle related crashes in the area. The high rates of accidents in this part of the city are most likely due to the relatively dense land-use pattern, the traffic-heavy commercial streets and adjacent residential areas. The City should target specific education and awareness efforts (see Section 6: Education, Encouragement, Enforcement, and Evaluation) in this part of Westminster.

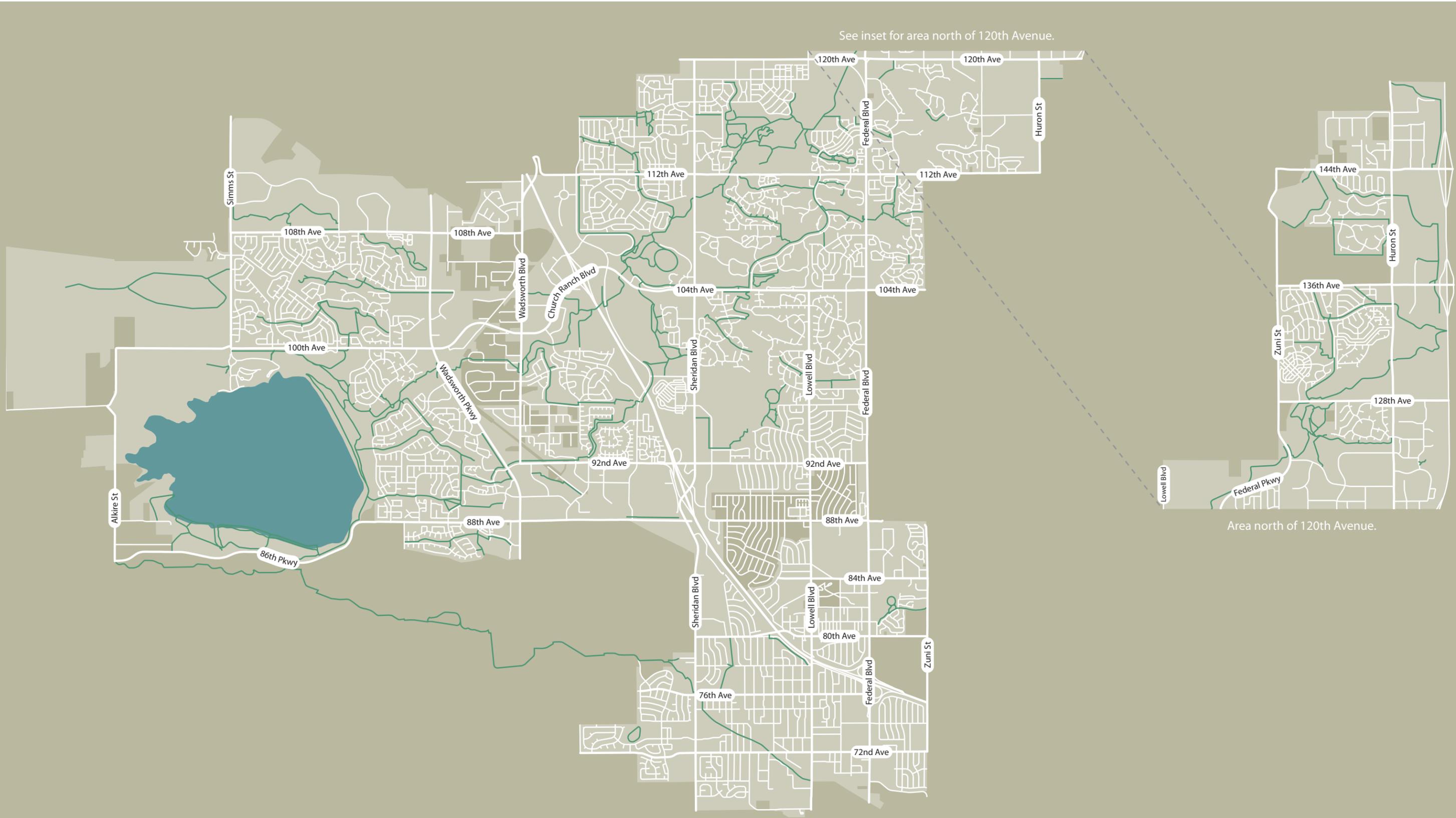
The intersection that had the highest number of crashes was 92nd Avenue and Yates Street. Six collisions were reported at this busy intersection during this ten-year period.

1.6 BICYCLE PARKING

Bicycle parking facilities are commonly found across the city, especially at schools, civic buildings, and some commercial shopping areas. However, the quality of these end-of-trip facilities varies greatly, and the quantity needs calibration—some locations seem to have too little bike parking, while others have too much. There exists a need to “right-size” the City's approach to bicycle parking, and ensure that types and locations are standardized. Section 5: Bicycle Parking Plan includes detailed bicycle parking recommendations.

EXISTING BIKEWAY NETWORK

- Shared Use Path Network
- Unincorporated Areas

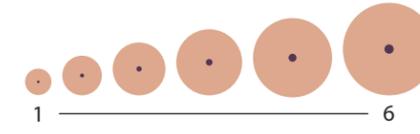


See inset for area north of 120th Avenue.

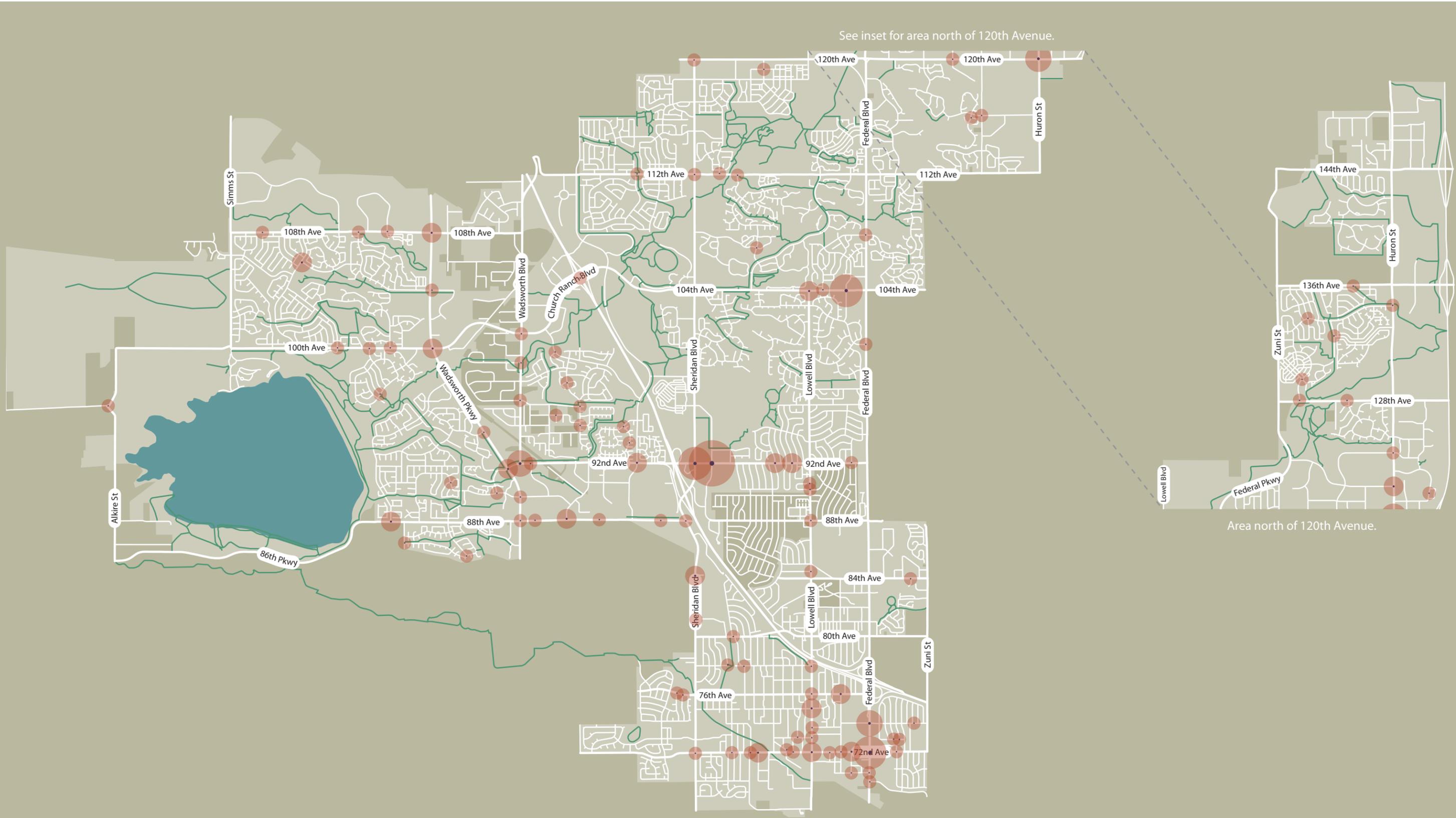
Area north of 120th Avenue.

BICYCLE CRASHES 2000 - 2009

Number of Reported Bicycle Accidents



Shared Use Path Network
Unincorporated Areas



2. PUBLIC INVOLVEMENT PROGRAM

The Westminster 2030 Bicycle Master Plan public input and communications process utilized numerous innovative and time-tested methodologies to obtain input from the City of Westminster's elected officials and municipal employees; local bicycle advocates; the greater Westminster community; and neighboring municipalities and regional governments. All input gathered provided the planning team with a deeper understanding of public sentiment in regards to the city's current bicycle conditions. The input gathered helped formulate the final recommendations included in this bicycle master plan.

The following section details a summary of the public input and communications processes, which included two Westminster Bicycle Summits, the planning team's Handlebar Survey, web- and paper-based surveys, the City of Westminster's Corporate Employer Outreach Survey, key person interviews, neighboring City and County outreach, and internet and social media tools.



2.1: Two Bicycle Summits engaged Westminster's bicycle community.

2.1 WESTMINSTER BICYCLE SUMMITS

The planning team facilitated two public Bicycle Summits. The first Bicycle Summit occurred on May 27th, 2010. It included a project kick-off overview; initial project orientation; and a presentation on the planning team's best practices assessment and preliminary Handlebar Survey findings, as described below. Input from this summit was used to formulate the recommendations included in the Westminster 2030 Bicycle Master Plan.

The second Bicycle Summit took place on September 22nd, 2010. A representative of the planning team presented the full draft master plan for public review, which included a summary of all recommendations and all draft bikeway plan maps.



2.2: The Handlebar Survey allowed the planning team to collect qualitative and quantitative information.

2.2 HANDLEBAR SURVEY

The planning team bicycled large portions of every neighborhood in the City of Westminster. This was done in advance of leading the city's first Bicycle Summit so that the planning team could best understand and document Westminster's existing bicycling opportunities and challenges—beyond what may be ascertained by reviewing existing maps and plans.

Information gathered included current existing bicycle facility use, street width/street types, network gaps, wayfinding conditions, posted and actual vehicular speeds, land uses, open space connections, bicycle parking supply and demand, bicycle trip generators, and existing bikeway infrastructure types. Throughout the Handlebar Survey process, the planning team was also able to connect personally with those already bicycling in Westminster.

2.3 WEB- AND PAPER-BASED PUBLIC SURVEYS

The planning team collaborated with the City of Westminster to conduct a web- and paper-based community survey to establish a benchmark for bicycling trends, preferences and behaviors. The information gathered was evaluated and used to prioritize project recommendations. Specifically, the planning team utilized SurveyMonkey.com, a web-based survey tool, to solicit input from frequent, occasional, and non-cyclists through the Bike Westminster project website for five months, from mid-May to mid-October. Paper copies of the survey were also distributed to cyclists encountered during the planning team's Handlebar Survey. The planning team added these responses to the online database. The survey asked Westminster residents to answer a series of bicycling-related questions.

2.3.1 SURVEY FINDINGS

The Westminster 2030 Bicycle Master Plan Survey garnered 209 responses. From this survey, numerous conclusions can be inferred. For example, the majority of respondents are recreational cyclists, ride a few times a week, and desire the City to concentrate its bikeway planning efforts on implementing an on-street bicycle network.

Based on the response, it is clear that the survey targeted, and reached, a limited demographic segment of Westminster residents—intermediate and highly-skilled cyclists who ride fairly regularly. In order to best understand the overall state of cycling in the city, a more far-reaching survey effort would have to be designed and disseminated to cyclists and non-cyclists alike. Such an effort was not part of the scope for Westminster’s first Bicycle Master Plan. However, as the City begins to implement the 2030 Bicycle Master Plan, such an effort should be considered to best steer ongoing planning and implementation efforts.

When analyzing the results of the survey, it should be noted that not all 209 respondents answered all 11 questions contained within the survey. As a result, percentages always apply to the aggregate number of survey respondents who answered the question.

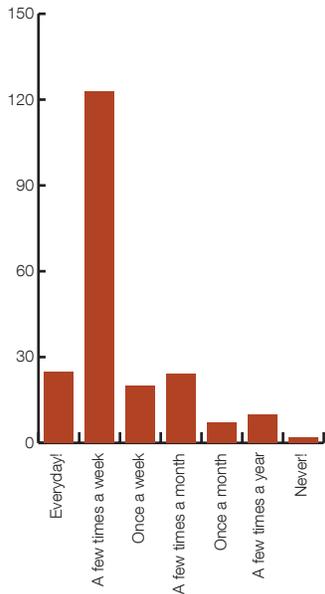


Figure 1: How often do you bicycle?

The vast majority of survey respondents bicycle frequently: 79.7 percent of our survey takers (161 people) said they cycle at least once a week or more.

2.3.1.1 Question 1: How often do you bicycle?

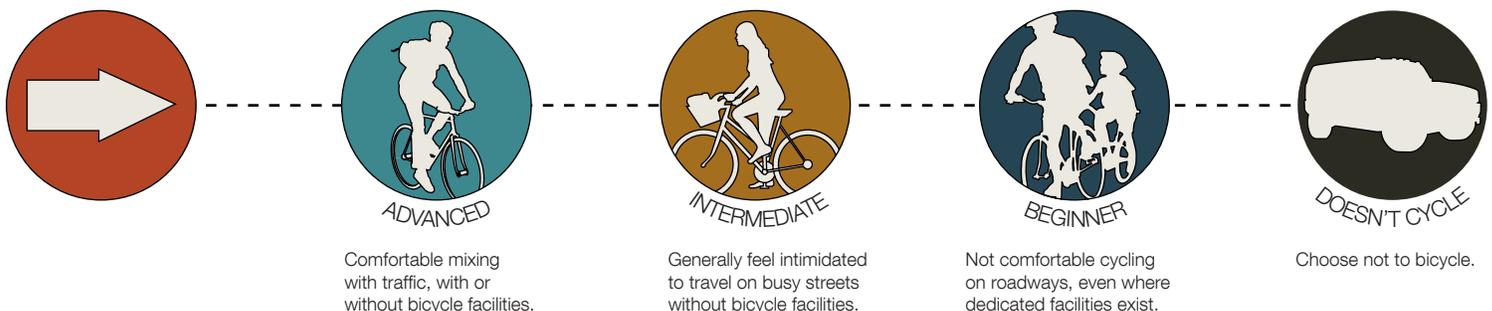
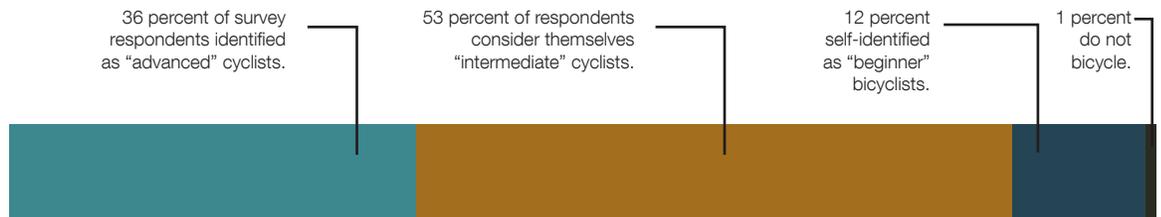
One hundred twenty-three respondents (58.9 percent) bike a few times a week; 25 respondents (12.0 percent) bike everyday. Twenty people (9.6 percent) noted that they bike once a week; an additional twenty-four (11.5 percent) bike a few times a month. Only seven people said they cycle once a month (3.3 percent), an additional ten (4.8 percent) cycle a few times a year.

2.3.1.2 Question 2: What type of bicyclist are you?

About a third of survey respondents consider themselves to be quite skillful cyclists, with 73 people (36.0 percent) identifying themselves as ‘advanced cyclists’—cyclists who feel comfortable mixing with traffic. However, the majority of respondents, 107 (52.7 percent), consider themselves ‘intermediate cyclists—people who feel comfortable bicycling where facilities exist, but generally prefer to stay away from busy streets (even though they mostly feel safe riding in their own residential streets).

Figure 2: What type of bicyclist are you?

The survey generally reached Westminster’s existing cycling population.



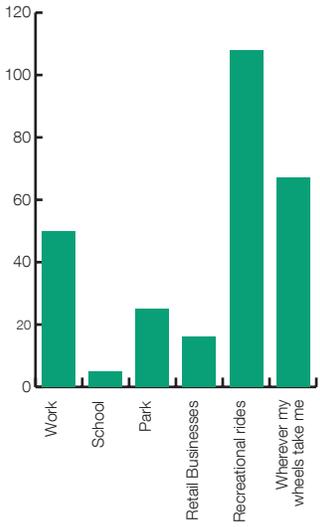


Figure 3: What is your most common destination?

Recreational bicycling is more popular in Westminster than utilitarian bicycling.

Twenty-four people (11.8 percent) identify themselves as beginning cyclists—cyclists who feel safe riding on the sidewalk or at bicycle events such as Bike MS, but who generally do not mix with traffic.

2.3.1.3 Question 3: What is your most common destination?

In general, recreational bicycling is more prevalent than bike commuting. Fifty respondents (25.1 percent) said they bike to work, while many more associated biking with recreation. For instance, 25 respondents (12.6 percent) said they bike to parks, while 108 (54.3 percent) participated in recreational group or solo rides. Sixteen respondents (8.0 percent) said they use their bike to access retail businesses. In addition, 67 respondents (33.7 percent) said they ride ‘where ever my wheels take me,’ meaning no matter the trip type, cycling is always an option. Amongst others, those surveyed cited Standley Lake and the Big Dry Creek Trail as their primary recreational destinations. A substantial number of survey takers commented that they mostly ride on the city’s network of paths, but do not feel safe riding on the City’s existing roadways. Also, many cyclists cross Westminster’s borders to bike to Arvada, Broomfield, Boulder, Denver, and points beyond—an indication of the need for a well-connected regional bicycle network.

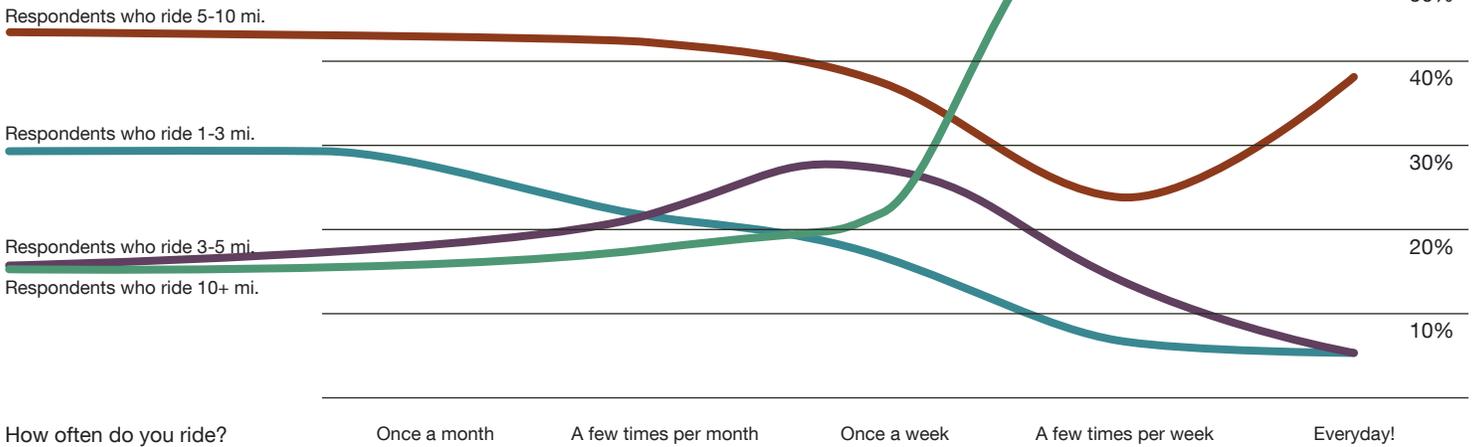
Several survey takers also mentioned that they ride for exercise. Those who ride for exercise tend to go on longer rides. This is reflected in the average bicycle trip length.

2.3.1.4 Question 4: What is your average bicycle trip length?

When asked, 96 people (46.6 percent) indicated their average trip length was over ten miles (perhaps, this reflects the prevalence of recreational riding, or that the survey reached mostly recreational distance riders). Another 59 (28.6 percent) said this number was between five and ten miles, while 29 people (14.1 percent) claimed their average trip length was between three and five miles. Only 22 respondents (10.7 percent) claim their average trip length was between one and three miles. The number of cyclists who average less than a mile per bicycle trip is negligible: three people (1.5 percent). Note that the number of respondents decreases in line with the drops in average trip length.

Figure 4: What is your average bicycle trip length?

Most cyclist trips in Westminster are 5-10 miles in length. In general, people who ride more often ride for longer distances.



2.3.1.5 Question 5: To what extent do you agree with the following statement: Bicycling in Westminster is safe and enjoyable.

Westminster cyclists are divided over the question whether bicycling in Westminster is safe and enjoyable. Fifty-six people (or 28.1 percent) somewhat or strongly disagree with this statement. And while 133 people (66.8 percent) somewhat or strongly agree that it is indeed safe and enjoyable to bicycle in Westminster, a myriad of concerns and comments surfaced in the completed surveys.

While people generally agreed that bicycling in Westminster is “safe and enjoyable,” open comments demonstrated a myriad of concerns about the city’s street network, including:

- Riding in a bicycle lane that suddenly disappears
- Westminster drivers not being used to bicyclists or expecting bicyclists
- The trail system is safe and enjoyable—but roadways are NOT!
- Lack of bike lanes to major destinations
- Traffic volume on major arterials is intimidating
- As long as one is on designated paths, cycling is very safe. Safe street cycling options are limited
- Westminster lacks bicycle connections to other municipalities
- Biking on Westminster’s trails is very safe. Biking in Westminster traffic is not so safe. I am an aggressive, brightly colored rider so I tolerate riding on Westminster streets. A timid, beginner or unsure bicyclist would not fare so well
- Cars reign supreme over bikes in Westminster, as evident when streets are repaved with no new bike lanes added when room exists
- Bicycle lanes in Arvada and Broomfield end when they meet the Westminster municipal boundary
- Drivers in Westminster need more education and awareness - get off the cell phones, drop the cigarettes and blackberries, and pay attention to the road
- Motorists are extremely hostile to cyclists. Education and facilities are needed.

2.3.1.6 Question 6: Please indicate how strongly you agree/disagree with the following statements: “There are not enough bicycle facilities—lanes, paths or well-marked routes—that connect to my destinations,” “There is not enough safe, secure bicycle parking available at my destination(s),” “Roadway conditions (potholes, narrow shoulders, too many travel lanes, etc.) make me feel unsafe,” “Motorists behave in a way that makes me feel unsafe,” “The weather is not conducive to cycling,” and “I am concerned about bicycle theft.”

The below graph illustrates that bicycling isn’t just a matter of building more bike lanes. Many factors play a role in the decision of whether to cycle or not.

Indeed, the graph indicates that in order for cycling to become a more attractive transportation option, more bicycle facilities are needed—bike lanes, paths or well-marked routes that connect to people’s desired destinations. Roadway conditions are also a critical factor to many survey respondents, and according to them, poor roadway conditions make them feel unsafe. Furthermore, the behavior of motorists in Westminster must be addressed—a substantial number of survey takers indicate that their behavior makes them feel unsafe. While cyclists identified a number of barriers to biking in Westminster, survey respondents do not perceive the city’s inherent characteristics—the weather and topography—as barriers to cycling. Though some cities have overcome weather and topographical issues—Seattle and San Francisco have relatively high bicycle mode splits despite their

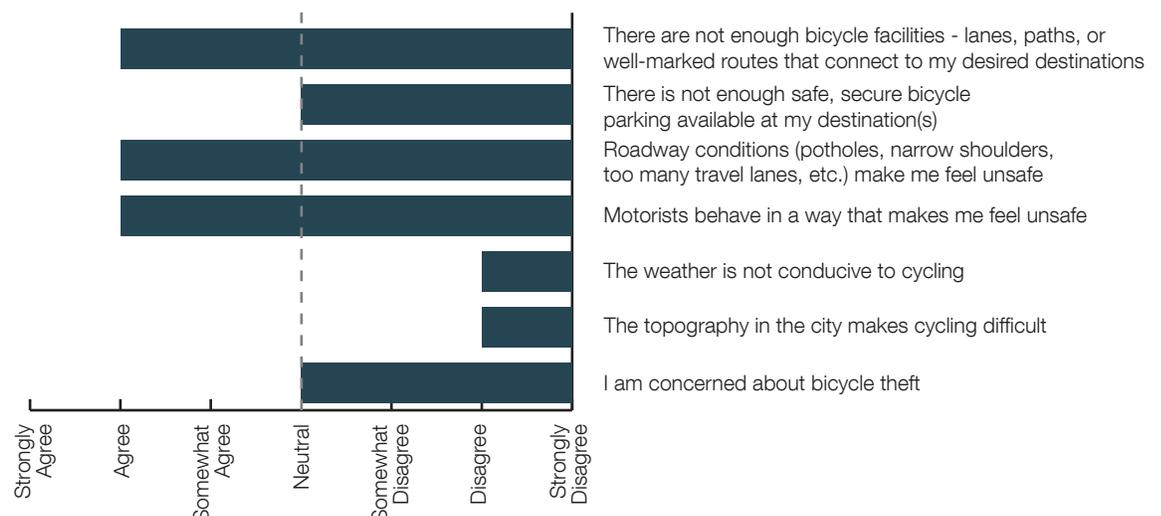


Figure 5: How strongly do you agree or disagree with the following statements? The graph to the left shows the mode response to each statement; most identified bikeway facilities as a critical issue.

respective rainy weather and hilly topography—Westminster's relatively mild, sunny climate gives the city a natural advantage in promoting cycling. Finally, the bulk of respondents felt neutral about bicycle parking and theft; some pointed out in the comments that, as recreational cyclists, they never leave their bicycles locked up anywhere, so their usage patterns make parking and theft non-issues.

2.3.1.7 Question 7: Which are the priorities the City needs to address to make Westminster a safer city for bicycling?

When asked which priorities the City of Westminster needs to address to make it a safer city for cycling, the need for more bicycle lanes, paths, signed routes, and bicycle boulevards was highlighted by 175 survey takers (88.4 percent). Sixty-seven people (33.8 percent) indicated they wanted to have motor vehicle/bicycle safety education and awareness promotion. In addition 58 respondents (29.3 percent) considered safe routes to schools for children a priority.

Eleven people, or just 5.6 percent of survey takers, viewed lower motor vehicle speeds on the city's major corridors as a priority, while 22 survey takers (11.1 percent) pointed to the need for more speed limit enforcement for motorists.

2.3.1.8 Question 8: Where is bicycle parking needed the most?

The need for better bicycle parking facilities was mentioned by 32 survey takers (16.2 percent). Subsequently, when asked where bicycle parking is needed the most, 87 survey takers (52.7 percent) mentioned shopping centers, 53 (32.1 percent) mentioned parks, 38 (23.0 percent) mentioned bus stops, 27 (16.4 percent) mentioned civic buildings and 16 (9.7 percent) mentioned schools. In addition, 61 (37.0 percent) survey takers claimed more bicycle parking is needed along major commercial corridors. Survey takers commented on the issue of bicycle parking as well:

- Unless it is easy to ride a bicycle to a shopping destination there is no purpose to add bicycle parking at those locations.
- Some facilities exist now, but not enough—Especially at shopping centers
- The Westminster Promenade park n' ride parking need more bicycle parking, as do many shopping areas.

2.3.1.9 Bicyclist-Type Analysis

Based on the survey results, the cyclists of Westminster can be broken down into three broad categories: commuters, frequent recreational riders and occasional recreational riders. While there is some overlap between the groups, and even the action of grouping cyclists together under such broad labels is somewhat arbitrary, the distinction between these groups is illuminating.

Cyclists were placed into these categories depending on how they responded to question 3: What is your most common destination? The 50 (25 percent) respondents who indicated 'Work' are considered commuters. The 25 (13 percent) individuals who chose 'Park' are considered to be occasional recreation riders. Frequent recreational riders are the 108 (54 percent) respondents who indicated 'Recreational group or solo rides'. Again, it should be emphasized that there is the great potential for overlap between these groups. A commuter could easily participate in group and solo recreational rides, but have indicated 'Work' because that is his/her most common destination.

Compared to the other groups, commuters tend to ride more often, are more likely to consider themselves 'advanced' cyclists, are least satisfied with Westminster's existing bicycle facilities, most strongly desire the installation of more bicycle facilities and are more likely to participate in government-led bicycle initiatives. It would seem obvious that commuters ride most often, as there are inherently more opportunities given the number of days in the work week. These riders are most likely utilizing both the off-street network and on-street network during their commutes. Their exposure to the bicycle-unfriendly roadway conditions may indicate why commuters are the least satisfied with bicycling conditions in Westminster, and why they strongly desire on-street bicycle facilities. As their responses indicate, this group of cyclists are an underserved demographic segment that would benefit most from the installation of on-street facilities. As commuter bicyclists log the most days and miles, and are most likely to participate in government actions, their insight and participation could be a very valuable asset to the City, as it implements and evaluates the 2030 Bicycle Master Plan.

Westminster's occasional recreational cyclists, by contrast, ride the shortest distances, are

most intimidated by automobiles and more likely to consider themselves “beginners.” These cyclists indicated that their primary destination is the ‘Park,’ which would most likely mean the closest green space to where they live. More likely than not, they will bicycle on quiet neighborhood streets, or perhaps parts of the existing off-street network in order to reach that destination. These trips are short and traverse relatively safe corridors. Whereas commuters are more likely to utilize collector or arterial roads during their daily trips, infrequent recreation riders do not have the same exposure to motor vehicles, and are thus more inexperienced and fearful of bicycling on the roadway. This group of cyclist is typically more satisfied with cycling conditions than commuters because of this lack of exposure. As they most often ride to and from the park, utilize calm streets or off-street trails, Westminster’s existing conditions satisfy this group.

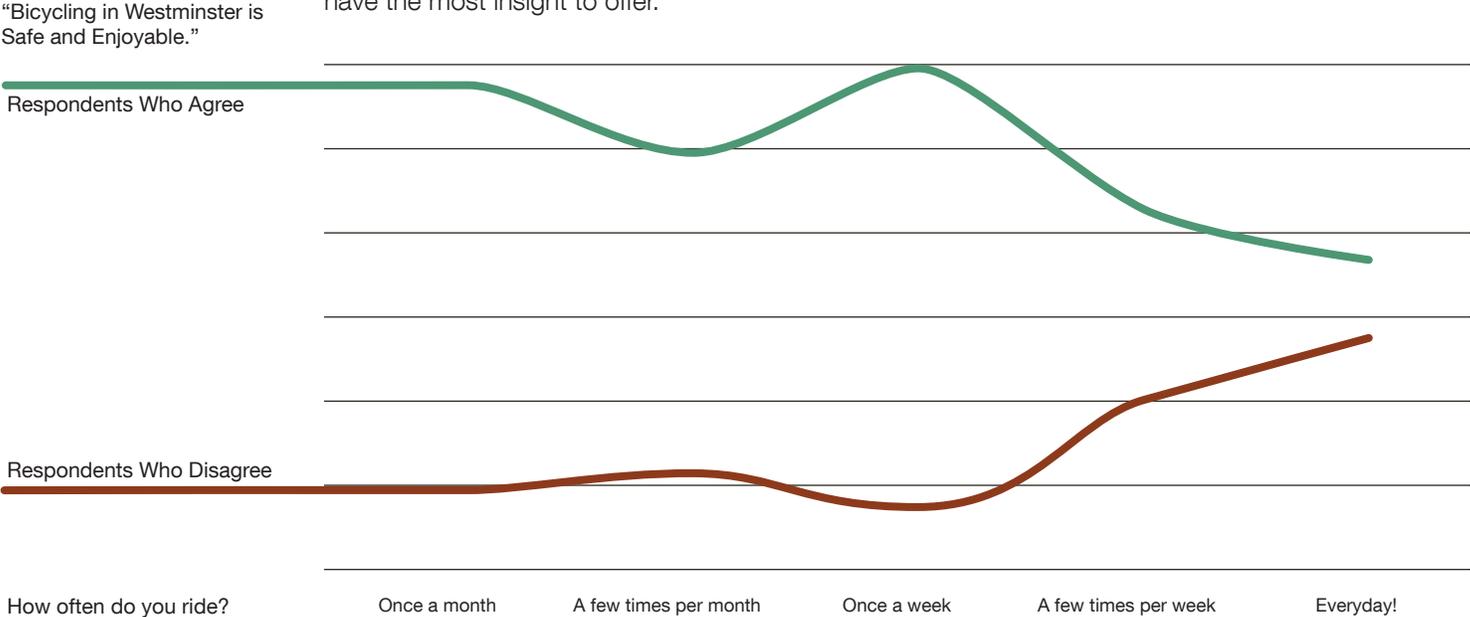
Frequent recreational cyclists have the longest trips; bicycle nearly as often as commuters; are more satisfied with existing conditions than commuters; but less so than occasional recreational riders, and are nearly as likely to participate in government proceedings as commuters. This group of cyclists are a dedicated group, who will tend to bicycle for long distances, most likely utilizing the off-street network. They will have more exposure to bicycling on the roadway than the occasional recreational riders, due to the fact that longer rides would most likely require some time spent on the roadway network. However, compared to commuters, frequent recreational riders most likely spend more time on the off-street network, due to the fact that their primary destination is not a fixed location. This fact would explain why frequent recreational cyclists are more satisfied with existing cycling conditions than commuters, but less so than infrequent recreational riders.

2.3.1.10 Conclusion

The survey has shed new light on the deterrents of bicycling in Westminster, as well as on its current assets. One fact remains clear: the more exposure that cyclists have on Westminster’s roadways, the less satisfied they are with overall cycling conditions. Recreational cyclists, who most likely limit their trips to shared use paths, are more satisfied by the safe and robust off-street network. However, as people spend more time cycling on Westminster’s roadways, and encounter dangerous and sometimes hostile conditions, their views invariably shift. Cyclists who make trips on the roadways of Westminster recognize the need for and importance of on-street facilities to create more comfortable and enjoyable riding conditions.

The survey results should continue to be an excellent source of information and additional surveys should be conducted on a regular basis to track the shifting opinions and perceptions of Westminster’s bicyclists as the 2030 Master Plan is implemented. Particular effort should be made to solicit the opinions and perceptions of bicycle commuters, as they would be the most receptive and have the most insight to offer.

Figure 6: Bicycling Frequency and Satisfaction with Existing Conditions
 There is an inverse relationship between frequency of cycling and satisfaction with existing conditions. Westminster’s cyclists who ride more often tend to be less satisfied.



2.4 WESTMINSTER CORPORATE EMPLOYER OUTREACH SURVEY

Concurrent to the planning team's survey and outreach efforts, the City of Westminster surveyed several large businesses in the city regarding current bicycle facility use/demand and commuter preferences. The information received revealed that Westminster's large businesses generally support bicycling as a form of transportation to and from the work place, agreeing that it aligned with their corporate philosophy. Some employers already offer places to store bicycles and would agree to allowing the City to provide additional end-of-trip facilities should funding become available. Additionally, several businesses noted that their employees often ride together for exercise during their lunch hour, further supporting the need for showers, which a few businesses already offer. The planning team integrated the full survey results into the recommendations contained herein.

2.5 KEY PERSON INTERVIEWS

The planning team conducted more than fifteen individual interviews with key stakeholders, including Westminster City employees, key bicycle advocates, and bicycle-pedestrian professionals from neighboring municipalities.

2.6 NEIGHBORING CITY AND COUNTY OUTREACH

The planning team reached out to all five neighboring municipalities, as well as Jefferson and Adams Counties, to inform each of the bicycle master planning processes, as well as ensure Westminster's planned bikeways would link into a larger regional network.

2.7 INTERNET AND SOCIAL MEDIA TOOLS

To maximize public participation during the planning process, a suite of internet and social media tools was developed. The Bike Westminster website (www.bikewestminster.org) was designed to serve as the project's online hub. The website includes a project blog, general community and regional bicycle information, a well-used interactive web-mapping tool, and a link to the project survey. It also integrates the project's Twitter and Facebook accounts to maximize the opportunities for participants to receive and share project related information in real-time.

WEBSITE SUMMARY STATISTICS

32	Website News Blog Posts
9	Website Comments
90	Bike Planner Tool Comments
46	Facebook Posts
81	Facebook "Fans"
94	Twitter Posts
61	Twitter Followers

- ▶ 2.7: The Bike Westminster website served as the project's information hub, allowing users to connect to the project and each other. It also provided multiple ways to provide input over the duration of the project, including an innovative mapping tool called Bike Planner. Users could highlight areas in need of improvement and comment on issues brought up by other cyclists.
- ▼ 2.7: This process diagram, created by Andy Cochran at The Open Planning Project, shows how using social media and web-based tools can improve the public outreach process by engaging people virtually.

www.bikewestminster.org/?page_id=251

Bike Planner Tool

Welcome to the Citizen Bike Planner. Here you will be able to share comments, questions and route suggestions with the project team via the interactive google map shown below. Simply zoom in on a location on the map you want to comment on and click. A red balloon will pop up which you can adjust to your location and report your comment. A running list of the comments submitted is shown to the right.

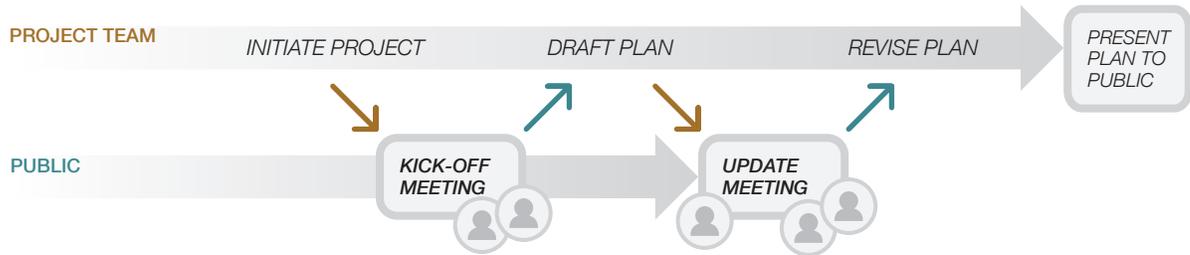


WESTMINSTER

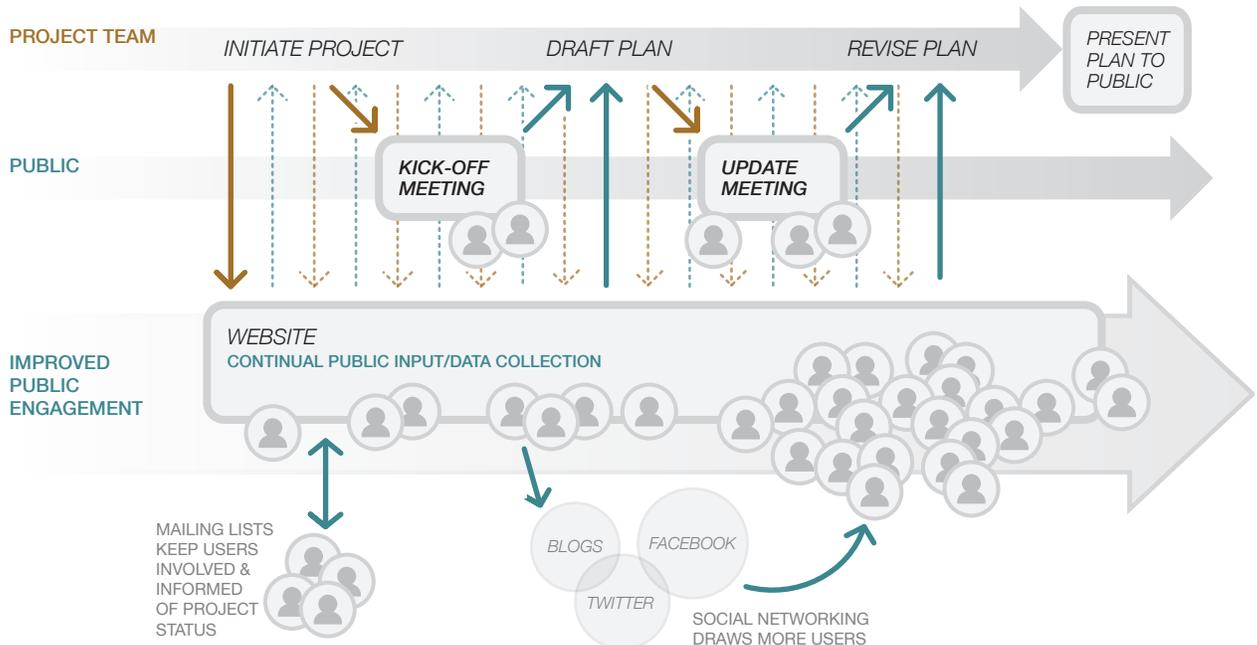
Find us on Facebook

BikeWestminster
 BikeWestminster: Col DOT is partnering with Kaiser Permanente in local community bicycling program: <http://bit.ly/95jCty>
 BikeWestminster: RT @gnsner: Notes on L From Rail-volution - <http://j.mp/bn0mt8>
 BikeWestminster: Find what happened when English town turned off its traffic lights:

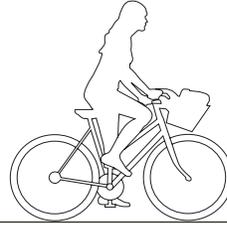
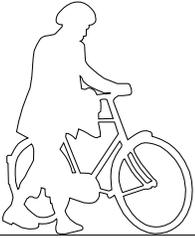
TRADITIONAL PUBLIC INVOLVEMENT PROCESS



IMPROVED PUBLIC INVOLVEMENT PROCESS



3. ON-STREET BIKEWAY NETWORK PLAN



WHAT IS BICYCLE PLANNING?

Bicycle planning is the process of assessing and addressing the needs of a community in the area of bicycle infrastructure, programs, and policies. It involves taking an inventory of the community's existing bicycle resources, and identifying strategies to build upon those resources. Bicycle planning means consulting with the citizens of community to facilitate their vision of future transportation networks—understanding their concerns, addressing their needs, and crafting a road map to a more bicycle-friendly community. It means assessing the strengths and weaknesses of bicycle resources through on-the-ground observations and public outreach, and finding ways to capitalize on their strengths and minimize their weaknesses.

Ultimately, bicycle planning is about giving a community a viable transportation alternative that complements the existing network—an alternative that encourages lively streetscapes, a healthy population, and a more livable and sustainable environment.

WHY PLAN?

According to the Colorado Department of Transportation, bicycling brings more than \$1 billion dollars to the state's economy each year. Whether for tourism, sales, events, or maintenance and repair, it's clear that the bicycle industry brings economic benefits to Colorado. However, bicycling also helps keep Colorado communities vibrant, active, and livable—traits that support its reputation as the nation's healthiest state.

As Colorado's 7th largest city, The City of Westminster has a vital role to play in sustaining and advancing the health of its local economy, the natural and built environment, and its 110,000 residents. However, because the City does not exist in a vacuum, it must also look outward in contributing to an increasingly dynamic metro-Denver region, and the overall livability of the State of Colorado. As Westminster's first comprehensive bicycle planning effort, the 2030 Bicycle Master Plan is intended to help the City do just this.

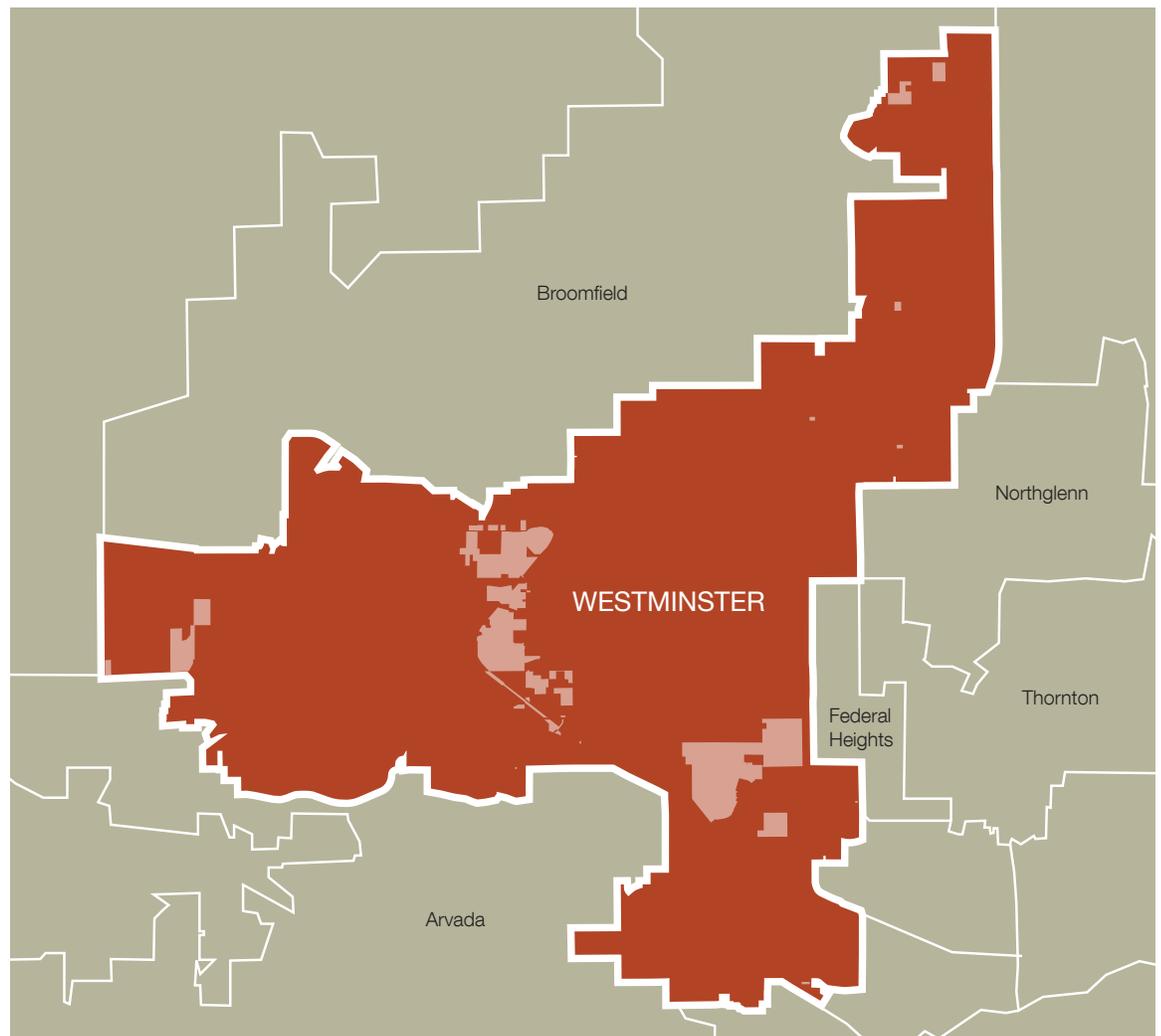


3.1 PLAN SCOPE

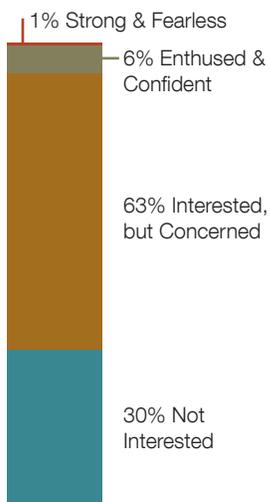
The primary focus of this planning effort is to encourage commuter bicycle travel not only within the City of Westminster, but also throughout the adjacent communities and the metro-Denver region. While the city's existing shared use path network was reviewed extensively, this plan focuses on identifying key bicycle facility improvements throughout the city's existing street network. Efforts were made to ensure that key destinations for commuting—such as shopping centers, employment centers, civic and educational institutions, and other gathering areas—will be well served by the proposed network. Increasing multi-modal connectivity is also a goal of this plan. Existing and planned transportation facilities, such as bus routes, transit stations, and park and ride locations, were considered to be particularly important destinations.

The Westminster 2030 Bicycle Master Plan study area includes all 33.7 square miles of land within the city's borders, with the exception of unincorporated areas within the boundaries, highlighted below in a lighter shade of red. However, in order to make bicycle travel a viable option, this study looks closely at Westminster's borders to make connections with existing and proposed infrastructure in neighboring municipalities.

3.1: The City of Westminster is situated between Denver and Boulder, CO, and is surrounded by a number of municipalities and unincorporated areas of Adams County.



3.2 APPROACH



3.2: While Roger Geller identifies four types of bicyclists, appealing to the “interested, but concerned” can do much to increase the cycling rates in any given community.

Before assigning bikeway types, the unique characteristics of each street and its physical context are considered holistically. Analysis includes street widths, street types, existing land uses, urban form, residential and commercial density, traffic control devices, posted speed limits, actual travel speeds, and existing/projected traffic volumes. When conducting this analysis, special attention is paid to how each of these elements affects the perceived and actual comfort for all types of bicyclists.

Taking a cue from their European counterparts, North America’s most bicycle-savvy cities are now designing bikeways to accommodate the least confident user. This approach provides an opportunity to increase bicycle mode share by further enriching the safety of the overall bikeway network. Peter Jacobsen’s frequently cited “Safety in Numbers” research shows that safer bicycling conditions attract more bicyclists to the roadway, which in turn, creates even safer conditions, and ever more people bicycling.ⁱ This so-called ‘virtuous cycle’ is set in motion when accommodating the most vulnerable users becomes a standard approach enhancing the viability of bikeway networks.

To that end, research conducted by Roger Geller, Bicycle Coordinator for the City of Portland, Oregon, identifies four general types of bicyclists, of which the majority seek more comfort and safety. “Riding a bicycle should not require bravery. Yet, all too often, that is the perception among cyclists and non-cyclists alike,” says Geller.ⁱⁱ Bikeway infrastructure that appeals to those who are interested in bicycling, but who are too often deterred by the perception—and reality—of unsafe bicycling conditions, is emphasized in this plan.

3.3 2030 BIKEWAY NETWORK MASTER PLAN

At present, the city’s bikeway network consists of approximately 74 miles of off-street shared use paths. To date, the City maintains no on-street bikeways. By physically outlining how the City should foster bicycling as a viable, safe, and sustainable form of transportation and recreation, the 2030 Bikeway Network Plan provides a critical foundation for further positioning Westminster as a safe and desirable place to bicycle.

Specifically, the Westminster 2030 Bicycle Master Plan includes more than 132 miles of new or improved bikeways. The plan proposes 102 bikeway projects, with eight total bikeway types, and seven total countermeasure types. The plan’s implementation will ultimately result in bikeways on 28 percent of Westminster’s street network.

The City of Westminster currently has three basic street types: local, collector and arterial. To more completely meet the needs of beginner, intermediate, and expert bicyclists, and to advance the viability of active transportation within the city and region, the Westminster 2030 Bicycle Master Plan

PROPOSED 2030 BIKEWAY NETWORK

- 132 TOTAL BIKEWAY NETWORK MILES
- 102 TOTAL NUMBER OF BIKEWAY PROJECTS
- 28 PERCENTAGE OF STREET NETWORK TO HAVE BIKEWAYS
- 8 NUMBER OF BIKEWAY TYPES
- 4 NUMBER OF COUNTER MEASURE TYPES



includes three classes of bikeway types, which may be configured in numerous ways to best match the physical characteristics inherent to each of the three basic street types.

In total, eight types of bikeways within these three classes are proposed. They include Class I: Off-street Shared Use Path, and Sidepath located within roadway right-of-way; Class II: Conventional Curbside Bicycle Lane, Conventional Bicycle Lane adjacent to parallel parking, and Buffered Curbside Bicycle Lane; and Class III: Signed Bike Route, Signed Bike Route with Shared Use Lane Markings (Sharrows) adjacent to parking, and Signed Bike Route with Curbside Shared Use Lane Markings (Sharrows).

A map of the proposed 2030 Bikeway plan can be found on pages 26 and 27. Though eight bikeway types are proposed in total, for simplicity, some bikeway types have been grouped together. The map does not make a distinction between different Class I and Class II facility types. It does, however, make a distinction between Class III facilities that include shared use lane markings and those that do not. In total, four bikeway facility types are highlighted: sidepaths (all Class I Infrastructure), bike lanes (all Class II infrastructure), signed bike routes (all Class III infrastructure without sharrows), and shared use lane markings (all Class III infrastructure with sharrows).

While the plan specifically aims to address the street network, many connections have been made with Westminster's extensive off-street shared use path network. Moreover, connections with adjacent communities have been pursued wherever possible. A map of these connections can be found on pages 28 and 29.

Additionally, seven bikeway countermeasure treatments are recommended to further enhance the visibility, safety, operation, and appeal of the proposed bikeway network. The countermeasure treatments include Bicycle Boxes, Bicycle Detection Systems and Pavement Markings, Peg-a-Tracking, and Bicycle Turn Pockets and Refuges.

Each proposed bikeway and countermeasure types are defined and illustrated in Section 3.4: Bikeway Type Summary and Section 3.5 Countermeasure Treatment Summary.

While this document offers recommendations for the location of each bikeway facility and countermeasure type, a cyclist-preferred bikeway type (i.e. Class I vs. Class II) and additional countermeasures should be considered if the opportunity for future improvement exists. For example, if a corridor is currently designated as a Class III Bicycle Route, but, in the future, is able accommodate Class II Bicycle Lanes, then the higher level of service should be pursued if and when funding and political support becomes available.

Finally, a close working relationship will have to be established with the Colorado Department of Transportation (CDOT) and Adams and Jefferson Counties in the pursuit of the plan's implementation, as competing jurisdictional interests and funding constraints may prove detrimental to the realization of the Westminster 2030 Bicycle Master Plan.

PROPOSED BIKEWAY & COUNTERMEASURE TYPES

CLASS I

- Off-street Shared Use Path
- Sidepath located within roadway right-of-way

CLASS II

- Conventional Curbside Bicycle Lane
- Conventional Bicycle Lane adjacent to parallel parking
- Buffered Curbside Bicycle Lane

CLASS III

- Signed Bike Route
- Signed Bike Route with Shared Use Lane Markings (Sharrows) adjacent to parking
- Signed Bike Route with Curbside Shared Use Lane Markings (Sharrows) curbside

COUNTERMEASURES

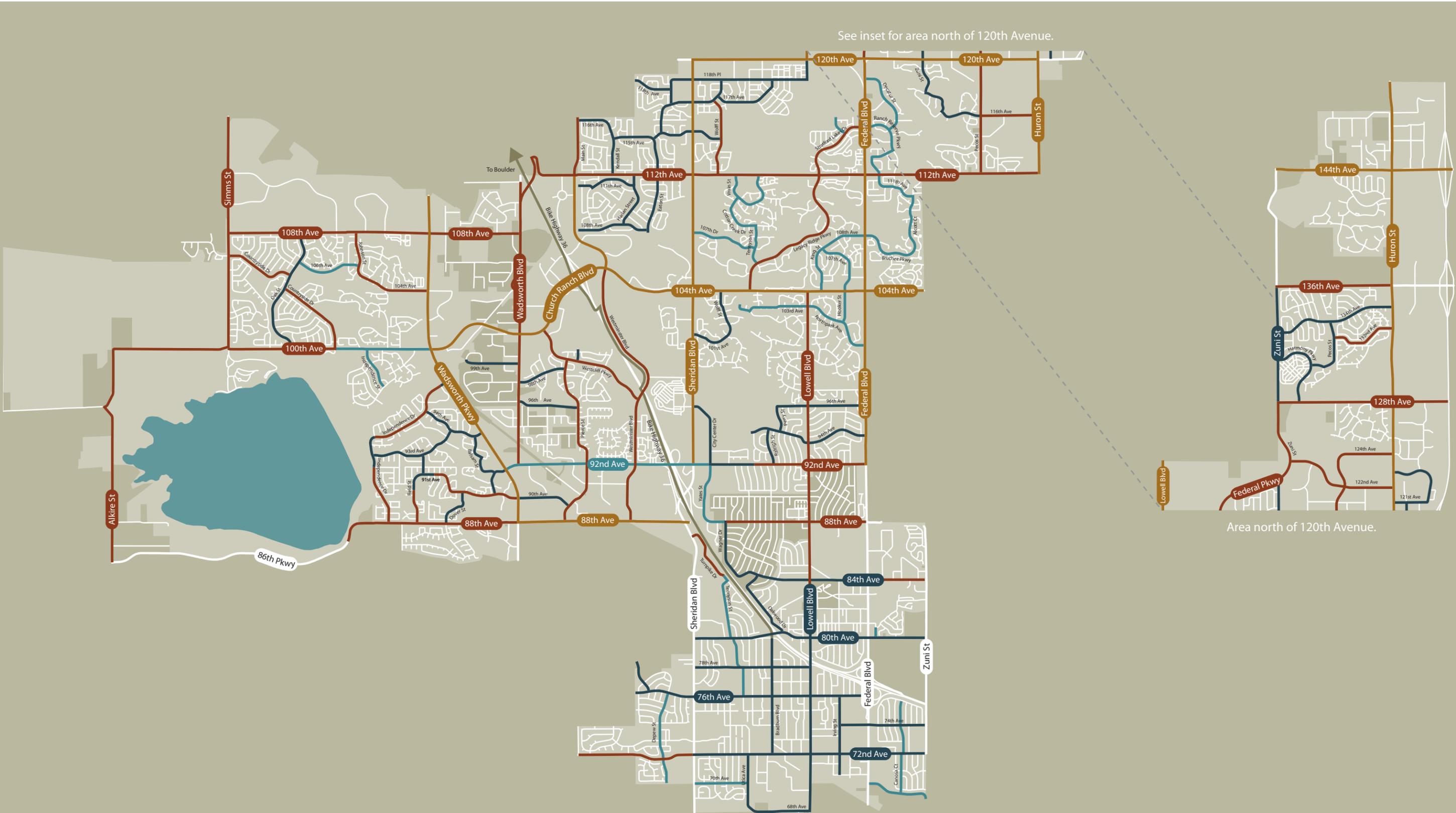
- Bicycle Boxes
- Bicycle Detection Systems and Pavement Markings
- Peg-a-Tracking
- Bicycle Turn Pockets & Bicycle Refuges



FINAL BIKEWAY NETWORK

- Proposed Sidepath
- Proposed Bicycle Lane
- Proposed Highway 36 Bike Route

- Proposed Signed Bicycle Route
- Proposed Shared Use Lane Markings
- Unincorporated Areas



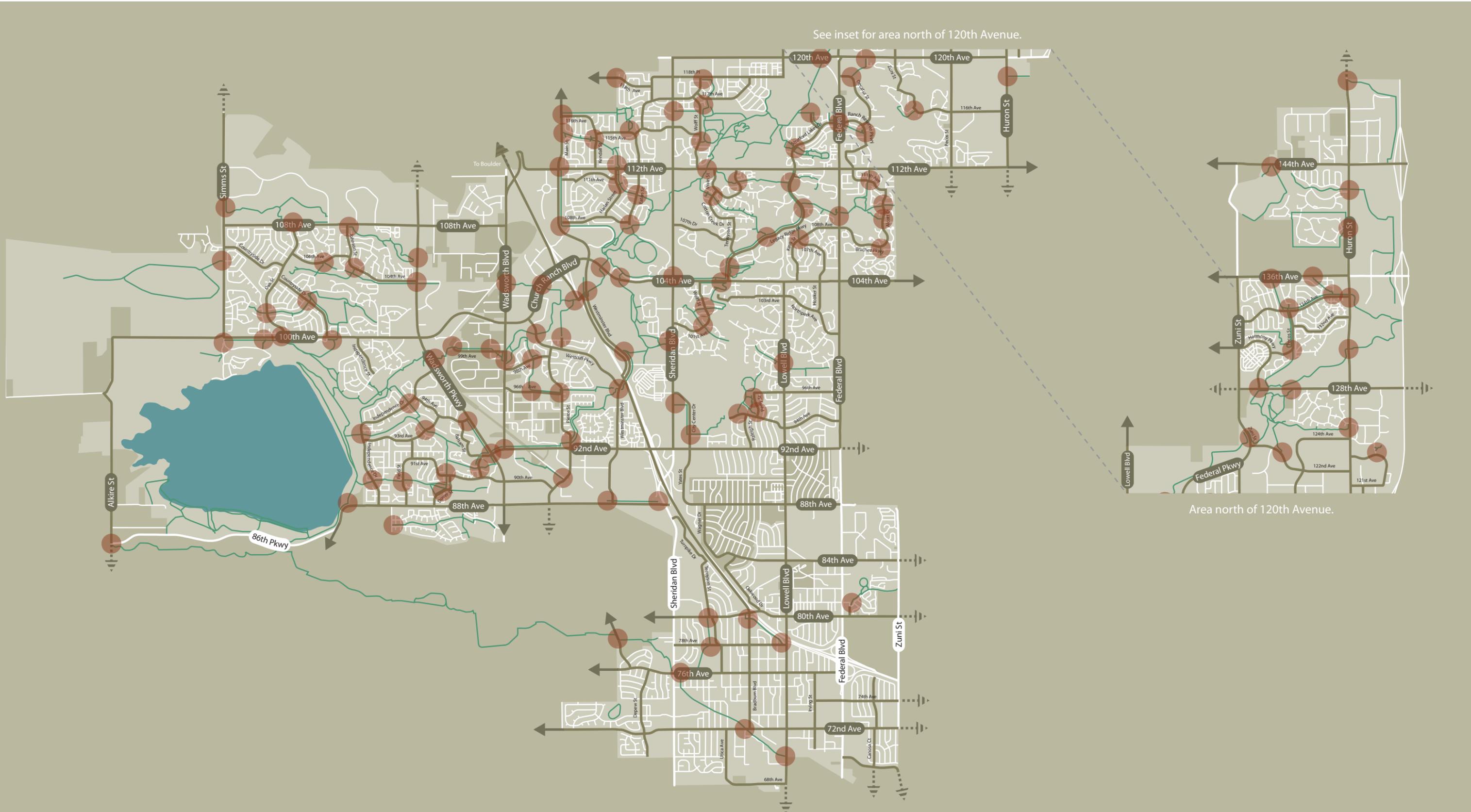
See inset for area north of 120th Avenue.

Area north of 120th Avenue.

EXISTING & PROPOSED BIKEWAY NETWORK CONNECTIONS

-  Shared Use Path Network
-  Proposed Bicycle Network
-  Unincorporated Areas

-  Connection with Existing Network in Adjacent City
-  Connection with Proposed Network in Adjacent City
-  Connection with Westminster Shared Use Path Network



See inset for area north of 120th Avenue.

Area north of 120th Avenue.

3.4 BIKEWAY TYPE SUMMARY

3.4.1 CLASS I – OFF-STREET SHARED USE PATHS

Off-Street Shared Use Paths—sometimes called Bicycle Trails or Bicycle Paths—are categorized as Class I facilities that feature dual-direction movement within a separate, non-motorized right-of-way. Not always paved, but almost always shared with pedestrians, inline-skaters, and joggers, Shared Use Paths are commonly located within local/regional parks, large open space preserves, and along bodies of water. Shared Use Paths are also commonly implemented within utility corridors, abandoned or unused rail right-of-ways (rails-to-trails) or adjacent to a functioning rail right-of-way (rails-with-trails).

As noted in Section 1: Background and Existing Conditions Analysis, Westminster already benefits from an extensive off-street Shared Use Path network (74 miles). To enhance connectivity, Westminster's Shared Use Path network uses more than 40 bicycle/pedestrian underpasses. This system is generally comprised of two path types: eight foot or ten foot wide paths that feature a crushed gravel surface and eight foot or ten foot wide paths that are constructed with concrete. To improve use by commuter cyclists, it is recommended that Westminster use concrete for all new path segments and retrofit all existing gravel segments with concrete, while providing parallel gravel trails for non-cyclists where space permits.

3.4.1.1 Pros

Because of their physical separation from motor vehicles, Shared Use Paths are particularly attractive to a wide spectrum of bicyclists, including children, beginner, recreational, and commuter bicyclists. Additionally, Shared Use Paths often provide access to otherwise inaccessible places, particularly those with scenic qualities. For these reasons and others, studies have demonstrated that paths attract tourism, and often raise the value of adjacent homes.

3.4.1.2 Cons

Shared Use Paths quickly become prized community amenities. While this is generally positive, certain path segments may become congested during peak use hours, which can lead to conflicts amongst different user types. Additionally, securing the needed right-of-way to create meaningful linkages, and providing grade-separated roadway crossings is not inexpensive. Finally, because of the alignments and right-of-ways in which paths are constructed, they do not always connect to daily destinations—such as places of employment—which can deter use among commuter and utilitarian bicyclists who value direct routes to their destination(s).

3.4.1.3 Design Guidance

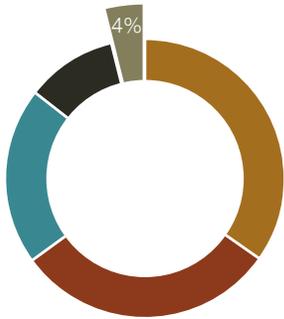
Shared Use Paths are appropriate in various rural, suburban, and urban contexts. However, along that spectrum, design treatments vary in order to accommodate natural and unnatural features, expected user density, and various land use characteristics; in short, a Shared Use Path functions differently in Denver than it does in Westminster.

In general, Shared Use Paths should provide clear and frequent access points to the regional and local street network, as limited access discourages use and potentially encourages bicyclists to drive an automobile to reach path entrances.

3.4.1.4 Width

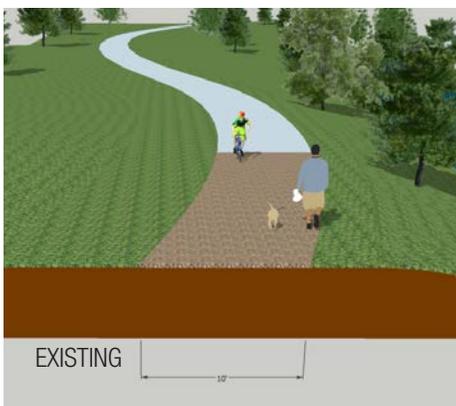
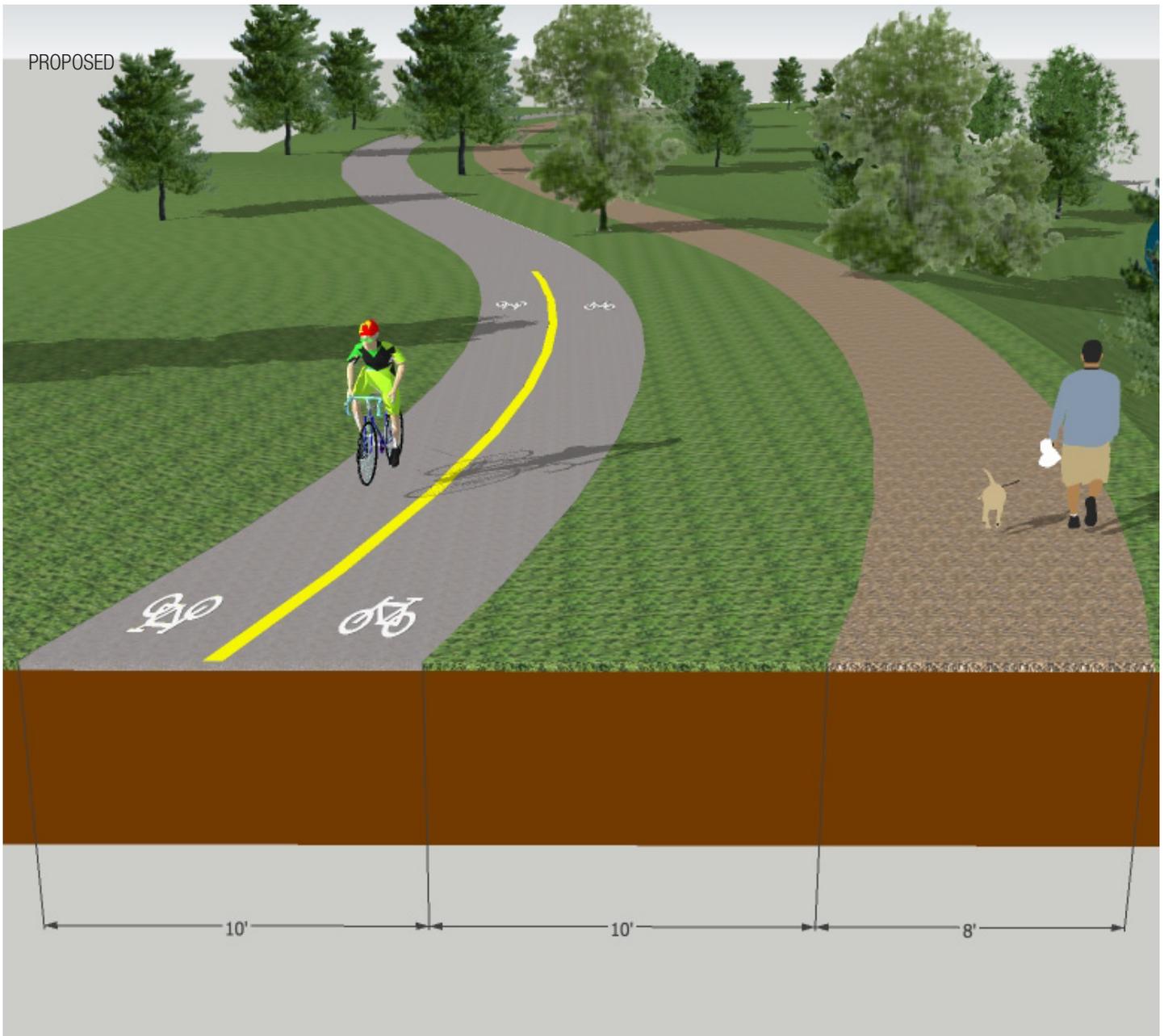
Where right-of-way constraints are not an issue, two parallel paths 10' paved, 8' crushed gravel, may be created with 10 feet of separation between them. Under certain conditions, where use is expected to be light and user types relatively homogenous, paths may be narrower.

Though Westminster's existing eight-foot and ten-foot Shared Use Path configurations do not meet AASHTO design standards, they do accommodate the current intensity of use with ease. However, where concrete pavement already exists, or is planned for the future, formal soft shoulders



5 miles of off-street shared use paths, 4% of network total.

SHARED-USE PATHS: EXISTING AND PROPOSED CONFIGURATIONS



The proposed Shared Use Path configuration creates clear spaces for users traveling in each direction, as well as defined areas for cyclists and pedestrians to reduce potential conflicts. Because bicyclists generally prefer hard and smooth riding surfaces, such as concrete, and joggers often prefer running on soft, low-impact surfaces, such as gravel, path configurations may include parallel treatments where space and funding permits.

may be provided to comfortably accommodate people walking and jogging. Additionally, at least one foot of lateral clearance, for a total of three feet (including the graded shoulder), must be given for any path related furniture (trash receptacles, benches, etc.) and signs.

3.4.1.5 Striping and Pavement Markings

It is recommended that striping and bicyclists/pedestrian pavement markings be added to all existing and future concrete segments of the path network in advance of all underpasses, overpasses, non-motorized bridges, intersections, sharp curves, and other locations where site lines are diminished and/or safety concerns are present. These markings should engender the courteous sharing of space.

Striping should consist of a four inch wide yellow centerline. The centerline should appear at least 100 feet in advance of any underpass, bridge, intersection, etc.

3.4.1.6 Grade-Separated Crossings

In many contexts, grade-separated crossings are essential to providing uninterrupted movement and safety. This is especially important where Shared Use Paths meet roadways of multiple lanes, vehicles moving at high speeds, rail right-of-ways, and/or other such barriers.

There are two types of grade-separated crossing: underpasses and overpasses. At minimum, vertical clearance for underpasses should be ten feet. Overpasses should be constructed with at least a 17 feet vertical clearance between the roadway and bottom of the overpass. These numbers may be greater for freeways or rail rights-of-way.

Where at grade crossings do occur, appropriate countermeasure treatments should be employed to maximize the visibility of bicyclists to motorists, and vice-versa. Potential treatments are discussed in Section 3.5: Countermeasure Treatment Summary.



◀ 3.4.1.12: Cracks and weed growth are quickly diminishing the viability of this path segment.



◀ 3.4.1.6: More than 40 underpasses enhance Westminster's Shared Use Path System.



◀ 3.4.1.1: Shared Use Paths provide great comfort for all types of bicyclists.

▼ 3.4.1.8: Westminster's Paths feature both concrete and crushed gravel surfaces.



▼ 3.4.1.5: Striping and signs help raise caution awareness and organize path users in the presence of limited site lines.



◀ 3.4.1.11: Desire lines indicate the need for future path expansions.



3.4.1.7 Wayfinding and Signing

Wayfinding signs are critical in providing visual and directional linkage between on- and off-street bicycle facilities. Westminster's Shared Use Path system features numerous loops around natural water features, path splits, and neighborhood spurs that can disorient users (see Section 4.3 Bikeway Network Wayfinding and Signing Plan for specific recommendations as they relate to Westminster's Shared Use Path network).

3.4.1.8 Surface Materials

Westminster's network of Shared Use Paths makes use of two types of material: crushed gravel and concrete. The former provides a low-cost, low impact surface material and appeals to walkers and joggers who appreciate the soft surface. However, gravel appeals to a smaller spectrum of bicyclists, and can be difficult to maintain during the winter and spring.

It is recommended that, as funding becomes available, the City convert all primary Shared Use Path segments to concrete, while also including a parallel walking and jogging path where possible. Likewise, all new primary Shared Use Path segments should include the same configuration.

3.4.1.9 Grade Changes

Because Shared Use Paths must serve a variety of users, including beginner and juvenile bicyclists, walkers, joggers, and skaters, grades greater than five percent should be avoided wherever possible, as long downhill stretches may force such users to reach uncomfortable speeds, especially when mixing with pedestrians. Furthermore, many path users will avoid lengthy uphill segments.

3.4.1.10 Lighting

Sufficient lighting should be provided where night activity is common—segments used consistently by commuters, students, etc.—and where tunnels, bridges, sharp curves, and intersections exist.

3.4.1.11 Desire Lines (Social Trails)

While the City of Westminster cannot provide paths everywhere, it should be noted that there is wisdom in the worn 'desire lines' that exist throughout the city. Also called 'social trails,' these unsanctioned paths indicate the eventual need for future path extension/upgrades and should be considered for improvements as existing Shared Use Path segments are expanded or maintained.

3.4.1.12 Maintenance

Adequately maintaining all Shared Use Paths is essential to ensuring their safe and continued use. Routine maintenance should include removing natural/plant debris; painting over vandalism; re-grading soft shoulders; filling holes caused by stormwater, prairie dogs, etc; paving obtrusive concrete cracks; and removing weed growth and loose gravel. Taking these steps helps prevent larger maintenance issues in the future that will only be more costly to fix. Wherever possible, snowfall should be plowed and ice removed along the length of all major Shared Use Paths, such as Farmers' High Line Canal, Little Dry Creek, and Big Dry Creek.

3.4.1.13 Curb Ramps

Where the Shared Use Path network meets the street network, ramps should be provided to ease the transition from one facility type to another. In cases where this has not occurred, it is recommended that the City of Westminster retrofit the curb and sidewalk condition to include curb ramps.

3.4.2 CLASS I - SIDEPATHS

Sidepaths are a type of Shared Use Path located adjacent to a vehicular street. They generally resemble wide sidewalks and allow for two-way pedestrian or bicycle movement. Beginner and intermediate cyclists often prefer this bikeway type. However, numerous safety measures must be taken into consideration so that Sidepaths function safely.

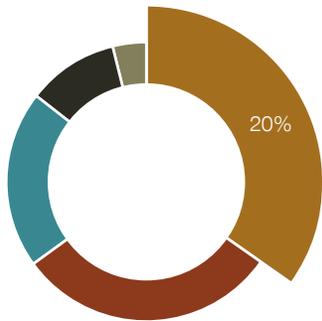
3.4.2.1 Pros

As proposed in the Westminster 2030 Bicycle Master Plan, Sidepaths offer an opportunity to convert some of Westminster’s sparsely used eight-foot sidewalks into Sidepaths. When applied to the right context, with the proper safety countermeasures, Sidepaths can provide a high degree of comfort to a wider range of cyclists, especially along heavily trafficked arterial streets that preclude on-street bicycle facilities. When compared to Shared Use Paths, Sidepaths can be cheaper to build and maintain because they are most frequently implemented within existing right-of-ways.

3.4.2.2 Cons

For Sidepaths to function safely, many design challenges must be considered and overcome. Indeed, research demonstrates that in most instances, Sidepaths lead to more conflict points and crashes between people bicycling, walking, and driving than on-street bikeway facilities. AASHTO’s Guide for the Development of Bicycle Facilities highlights the following drawbacks associated with Sidepaths:

- Unless separated, they require one direction of bicycle traffic to ride against motor vehicle traffic, contrary to normal rules of the road. This is especially dangerous at intersections.
- When the Sidepath ends, bicyclists going against traffic will tend to continue to travel on the wrong side of the street. Likewise, bicyclists approaching a Sidepath often travel on the wrong side of the street in getting to the path. Wrong-way travel by bicyclists is a major cause of bicycle/automobile crashes and should be discouraged at every opportunity.
- At intersections, motorists entering or crossing the roadway often will not notice bicyclists approaching from their right, as they are not expecting contra-flow vehicles. Motorists turning to exit the roadway may likewise fail to notice the bicyclist. Even bicyclists coming from the left often go unnoticed, especially when sight distances are limited.
- Signs posted for roadway users are backwards for contra-flow bike traffic; therefore these cyclists are unable to read the information without stopping and turning around.
- When the available right-of-way is too narrow to accommodate all roadway and Sidepath features, it may be prudent to consider a reduction of the existing or proposed widths of the various highway (and bikeway) cross-sectional elements (i.e., lane and shoulder widths, etc.). However, any reduction to less than AASHTO Green Book (or other applicable) design criteria must be supported by a documented engineering analysis.
- Many bicyclists will use the roadway instead of the Sidepath because they have found the roadway to be more convenient, better maintained, or safer.
- Bicyclists using the roadway may be harassed by some motorists who feel that in all cases bicyclists should be on the adjacent Sidepath.
- Although the Sidepath should be given the same priority through intersections as the parallel roadway, motorists falsely expect bicyclists to stop or yield at all cross-streets and driveways. Efforts to require or encourage bicyclists to yield or stop at each cross-street and driveway are inappropriate and frequently ignored by bicyclists.
- Stopped cross-street motor vehicle traffic or vehicles exiting side streets or driveways may block the Sidepath crossing.
- Because of the proximity of motor vehicle traffic to opposing bicycle traffic, barriers are often necessary to keep motor vehicles out of Sidepaths and bicyclists out of



27 miles of sidepaths, 20% of network total.



From left:

3.4.2.1: Sidepaths, when designed safely and applied to the right context, provide alternatives to high-speed streets. (Photo Credit: Treasure Valley Cycling Alliance.)

3.4.2.2: Intersections, especially where built or natural features block visibility, present numerous Sidepath safety challenges.

3.4.2.3: Where few intersections exist, many of Westminster's existing 8' wide sidewalks could be retrofitted to become Sidepaths.

3.4.2.3: Where dual-direction travel is allowed along Sidepaths, safety and wayfinding signs should be installed for contra-flow movement.

traffic lanes. These barriers can represent an obstruction to bicyclists and motorists, can complicate maintenance of the facility, and can cause other problems as well.

With the above in mind, Westminster should not pursue the development of Sidepaths unless the majority of the following design considerations can be achieved—where contextually appropriate—along all proposed segments.

3.4.2.3 Design Guidance

Under specific conditions, Sidepaths can be a viable Class I bikeway type. The following guidelines should be considered to maximize Sidepath function and safety in Westminster:

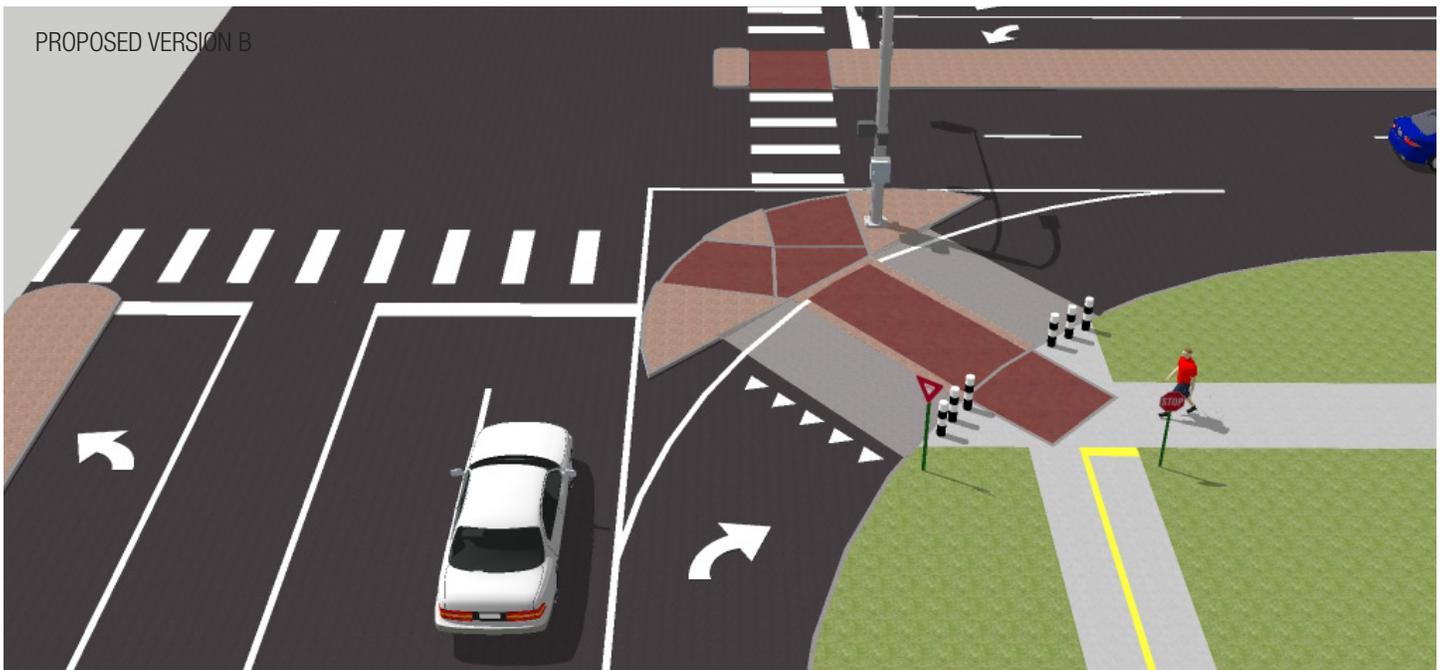
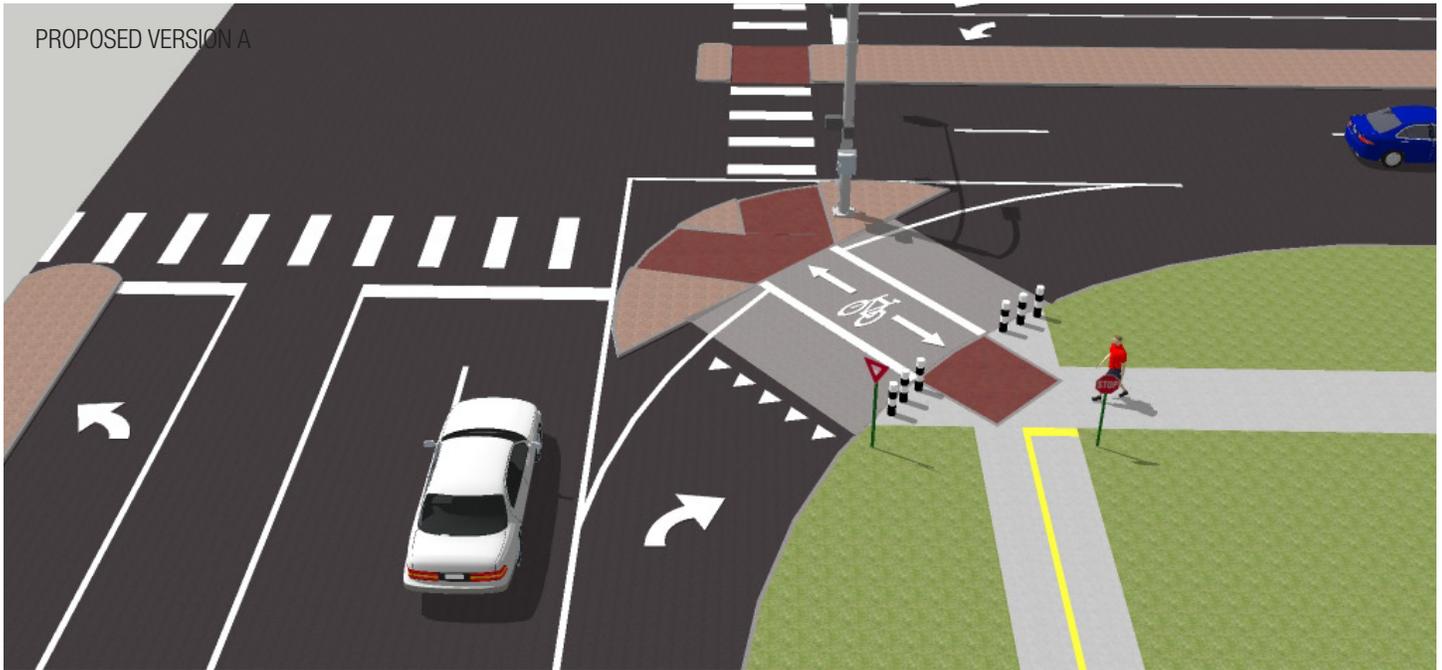
- The proposed Sidepath will be physically separated from all motor vehicle traffic.
- The number of intersections and/or curb cuts remain sparse, and where present, mitigated with appropriate safety countermeasures.
- The existing adjacent street does not allow for the implementation of safe and comfortable on-street bikeways.
- The Sidepath provides a needed connection between either the existing off-street Shared Use Path network and/or the proposed on-street network.
- The proposed Sidepath will terminate at and/or intersect with other existing or planned on- or off-street bicycle facilities.
- The Sidepath makes use of countermeasure treatments that will allow cyclists to safely transition to single direction movement from dual-direction movement, and vice-versa.
- Sidepaths users are given an equal or greater movement priority at all intersections.
- The Sidepath does not affect the legal right for bicyclists to travel within the street right-of-way, no matter how un-amenable it is to bicycling (some laws preclude this).
- The Sidepath will make use of highly visible design treatments at any/all intersections, curb cuts, or driveways along the path's trajectory.
- Parallel parking is not allowed within the vehicular right-of-way, alongside the trajectory of the Sidepath.
- The Sidepath will be maintained to an equal or greater level than any/all other bikeway and motor vehicle facilities.
- Signs, signal heads, and other pertinent information affecting safe bicycle operation can be implemented for users traveling in both directions.
- Snow clearance from the roadbed will be removed as to not obstruct the Sidepath, preventing the safe use of the path during the winter season.
- Education and outreach materials can be developed to inform the public about the safe use of the Sidepath.
- The Sidepath will meet or, wherever possible, exceed all other Shared Use Path design standards, as detailed in this document (width, grade, clearance, etc.).

ON-STREET BIKEWAY NETWORK PLAN
SIDEPATH: MINOR INTERSECTIONS EXISTING AND PROPOSED CONFIGURATIONS



To mitigate the effects of known conflict points, additional engineering measures should be undertaken at both minor intersections and driveways.

SIDEPATH: MAJOR INTERSECTIONS EXISTING AND PROPOSED CONFIGURATIONS



To mitigate the effects of known conflict points, additional engineering measures should be undertaken at major intersections, as illustrated above.

3.4.3 CLASS II - BICYCLE LANES

Bicycle Lanes reserve portions of a vehicular right-of-way for the exclusive use of bicyclists. At a minimum, they include painted lines, bicycle symbol pavement markings, and signs to physically demarcate their trajectory. There are many bicycle lane sub-types—conventional, buffered, contra-flow, physically-separated, shared bus-bike lane, etc.—and numerous available design configurations and countermeasures that can be deployed in response to specific roadway conditions.

3.4.3.1 Pros

Well-designed Bicycle Lanes generally appeal to many types of bicyclists because they provide exclusive travel space. Bicycle Lanes also allow people bicycling to proceed at their own pace without feeling as though they are “interfering” with motor vehicle traffic; engender more predictable movement between different roadway users; and may be configured to meet a variety of street types and urban/suburban contexts. They also provide conspicuous physical/visual links, which, along with wayfinding signs, help cyclists navigate the larger bikeway network.

3.4.3.2 Cons

Some bicyclists do not feel that separated facilities increase their safety, especially when Bicycle Lanes are placed next to parallel parking spaces with high turnover; adjacent to bus stops/ bus lanes; or at intersections, where conflicts are most likely to occur, or where motor vehicle speeds exceed 35 mph. The implementation of a Bicycle Lane requires additional right-of-way space, which, depending on a myriad of existing roadway conditions, may or may not be available. Finally, where roadways have already been widened to their maximum build-out width, the inclusion of a Bicycle Lane typically requires removing space for automobiles, which can present political and funding challenges.

3.4.3.3 Design Guidance

In general, Bicycle Lanes may be added to new or existing streets.

3.4.3.4 Width

Where parallel parking does not exist, Bicycle Lanes should be a minimum of four feet wide, as measured from edge of pavement or curb face, not inclusive of the gutter pan.

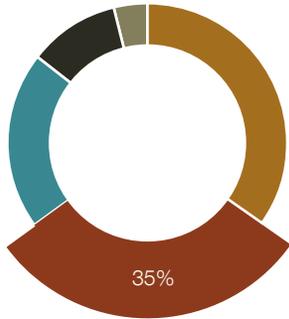
Where Bicycle Lanes are placed adjacent to parallel parking lanes, the Bicycle Lane should be at least five feet wide, and the parking lane at least eight feet wide, as measured from the curb face. If narrower parking lanes exist, bicycle lanes should be widened to mitigate the potential impact of driver side doors opening into the path of bicyclists. However, even wide bicycle lanes will not prevent all cyclists from riding within the ‘door zone’—the two and a half feet immediately adjacent to the parking lane—as many people bicycling find it most comfortable to ride as far from passing motor vehicle traffic as possible. Thus, other education and enforcement policies may be necessary to promote safe cycling and driving practices.

3.4.3.5 Buffered Bicycle Lanes

When converting wide vehicular travel lanes or converting extra wide shoulders to Bicycle Lanes, diagonally striped buffers may be appropriate (see illustration on page 45). This space, referred to as the shy zone, allows extra space between the motor vehicle lane and the bicycle travel lane, which increases comfort for cyclists, especially along higher speed, collector or arterial roadways.

3.4.3.6 Bicycle Lanes at Channelized Intersections

Since Westminster’s arterial street network makes use of numerous intersection channelization techniques, such intersections may have to be re-configured to safely include bikeway facilities. For instance, when the presence of deceleration/right turn lanes change the typical street cross section, Bicycle Lanes should be placed within a “pocket” between the right-turn lane(s) and the right-most vehicular through lane. This will require a clearly delineated merge area between the Bicycle Lane and the motor vehicle turn lane(s), which should be marked with signs to help guide motorists to yield to



35%

46 miles of bicycle lanes, 35% of network total.

BIKE LANES: EXISTING AND PROPOSED CONFIGURATIONS



Along certain streets, such as Lowell Boulevard (pictured above) more efficient use of the right-of-way will provide much needed accommodation for bicyclists. Note, Shared Use Lane Markings may transition to bicycle lanes where present width is not sufficient along a given corridor, or where turn lanes are needed at intersections.

cyclists. Where width is not available, sharrows may be used between the end of the bicycle lane and the intersection.

At a minimum, bicycle pockets and bicycle turn lanes should be a minimum of four feet in width, but five feet is preferred. In cases where the right-of-way is insufficient, the bicycle lane may transition to a Shared Use Lane Marking where deceleration/channelization occurs. This design technique allows for the visible presence of the bikeway to continue, and in conjunction with Peg-a-Tracking may help safely guide bicyclists through the intersection.

Colored pavement markings and/or Peg-a-Tracking may also be used to heighten the visibility of the bicycle lane (see Section 3.5: Countermeasure Treatment Summary, Section 4: Bikeway Network Wayfinding and Signing Plan). Peg-A-Tracking, which is comprised of a combination of skip lines and chevrons, should begin at least 50 feet before the stop line on the curbside of the intersection.

3.4.3.7 Wayfinding and Signing

“Share the Road,” Bicycle Route, and other signs (see Section 4: Bikeway Network Wayfinding and Signing Plan) may also be used to further encourage bicycle travel within the bicycle network.



From left:

3.4.3.1: Conventional Bicycle Lanes, like this one in neighboring Arvada, are the most well-known and common bikeway type.

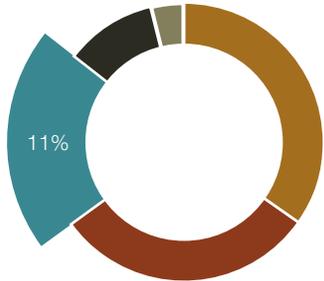
3.4.3.4: With an 8' foot parking lane, the majority of this bicycle lane remains outside of the door zone.

3.4.3.5: Buffered Bicycle Lanes provide added comfort along arterial streets.

3.4.3.6: Where channelized turn lanes are present, bicycle lanes should continue between the turn lane and right-most through travel lane.

3.4.4 CLASS III – SIGNED BICYCLE ROUTE

Signed Bicycle Routes, referred to as Class III bicycle facilities, are streets that do not provide exclusive space for bicycle movement; travel lanes are to be shared fully with motor vehicles. As such, Class III facilities are appropriate for those streets that may be shared comfortably with motor vehicles. Signed Bicycle Routes are most commonly marked with “Bike Route” signs (see Section 4: Bikeway Network Wayfinding and Signing Plan) identifying the street as part of the bicycle network. Alternatively, Shared Use Lane Markings may be used to further enhance the presence of Class III bikeways.



14 miles of signed bike routes, 11% of network total.

3.4.4.1 Pros

Signed Bicycle Routes are an inexpensive way to reinforce the identity of the bicycle network. They emphasize that all roadways, except for limited access highways, are legal places for people to bicycle. They also provide linkages where Class II and III bikeways are inappropriate or constrained by right-of-way width. In addition, “Bike Route” signs can be used as a wayfinding tool when navigating the larger bicycle network.



To maintain connectivity within the bikeway network, signed bike routes should be utilized where on-street bicycle lanes cannot be implemented.

(Photo Credits:
Middle: Dan Wolf Real Estate
Right: Bike Delaware)

3.4.4.2 Cons

Bicycle Routes are not as recognizable or attractive to beginner and intermediate bicyclists as Class II or III bikeway facilities. Thus, they may only appeal to those advanced cyclists comfortable “taking the lane” and mixing with automobile traffic on collector or arterial streets. However, where significant, contextually appropriate traffic-calming devices are deployed, Signed Bicycle Routes may become more attractive to a wider base of users.

3.4.4.3 Design Guidance

Signed Bicycle Routes should be designated along streets that are not suitable for bicycle lanes. Signed Bicycle Routes are appropriate for roadways with design speeds of less than 35 mph or less. They may include a bicycle-friendly shoulder on higher speed rural roadways, as well as conspicuous “Share the Road” signs (see Section 4: Bikeway Network Wayfinding and Signing Plan) to underscore the presence of the bikeway network. Signed Bike Routes should not be assigned to streets that do not connect to other streets (i.e. cul-de-sacs or dead-ends), unless a connection to an off-street Shared Use Path can be made.

While not as accommodating as Class III or II facilities, Signed Bicycle Routes can offer other advantages such as reduced travel time, limited stop signs/lights, and or direct connections to popular destinations. Each Signed Bicycle Route should be monitored periodically so that if ADT significantly increases, further improvements, such as bicycle lanes, may be made to better accommodate cyclists.

ON-STREET BIKEWAY NETWORK PLAN
SIGNED BIKE ROUTES: EXISTING AND PROPOSED CONFIGURATIONS



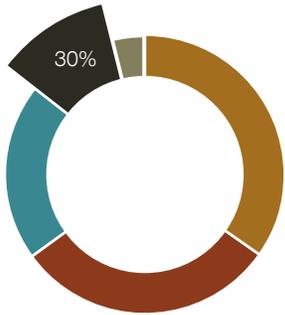
At a minimum, Bike Route signs may be used to delineate bikeways. The proposed rendering above shows how adding Bike Route signs to a low-speed, residential street can keep cyclists aware that they are traveling within the bicycle network.

3.4.5 SIGNED BICYCLE ROUTES WITH SHARED USE LANE MARKINGS

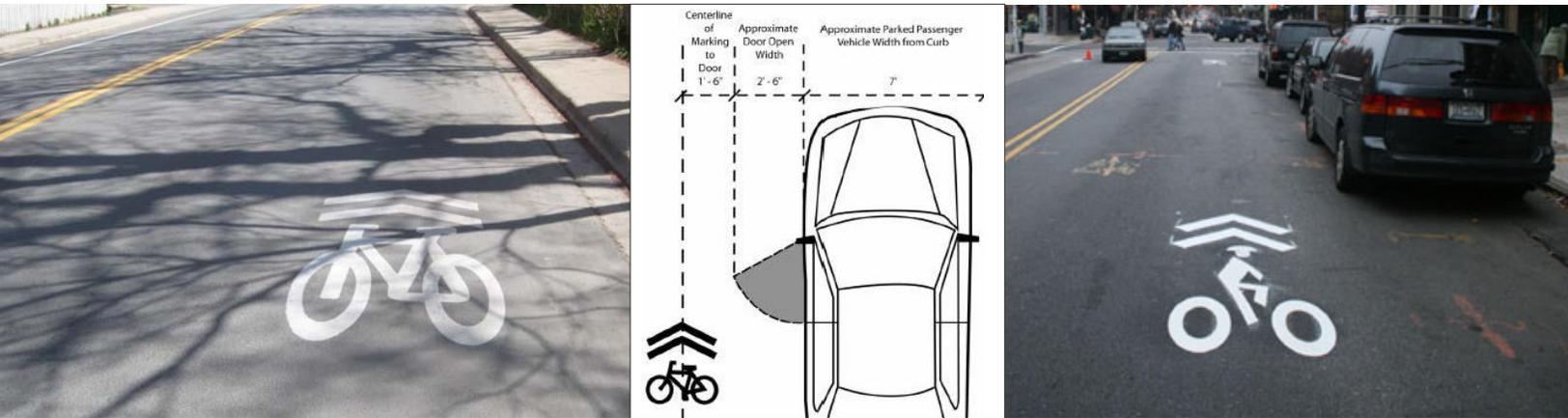
Shared Use Lane Markings—popularly referred to as “Sharrows”—consist of a bicycle symbol pavement marking and two chevrons applied to streets too narrow to accommodate bicycle lanes and/or with design speeds that allow cyclists to travel comfortably within shared travel lanes. Sharrows are intended to enhance Signed Bicycle Routes within commercial and/or neighborhood streets where parallel parking is typically, but not always present.

3.4.5.1 Pros

Sharrows are relatively inexpensive, help enhance the visibility of Signed Bicycle Routes, and often help attract more bicyclists to the roadway. Sharrows also reinforce the proper direction of travel for bicyclists (with traffic) and provide safe lateral positioning guidance by placing the Sharrow pavement marking outside of the ‘door zone.’



40 miles of signed bike routes with shared use lane markings, 30% of network total.



Left: Shared Use Lane Markings can be used on streets without parallel parking.

Middle: Where parallel parking exists, Shared Use Lane Markings should direct people bicycling out of the door zone.

Right: Shared Use Lane Markings are also appropriate on streets with parking. (Photo Credit: Streetwiki)

Although Sharrows do not offer physical separation from motor vehicles, they often appeal to intermediate bicyclists by reinforcing one’s right to the full use of the lane. In certain instances, Sharrows may also provide a visual linkage between various bikeway types, especially between on- and off-street segments, and where Bicycle Lanes are discontinued due to right-of-way constraints. It’s better to provide Sharrows than to let bicycle facilities “disappear” altogether.

3.4.5.2 Cons

As a relatively new design treatment, Sharrows are not fully understood by the general public, including both motorists and cyclists. Depending on the streets to which they are applied, the inherent lack of physical separation from motor vehicles may not provide enough protection from traffic to encourage beginner and some intermediate bicyclists.

3.4.5.3 Design Guidance

Like Signed Bicycle Routes, Sharrows should be applied to streets where right-of-way constraints and other design factors preclude or obviate the implementation of Bicycle Lanes. They may also be used as a continuation of Bicycle Lanes where right-of-way constraints prevent the physical extension of such bikeways.

According to the 2009 Manual on Uniform Traffic Control Devices (MUTCD), the longitudinal centerline should be placed a minimum of 11 feet from the curb face where parallel parking is present. This positions the cyclist outside of the ‘door zone,’ where motorists and/or passengers occasionally open parked car doors outward into the path of oncoming cyclists. However, where parallel parking spaces are greater than seven feet in width, Sharrows may be placed even further into the rightmost travel lane to prevent such collisions. For example, where an eight-foot wide parking stall is present, the longitudinal centerline of the shared use lane marking should be placed 12 feet from the curb face.

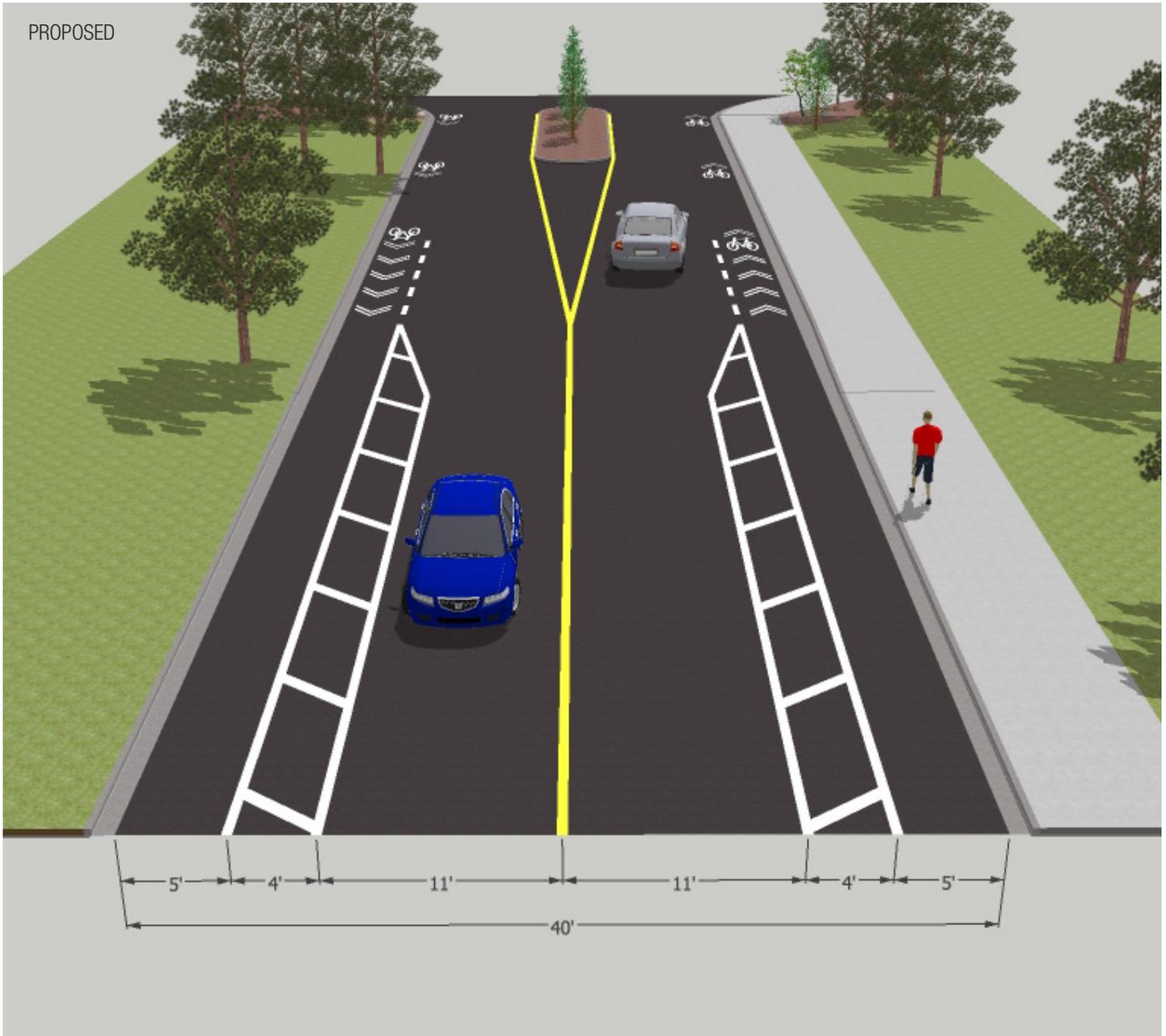
Where parallel parking is not provided, the longitudinal centerline of the sharrow should be placed at least four feet from the edge of pavement where no curb exists, or four feet from the outside edge of the gutter pan where a curb does exist.

ON-STREET BIKEWAY NETWORK PLAN
SIGNED BIKE ROUTES WITH SHARED USE LANE MARKINGS: EXISTING AND PROPOSED CONFIGURATIONS



Where appropriate, Shared Use Lane Markings can be used to enhance Bike Routes.

SIGNED BIKE ROUTES WITH SHARED USE LANE MARKINGS: AS BICYCLE LANE EXTENSIONS



Sharrows may be used to continue bicycle lanes where right-of-way constraints exist.

3.5 COUNTERMEASURE TREATMENT SUMMARY

3.5.1 BICYCLE BOX

A Bicycle Box is an intersection safety design that can discourage collisions between bicycles and cars, especially those where motorists cut off or turn into cyclists. In order to lessen the chance for collision and improve the visibility of people bicycling at intersection, the Bicycle Box makes use of two stop lines. The first, which is furthest from the intersection, is often referred to as the advanced stop line. This is the designated location where motorists should stop. The second stop line, placed just short of the crosswalk, is designated for cyclists. The Bicycle Box, therefore, allows people bicycling to wait at a signalized intersection in front of motor vehicles.

3.5.1.1 Pros

Bicycle Boxes remain an experimental countermeasure not yet adopted by the MUTCD. However, numerous municipalities have implemented the treatment with great success. Numerous research efforts, including the most recent from the Initiative for Bicycle and Pedestrian Innovation at Portland State University supports the use of Bicycle Boxes as an effective safety design countermeasure.

3.5.1.2 Cons

As a relatively new countermeasure type, the general public does not yet understand the proper use of Bicycle Boxes. Some beginner and intermediate bicyclists may not feel comfortable moving in front of motor vehicles at signalized intersections, that the cars will “run them over” when the light turns green.

3.5.1.3 Design Guidance

Bicycle Boxes should be used where high volumes of people bicycling exist and at intersections known for conflicts between bicyclists and motorists. To improve their visibility, Bicycle Boxes are often colored with green paint and include a standard white bicycle pavement marking.

Bicycle Boxes are most commonly used in conjunction with Bicycle Lanes at signalized intersections, but may also be used on along Bicycle Routes with Shared Use Lane Markings. Bicycle Boxes should be used where two intersecting Bicycle Lanes meet, as they help facilitate cycling movement through intersections, especially left-turns.

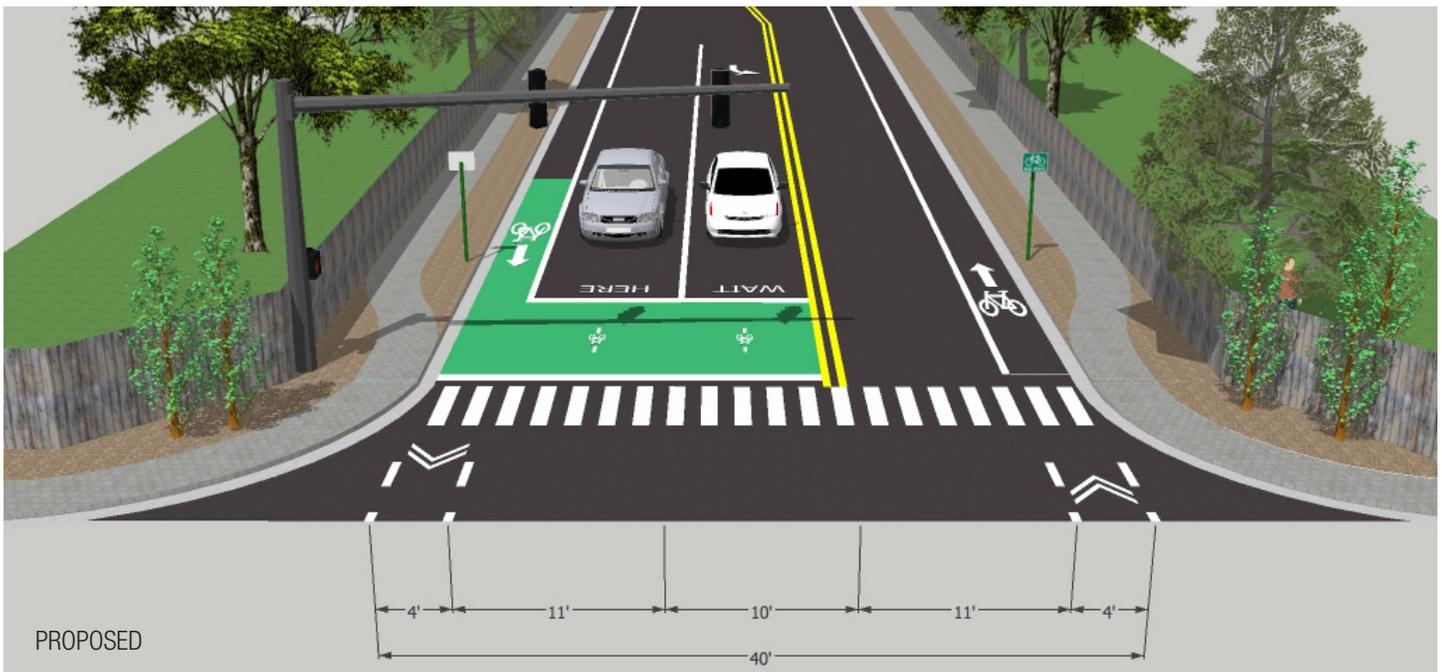
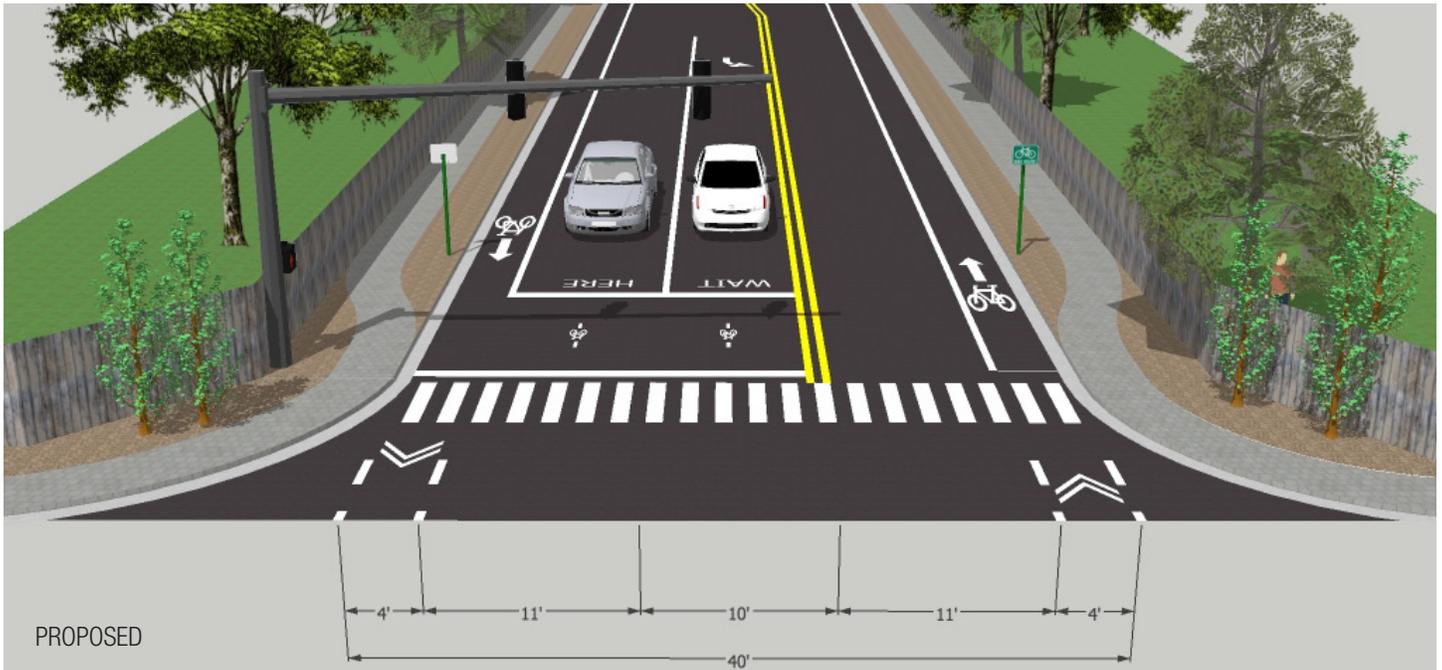
Bicycle Boxes may be used in conjunction with Bicycle Detection Systems to help prioritize the movement of bicycles through intersections.

Bicycle Boxes should be at least 10 feet in depth in order to accommodate the length of a bicycle and allow enough room for other cyclists to pass behind.



Bicycle Boxes help improve the visibility of people bicycling at intersections.
(Photo Credit: Bike Portland)

BICYCLE BOXES: EXISTING AND PROPOSED INTERSECTION CONDITIONS



Standard collector-arterial intersections may be retrofitted with Bicycle Lanes and Bicycle Boxes. Bicycle Boxes may also be equipped with Signal Detection equipment and other countermeasures, such as peg-a-tracking. Cities like Portland have discovered that Bicycle Boxes can be enhanced by the use of colored pavement.

3.5.2 PEG-A-TRACKING

Peg-a-Tracking pavement markings include a series of chevrons placed between two dashed parallel lines, which identify the proper lateral position bicyclists should take when traversing an intersection. Peg-a-Tracking should be used in conjunction with Bicycle Lanes and/or Sharrows.

3.5.2.1 Pros

Peg-a-Tracking not only provides position guidance, but also wayfinding benefits when implemented alongside on-street bikeway facilities, like Bicycle Lanes or Sharrows. Peg-a-Tracking can be used to raise awareness for people bicycling and people driving at any/all conflict areas associated with curb/cuts and driveways.

3.5.2.2 Cons

Peg-a-Tracking, commonly used to demarcate vehicular placement through an arterial intersection, is found in many American municipalities. However, similar treatments for bikeway facilities are not yet common. While relatively intuitive, it may take some time for cyclists and motorists to understand the intended function of the pavement marking.

3.5.2.3 Design Guidance

At a minimum, Peg-a-Tracking should be considered wherever Bicycle Lanes or Signed Bike Routes with Shared Use Lane Markings cross arterial or collector streets. Peg-a-Tracking is particularly useful for guidance and wayfinding where “T,” “Y,” or Shared Use Path intersections exist.

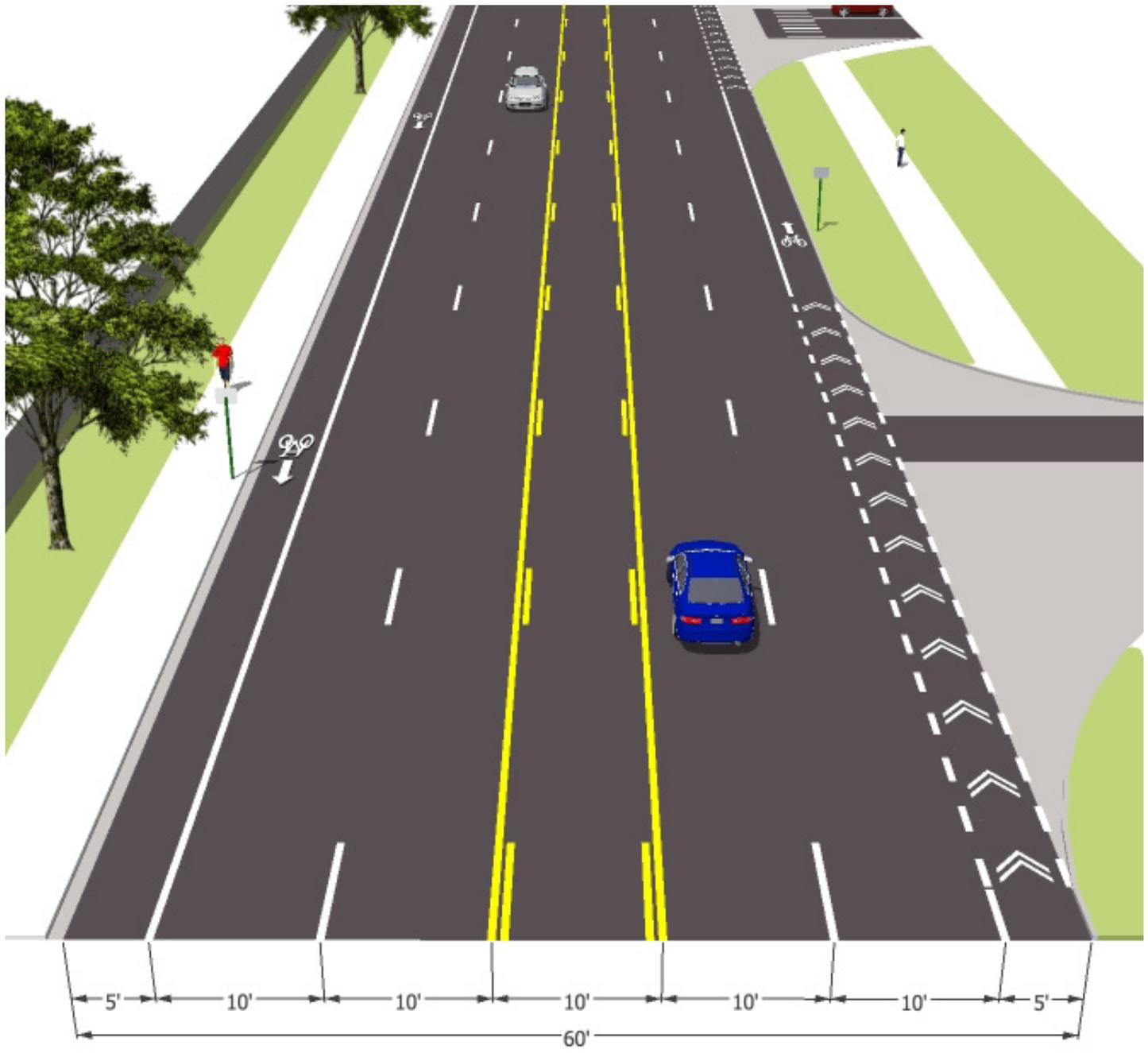
The width of the Peg-a-Track through an intersection should be the same as the Bicycle Lane or Sharrow with which it is associated. If implemented in conjunction with a Signed Bike Route with Shared Use Lane Markings, the Peg-a-Tracking should be at least four feet in width, but preferably five feet when used at intersections with more than two lanes of through traffic.

Peg-a-Tracking may be used in conjunction with colored paint treatments at intersections or within a Bicycle Lane interrupted by a curb-cut/driveway entrance to a parking lot. High contrast paint helps to draw the motorist’s attention to the presence of cyclists.



Peg-a-Tracking helps identify the proper positioning for people bicycling through an intersection.
(Photo Credit: Bike Pittsburgh)

PEG-A-TRACKING: CURB CUTS & DRIVEWAYS EXISTING AND PROPOSED CONDITIONS



PROPOSED



EXISTING

Peg-a-tracking may be used to raise the visibility of bicyclists at known conflict points.



Left: This pavement marking indicates the general position where bicyclists will be detected.

Right: When paired with Bicycle Boxes, Bicycle Detection Systems enhance the experience of cyclists crossing an intersection.

3.5.3 BICYCLE DETECTION AND PAVEMENT MARKINGS

As the name indicates, Bicycle Detection Systems recognize the presence of bicycles at signalized intersections. Bicycle Detection Systems make use of several technologies: the most widely used are in-pavement loop detectors or video detectors; both are often coupled with pavement markings indicating where detection will occur. Several Colorado cities, such as Boulder and Arvada have already implemented bicycle detection devices with success.

3.5.3.1 Pros

Bicycle Detection Systems lessen the waiting time by prompting the signal to turn green when a bicycle waits in a designated space. Bicycle Detection Systems improve efficiency for people bicycling and discourage cyclists running red lights without causing undue delay to motorists. They also enable the cyclists to trigger the signal, without having to dismount the bicycle and press the pedestrian crossing button. Bicycle Detection Systems are relatively inexpensive to implement, and improve the bicycling experience. Video detection systems provide more flexibility by being able to be moved and adjusted when needed.

3.5.3.2 Cons

As they are not yet common, the general bicycling public does not yet fully understand the pavement markings associated with detection systems. When inductor loops are used, they occasionally have difficulty detecting carbon frames and other types of bicycles. Similarly, some video detection systems have been known to have trouble at night or when shadows are cast over the detection area, which can trigger false signal changes.

3.5.3.3 Design Guidance

A Bicycle Inductor Loop is comprised of a coil of wire embedded in the roadway surface that detects the presence of a bicycle and prioritizes an intersection signal for it. The loops should be adjusted so that they are sensitive enough to detect all types of bicycles. Likewise, video detection systems should be placed on riser poles or existing signal poles/arms to maximize the area of detection.

Bicycle Inductor Loops and video detection areas should be made visible by combining the treatment with Bicycle Inductor Loops pavement markings and/or where appropriate, a Bicycle Box.



Left: Bicycle Turn Pockets help facilitate bicycle movement and wayfinding across offset intersections.
(Photo Credit: Steven Vance)

Right: Bicycle Refuges provide space for people bicycling to rest when crossing wide, busy arterial streets.
(Photo Credit: Steven Vance)

3.5.4 BICYCLE TURN POCKETS AND BICYCLE REFUGES

Bicycle Turn Pockets provide dedicated bicycle-only turning areas along arterial or collector arterial streets. They are most commonly used to facilitate bicycle movement across divided roadways, especially where movement along a bikeway is interrupted by offset intersections. Similarly, Bicycle Refuges provide space for bicyclists to wait for clear space while crossing the full width of a given street.

3.5.4.1 Pros

Bicycle Turn Pockets and Refuges enhance the visibility of bicyclists and increase the comfort of traveling across busy streets. They also help connect bikeways where large or offset intersections create a visible or break in the continuity of a given facility.

3.5.4.2 Cons

Due to the narrow size of many Bicycle Turn Pockets or Refuges, maneuvering into them can be difficult or uncomfortable for some types of beginner or intermediate cyclists.

3.5.4.3 Design Guidance

Bicycle Turn Pockets and Refuges are best applied to divided roadways where a raised center median prevents continuous through bicycle movement. Both Turn Pockets and Refuges should be clearly marked with pavement markings and wayfinding signs to facilitate recognition and safe movement amongst the roadway's various types of users.

Bicycle Turn Pockets and Refuges through raised center medians should be large enough to allow a bicyclist to maneuver comfortably, but be narrow enough so that motorists do not use the facility.

3.6 PRIORITY PROJECTS

The Westminster 2030 Bicycle Master Plan is broken out into three general implementation phases—short-, medium-, and long-term priority. Each bikeway segment is allocated to one of these implementation phases using a variety of criteria.

Short-term priority routes have been selected by considering the City's current budget constraints, but also the great need to supplement the existing Share Use Path system with one major north-south (Lowell Boulevard) and east-west connection (104th Avenue). Other segments were selected for their ability to provide working examples of each proposed bikeway type and to provide relatively low-cost neighborhood connections between the existing off-street trail system, the two on-street priority bicycle corridors, and/or to schools, parks, and neighboring municipalities.

Medium-term priority projects have been chosen for their ability to provide a high degree of intra-neighborhood connectivity, largely using low-cost signed bikeway routes, and more intensive Sidepath treatments along major north-south corridors. These selected segments will capitalize on the few corridors and connections designated as short-term priorities to create a diverse and connected network.

Long-term priority bikeway projects are largely comprised of various on-street, arterial bicycle lanes that can only be implemented in conjunction with a widening, or major re-striping/re-surfacing project. These segments currently are slated as long-term priorities because the timetables for the needed roadway improvements are unknown.

While bicycle facilities should be added to all roadway projects where appropriate, bikeway projects may be pursued independently of larger efforts. Implementing a Sidepath intersection improvement or designating a bikeway route with signing and shared use lane markings are two examples of the type of “low hanging fruit” projects that are prioritized in the short- and medium-term priority phases.

Finally, all three phases are fluid. Should funding become available for the implementation of bikeways along any corridor, no matter the priority phase, it should be pursued.

A description of each bicycle improvement project, including phase, type, and specific countermeasure information is included in Appendix B: Bikeway Project Descriptions.

On page 53:

Top: As a short-term priority project, this Plan recommends placing sharrows on Lowell Boulevard. This rendering depicts what the streetscape might be like post-implementation.

Middle: This rendering shows the potential outcome of a recommended bicycle lane on Countryside Drive as part of the Plan's Medium-term priority projects.

Bottom: The Plan's long term vision includes sidepaths on many of Westminster's arterial streets; 144th Avenue may look something like this after the construction of the long-term priority projects.

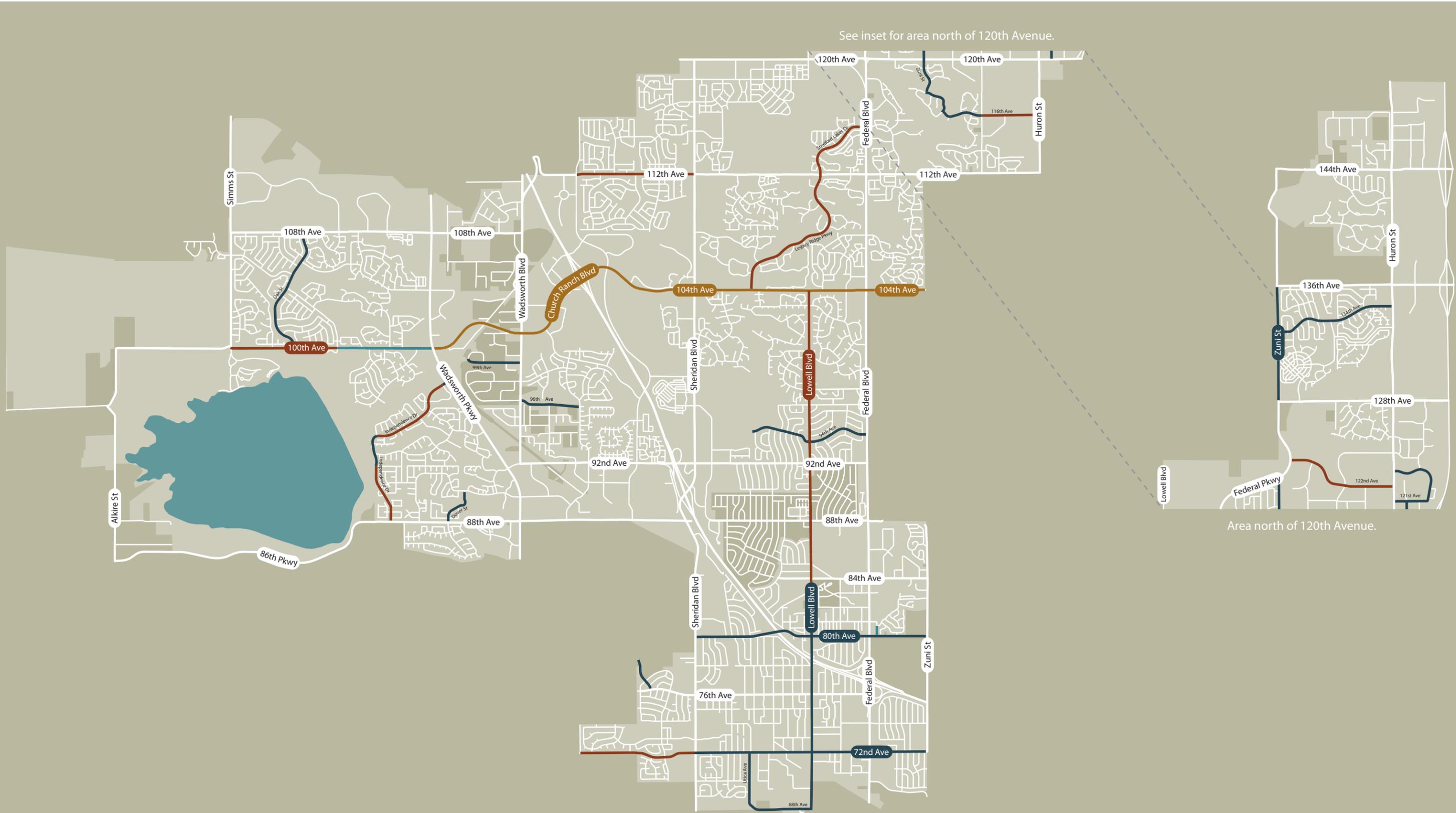
IMAGINING A FUTURE WESTMINSTER BIKE NETWORK



SHORT-TERM BIKEWAY PRIORITIES

- Proposed Sidepath
- Proposed Bicycle Lane

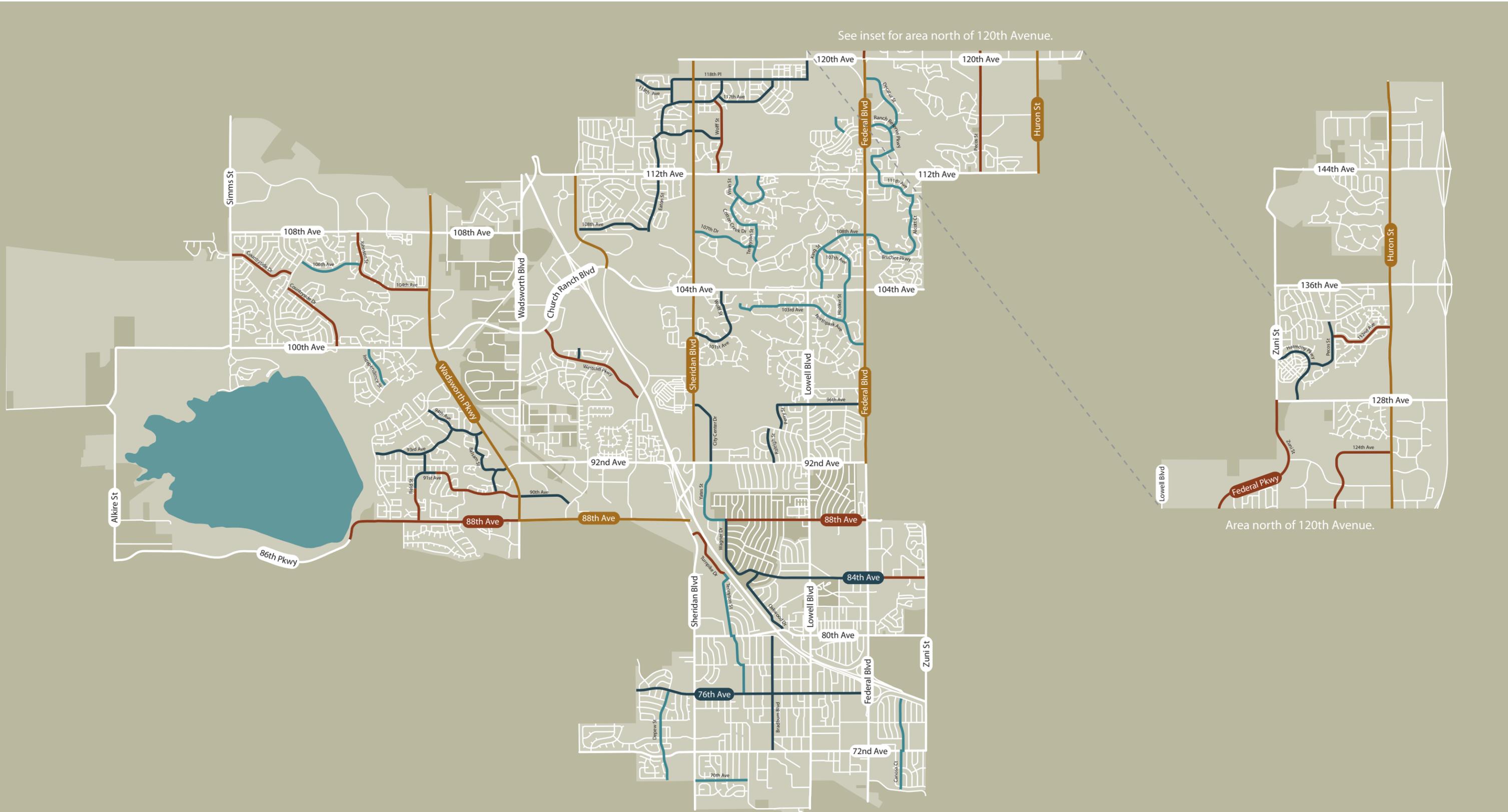
- Proposed Signed Bicycle Route
- Proposed Shared Use Lane Markings
- Unincorporated Areas



MEDIUM-TERM BIKEWAY PRIORITIES

- Proposed Sidepath
- Proposed Bicycle Lane

- Proposed Signed Bicycle Route
- Proposed Shared Use Lane Markings
- Unincorporated Areas



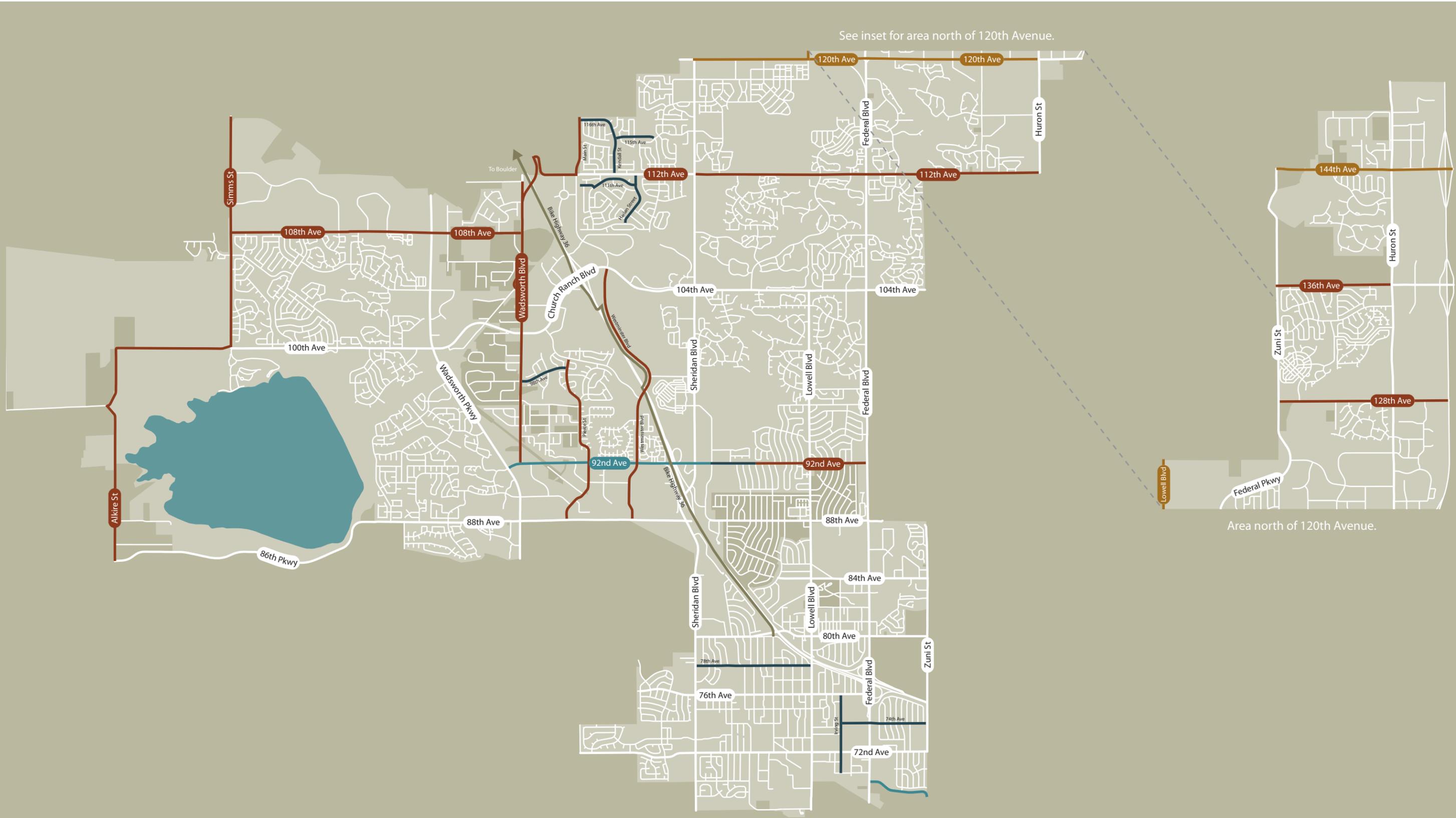
See inset for area north of 120th Avenue.

Area north of 120th Avenue.

LONG-TERM BIKEWAY PRIORITIES

- Proposed Sidepath
- Proposed Bicycle Lane
- Proposed Highway 36 Bike Route

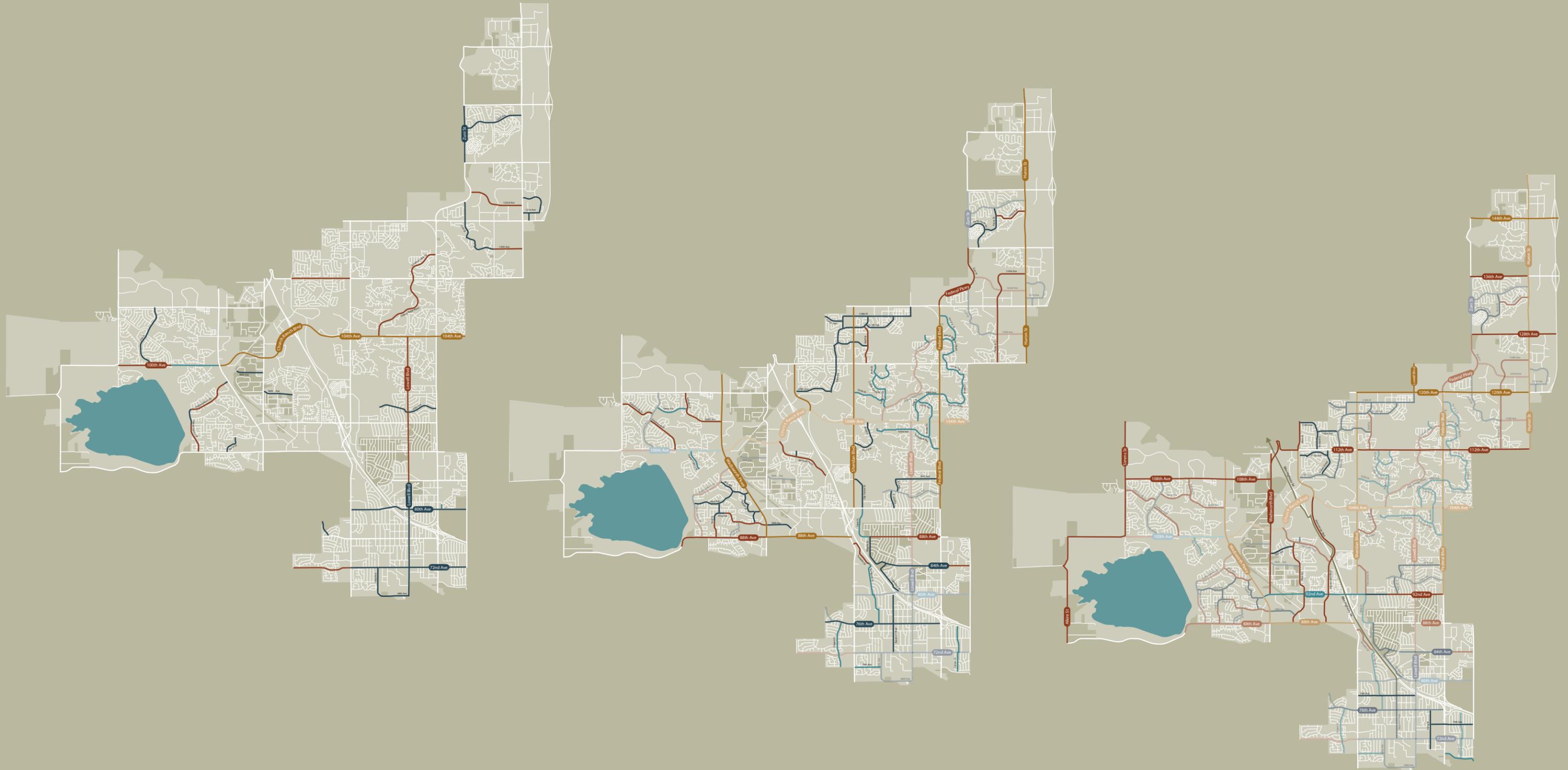
- Proposed Signed Bicycle Route
- Proposed Shared Use Lane Markings
- Unincorporated Areas



HOW THE NETWORK BUILDS UPON ITSELF

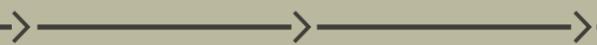
- Proposed Sidepath
- Proposed Bicycle Lane
- Proposed Highway 36 Bike Route

- Proposed Signed Bicycle Route
- Proposed Shared Use Lane Markings
- Unincorporated Areas

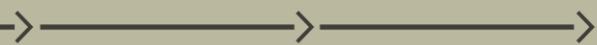


WHAT THE NETWORK WILL LOOK LIKE IN THE...

SHORT-TERM



MEDIUM-TERM



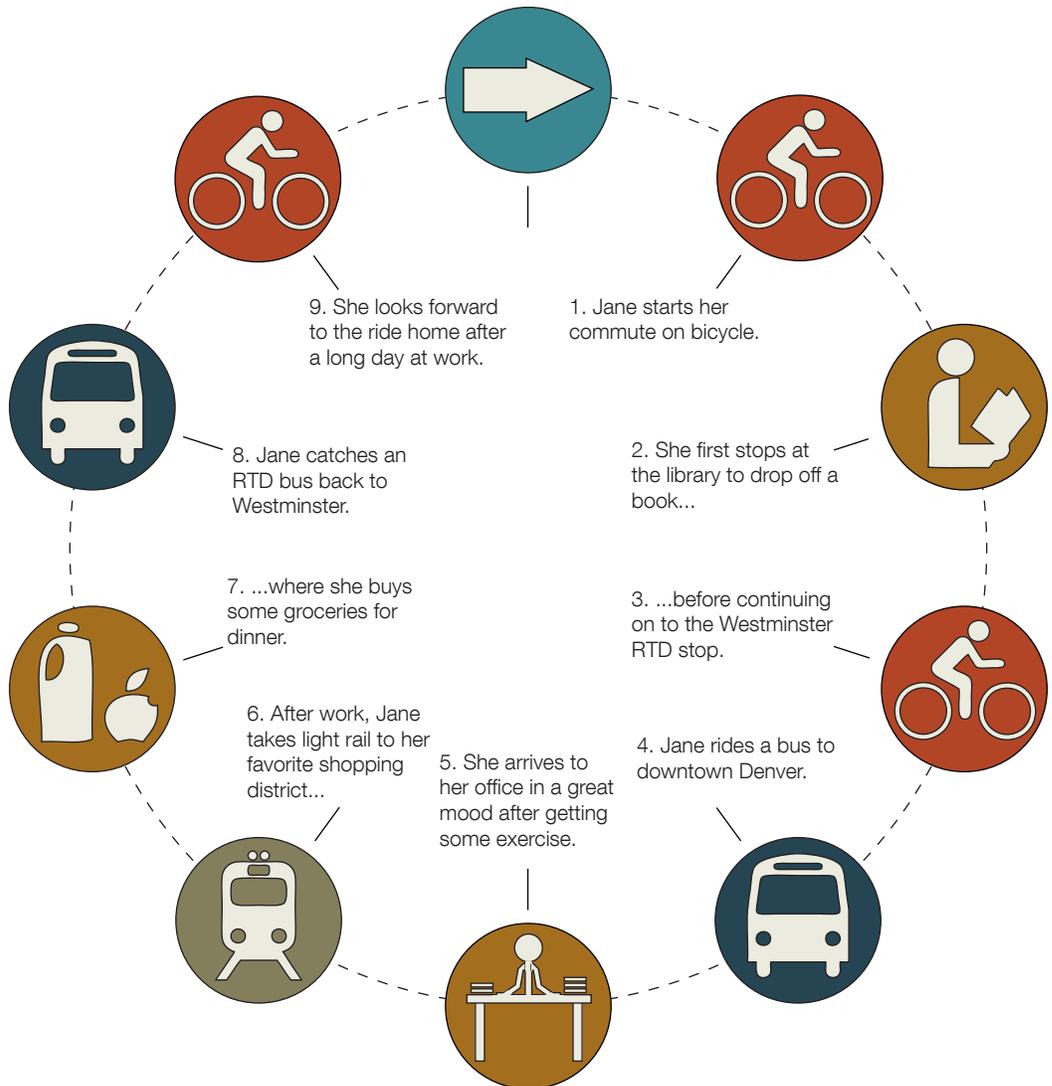
LONG-TERM

3.7 INTEGRATING THE BIKEWAY AND TRANSIT NETWORK

Regional Transportation District (RTD) provides regional bus and rail transit throughout the Denver region. According to the agency’s 2007 Bike-on-Bus Survey, more than 682,000 trips utilized the system’s bike racks.ⁱⁱⁱ The same survey also noted that more than 11,000 passengers were involuntarily forced to take a later bus because bike rack capacity was maximized. Clearly, the presence of these bus racks, as well as the numerous bicycle parking facilities maintained at RTD stations, promotes bicycling throughout the region.

While Westminster’s current Park N’ Ride Centers and local bus RTD stations offer local and regional transit service, the city will soon have more intensive regional rail service. The arrival of RTD’s FasTracks Northwest corridor line will greatly enhance the viability of transit in the region, especially for commuter trips. As this infrastructure is built, the City of Westminster should work closely with RTD to plan for changing land use patterns that will not only promote transit, but also walking and bicycling. The early Westminster Mall redevelopment plans exemplify how a completely integrated approach to land use, urban design, transportation, and street network planning can generate new tax revenue, offer a more sustainable urban lifestyle, and support the needs of those who would like to walk or bike to RTDs local and regional transit service.

This workflow diagram demonstrates how bicycling can be easily integrated into the larger transportation network. For this hypothetical commuter, the bicycle plays an essential role in the last first and last legs of her commute.



3.7.1 THE BICYCLE SHED

The type and quality of transit service aside, planners generally accept that the average person will walk up to half a mile to transit if the environment is safe, convenient, and interesting. This radial distance is most often referred to as the “pedestrian shed.” After this approximate radial limit is reached, however, it is assumed that transit’s ability to attract ridership decreases as distance from the station increases.

Yet, if one considers that the average bicyclist can travel three times faster than the average pedestrian, the formulation of nuanced “bicycle sheds” can greatly expand transit station catchment areas, while also improving the extent and utility of the regional bikeway network. Indeed, just as a 5- or 10-minute walk should be convenient and enjoyable for the pedestrian, so too should it be for the average bicyclist, who is able to cover much more ground—one to three miles easily—with an equal outlay of time.

While the bicycle shed is an important conceptual planning tool, it is meaningless without the physical development of bicycle infrastructure that further supports bicycling. Each “bicycle shed” should not be conceived in isolation, but as part of a regional bikeway network. This network should be designed to connect people to important destinations—schools, neighborhood and regional employment centers, open space, and of course, local and regional transit systems.

The following bike/transit shed maps demonstrate the reach of the existing and proposed public transportation options for Westminster residents who choose to walk or bike.

The one mile transit shed map (see: pages 64 and 65) illustrates that Highway 36 is the backbone of Westminster’s transportation network. Most areas around the highway are within acceptable walking distance—and certainly easy biking distance—of existing and planned transit stops. Moreover, the proposed bikeway network would create many routes to and from transit, with 43 proposed bicycle facilities within one mile of existing and planned transit stops. More than 40 percent of the proposed network’s 102 bike projects would run less than a mile from transit. However, because of Westminster’s separation of land uses, these one mile sheds serve many more commercial districts, such as Westminster Mall, than residential areas.

Expanding the shed to just three miles—which is the approximate distance that bicyclists will travel to reach rail stations, bus stops, and carpooling lots as part of a multi-modal journey—puts the majority of Westminster’s street grid within bicycling distance of transit. The three mile transit shed map (see: pages 66 and 67) highlights just how many Westminster residents could potentially be encouraged to bike to transit. Only a handful of areas within the city boundaries—those west of Simms Street and north of West 142nd Circle—are not within three miles of a transit stop. All of the bicycle infrastructure proposed by the Westminster 2030 Bicycle Master Plan is within three miles of transit, with the exception of a bicycle lane on Alkire Street and a Sidepath on 144th Avenue. Ninety-eight percent of Westminster’s proposed bicycle network will be within three miles of the existing and proposed transit routes.

3.7.2 PARKING AT THE STATION

In general, the integration of bicycles with public transit—often called “bicycle transfers”—should be made easy. Quite simply, this means that what ones does with a bicycle upon arrival is as important as being able to get there safely on two wheels in the first place.

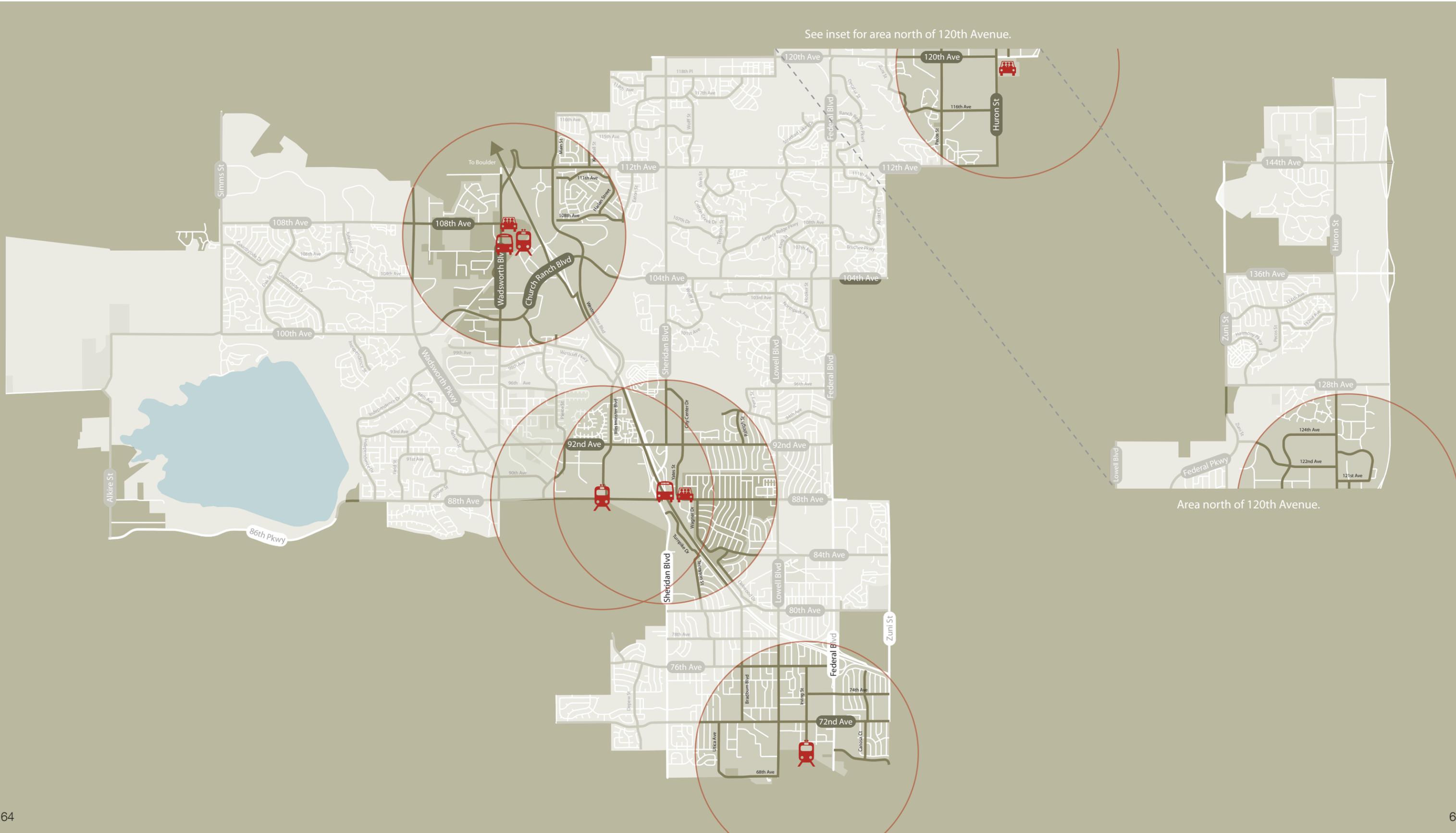
In the context of transit-oriented bikeways, bicycle parking enriches the viability of multimodal journeys, effectively adding to the economic, social, and public health benefits already associated with transit. Yet, most existing bus stops do not offer sufficient bicycle parking facilities; the importance of ensuring the proper supply, location, and type during the planning and design process is commonly underestimated.

To be sure, RTD has done much to accommodate bicycle parking (see Section 5: Bicycle Parking Plan). As bicycles are parked for an extended period of time, normally the duration of the workday, safety and theft prevention is vital. The best long-term parking facilities should provide changing rooms, lockers, and showers. Such provisions are especially important in making bicycle

BICYCLE/TRANSIT SHED (1 MILE)

-  Proposed RTD Rail Station
-  Existing RTD Park & Ride Stop
-  Existing RTD Bus Stop

-  Proposed Bicycle Network
-  Unincorporated Areas



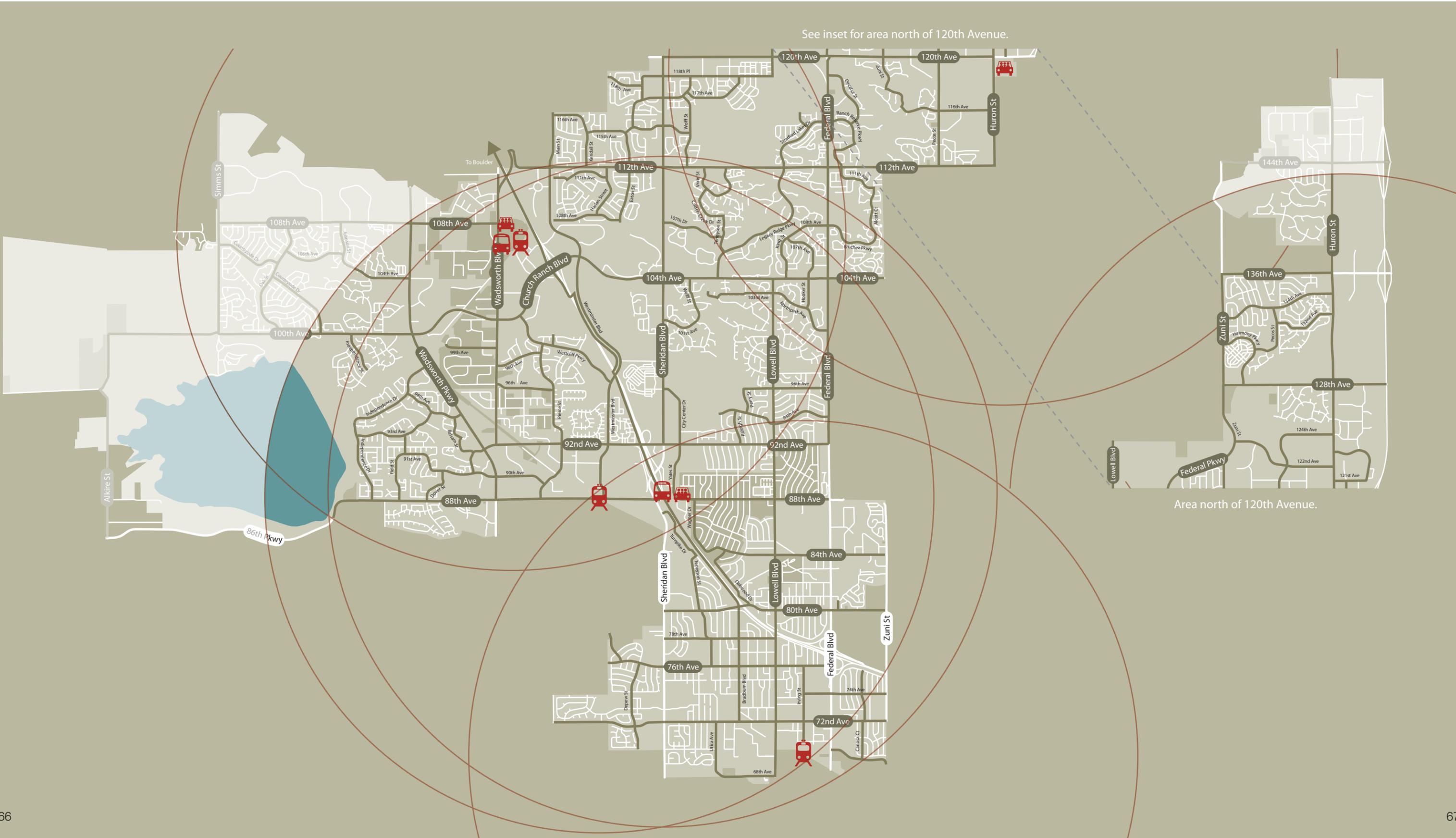
See inset for area north of 120th Avenue.

Area north of 120th Avenue.

BICYCLE/TRANSIT SHED (3 MILES)

-  Proposed RTD Rail Station
-  Existing RTD Park & Ride Stop
-  Existing RTD Bus Stop

-  Proposed Bicycle Network
-  Unincorporated Areas



See inset for area north of 120th Avenue.

Area north of 120th Avenue.

commuting possible. They are also a good fit for major transportation hubs and the center of regional districts. Such facilities may not be immediately feasible in Westminster, but nonetheless should be considered alongside RTD in the build-out of the Northwest Corridor line. Alternatively, nearby fitness centers/gyms may be contracted to allow use of their existing changing rooms, lockers, and showers.

As the transit-oriented bicycle shed is enriched with safer and more visible bikeways (the so-called safe routes to transit approach), more bicycle parking may be needed. While well-designed and located parking facilities go a long way towards meeting bicyclists needs, overcoming a collection of less obvious, detailed design, policy, and management challenges still remain.

3.7.3 OTHER DESIGN CONSIDERATIONS

While bicycle access to transit stations is critical, so too is access within the station to the train. Stairs, platforms, turnstiles, etc. are not only physical barriers for bicyclists, but mental barriers as well. Quite simply, nobody wants to publicly struggle with a bicycle in a crowded transit station. Thus, all stairways leading to and from transit platforms and fare boxes should be designed to include accommodations for bicyclists, such as bicycle-specific ramps.

While not immediately obvious, the placement and design of rail infrastructure is essential to maintaining bicyclist safety, as bicycle wheels are easily caught in the flange gap between the rails, which causes crashes and injuries. During the investigation of this all-too-common problem, Alta Planning + Design developed *Bicycle Interactions And Streetcars: Lessons Learned and Recommendations*,^{iv} which provides ways to best integrate rail infrastructure with bicycle facilities so that both are mutually supportive. StreetFilms recently illuminated the proper way to navigate inlaid train tracks, demonstrating that bikeway design can further alleviate the risk of crashing.^v

Finally, research authored by Norman Garrick, who heads the University of Connecticut's Center for Transport and Urban Planning, reveals that urban form plays a critical role in encouraging bicycling.^{vi} By his account, more people bicycle, and bicycle safely, as density and land use intensity increases. Interconnected street grids—common within dense places—place more destinations within bicycling distance, provide opportunities for safe alternative routes, and help make bicycling the most efficient mode of urban transport. While somewhat obvious, this helps explain why cities attract more bicyclists than suburban or rural areas.

On page 69:

Top Left: RTD's Regional Bus Service facilitates intermodal travel.

Top Right: Bicycle Lockers and Racks satisfy short term and long term parking needs at RTD's Westminster Center Park N' Ride.

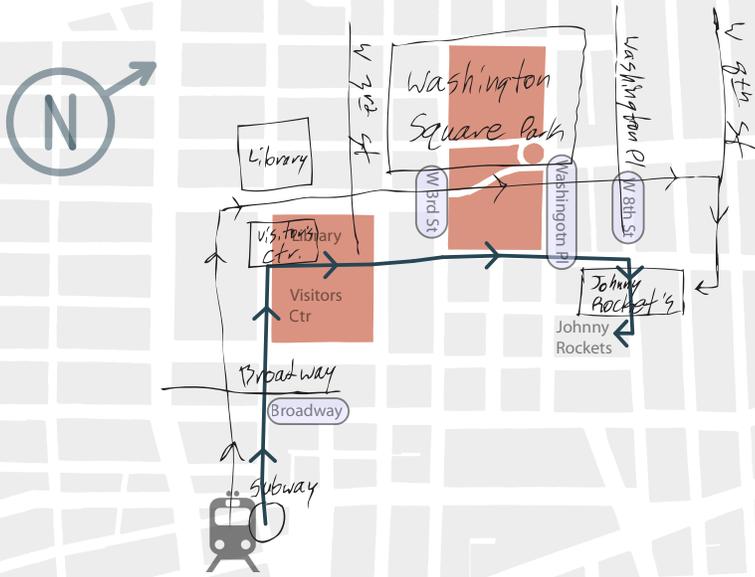
Bottom Left: Small design decisions, like implementing bicycle stair ramps, improve the convenience of multi-modal travel.

Bottom Right: This railroad crossing in Westminster was designed to include a safe perpendicular sidewalk crossing for bicyclists.

INTEGRATING THE BIKEWAY NETWORK WITH TRANSIT



4. BIKEWAY NETWORK WAYFINDING & SIGNING PLAN



“Mental mapping” is the way that individuals navigate through space using routing and landmark-recognition. This map overlays a mental map with the physical streetscape map, showing the similarities and differences between the two. Wayfinding and signage help people construct “mental maps.”

Wayfinding is the process of using spatial information to determine one’s location, one’s destination, and a route of travel between the two. When navigating through physical space, people construct a “mental map” that allows them to better understand what they can’t immediately see. A proper wayfinding system is essential to the process of understanding how to best navigate between one’s location and destination.

Individuals navigate through a location or roadway network through two distinct methods: routing and landmark-recognition. Routing is a process wherein individuals create a mental route from origin to destination by chaining together a series of individual steps and particular directions. An example of routing is: “after making a right on Main Street, go down the block and make a left on Broadway.” By contrast, landmark-recognition relies on immediate surroundings and the built environment to act as mental cues for the individual who is developing a route. An example of landmark-recognition is: “after making a right after the gas station, go down the block and make a left at the church.” When navigating through a new or even familiar space, people tend to use both routing and landmark recognition.

Signage is an essential element of any street or shared use path network. Signs help users navigate between their origin and destination, as well as communicate valuable safety and regulation information. Other information about amenities or local attractions at various destinations can also be highlighted in wayfinding signs. Maps can be integrated into signing schemes, thereby providing another valuable tool for wayfinding and route planning. Other indicators, such as recognizable pavement markings, can also be used for wayfinding.

All public streets in the United States utilize a standardized wayfinding and signing system based on the Federal Highway Administration’s MUTCD. This manual defines the color, size and placement of all roadway signs. Standards on bicycle-related signs can be found in Chapter 9 of the guide, and are featured on page 73, as well as in Appendix F: Bicycle Signage Index.

CDOT has its own additional set of sign design guidelines, as outlined in the CDOT Sign Design Manual.¹ There is a CDOT Sign Library available on their website, which supplements the

standard MUTCD.ⁱⁱ These signs are in the spirit of the MUTCD, but are tailored to the visual language, laws, and character of Colorado.

Signing systems on shared use path networks are not regulated by any federal codes, allowing greater variation and enhanced visual elements that reflect the local character of a particular community. However, any shared use path wayfinding scheme should use a similar language and visual elements to “plug-into” MUTCD regulated roadway signs, promoting clear understanding and comprehension by users as they navigate on- and off-street networks.

The content of bicycle-specific signs can be broken down into four broad categories:

- **Navigation:** Serves as the prime bikeway identifier. It can also be used to offer valuable navigational information such as route destination and direction, and distances to important intersecting streets.
- **Caution:** Conveys warning messages to people driving and people bicycling. Since caution message need to be understood quickly and from a distance, they are the largest and most basic of signs.
- **Connections:** Highlight intersections with other bikeways or public transportation hubs. Their goal is to integrate individual bikeways into a broader transportation network.
- **Points of Interest:** Highlight points on or near the route of relevance to bicyclists. By drawing attention to these locations, Point of Interest signs can help make bikeways more attractive recreational routes for cyclists.

The content of bicycle-specific signs can be broken down into four broad categories:

- Navigation
- Caution
- Connections
- Points of Interest



Navigation

Portland, OR has a robust bicycle wayfinding system. These navigation signs identify destination direction, distance and estimated time to arrival. (Photo Credit: Flickr user 'The Impression That I Get')

Caution

This caution sign from Boulder, CO alerts cyclists to potentially adverse riding conditions.



Connections

Signs in Boulder, CO direct off-street trail users onto on-street bicycle lanes. (Photo Credit: Bicycle Coalition of Greater Philadelphia)

Points of Interest

Even simple signs, such as this standard MUTCD sign in Philadelphia, PA, can assist cyclists in reaching their destination.



4.1 SUMMARY OF BICYCLE WAYFINDING, SIGN TYPES, & BEST PRACTICES

4.1.1 ON-STREET DIRECTIONAL SIGNS (MUTCD)

Chapter 9 of the MUTCD is dedicated to bicycle signs and their placement within street right-of-ways. Bikeway wayfinding signs are most often distinguished by their green color and white text. The use of a consistent color scheme for directional and distance information, allows bicyclists to clearly see and understand the information contained therein. In the same way that Interstate Highway signs are always red and blue, or state highways are black and white, the use of a consistent visual language allows the cyclist to distinguish the signs from others posted along the road.

The most common bicycle wayfinding signs encountered by roadway users is the standard 'Bike Route' signs (D11-1) that are installed in intervals along Class III routes and typically paired with directional arrows in wayfinding systems. These signs serve the dual purpose of alerting motorists to the presence of bicyclists and assisting cyclists navigate the larger bikeway network. These signs can be paired with directional arrows and the name of a destination, which is very helpful to users navigating the street network.

4.1.2 BICYCLIST CAUTION AND AWARENESS SIGNS (MUTCD)

Beyond wayfinding, signs should be used to alert people bicycling to potential hazards, and remind people driving to engage in safe behavior. Caution signs should alert bicyclists to such hazards as railroad crossings, driveway entrances, and steep elevation grades, among others. Motorist-targeted awareness signs should remind drivers of state laws; for example that cyclists may use the full lane or that motorists must give bicyclists a full three feet when passing. Both bicyclist- and motorist-targeted signs ultimately raise awareness and indicate a community's commitment to supporting bicycling.

4.1.3 ON-STREET PAVEMENT MARKINGS

While Peg-a-Tracking is generally considered to be a safety countermeasure (see Section 3.5: Countermeasure Treatment Summary), it also indicates the continuation of a bikeways through intersections. Peg-a-Tracking therefore plays an intuitive wayfinding role, particularly for gaps or transitions within the bikeway network. Rather than consulting a roadway sign at a key decision-making point, a bicyclist can instead follow the pavement markings. Peg-a-Tracking is particularly effective when navigating through triangular or "T" intersections and where one-way streets are present.

4.1.4 SHARED USE PATH MARKERS

In their most basic form, shared use path markers are posts or signs placed at trail entrances that identify the name of the path for the user. More elaborate markers can include information about park regulations (if the path is in a public park or open space preserve), the length of the shared use path, and time/distance to destination(s) information.

Since shared use path markers are considered to be part of an off-street system, they are not beholden to any federal or state design standards. This allows the local municipality to design and implement path markers that reflect local character. Such markers frequently feature the colors and/or logos of the city in which they are installed. Shared use path systems that traverse multiple municipal boundaries should maintain the same visual language to ensure that users know they are continuing along the same system.



BIKEWAY NETWORK WAYFINDING & SIGNING PLAN
WAYFINDING & SIGNAGE OVERVIEW



◀ 4.1.4: Directional and distance signage is commonly found at National Parks. (Photo Credit: voyageunbound.com)

▶ 4.1.2: This sign (W7-5), shown in context, alerts cyclists to steep grade conditions.

▼ 4.1.4: This sign identifies the beginning of the Farmers' High Line Canal Trail.



▲ 4.1.4: Arvada designed unique trail markers that draw attention to entrances that intersect roadways and make it easy for cyclists to locate them.



▼ 4.1.5 & 4.1.6: Directional signs in Seattle, WA inform riders what destinations are served by trail spurs. Note how distance is also included, to further aid the trail user. (Photo Credit: Blake Trask)

▲ 4.1.1: The standard Bike Route sign (D11-1) can be combined with any directional arrow to communicate important navigation information to cyclists.

▶ 4.1.3: Peg-a-Tracking in New York, NY. This treatment directs cyclists through an irregular intersection to continue along a designated bicycle facility. In this particular case, the Peg-a-Tracking is complimented with a bicycle-specific wayfinding sign which indicates the same information. (Photo Credit: Google Earth)



4.1.5 SHARED USE PATH DIRECTIONAL SIGNING

Directional and distance to destination(s) signs are an important and useful wayfinding element for any off-street path system. At a minimum, these signs should be strategically placed wherever an off-street path system interfaces with the street network, and wherever path segments diverge/converge. These strategic points can include path intersections, spurs, or detours onto the street or sidewalk. Arrow, labels, and symbols should distinguish route options and identify the destination served by each path. Signs should be placed 25 to 75 feet before any decision-making point.

Because the information on each sign is particular to its location, most directional signs are site specific and reflect the geometry the pathway segments in which they are placed. In order to maximize legibility for bicyclists, directional arrows and text should be large enough so that all pertinent information is capably read from a distance of approximately 30 feet while traveling 12 miles per hour. Thus, text should be no less than 2.25 inches in height, and it is recommended that all signs be written in FHWA C Series Font, or a comparable sans serif typeface. Directional arrows should be at least three inches wide and 2.25 inches high.

4.1.6 SHARED USE PATH DISTANCE SIGNING

Distance to destination(s) signs and mileage markers provide needed wayfinding elements to any shared use path network. Such signs should communicate known distances to connecting paths, general points of interest, and path exists/entrances, among other key points.

Estimated time to destination information is also helpful, as many path users prefer to know approximately how long it will take to arrive at a given destination. Distance signs or mileage markers, should also be placed soon after key decision-marking points because they serve as a confirmation to path users that they have selected the correct route. The text height should be the same as above.

Directional and distance signs frequently contain path system maps. These maps help users better understand their location within the trail network, as well as assist with trip planning. In order to make the maps easier to read, these maps should generally identify the location of the map (and viewer). These maps can also contain information about the adjacent street or overall bikeway network, in addition to popular destinations or cultural institutions.

4.2 WESTMINSTER'S EXISTING WAYFINDING SYSTEM

The City of Westminster has included a limited number of wayfinding signs within its off-street shared use path network. As the on-street bikeway network is almost non-existent, there are only a few on-street bicycle signs sprinkled throughout the city's street network. All of Westminster's existing on-street signage is directed to drivers, alerting them to the presence of bicyclists.

4.2.1 OFF-STREET SIGNING (SHARED USE PATH SYSTEM)

Westminster's robust shared use path network features a comparatively sparse and incomplete wayfinding system. While path markers are present, the greater system is inconsistent, often leaving large gaps that diminish the value of the existing signs.

There are two versions of wayfinding signs located at various points throughout the system. The older of the two include blue, purple and grey signs that feature white typography. The signs are approximately three feet tall and two feet wide. There are two types of signs within this system: path markers and directional signs. Installed on a single post, sign height varies from approximately two to three feet.

The most recent wayfinding signs are red and brown, with white text. They are smaller than the previous signs, approximately two feet tall and eighteen inches wide. Similar to its predecessor,

BIKEWAY NETWORK WAYFINDING & SIGNING PLAN
WESTMINSTER OBSERVATIONS



▲ 4.2.1: Westminster's older shared use path signing design features a large type face and a high contrast color palette.



◀ 4.2.2: This is one of the few on-street bicycle signs, spotted near the Farmers' High Line Canal Trail. There is no directional signing located throughout the entire city.

▼ 4.2.1: The older design is easy to notice and read from a distance.



▲ 4.2.1: The newer design, by contrast, is smaller in size and lower contrast, making it difficult to notice and read at bicycling speeds.



▶ 4.2.1: The diminutive stature of the newer design makes it difficult to read unless the bicyclist comes to a complete stop.



the system includes directional and distance signs. The signs are all encased in a wood frame, which include the two legs supporting the sign.

Generally, the older design is more effective at communicating information to people bicycling than the most recent design. The newer signs' smaller size is difficult to read at any distance, particularly when traveling at normal bicycle speed. In contrast, the older design, which features higher contrast colors and larger fonts is far easier to read at bicycling speed.

Another issue with the new design is the directional arrows. There is one universal placement for the arrows, regardless of the path's geometry. In this case, the arrows are always pointing to two and ten o'clock. At certain intersections, deciding which arrow is related to which trail is not immediately clear, further exacerbating the issue of legibility for people riding a bicycle. One positive aspect of the new design is that they contain distance information and overall system maps. However, because of their small size, it is not immediately apparent that these signs contain maps, even though they are quite useful.

4.2.2 ON-STREET SIGNING

There are very few on-street bicycle related signs in Westminster. Those signs that do exist are located at sporadic points throughout the city, typically where the off-street shared use path system crosses or adjoins the street network. There appears to be no consistent standard as to when bicycle signs will be installed, as there are numerous possible instances of on-street/off-street interactions where signs are not present.

4.3 WAYFINDING & SIGNING RECOMMENDATIONS

Action #1: Develop an on-street bicycle wayfinding system and standards to complement and enhance the future bikeway network.

Based on the standards laid out in the MUTCD, the City of Westminster should work with CDOT to install bicycle directional and confirmation wayfinding signs along every on-street bikeway facility. At the very least, the signs should consist of a "Bike Route" sign (D11-1) accompanied by an appropriate directional arrow (M7-1:7). These signs should be installed at every key-decision making point or where the bikeway intersects with another. Additionally, a wayfinding plan should be developed and include supplemental plaque signs (D1-1b or D1-1) that identify destination direction, name, distance and estimated time to arrival. The location and content of these signs should be established by the plan.

Action #2: Install bicyclist warning signs along with new bikeway facilities.

Because bicycling is not a mainstream mode of transportation for most Americans, it is important to alert people driving to expect people bicycling on the roadway. The MUTCD includes such warning signs, namely W11-1, W16-1 and W16-7p, which should be installed at regular intervals along any on-street bikeway facility.

In addition, warning signs for bicyclists, alerting them to conditions such as steep grades (W7-5) or narrowing bikeways (W5-4a) should be installed wherever roadway conditions require. Based on precedence in Arizona and other states, the City of Westminster should consider designing a new motorist-targeted sign, reminding drivers of the new requirement to give bicyclists three feet of space when passing (as mandated in Colorado's 2009 Bicycle Safety Act). Westminster should work with CDOT to create this sign, using the existing CDOT 'State Law' regulatory sign (R52-6e) as a template.

Action #3: Install bicycle appropriate regulatory, guide and warning signs wherever new bikeway facilities implemented.

Regulatory, guide and warning signs are essential to ensuring the educated and proper use of



▲ Following precedence in Arizona, Westminster should work with CDOT to design a warning sign alerting motorists of the new three-foot passing law that went into effect in 2009. (Photo Credit: Erik Ryberg)



◀ Lack of path markers makes it difficult to locate and identify path entrances.

▼ Another Westminster-designated trail which lacks any form of identification.



◀ Some of the existing, older-design Westminster trail markers contain trail information. This should be expanded to include trail destination and distance.



bikeway facilities. The City of Westminster should work with CDOT to install appropriate bicycle signs, according to the standards set forth in Chapter 9 of the MUTCD, whenever appropriate for new bicycle facilities as listed below (see Appendix F: Bicycle Signage Index for more detail):

Class I - Sidepath

- 'Bicycle' (W11-1) and 'Arrow' (W16-7p) or 'Bike/Ped [Symbols] (CDOT W11-55) warning signs placed every quarter-mile along any sidepath route.

Class II - Bicycle Lane

- 'Bike Lane' (R3-17) and 'Ahead' (R3-17a) regulatory signs at the beginning of a bike lane.
- 'Bike Lane' (R3-17) and 'Ends' (R3-17b) regulatory signs at the end of a bike lane.
- 'Bike Lane' (R3-17) regulatory sign placed after every intersection along any bike lane route.

Class III - Signed Bike Route

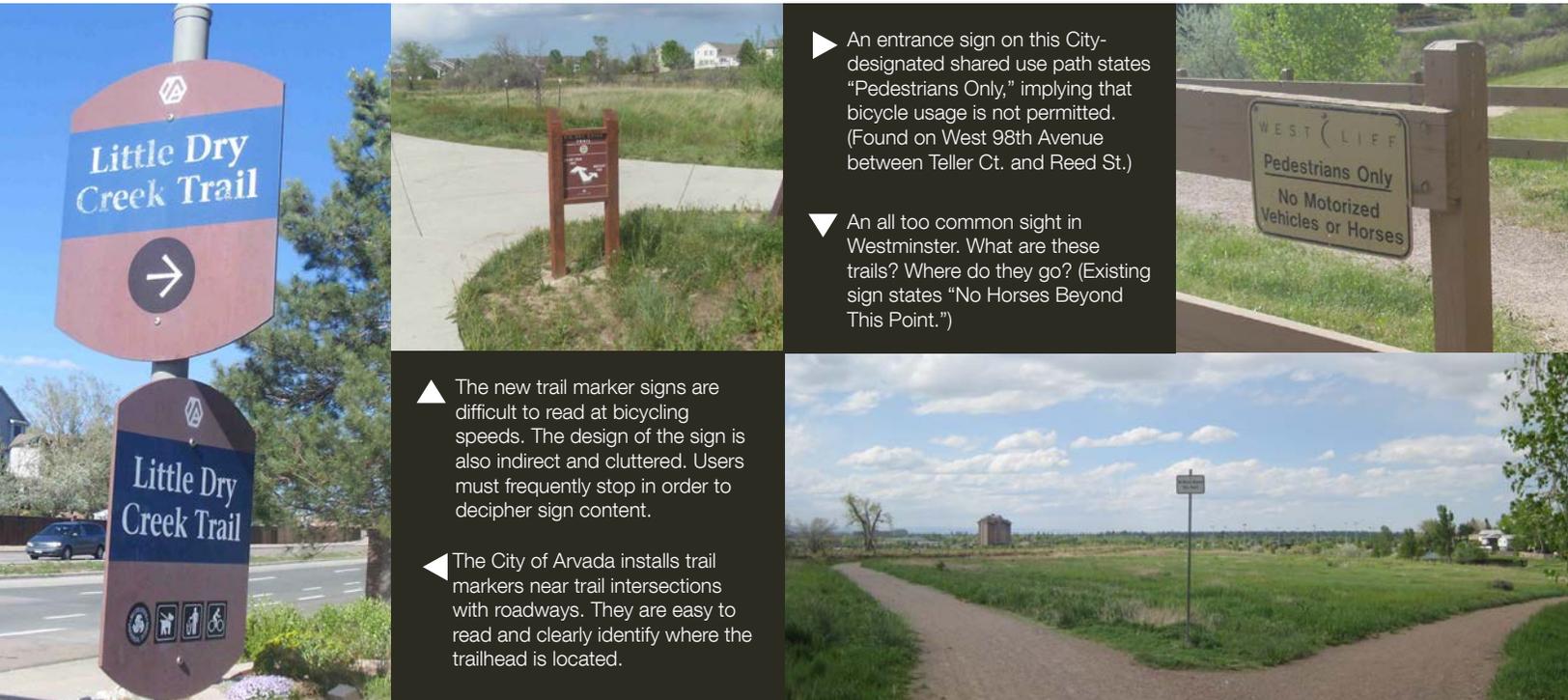
- 'Bike Route' (D11-1) and 'Begin' (M4-11) guide signs at the beginning of a sharrow route.
- 'Bike Route' (D11-1) and 'End' (M4-11) guide signs at the termination of a bicycle signed/facility route.
- 'Bike Route' (D11-1) guide sign placed after every intersection along any bike lane route.
- 'Bicycle' (W11-1) and 'Share The Road' (W16-1) or 'Bicycle' (W11-1) and 'Arrow' (W16-7p) or 'Bike/Ped [Symbols] (CDOT W11-55) warning signs placed every quarter-mile along any signed route.

Class III - Signed Route Bike Route with Shared Use Lane Marking

- 'Bike Route' (D11-1) and 'Begin' (M4-11) guide signs at the beginning of a sharrow route.
- 'Bike Route' (D11-1) and 'End' (M4-11) guide signs at the termination of a bicycle sharrow/facility route.
- 'Bike Route' (D11-1) guide sign placed after every intersection along any sharrow route.
- 'Bicycle' (W11-1) and 'Share The Road' (W16-1) or 'Bicycle' (W11-1) and 'Arrow' (W16-7p) or 'Bike/Ped [Symbols] (CDOT W11-55) warning signs placed every quarter-mile along any sharrow route.

Action #4: Design path entrance markers to reflect and complement on-street bicycle wayfinding signs.

Shared use path entrance markers should contain the path name, and/or information highlighting the overall path distance, and all key destinations along the way. The design of the signs should be visible and easily distinguishable from other installed signs. In addition, the design should complement the future on-street bicycle signs, to ensure easy recognition by bicyclists. The City of Westminster Department of Parks, Recreation, and Libraries should also develop the path entrance marker design.



▶ An entrance sign on this City-designated shared use path states "Pedestrians Only," implying that bicycle usage is not permitted. (Found on West 98th Avenue between Teller Ct. and Reed St.)

▼ An all too common sight in Westminster. What are these trails? Where do they go? (Existing sign states "No Horses Beyond This Point.")

▲ The new trail marker signs are difficult to read at bicycling speeds. The design of the sign is also indirect and cluttered. Users must frequently stop in order to decipher sign content.

◀ The City of Arvada installs trail markers near trail intersections with roadways. They are easy to read and clearly identify where the trailhead is located.

Action #5: Install trail markers at the entrance of every off-street trail.

In order to fully integrate the on-street and off-street bicycle networks, it is essential that all shared use path entrances are highly visible and easily located by users. Path markers should be easily seen from adjoining roadway, particularly where there are any natural site line constraints. The City of Westminster should survey and identify every path entrance that adjoins a roadway. A phasing plan should then identify potential funding sources to implement the path markers.

Action #6: Install directional signs at every key decision making point within the off-street network.

Directional signs are non-existent at numerous key decision-making points throughout the path system. This makes the path system very difficult to navigate, particularly at path intersections, spurs, and roadway system traverses. The City of Westminster should survey the path network to determine the key decision-making points, and install directional signs that indicate the destination served by intersecting paths and their individual spurs. The City should also coordinate with the Department of Parks, Recreation, and Libraries to install directional signs wherever a path connects to a roadway or abutting sidewalk.

Action #7: Redesign the existing off-street directional and distance signs to ensure legibility at typical bicycling speeds.

A new shared use path signing design scheme should be implemented, one that features large text, and site-specific indicator arrows, to maximize legibility and user comprehension.

Action #8: Remove confusing signs on designated paths that forbid bicycle use.

The City of Westminster should ensure that no signs on bicycle-designated paths imply that bicycle use is forbidden. For example, on West 98th Avenue between Reed Street and Teller Court, an entrance sign to a shared use off street path maintained by the West Cliff community reads "Pedestrians Only. No motorized vehicles or horses." Though cyclists use this path, the sign implies that bicycle use is not allowed.

5. BICYCLE PARKING PLAN



Above: In Pittsburgh, Pennsylvania, old shipping containers have been transformed into a bicycle parking, locker, and changing facility.

Below: While highly visible, the provision of too much bicycle parking, like here at Westminster's City Park Recreational Center, wastes space and resources.

While bikeways are the most visible element within a bicycle network, cyclists must also have safe and convenient places to store their bicycles. Providing bicycle parking and other “end-of-trip” facilities is critically important to supporting bicycling as a viable mode of transportation. Solutions range from the basic bicycle rack to semi-enclosed bicycle shelters, to full bicycle “stations” that may offer bicycle storage and repair facilities, showers, lockers, changing rooms, rentals, and even café/ social gathering spaces.

No matter the type, bicycle parking is commonly excluded or insufficiently addressed in the planning, urban design, and development processes. As a result, accessible, attractive, and safe parking options for both short and long-term use are often under- or oversupplied, and poorly sited.

5.1 WESTMINSTER BICYCLE PARKING

The gradual implementation of Westminster's bicycle parking standards (Westminster Site Design Guidelines: Section 11-7-4, E1-E2) has successfully created more bicycle parking facilities throughout the City. However, functional and aesthetic outcomes could be greatly improved by meeting the additional standards set forth in this document. Likewise, formulating a coherent implementation plan will ensure that appropriate storage types and locations are selected; will prevent overbuilding and the waste of City resources; and that bicycle parking facilities are implemented to maximize safety and accessibility.

The Bicycle Parking Plan contained herein is intended to provide all stewards of the Westminster 2030 Bicycle Master Plan with the information needed to improve bicycle parking conditions, and by extension, the city's bikeway network.

5.2 BICYCLE PARKING TYPES

While countless bicycle parking designs and configurations exist, there are only two basic types—short- and long-term bicycle parking—that include six basic sub-types. Short-term parking facilities consist of bicycle racks, self-service bicycle sharing systems, and temporary event “valet” parking. Long-term parking facilities include semi-enclosed bicycle shelters, fully enclosed bicycle lockers, and fully enclosed bicycle stations/storage rooms.

Matching each of these types and the available configurations to the right context is not difficult, but requires an understanding of the following:

- Intended bicycle user group
- Length for which bicycles are likely to be parked
- Type(s) of trips to be accommodated (long/short term)
- Proposed location and the surrounding land uses

Bicycle Parking Infrastructure can be grouped into one of two categories, with six sub-types:

Short-Term Parking Facilities

- Bicycle racks
- Self-service bicycle sharing systems
- Temporary event “valet” parking

Long Term Parking Facilities

- Semi-enclosed bicycle shelters
- Fully enclosed bicycle lockers
- Fully enclosed bicycle stations/storage rooms

- Local climate considerations (rain, snow, etc.)
- Ability of the proposed facility to provide orderly, safe, and attractive bicycle parking
- Basic performance standards and parking site guidelines

5.3 SHORT-TERM BICYCLE PARKING

The majority of bicycle parking facilities are intended for short-term use, generally less than two hours. Short-term bicycle parking is generally associated with commercial/retail, civic, and/or recreational land uses, where short trips are common. As a result, proximity to destination is prioritized over protection from weather and guaranteed security. Beyond the use of a lock and the quality of the bicycle parking design, passive surveillance—otherwise known as “eyes on the street”—is the only security provided.

5.3.1 BICYCLE RACKS

Bicycle racks allow for the temporary storage of bicycles in a safe and organized manner. While a great variety of designs and configurations are available, the most effective are those which are easy to identify, efficient in their ability to accommodate the intended amount of bicycles, allow for easy bicycle maneuverability in and out of the designated bicycle parking space, and enable the bicycle to be secured properly.

Two simple and recommended forms that meet these standards are the inverted “U” Rack and the “Post and Ring” (see “Short Term Bicycle Parking” on page 82). Each rack may be implemented singularly—one rack provides two bicycle parking spaces—or configured in groups where demand exists. One such application, the on-street bicycle corral, makes use of several racks to replace a motor vehicle parking space where bicycle parking demand is high and sidewalk space is either limited or duly accommodates high volumes of pedestrian traffic. Depending on the configuration, a single motor vehicle parking space may yield between six and 12 bicycle parking spaces.

5.3.1.1 Standard Bicycle Rack Recommendation

While “Inverted U” and “Post and Ring” racks both offer excellent short-term bicycle parking solutions for most bicyclists, Westminster should designate a version of the “Inverted U” rack to become the standard city bicycle rack. Selecting a single rack design type will improve user recognition and also streamline the City’s purchasing and implementation process. That said, certain contexts may allow or dictate a different parking facility or design type, as described below.

5.3.1.2 Public Art Racks

Bicycle parking does not have to be unattractive. If done well, bicycle parking solutions add an attractive and unique element to any street- or cityscape. In general, visibility and function remain the most important elements. See image 5.3.1.2 on page 82 or “Recommended Bicycle Park Designs” on page 88 for examples of artistic rack designs. See Appendix G: Public Art Bike Racks (page 134) for additional examples of unique and visually-compelling bicycle racks.

Neighborhood, civic, district, non-profit, institutional, or business groups within the City of Westminster should be encouraged to pursue bicycle parking facilities that reinforce an existing cultural, historical, social or social character. In such instances, custom or public art bicycle racks should creatively address bicycle parking needs while simultaneously enhancing the profile of bicycling and the destination such racks are intended to serve. However, many art rack designs unintentionally undermine the intended function, often resulting in inefficient, unrecognizable, and undesirable bicycle

BICYCLE PARKING PLAN
SHORT-TERM BICYCLE PARKING



◀ 5.3.1.1: Inverted U-Racks can efficiently park two bicycles each.



▶ 5.3.1.2: Art racks should be allowed to creatively address bicycle parking needs.



▲ 5.3.3: During events, bicycle valet parking is a wonderful service that highlights the many benefits of cycling.
(Photo credit: Etienne Frossard)



▲ 5.3.1: Bicycle corrals replace curbside automobile parking with many times the number of bicycle parking spaces.

◀ 5.3.1.1: Post & Ring racks can be added to existing street furniture poles, including signs and parking meters.

▼ 5.3.2: Bicycle sharing, like the Denver B-Cycles system, are revolutionizing urban transportation options.

▼ 5.3.1.3: All bicycle racks should support the bicycle in at least two locations.



parking facilities. Therefore, the provision of art racks should meet or surpass the guidelines and performance standards set forth in this Bicycle Parking Plan.

While custom bicycle racks do cost more than off-the-shelf racks, they raise the profile and visibility of bicycling in general, and improve the public perception regarding city or organizational values. They also bring positive attention to bicyclists for making sustainable and healthy transportation choices.

5.3.1.3 Bicycle Rack Safety and Performance Standards

To prevent theft and to ensure public safety, all bicycle racks should meet the performance standards set forth in Section 11-7-4, E1-E2 of the City of Westminster Site Design Guidelines. Additionally, all bicycle racks should:

- Support the frame of the bicycle in at least two locations
- Allow the frame and one wheel to be locked to the rack element when both wheels are left on the bike
- Allow the frame and both wheels to be locked to the rack if the bicyclist decides to remove the front wheel
- Allow the use of cable, chain, and U-shaped locks
- Be securely anchored to the ground
- Be usable by bicycles with bottle cages, panniers, etc.
- Be usable by a variety of bicycle sizes and types (children's bicycles, tricycles, step-through frames, etc.)
- Keep both wheels on the ground

In addition, all bicycle racks should not be capably compromised by hand tools, especially those that are easily concealed such as wire cutters, screw drivers, etc. Bicycle racks and the bicycles secured to them should not create a tripping hazard or barrier for pedestrians and the visually impaired. Finally, all outdoor bicycle racks and any related facilities should be well-lit and highly visible at night so that users feel safe.

5.3.2 BICYCLE SHARING SYSTEMS

Bicycle Sharing Systems provide an easy-to-use and inexpensive form of public transportation. Each "station" includes multiple bicycles that can be rented from an electronic kiosk designed for visibility and ease of use. Stations are typically located within the public sidewalk, but may also replace an existing on-street parking space where sidewalk space is at a premium. Bicycle stations may also be located within a public park, plaza, or at transit stops.

Like the bicycle station concept, bike share systems are ideal for the most urban environments, such as central business districts and high-density mixed-use neighborhoods. American cities such as Denver, Washington DC, and Minneapolis have successfully implemented bicycle sharing system thus far.

While it is conceivable that Westminster could provide a small bicycle sharing system, it is recommended that the City first focus on improving the bicycle network as well as education and encouragement efforts.

5.3.3 BICYCLE VALET PARKING

The San Francisco Bicycle Coalition describes valet parking as a coat check for bicycles. Indeed, cyclists are issued claim checks in exchange for their bikes. Volunteers park the bicycles within a temporary corral and keep an eye on them for the duration of an event. When attendees are ready to leave, they simply return the claim check for their bicycle.

Bicycle valet parking is a cheap and effective way to reduce parking needs at large events and helps raise awareness for the myriad benefits associated with cycling. It can also save event attendees time and effort.

5.4 LONG-TERM BICYCLE PARKING

Long-term bicycle parking facilities are intended for use that generally exceeds two hours. Long-term bicycle parking is associated with residential, workplace, and transit-related land uses where parking for long durations is common. As a result, proximity to destination is a lower priority than protection from the elements and guaranteed security.

5.4.1 BICYCLE SHELTERS

Bicycle shelters provide highly visible, semi-enclosed protection from the elements. Bicycle shelters should be placed at highly frequented bicycle destinations where users tend to park for short and long-term periods. Such places include, but are not limited to, employment centers, transit stops, fitness gyms, civic buildings, parks, schools, and other educational institutions.

Bicycle shelters provide an opportunity to display safety information, a map of the regional and local bicycle network, and/or any other relevant bicycle or local information. The spacing between individual bicycle racks and/or other streetscape elements must be taken into account and should follow the general bicycle parking performance and location standards contained within this Bicycle Parking Guide. Likewise, bicycle shelters should be easily identifiable, well lit at night, and sufficiently protect bicycles from the elements.

The City of Westminster may consider pursuing the implementation of bicycle shelters in strategic locations. Doing so will raise the profile of bicycling and provide a parking amenity that provides shelter for longer parking stints. Additionally, Colorado's climate makes the provision of bicycle shelters particularly relevant.

5.4.1.2 Bicycle Shelter Safety and Performance Standards

To ensure public safety and high performance, all bicycle shelters should:

- Include bicycle racks that support the frame of the bicycle in at least two locations and meet all other bicycle rack performance standards as discussed in this Bicycle Parking Plan.
- Include a roof span of at least eight feet in width to ensure adequate bicycle coverage, and preferably enclosed on three sides for protection from the elements
- Be located to ensure a minimum of five feet of pedestrian sidewalk clearance, as measured from the edge of the broadside of the shelter's entrance.
- Be located to maintain adequate visibility clearance at intersections (fifteen minimum, as measured from the onset of the curb radius)
- Comply with local building code requirements
- Provide adequate illumination for night time use

5.4.2 BICYCLE LOCKERS

Bicycle lockers not only offer additional security and protection from the elements, but also provide an appropriate solution for long-term bicycle parking needs. Bicycle lockers may be placed conspicuously at transit stops, park 'n ride locations, civic buildings, large residential apartment buildings, office towers, and within higher educational institutions. While such facilities offer a higher level of security and comfort, they must be made of high quality materials and be well maintained to ensure that use continues without compromise.

Additionally, bicycle lockers need to be located so that they are highly visible, accessible and convenient to any/all adjacent land uses, destinations, and intermodal transportation options. Because bicycle lockers are intended for long-term use, safe lighting is also a critical element to making the lockers feel safe and to prevent vandalism/graffiti. Areas of higher crime may justify the use of closed-circuit television (CCTV) security devices to monitor the lockers and the surrounding areas.

LONG-TERM BICYCLE PARKING



▼ 5.4.1: This Wolff Run Park port-a-potty shelter could also include bicycle parking.



▲ 5.4.2: These bicycle lockers at Zillmere train station in Queensland, Australia have been painted by local school children to make them more attractive. (Photo Credit: Flickr user Bandido of Oz)

▲ 5.4.3: Bike Stations, like this one in Long Beach, CA provide a high level of service for commuter bicyclists.



▼ 5.4.1: Bicycle Shelters provide protection from the elements and offer the chance to display bikeway network information.



▲ 5.4.2: RTD's Bicycle Lockers provide increased security and protection from the elements.

TABLE 1: RTD BICYCLE LOCKERS & RACKS

<i>RTD Location</i>	<i>Bike Rack Capacity</i>	<i>Bicycle Locker Capacity</i>
US 36 & Church Ranch Park 'N Ride	6	6 (0 leased)
Wagon Road Park 'N Ride	10	10 (7 leased)
Westminster Center Park 'N Ride	27	26 (6 leased)

While some RTD bicycle lockers and racks are leased out, the City should work to raise the awareness of their availability.

At present, RTD maintains 52 bicycle lockers, spread out over three locations within the City of Westminster (see Table 1). At present, only 25 percent of these are leased to users.

It is recommended that the City work with RTD to raise public awareness and encourage the use of the lockers by Westminster residents and/or those who commute to jobs within the City. It is also recommended that the City work with RTD to ensure high quality bicycle lockers are included at future RTD stations within the city's borders.

For the latest information regarding bicycle locker rental fees and locations please visit RTD's Bike N' Ride website.

5.4.2.1 Bicycle Locker Safety and Performance Standards

To ensure public safety and high performance, all bicycle lockers should:

- Be manufactured of high quality, non-flammable materials that prevent door sag, lock cutting, panel prying, and other types of vandalism
- Make use of digital "smart" access and reservation technology wherever possible
- Be clearly labeled as bicycle parking
- Include designs that may be incorporated wherever possible into building design or street furniture, as approved by the City
- Include rental information and directions for use should be posted on or near the locker facilities, as well as on the web
- Allow maximum flexibility in grouping and placement
- Ensure that locker doors open to at least 90 degrees to ensure loading and unloading;
- Ensure adequate end and side clearance for users to maneuver their bicycles within the bicycle parking area
- Ensure aisle space between rows of lockers allow for simultaneous maneuvering/use
- Ensure vertically stacked lockers include wheel track guides to help guide bicycles into locker

5.4.3 BICYCLE STATIONS

Bicycle stations are intended to serve as a regional hub for metropolitan bicycling activity. They may offer a wide variety of services, such as secure and attended parking facilities; bicycle rentals; showers, lockers and changing facilities; repair services or facilities; and cafe/social space.

The combination of these facilities provides the highest level of bicycle parking service for both medium and long-term use, and elevates the visibility and viability of bicycling across the region.

Bicycle stations are most appropriate in the urban core, central business district locations, and at transit hubs where bicycle commuters and tourists may maximize the services offered. Cities such as Chicago, IL, Seattle, WA, Berkeley, CA and Long Beach, CA all provide working models.

Due to existing land use patterns, density, and lack of built bicycle infrastructure within the City of Westminster, it is not recommended that the City pursue bicycle stations until adequate bicycle infrastructure and user demand is in place.

5.5 BICYCLE PARKING LOCATION & PERFORMANCE STANDARDS

The location of bicycle parking and other end-of-trip facilities can be crucial to their success. Similar to motorists, bicyclists desire to park as close and as conveniently to their destination(s) as possible. However, the degree of proximity may vary by the type of facility being provided and the type of trip/user it is intended to serve.

Short-term parking facilities, like bicycle racks and shelters, should be located as close as possible to the destination(s) they serve. This is especially important for streets served by concentrations of retail where any prolonged effort to find adequate bicycle parking is as frustrating for the bicyclist as circling the block is for the motorist.

Long-term parking, such as bicycle lockers, should also be as convenient as possible. However, the protection from inclement weather and the enhanced level of safety/service that such facilities provide often compensates for location inefficiency. Similarly, shower, changing rooms, and locker facilities need not be located inside the destination they serve, but should provide enough proximity and convenience so that commuting by bicycle is as easy as possible. Indeed, many employers unable to provide such facilities often contract with nearby fitness gyms to rent out space for their bicycling employees.

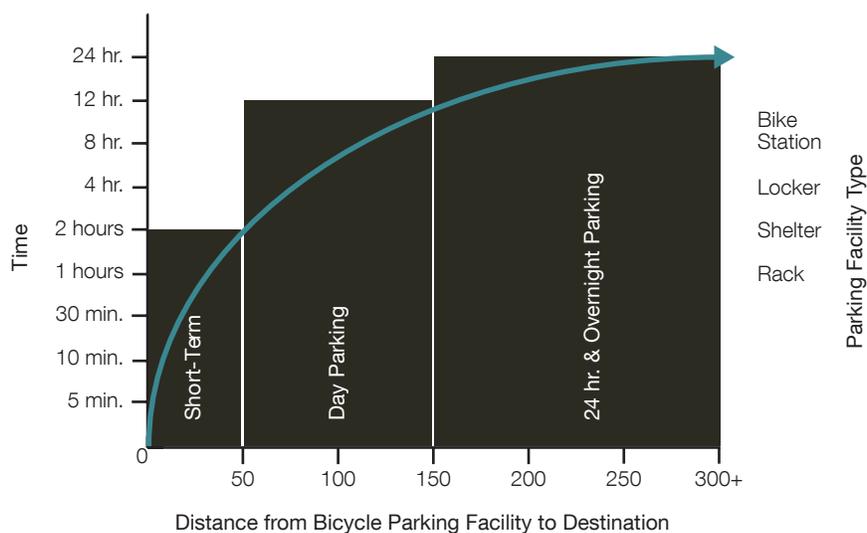


Figure 7: General Bicycle Parking Location Standards
When implementing bicycle parking, proximity can be exchanged for an increased level of service. (Graph Adapted from the Danish Cyclists Federation.)

Short- and long-term bicycle parking facilities should adhere to the following location and standards. In general, safe bicycle rack locations should:

- Maximize visibility and minimize opportunities for vandalism by being located in locations within easy view of pedestrian traffic, windows, doors, and/or well-lit areas
- Protect bicycles from inclement weather, as long as the facilities meet or exceed visibility, spacing, and performance standards
- Locate bicycles a safe distance away from automobiles parked on-street, in lots, or in structures so that bicycles will not be damaged by opening doors or errant driving behavior
- Not obstruct pedestrian traffic in any way
- Place the rack(s) between the primary road/path used by bicyclists and the entrance to the destination(s) they serve
- Not be located on or near stairs, walls, berms, or within handicap accessible ramps
- Provide enough space for bicycles of all types to maximize the bicycle parking capacity of a given facility

BICYCLE PARKING PLAN

RECOMMENDED BICYCLE PARKING DESIGNS



◀ A New York City design competition produced a variant on the U-Rack design for city streets.
(Photo Credit: NYC DOT)

▶ Denver's *B-Cycles* share provides convenient parking locations to registered users.



◀ David Byrne's artistic bike racks do not sacrifice usability for aesthetics.

▶ Post & Ring Racks in Ottawa, Canada

▼ Bike Lockers provide security for bike-to-transit commuters.



▲ These U-Racks are in front of Westminster's West View Recreation Center.



▼ Washington, DC's BikeStation offers security and commuter-desired benefits to cyclists.



▲ Denver's "A Taste of Colorado" event utilized valet bike parking to accommodate cyclists.

◀ Portland, OR recently installed a number of bike parking shelters on city sidewalks.



INEFFICIENT BICYCLE PARKING DESIGNS



◀ These racks do not provide the level of security or stability desired by most cyclists.

▶ This wave rack does not have enough clearance to keep bicycles from both blocking the sidewalk and crushing the landscaping.



▲ Inadequate bicycle parking forces cyclists to lock "creatively."

◀ These racks are designed to hold one wheel, but do not allow the frame to be secured with a U-lock.

▼ Racks with a single contact point, like this one below, allow bicycles to turn over.



▲ Wave racks only provide one locking point, and are not intuitive to users—many cyclists incorrectly lock parallel to the racks, reducing capacity.

▶ The use of this comb style rack, photographed in Westminster, should be discontinued.

▼ Campus style bike racks are not user-friendly.



▲ Comb style racks only have one contact point, allowing bicycles to fall into disarray.



◀ Too much bicycle parking wastes valuable resources.

BICYCLE PARKING PLAN OBSERVATIONS IN WESTMINSTER AND BEYOND

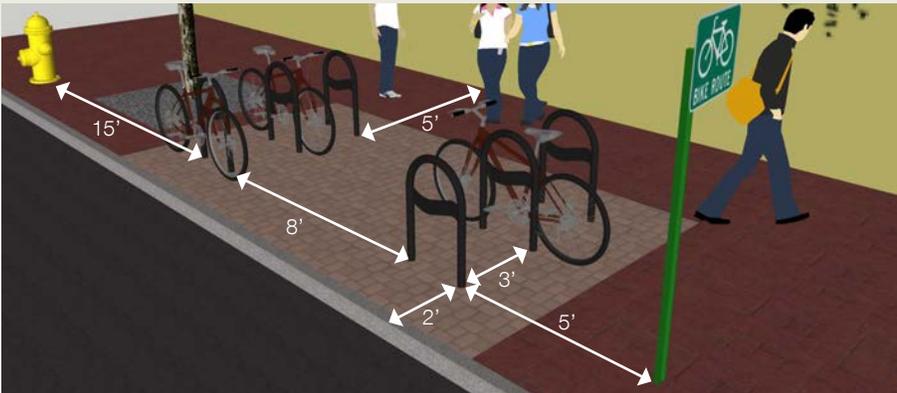
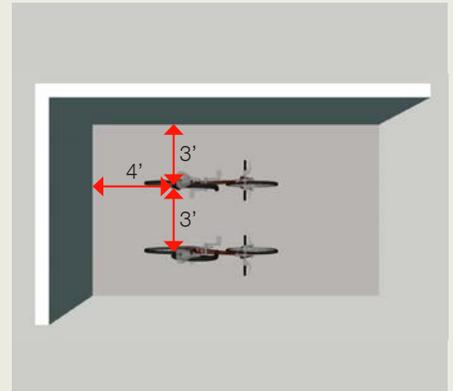


▲ 5.5.4: In their end-to-end configuration, these bicycle racks lose capacity because they are placed too close together.



▼ 5.5.8: When locating bicycle racks, proper distances should be maintained.

◀ 5.5.3: The bicycle rack at left, located along Lowell Boulevard, is too close to the curb, which will force the bicycle wheel into the vehicular right-of-way.



▲ 5.5.8: When placed near walls, bicycle racks must maintain adequate spacing.

▼ 5.7: If used heavily, bicycle racks should be re-surfaced periodically.

▶ 5.7: At this Depew Street apartment complex, abandoned bicycles and poorly maintained bicycle racks create a dysfunctional and unsafe public realm.



Specifically, bicycle racks for short-term parking should be located within 30 feet of the entrance(s) they serve. If impossible, racks should be no more than a 30-second walk, approximately 120 feet, away or at least as close as the nearest automobile parking space.

Bicycle racks should be clearly visible from the approach to a destination's most actively used entrance. If located along a sidewalk, within the public right-of-way, bicycle parking should be visible from the street for which the sidewalk serves. Additionally, entire urban blocks should not be served by a large, single bicycle rack cluster. Rather, it is preferable to place several smaller rack clusters, or even single bicycle racks in multiple, convenient locations.

When considering the implementation of bicycle parking facilities in the City of Westminster, the following location guidelines should be followed.

5.5.1 Signs

If a bicycle parking facility is unable to be sited visibly in front of the destination it serves, or another conspicuous location, then attractive signs should be provided at all primary entrances to direct bicyclists to the nearest bicycle parking location. See Section 4: Bikeway Network Wayfinding and Signing Plan: Manual of Uniform Traffic Control Devices (MUTCD) Signing on page 73 for an example of an appropriate bicycle parking sign.

5.5.2 Clear Path

With few exceptions, bicycle racks, shelters, lockers, and rental stations must allow a minimum clear path of five feet in width from the nearest vertical element so that pedestrians may move without obstruction.

5.5.3 Curb Clearance

If located parallel to the roadway, all bicycle racks must be placed at least 24 inches from the curb. Those placed perpendicular to the curb, however, must locate the nearest vertical component of the rack at a minimum of 48 inches from the curb's edge. Both dimension requirements will help prevent bicycles from being struck by car doors or moving motor vehicles.

5.5.4 Distance Between Racks

Bicycle racks aligned parallel to each other must be at least 36 inches apart, as measured from the two closest vertical rack elements. This includes racks that are sold as multiple rack units, which may be attached. Racks that are aligned end-to-end should be at least 96 inches apart, as measured from the two closest vertical rack elements.

5.5.6 Distance From Walls

To ensure safe maneuvering and circulation, bicycle racks placed perpendicular to a wall must be at least four feet from the wall to the nearest vertical component of the rack. Bicycle racks placed parallel to a wall must be at least three feet from the wall.

5.5.7 Distance From Pedestrian Aisle

For indoor racks placed in groups, an adequate pedestrian aisle must be provided so that bicyclists can access and maneuver their bicycles in and out of the parking position. Bicycle racks placed perpendicular to a pedestrian aisle must be at least four feet from the aisle. Pedestrian aisles should be at least five feet wide wherever possible.

5.5.8 Other Recommended Site Distances

To ensure safety and convenience, bicycle racks should be located:

- 15 feet from fire hydrants, bus stops, taxi stands, hotel loading zones, subway/ transit station entrances, newspaper kiosks, etc.
- 10 feet from intersections/driveways/curb cuts
- Six feet from a wall fire hydrant
- Five feet from any standpipes, or above-ground vertical structures like signs, meters,

lights, mailboxes, planters, public bathrooms, pay phones, etc.

- Three feet from tree pit edges, grates, utility covers, etc.

See images marked 5.5.8 on page 90 for an example of placement that meets these criteria.

5.6 IMPLEMENTATION

It is the intent of this entire Bicycle Parking Plan to encourage the City of Westminster to work with the city's businesses and neighborhoods to support and foster bicycling as a viable, safe, and sustainable form of recreation and transportation. Implementing bicycle parking and other end-of-trip facilities plays a key role in realizing this goal.

This Westminster Bicycle Parking Plan is conceived at the scale of the whole city, but should be implemented with sensitivity at the block and building scale. Specific site analysis should be undertaken so that bicycle parking remains convenient, visible, and located properly in relation to the destinations and bicyclists it serves.

Like the overall Westminster 2030 Bicycle Master Plan, the Bicycle Parking Plan must be implemented in cooperation with a number of inter-related city, county, and state entities that have jurisdiction over the governance and physical development of Westminster and its public right-of-ways.

Many municipalities have created bicycle parking programs that encourage public and private partnerships that reduce the cost of purchasing and installing bike racks while simultaneously expanding the supply. For example, 50-50 match bicycle parking implementation programs encourage businesses to partner with the municipality. Such programs are worth researching and potentially adapting to the City of Westminster.

5.7 MAINTENANCE

Once implemented, bicycle parking facilities of all types must be well maintained. All facilities should be kept clean, orderly, free of abandoned bicycles, bicycle locks, and other debris. These steps will help ensure that bicycle parking remains attractive and is used frequently.

To remain attractive and functional, areas around the bicycle parking facility -whether it be a rack, locker or otherwise- must remain well-paved, mown, plowed, or otherwise tended and cared for so that bicyclists are not deterred from using the facility. Public works and snow removal maintenance crews may need to be educated to avoid rendering bicycle parking unusable. The security of bicycle racks and other long term parking facilities should be checked periodically so that each remains free from vandalism. This includes checking the function of moving parts, lighting, enclosure conditions, and changing key codes or key fittings after facility use turnover.

Failing to meet basic maintenance standards will deter use and create additional opportunities for theft. The responsibility for maintenance and rack type selection should be conferred upon the sponsoring entity (City of Westminster, RTD, Business Improvement District, individual property owner, etc.) or agreed upon between mutual public/private parties and/or multi-jurisdictional interests. This will help ensure that bicycle parking remains viable, safe, and attractive.

5.8 BICYCLE PARKING RATIOS

Westminster's existing bicycle parking guidelines¹ currently allocate bicycle parking ratios throughout the city. While these standards have expanded the supply of parking, in some instances they have created an oversupply, or more rarely, an undersupply of bicycle parking facilities. Contrary to the City's current site development standards, bicycle parking ratios should *not* be coupled with

TABLE 2: RECOMMENDED BIKE PARKING RATIOS

	TYPE OF ACTIVITY	LONG-TERM BIKE PARKING REQUIREMENT	SHORT-TERM BIKE PARKING REQUIREMENT
<i>Residential</i>	Single-Family Dwelling	No spaces required.	No spaces required.
	Multifamily Dwelling		
	a) w/ private garage for each unit	No spaces required.	0.05 spaces/bedroom.*
	b) w/o private garage for each unit	0.5 spaces/bedroom.*	0.05 spaces/bedroom.*
	c) senior housing	0.5 spaces/bedroom.*	0.05 spaces/bedroom.*
<i>Civic: Cultural/recreational</i>	Non-cultural assembly (library, gov't buildings, etc).	1 space/10 employees.*	1 space/12 persons of allowed capacity.*
	Assembly (church, theaters, stadiums, parks, beaches, recreational facilities etc)	1 space/20 employees.*	1 space/12 persons of allowed capacity.*
	Healthcare/hospitals	1 space/20 employees, OR 1 space/70,000 s.f. of floor area, whichever is greater.*	1 space/20,000 s.f. of floor area.*
	Education		
	a) public, parochial, and private day-care centers for 15 or more children	1 space/20 employees.*	1 space/20 students of planned capacity.*
	b) public parochial, private nursery schools, kindergartens, elementary schools (1-3)	1 space/10 employees.*	1 space/20 students of planned capacity.*
	c) public parochial, elementary (4-6), junior high, and high schools	1 space/10 employees, AND 1 space/20 students of planned capacity.*	1 space/20 students of planned capacity.*
	d) colleges and universities	1 space/10 employees AND 1 space/10 students of planned capacity, OR 1 space/20,000 s.f. of floor area, whichever is greater.	1 space/10 students of planned capacity.*
	Transit: rail/bus terminals and stations/ airports	Spaces for 5% of projected a.m. peak period daily ridership.	Spaces for 1.5% of a.m. peak period daily ridership.
	<i>Commercial</i>	Retail	
a) general food sales or groceries		1 space/12,000 s.f. of floor area.*	1 space for each 2,000 s.f. of floor area.*
b) general retail		1 space for each 12,000 s.f. of floor area.*	1 space for each 5,000 s.f. of floor area.*
Office		1 space for each 10,000 s.f. of floor area.*	1 space for each 20,000 s.f. of floor area.*
Auto-Related			
a) automotive sales, rental, and delivery; automotive servicing, automotive repair and cleaning		1 space for each 12,000 s.f. of floor area.*	1 space for each 20,000 s.f. of floor area.*
b) off-streetparking lots/garages available to the general public, with or without fees	1 space for each 20 automobile spaces.* Unattended surface parking lots excepted.	Minimum of 6 spaces or 1 per 20 auto spaces. Unattended surface parking lots excepted.	
<i>Industrial</i>	Manufacturing and production	1 space/15,000 s.f. of floor area.*	Spaces determined by the Director of City Planning. Consider minimum of 2 spaces at each public building entrance.

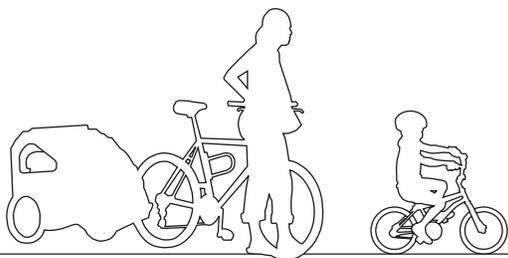
*Minimum requirement is 2 spaces. If less than 2 spaces are calculated as necessary, then requirement is waived.

automobile parking requirements because supply and demand for motor vehicle parking are not an adequate indicator of actual bicycle parking need. Indeed, if a municipality adopts automobile parking maximums, or later reduces such parking requirements, the amount of bicycle parking would also be reduced when the opposite may be necessary. Therefore, bicycle parking ratios should be based on land use/building function—a gym needs more bicycle parking than a lumberyard—and quantifiable indicators like unit count, employee count, or building square footages.

Table 2 (see page 93), provided by the Association of Pedestrian and Bicycle Professionals, coordinates these elements with common land use types. As bicycle parking is implemented alongside the city's shifting land use patterns, Table 2 should be re-calibrated to match the city's needs. Most importantly, Table 2 makes a distinction between short- and long-term parking types, a key distinction when allocating bicycle parking facility types.

Because bicycling is not yet a popular mode of transportation in most North American contexts, Table 2 is geared towards cities with a bicycle mode share of 5 percent or less. (By comparison, as of late 2009, Copenhagen had a 37 percent bicycle mode share for commuting.) In places demonstrating a higher mode share, bicycle parking ratios may be elevated as needed. Such ratios should be reviewed in conjunction with each bicycle master plan update, or at least every five years, to ensure that supply continues to meet demand.

6. EDUCATION, ENCOURAGEMENT, ENFORCEMENT, & EVALUATION PLAN



Bicycling should appeal to different types of Westminster residents, from mothers and children to professionals and retirees.

Beyond engineering a network of safe and bikeways with attractive bicycle parking options, education, encouragement, enforcement, and evaluation efforts must play a critical role in making Westminster more bicycle-friendly. Indeed, expanding the appeal of cycling in Westminster will require the utilization of numerous strategies. These include, but are not limited to, organizing bicycling skills courses, launching motorist and bicyclist safety campaigns, promoting the benefits of bicycling, supporting local bicycle-centric events, enforcing existing motor vehicle-bicyclist laws, and utilizing communication strategies that position bicycling as a viable option for people who are interested in bicycling, but concerned about safety.

When education, encouragement, and enforcement campaigns are crafted, great care should be taken to appeal to cyclists and non-cyclists alike. Too often such campaigns unintentionally reinforce the widely held belief that bicycling is, and will always be, a marginal activity reserved for children and athletic, risk-adverse men. By contrast, truly successful efforts position cycling as a normal mode of transportation that does not require expensive bicycles, extreme travel patterns, and/or spandex outfits.

While the City of Westminster should take the lead on local bicycle safety issues, most education, encouragement, and enforcement campaigns require regional cooperation. Brochures, and other media messages, for example, may be produced in greater quantities and at a lower unit cost when done in partnership with neighboring municipalities or regional governmental agencies, such as CDOT and the Denver Regional Council of Governments (DRCOG).

Seventeen basic actions for advancing education, encouragement, enforcement, and evaluation efforts are outlined below. In time, much more could be integrated into Westminster's efforts to promote bicycling. However, for the foreseeable future, the City's current fiscal and staff resources greatly limit its ability to do so.

6.1 EDUCATION

The following six education actions items should be pursued as part of the Westminster 2030 Bicycle Master Plan implementation process:

Action #1: Educate motorists and bicyclists about mutual rights and responsibilities.

Utilize the City of Westminster Getting Around webpage to provide bicyclist and motorist safety information. Bicycle Colorado and CDOT Bicycle and Pedestrian Program provide great examples of successful websites. Additional publications, brochures, public service announcements (PSAs), and social media resources should be used to connect the general public to bicycle and motorist safety information.

Action #2: Educate Westminster motorists and bicyclists about new facility types.

Use all of the methods listed in Action #1 to educate Westminster motorists and bicyclists about new bikeway network facility and countermeasure types as they are implemented. These include, but are not limited to shared use lane markings, sidepaths, bicycle lanes, bike boxes, bicycle signal detections systems, etc.

Action #3: Expand Safe Routes to Schools Partnerships.

Pursue funding to expand Safe Routes to School programs throughout the city. Leverage recent CDOT grants awarded to the Adams 12 Five Star School District to further collaborate with Adams and Jefferson County, public health organizations, parent-teacher associations, and local/state advocacy groups like Bicycle Colorado to continually expand Safe Routes to School programs in Westminster. Provide municipal support to help schools dovetail their Safe Routes to School efforts with any other existing school- and City-related safety programs, including, but limited not to, bicycle rodeos, helmet giveaways, and bicycle safety training.

Action #4: Encourage City of Westminster employees/residents to become League of American Bicyclists League Certified Instructor (LCI) on an annual basis.

Encourage employees and residents to seek LCI training. Work with a growing number of LCIs and bicycle advocacy organizations, like Bicycle Colorado, to host at least two public adult bicycle skills courses per year in the City of Westminster.

Action #5: Relay local bicycle information, safety tips, and news through official City communication channels.

Periodically convey bicycle-related news, such as the striping of a new bicycle lane or the confirmation of a newly certified LCI (see Education Action #4) via the City's Facebook page and the City Edition newsletter.

Action #6: Fund Education initiatives.

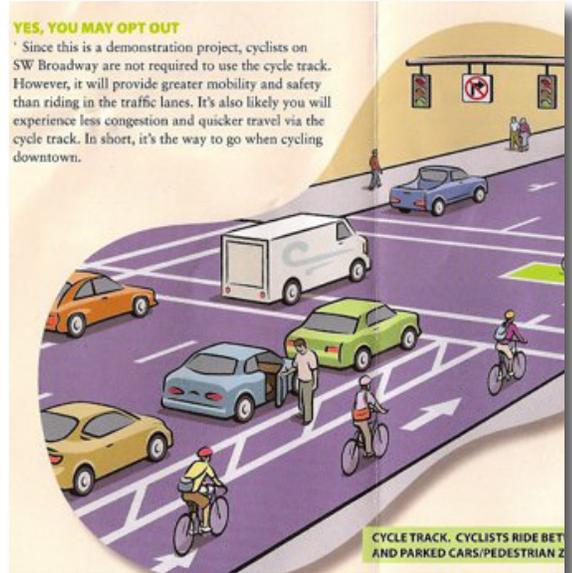
Work with Jefferson and Adams Counties, CDOT, DRCOG, and any other local, regional, state, and national entities to obtain funding for bicycle education programs.

EDUCATION

Top Left: This mural, in Brooklyn, NY, reminds people to travel safely by respecting all roadway users.

Top Right: The City of Portland, OR distributes information, such as brochures, when new bikeway facility types are implemented.

Below: The Bikes Belong People for Bikes campaign underscores that cycling is for everyone.



peopleforbikes.org

We all ride. Now we can ride as one.

Millions of Americans ride bicycles and recognize the economic, social and physical benefits. But, only a fraction of those who ride have stood up to help advance the cause of bicycling in America.

The goal of peopleforbikes.org is to gather a million names of support, to speak with one powerful voice — to let policy makers, the media and the public know that bicycling is important and should be promoted.

Whether you're a commuter, a roadie, a mountain biker or just a casual rider, by uniting your voice with a million others, you can help build a national movement to improve bicycling in our country.

Together we can make bicycling better.

Imagine a place where one bike lane leads to the next. Where trails, bridges and underpasses lead safely to exactly where you want to go. And regardless of your bicycling experience or fitness, you can pedal smoothly across the street, across town or even across the country. We believe this can be a reality and that, by uniting, we can make our world a better place to ride.

Bikes make us better.

-  Nearly 50 percent of trips Americans make are less than three miles — why not ride your bike?
-  Bicycling just three hours a week can reduce the risk of heart disease and stroke by 50 percent.
-  Every mile pedaled rather than driven cuts one pound of CO₂ pollution.
-  On a round-trip commute of 10 miles, a bicyclist saves about \$10 daily.

Unite for bikes.

Bikes keep us healthy, carry us from point A to point B, save us from high gas prices, make our air cleaner and our roads less congested. They fill our lives with adventure and excitement, relaxing our minds and energizing our souls. Become part of the movement to make our world a better place to ride at peopleforbikes.org.



Uniting a million voices to improve the future of biking.

An initiative brought to you by Bikes Belong.



6.2 ENCOURAGEMENT

Through the provision of secure bicycle parking, end-of-trip shower/changing facilities, and the recent sponsoring of a Bike-to-Work Week program, the City of Westminster encourages bicycle use. While these initiatives demonstrate momentum, additional resources will be needed to expand the City's support for active transportation. While such resources are presently limited, the following seven encouragement actions items should be pursued as part of the Westminster 2030 Bicycle Master Plan implementation process.

Action #1: Expand Bike-to-Work Week activities.

Partner with employers, DRCOG, 36 Commuting Solutions, and other organizations to promote Bike-to-Work Week.

Action #2: Raise the profile of National Bike Month.

Support and collaborate with other municipalities, government agencies, businesses, and non-profit organizations to promote National Bike Month.

Action #3: Help employers encourage and promote bicycle commuting.

Work alongside DRCOG, 36 Commuting Solutions, and private employers within the City of Westminster to develop programs, disseminate information, create incentives, and implement end-of-trip facilities that support bicycle commuting.

Action #4: Add Bicycling Information the Getting Around Westminster Webpage.

Update the City's existing Getting Around webpage with bicycling information. This should include the latest Westminster Bikeway Map (see Encouragement Action #6), and link to the other regional bikeway information resources.

Action #5: Continue working with RTD and DRCOG to promote bicycling as part of multi-modal and transportation demand management (TDM) services.

To enhance multi-modal transportation, continue working with RTD, CDOT, and DRCOG to provide bicycle mobility enhancements and end-of-trip facilities. This will prove particularly important when RTD's FasTracks commuter rail service arrives in Westminster.

Action #6: Create and update bikeway map.

As the on-street bikeway network is built out, create and maintain a map displaying all on- and off-street bikeways. This map should include basic traffic safety information, the location of significant destinations, and be distributed in portable print and online formats. Update and re-distribute the map on an annual basis. Finally, share all new bikeway segment information on a regular basis so that Jefferson and Adams County, DRCOG, CDOT, and 36 Commuting Solutions can keep their maps and data current.

Action #7: Fund encouragement initiatives.

Work with Jefferson and Adams Counties, CDOT, DRCOG, and other local, regional, and national organizations to identify and obtain funding for bicycle encouragement programs and initiatives.

ENCOURAGEMENT

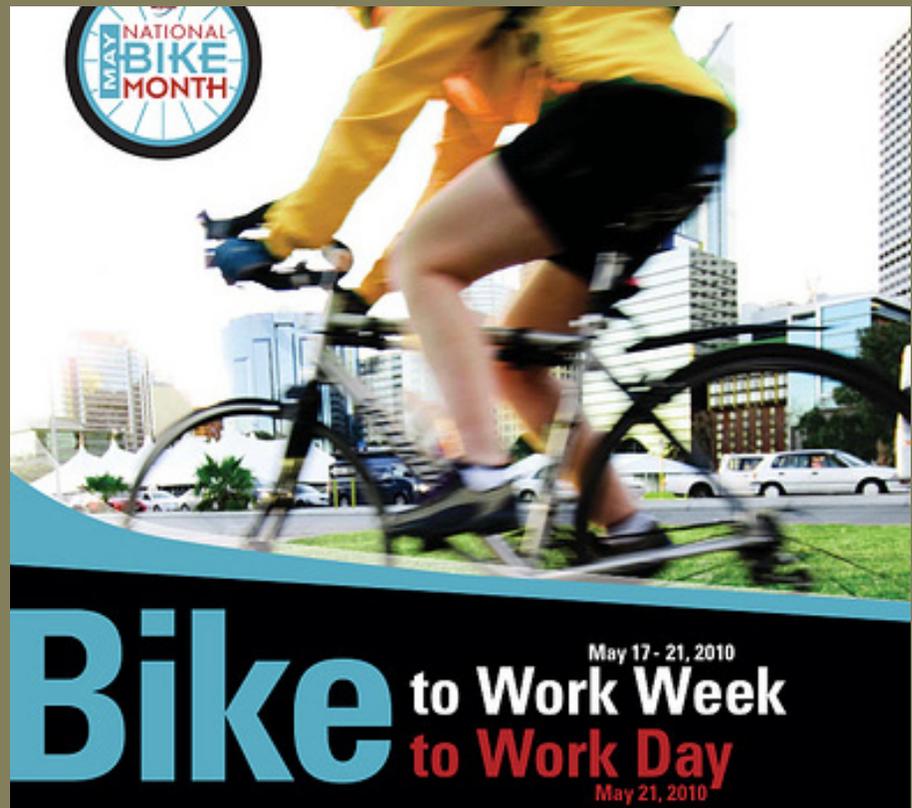


◀ The City of Westminster’s “Getting Around” web page does not currently include information about bicycle transportation.

▶ Denver’s Ride On campaign highlights the benefits of cycling to encourage greater ridership. (Photo Credit: Bike Denver)



▲ Monthly police-escorted rides, like Bike Miami Rides, encourage beginner and intermediate bicyclists to become more comfortable with the City’s bikeway network.



▶ Campaigns that encourage people to bike their daily commute instead of driving it can provide an easy way for individuals to test the waters of cycling with little commitment.

EDUCATION, ENCOURAGEMENT, ENFORCEMENT, & EVALUATION PLAN
ENFORCEMENT



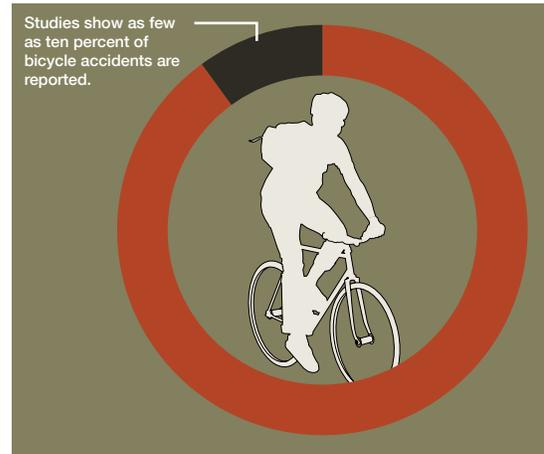
Don't Be A Bike Ninja

Be seen. Lights are one of the coolest ways to customize your ride! It's a good idea to at least shine a white front light and a red rear light. Don't be one of those riders who make it impossible to clearly be seen at night. Plus, in Denver, it's illegal to ride at night without them.

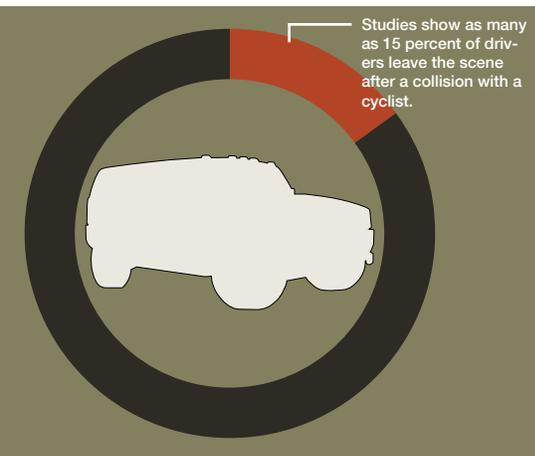
A friendly safety message from
THE DENVER CRUISER RIDE

◀ Bicyclists and law enforcement officials should take unsafe behavior seriously. (Photo Credit: Bike Denver)

▶ A 2004 District of Columbia, Department of Transportation study found that collisions involving cyclists are severely underreported: sometimes as few as one in ten incidents is reported.¹



▼ A 2007 study by Michael Klobucar, and Jon D. Fricker found that motorists fled the scene of accident in nearly 15 percent of bicycle related crashes.[#]



◀ Law enforcement can suffer when police officers aren't familiar with the laws, or understand the challenges to bicycling along existing streets.



▲ Aggressive driving needs to be kept in check. (Photo Credit: *The Brooklyn Paper*)

◀ Colorado's recently adopted law, SB 148, requires people driving to give at least 3 feet of space when overtaking people bicycling.



6.3 ENFORCEMENT

To create a bicycle-friendly city, law enforcement departments should encourage officer education regarding applicable local and state bicycling laws. This will help address the safety concerns of those who choose to drive and those who choose to bicycle. The following five enforcement actions should be encouraged as part of the Westminster 2030 Bicycle Master Plan implementation process.

Action #1: Encourage enforcement of unsafe and unlawful bicyclist and motorist behavior.

The Westminster Police Department should encourage the enforcing of laws that reduce bicycle/motor vehicle crashes and increase mutual respect between all roadway users, such as the State's recently adopted three-foot law (SB 148).

Action #2: Train officers about traffic laws.

When possible, in service training should be utilized to update officers on current and changing traffic laws concerning the use of bicycles on Colorado roadways and the common cause of most bicycle crashes and cyclist injuries. Such training should cover the Colorado three-foot law, the 'dynamics' of the door-zone and right-hook collision-conflicts (where motorists turn right and bicyclists are traveling straight through an intersection), and methods for reducing conflicts between bicyclists and motorists.

Action #3: Where possible, improve traffic safety and education outreach material.

The Westminster Police Department should work with other related City departments to ensure that any traffic safety related material include bicycle safety information.

Action #4: Encourage officers to watch for and when possible, contact motorists involved in the following unsafe driving behaviors:

- Turning in front of bicyclists without properly using turn signals
- Overtaking bicyclists without at least three feet of horizontal clearance
- Parking or traveling in bicycle lanes, bicycle paths, or other facilities designated for the exclusive use of bicyclists
- Opening the doors of parked vehicles in the path of bicyclists—“dooring”
- Rolling through stop signs or disobeying traffic control devices
- Harassing or assaulting bicyclists
- Driving while under the influence of drugs or alcohol
- Speeding

Action #5: Encourage officers to watch for and when possible, contact bicyclists involved in the following unsafe bicycling behaviors.

- Ignoring traffic control devices
- Bicycling against the flow of traffic, except in those instances where contra-flow facilities are provided
- Bicycling without lights at night
- Minors bicycling without helmets
- Bicycling on sidewalks
- Failing to yield to pedestrians
- Bicycling while under the influence of drugs or alcohol

6.4 EVALUATION

The collection, evaluation, and publishing of bicycle related data should play an integral role in furthering community awareness about the City's effort to improve bicycle conditions. The following four actions are recommended for the City of Westminster to evaluate and implement the 2030 Bicycle Master Plan:

Action #1: Continue to publish a public map displaying all existing and proposed bikeway network facilities.

Taking a regular inventory of bikeway type, length, and segment location for all current and planned bikeways will help the City and the general public track the Westminster 2030 Bicycle Master Plan implementation process. The bikeways map should be updated annually and be available for print and download on the City's existing Getting Around webpage.

Action #2: Track all upcoming roadway improvement projects at the City, County and State level.

Coordinate with City, County and State departments, as well as Westminster City Council members, to ensure the inclusion of bicycle infrastructure within capital improvement and County/ State public works projects.

Action #3: Evaluate where bicycle facility maintenance is needed.

Integrate restriping, pothole filling, storm grate replacing, sign replacing, etc. into City, County, and State capital improvement and maintenance plans.

Action #4: Measure the percentage of Bikeway Network completed each year.

Such efforts will measure progress toward completing the entire recommended 132-mile Bikeway Network by 2030. This exercise should be broken out into the percentage of network miles completed per facility type as well (bicycle lanes, shared use lane markings, share use paths, etc.). The City should make the data available on the existing City of Westminster Getting Around webpage.

A. ACKNOWLEDGEMENTS

The Street Plans Collaborative and BICI Planning & Design acknowledge that the Westminster 2030 Bicycle Master Plan was created with the assistance of numerous Westminster municipal employees, citizen-advocates, and neighboring municipal and regional bicycle and pedestrian professionals. Thanks!

Westminster City Council

Nancy McNally, Mayor
Chris Dittman, Mayor Pro Tem
Bob Briggs, Councilor
Mark L. Kaiser, Councilor
Mary Lindsey, Councilor
Scott Major, Councilor
Faith Winter, Councilor

City of Westminster

Brent McFall, City Manager
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B. BIKEWAY PROJECT DESCRIPTIONS

The City of Westminster 2030 Bikeway Network is comprised of 102 project segments. Each project is described below and organized generally from south to north, moving from east to west. The projects have been grouped into their priority phases. The short-term priority projects can be found on pages 104 through 107, the medium-term priority projects begin on page 107, and the long-term projects start on page 117.

1. SHORT-TERM PRIORITY PROJECTS

Project 1: 68th Avenue/Utica Street

Segment: Between Lowell Boulevard and 72nd Avenue

Class/Type: Class III - Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: Provides an important connection between bikeways planned for Lowell Boulevard (Project 5) and 72nd Avenue (Project 2), and Westminster High School.

Project 2: 70th Avenue

Segment: Between Utica Avenue and Sheridan Boulevard

Class/Type: Class III - Signed Bike Route

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: Provides an important connection between Sheridan Boulevard and Westminster High School, located adjacent to a proposed bikeway along 68th Avenue/Utica Street (Project 1).

Project 3: 72nd Avenue

Segment: Between and Zuni Street and Sheridan Boulevard

Class/Type: Class III - Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: Provides a critical regional east-west on-street bikeway connection in south Westminster. It will connect with proposed bikeways along Canosa Court (Project 19), Irving Street (Project 77), Bradburn Boulevard (Project 21), and Utica Street (Project 1).

Project 4: 72nd Avenue

Segment: Between and Sheridan Boulevard and Pierce Street.

Class/Type: Class II – Curbside Bicycle Lanes

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment will require narrowing motor vehicle travel lane widths, which may be accomplished when the thoroughfare is re-paved. It will link with an existing bicycle lane in Arvada at Pierce Street and at a proposed signed bike route along Depew Street (Project 21).

Project 5: North Harlan Street

Segment: Between 76th Avenue and 78th Place.

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment will link with an existing bicycle lane in Arvada and the Little Dry Creek Trail. It will also improve bicycle access to Thompson Elementary School and connect to a proposed bikeway along 76th Avenue (Project 23).

Project 6: Lowell Boulevard

Segment: Between 68th Avenue and 82nd Avenue

Class/Type: Class III - Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This corridor provides a critical north-south connection through the City of Westminster. It currently intersects with the Little Dry Creek Trail, and will connect to proposed bikeways along 72nd Avenue (Project 2), 76th Avenue (Project 23), 78th Avenue (Project 79), and 80th Avenue (Project 8). This segment will also connect to a planned RTD commuter rail station. Requiring nothing but signs and sharrow pavement markings, this project segment should be built as soon as possible.

Project 7: Lowell Boulevard

Segment: Between 82nd Avenue and 104th Avenue

Class/Type: Class II – Bicycle Lane

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This corridor provides a critical north-south connection through the City of Westminster, which connect numerous schools and parks. At present, the segment between 82nd Avenue and 88th Avenue will have to be widened to include space for bicycle lanes. Between 88th Avenue and 92nd Avenue, the removal of the two-way center turn-lane will have to occur. The angled parking at 90th Place may stay in place. Between 96th Avenue and 104th Avenue, 15' travel lanes should be reduced to 10' to allow for north-south curbside bicycle lanes.

Project 8: 80th Avenue

Segment: Between Zuni Street and Sheridan Boulevard

Class/Type: Class III – Signed Bicycle Route with Sharrows

Countermeasure(s): n/a

Notes: This four-lane corridor provides an important east-west connection through south Westminster, which connects to an existing bicycle lane in Arvada. It will connect to four other planned bikeways, including the southeastern terminus of the US 36 Bike Trail (Project 81).

Project 9: 94th Avenue

Segment: Between Federal Boulevard and Utica Street

Class/Type: Class III – Signed Bicycle Route with Sharrows

Countermeasure(s): n/a

Notes: This segment connects Sunset Ridge Elementary School, at Hooker Street, with Carroll Butts Park.

Project 10: Independence Drive

Segment: Between 88th Avenue and Wadsworth Parkway

Class/Type: Class II – Curbside Bicycle Lanes, Class III - Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered for each intersection, including 88th Avenue, establishing a visual connection to Arvada's Independence Way bicycle lanes.

Notes: This segment will connect to a bicycle lane on Independence Way, south of 88th Avenue in Arvada, and intersect with several off-street shared use path segments. Sharrows should be implemented between 92nd Avenue and West 96th Drive, and again between the eastern intersection of Brentwood Drive and Independence Drive, and Wadsworth Parkway, as right-of-way constraints preclude bicycle lanes. If the segment between 92nd Avenue and 96th Avenue is to be widened to the typical 40' condition, then bicycle lanes should be striped.

Project 11: 99th Avenue

Segment: 99th Avenue, between Wadsworth Boulevard and the Big Dry Creek Trail

Class/Type: Class III - Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered for each intersection.

APPENDIX B: BIKEWAY PROJECT DESCRIPTIONS

Notes: This important, but short on-street segment, which runs adjacent to Jefferson Academy Charter School, will connect to two segments of the Big Dry Creek Trail, and a proposed bicycle lane on Wadsworth Boulevard.

Project 12: 104th Avenue/Church Ranch Boulevard

Segment: Between Federal Boulevard and Wadsworth Parkway

Class/Type: Class I – Sidepath (retrofit)

Countermeasure(s): Warning signs, and striping/pavement markings may be appropriate for various intersections. In general, more intensive safety and design countermeasures will have to take place at the following intersections: Sheridan Boulevard, Westminster Boulevard, US-36, Wadsworth Boulevard, and Wadsworth Parkway.

Notes: This sidepath segment requires the retrofit of an existing 8' wide sidewalk to be more suitable for shared bicycle and pedestrian travel. Numerous design strategies that address safety concerns are available in section 3. This important east-west connection through the heart of Westminster connects numerous local and regional destinations. It also intersects with the Big Dry Creek Trail and other shared use paths in multiple locations.

Project 13: 100th Avenue

Segment: Between Wadsworth Parkway and Simms Street

Class/Type: Class II – Curbside Bicycle Lanes, Class III - Signed Bike with Sharrows,

Countermeasure(s): Peg-a-tracking may be considered for each intersection.

Notes: This east-west segment connects the Wadsworth Parkway Sidepath to Wayne Carle Middle School, and the Standley Lake Regional Park. Sharrows should be placed between Wadsworth Parkway and Countryside Drive and transition to bicycle lanes between Countryside Drive and Simms Street when 100th Avenue is widened.

Project 14: Oak Street

Segment: Between 100th Avenue and 108th Avenue

Class/Type: Class III - Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered for each intersection.

Notes: This north-south connection will improve connectivity between 100th Avenue/Standley Lake Regional Park, a planned bikeway on 108th Avenue, and numerous other planned bikeway segments in the Countryside and Walnut Grove neighborhoods.

Project 15: Legacy Ridge Parkway/Stratford Lakes Drive/King Street/114th Avenue

Segment: Between 104th Avenue and Federal Boulevard

Class/Type: Class II – Bicycle Lane, Class III – Signed Bicycle Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered for each intersection.

Notes: This north-south connection will improve connectivity between the 104th Avenue corridor and Federal Boulevard. It will also connect planned bikeways along 112th Avenue and Federal Boulevard.

With less than 5,000 motor vehicle trips per day, dedicated turn lanes may be removed between 104th Avenue and 112th Avenue. This will allow curbside bicycle lanes to fit with ease. Where the planted center median is present, 14' motor vehicle lanes should be shrunk to 10', which will allow the continuation of 4' curbside bicycle lanes (not including the gutter pan).

Between 112th Avenue and 112th Circle, sharrows should provide a transition between the intersection and bicycle lanes north of 112th Avenue Circle. Because no homes actually face Stratford Lake Drive/King Street/114th Avenue, on-street parallel parking should be replaced with buffered curbside bicycle lanes. With 36' of pavement width, the street should have two 10' travel lanes, and two bicycle lanes (5' bicycle lanes, 3' buffers). Between Grove Street and Federal Boulevard, sharrows should be implemented, as space for bicycle lanes does not exist.

Project 16: 116th Avenue/Country Club Loop/Zuni Street

Segment: Between Huron Street and Federal Parkway

Class/Type: Class II – Bicycle Lanes, Class III - Signed Bike Route with Sharrows
Countermeasure(s): Peg-a-tracking may be considered through each intersection.
Notes: Bicycle lanes should be striped between Huron Street and Pecos Street. Sharrows should be placed between Pecos Street and Federal.

Project 17: 122nd Avenue

Segment: Between Huron Street and Federal Parkway
Class/Type: Class II – Bicycle Lanes
Countermeasure(s): Peg-a-tracking may be considered through each intersection. Notes: This segment provides needed connectivity between proposed bikeways on Huron Street and Pecos Street, and the Big Dry Creek Trail.

Project 18: Zuni Street

Segment: Between 128th Avenue and 136th Avenue
Class/Type: Class III – Signed Bike Route with Sharrows
Countermeasure(s): Peg-a-tracking may be considered through each intersection.
Notes: This segment provides a needed north-south connection on the city's northwestern border. However, because this proposed bikeway type does little to change the current roadway design, it likely that only advanced bicyclists will feel safe cycling here.

Project 19: 134th Avenue

Segment: Between Huron Street and Zuni Street
Class/Type: Class III – Signed Bike Route with Sharrows
Countermeasure(s): Peg-a-Tracking may be considered through each intersection.
Notes: This segment provides a needed east-west neighborhood connection to north-south bikeways on Zuni Street, Pecos Street, and Huron Street.

MEDIUM-TERM PRIORITY PROJECTS

Project 20: Canosa Court

Segment: Between 70th Avenue and Skyline Drive
Class/Type: Class III – Bike Route
Countermeasure(s): Bicycle Turn Pocket may be placed along 72nd Avenue, where Canosa Court offsets. This will require narrowing the lanes for a short stretch along 72nd Avenue, from 12' to 11' or 10'.
Notes: This segment provides a needed north-south connection between the Park South and Skyline Vista neighborhoods. The Canosa Court signed bike route will connect to the proposed bikeway along 70th Avenue. Additionally, where Canosa Court and 72nd Avenue intersect, there is an opportunity to develop a shared use path spur between 70th Avenue and the Little Dry Creek Trail.

Project 21: Depew Street

Segment: Between 71st Avenue and 76th Avenue
Class/Type: Class III – Signed Bike Route
Countermeasure(s): Peg-a-tracking may be considered through each intersection.
Notes: This segment provides a needed north-south connection between the neighborhoods straddling 72nd Avenue, 76th Avenue, and Depew Street. The segment will also connect to two bikeways along 72nd and 76th Streets, as well as provide clear access to Tepper Fields/ Faversham Park.

APPENDIX B: BIKEWAY PROJECT DESCRIPTIONS

Project 22: Bradburn Boulevard

Segment: Between 72nd Avenue and 80th Avenue

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: Already known as a good north-south cycling route, this planned connection will more formally provide a north-south connection between the Little Dry Creek Trail and existing sidepath along Turnpike Drive. It will also connect to two planned bikeways along 72nd Avenue (Project 3), 76th Avenue (Project 23), as well as England Park and Firemen's Park.

Project 23: 76th Avenue

Segment: Between Federal Boulevard and Ingalls Street

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment provides an excellent, more calm east-west connection through south Westminster. It also connects the Municipal Court and the Swim and Fitness Center on the east end with Torrii Square Park, Wolff Run Park, Little Dry Creek Trail, and an existing bicycle lane in Arvada on the west end.

Project 24: Stuart Street/Stuart Place/Tennyson Street/Turnpike Drive

Segment: Between 76th Avenue and Turnpike Drive

Class/Type: Class III – Signed Bike Route

Countermeasure(s): n/a

Notes: Provides a north-south connection through multiple neighborhoods. It passes by Sunset Park and connects to proposed bikeways along 76th Avenue (Project 23) and 80th Avenue (Project 8).

Project 25: Turnpike Drive

Segment: Between Tennyson Street and Sheridan Boulevard.

Class/Type: Class II – Curbside Bicycle Lane

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment continues the trajectory of project 24. An existing connection between the two cul-de-sacs of Turnpike Drive, just west of Tennyson Street, should be improved so the connection between the proposed bicycle lanes and signed bike route is clear.

Project 26: Oakwood Drive

Segment: Between 80th Avenue and Wagner Drive

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment connects planned bikeways along 80th Avenue (Project 8) and 84th Avenue/Wagner Drive (Project 27) with Oakwood Park.

Project 27: Wagner Drive

Segment: Between 84th Avenue and 88th Avenue

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment extends the continuity of project 26 and project 28, clearly extending a north-south connection on the eastern side of the Highway 36 corridor.

Project 28: 84th Avenue

Segment: Between Zuni Street and Wagner Drive at Oakwood Drive

Class/Type: Class III – Signed Bike Route, Class II – Curbside Bicycle Lanes

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: At the eastern limit of this project, at Zuni Street, this project connects with a proposed bikeway. Between Zuni Street and Federal Boulevard, the reducing the travel lanes and turn

lane width to 10' will allow two 5' curbside bicycle lanes to be striped into the existing right of way. Between Federal Boulevard and Oakwood Drive, Wagner Drive should include a signed bike route with sharrows. Where 84th Avenue terminates at a Circle Drive, a bicycle/pedestrian connection should be built to connect 84th Avenue and Wagner Drive. When 84th Avenue, between Federal Boulevard and Lowell Boulevard is widened, 5' bicycle lanes should be included.

Project 29: 88th Avenue

Segment: Between Federal Boulevard and Wagner Drive

Class/Type: Class II – Bicycle Lanes

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This important east-west segment connects Shaw Heights Middle School with proposed bikeways along Lowell Boulevard (Project 7) and Wagner Drive/Yates Street (Project 27, 32).

Project 30: 88th Avenue (northside)

Segment: Between Sheridan Boulevard and Wadsworth Parkway

Class/Type: Class I– Sidepath (retrofit)

Countermeasure(s): Warning signs, and striping may be appropriate for various intersections. In general, more intensive safety and design countermeasures will have to take place at the following intersections: Sheridan Boulevard, North Harlan Street, Pierce Street, and Wadsworth Parkway.

Notes: This important east-west segment connects to RTD's Westminster Center park n' ride station at Highway 36 and Sheridan Boulevard. It also intersects with the proposed Westminster Mall redevelopment site, a future RTD commuter rail station, and proposed bikeways along Wadsworth Parkway (Project 53), Westminster Boulevard (Project 83), and Pierce Street (Project 84). This sidepath segment requires the retrofit of an existing 8' wide sidewalk to be more suitable for shared bicycle and pedestrian travel. Numerous design strategies that address safety concerns are available in section 3.

Project 31: 88th Avenue

Segment: Between Wadsworth Parkway and 86th Parkway

Class/Type: Class II – Curbside Bicycle Lanes

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment connects to the proposed Sidepath noted in Project 29, and an existing bikeway on 86th Parkway. It also connects to proposed bikeways on Dover Street (Project 35), Field Street (Project 34), Independence Drive (Project 10), and an existing bicycle lane on Independence Way in Arvada.

Project 32: Yates Street

Segment: Between Yates Drive/88th Avenue and 92nd Avenue

Class/Type: Class III – Signed Bike Route

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment connects to 88th Avenue (Project 28) with proposed bikeways along 92nd Avenue (Project 82) and City Center Drive (Project 43). It also connects to a RTD's park n' ride/regional bus station and Westminster City Hall.

Project 33: 90th Avenue

Segment: Between Pierce Street and Wadsworth Parkway

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment connects a proposed bicycle lane along Pierce Street (Project 84) with a Sidepath retrofit proposed for Wadsworth Parkway (Project 29), and with bicycle lanes along 90th Avenue (Project 34), west of Wadsworth Parkway.

APPENDIX B: BIKEWAY PROJECT DESCRIPTIONS

Project 34: 90th Avenue/Cody Street/91st Avenue/Field Street

Segment: Between Wadsworth Parkway and 88th Avenue

Class/Type: Class II – Curbside Bicycle Lanes, Class III – Signed Bike Route with Sharrows.

Countermeasure(s): Peg-a-tracking should be considered through each intersection.

Notes: This important east-west segment connects proposed bikeways on Wadsworth Parkway with 88th Avenue. It connects to bikeways proposed for Yarrow Street, Everett Street, and an off-street shared use path linking Oakhurst Park with Dover Square Park. The segment also provides a connection to Zerger Elementary School, and an off-street shared use path linking King Mill Park with Somerset Park and Standley Lake Regional Park. Between Wadsworth Parkway and Dudley Street, existing striped shoulders may be converted to bicycle lanes. Due to needed on-street parking, the proposed bicycle lanes would transition to sharrows between Dudley Street and 90th Court. Bicycle lanes should resume between 90th Court and 88th Avenue.

Project 35: Dover Street

Segment: Between 88th Avenue and 90th Avenue

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment connects a proposed bicycle lane along 88th Avenue (Project 30) with proposed bikeways along 90th Avenue (Project 33) and Wadsworth Parkway (Project 53). It also links Dover Square Park and Moore Middle School.

Project 36: Yarrow Street

Segment: Between 90th Avenue and 92nd Avenue/Ammons Street

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This short segment connects a proposed bicycle lane along 90th Avenue (Project 34) Avenue with a proposed bicycle lane along 92nd Avenue/Ammons Street/Balsam Way (Project 38).

Project 37: Everett Street

Segment: Between 90th Avenue and 93rd Avenue

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This short segment connects a proposed bikeway along 90th Avenue (Project 34) Avenue with a proposed bikeway along 93rd Avenue (Project 39).

Project 38: 92nd Avenue/Ammons Street/93rd Way/Balsam Street

Segment: Between Wadsworth Parkway and 94th Avenue

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This short segment connects a proposed sidepath retrofit with a proposed signed bike route (with sharrows) along Yarrow Street (Project 36) with proposed bicycle lanes along 94th Avenue (Project 40). This segment connects to Oakhurst Park and an existing off-street shared use path that reaches Standley Lake Regional Park.

Project 39: Lark Bunting Drive/93rd Avenue

Segment: Between 94th Avenue and Independence Drive

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This short segment connects a proposed bicycle lane along 94th Avenue (Project 40) with proposed bicycle lanes along Independence Drive (Project 10). It also bisects Oakhurst Park.

Project 40: 94th Avenue

Segment: Between Wadsworth Parkway and Independence Drive

Class/Type: Class III – Signed Bike Route with Sharrows
Countermeasure(s): Peg-a-tracking may be considered through each intersection.
Notes: This neighborhood segment connects a proposed sidepath retrofit along Wadsworth Parkway (Project 53) with a proposed bicycle lane along Independence Drive (Project 10).

Project 41: Raleigh Street

Segment: Between 92nd Avenue and 94th Avenue
Class/Type: Class III – Signed Bike Route with Sharrows
Countermeasure(s): Peg-a-tracking may be considered through each intersection.
Notes: This short segment connects a proposed bikeway along 92nd Avenue (Project 82) with another proposed bikeway along 94th Avenue (Project 9), and the Carol Butts Athletic Center/ Park.

Project 42: Perry Street/96th Avenue

Segment: Between 94th Avenue and Federal Boulevard
Class/Type: Class III – Signed Bike Route with Sharrows
Countermeasure(s): Peg-a-tracking may be considered through each intersection.
Notes: This short segment links a proposed bikeway along 94th Avenue (Project 8), proposed bicycle lanes along Lowell Boulevard (Project 5), and proposed sidepath retrofit along Federal Boulevard (Project 44).

Project 43: City Center Drive

Segment: Between 92nd Avenue and Sheridan Boulevard
Class/Type: Class III – Signed Bike Route with Sharrows
Countermeasure(s): Peg-a-tracking may be considered through each intersection.
Notes: This north-south segment provides a more bicycle friendly approach to the Westminster Marketplace shopping complex. It links a proposed signed bike route with sharrows along Yates Avenue (Project 32) with a proposed sidepath retrofit along Sheridan Boulevard (Project 45). It also connects to City Center Park and a link to the Farmers' Highline Canal Trail.

Project 44: Federal Boulevard

Segment: Between 92nd Avenue and 120th Avenue
Class/Type: Class I – Sidepath (retrofit)
Countermeasure(s): Warning signs, and path striping/pavement markings may all be appropriate for various intersections. In general, more intensive safety and design countermeasures will have to take place at the following intersections: 104th Avenue, 112th Avenue, and 120th Avenue.
Notes: This critical north-south segment links proposed bikeways along the following thoroughfares: 92nd Avenue, 94th Avenue, 96th Avenue, North Park Avenue, 108th Avenue, 112th Avenue, Ranch Reserve Parkway, Decatur Street, and 120th Avenue. It also links with numerous shared use path spurs linking neighborhoods to the Big Dry Creek Trail.

Project 45: Sheridan Boulevard

Segment: Between 92nd Avenue and 120th Avenue
Class/Type: Class I – Sidepath (retrofit)
Countermeasure(s): Warning signs, and path striping/pavement markings may all be appropriate for various intersections. In general, more intensive safety and design countermeasures will have to take place at the following intersections: Center City Drive, 104th Avenue, 112th Avenue, and 120th Avenue.
Notes: This important north-south segment links proposed bikeways along the following thoroughfares: 92nd Avenue, Center City Drive, 101st Avenue, 108th Avenue, 115th Avenue, 117th Avenue, 118th Place, and 120th Avenue. It also links with City Park, Waverly Acres Park, and the Big Dry Creek Trail/numerous other shared use path spurs through Westminster's open space.

APPENDIX B: BIKEWAY PROJECT DESCRIPTIONS

Project 46: Westcliff Parkway

Segment: Between Westminster Boulevard and Church Ranch Boulevard

Class/Type: Class II – Curbside Bicycle Lanes

Countermeasure(s): Peg-a-tracking should be used through all intersections.

Notes: With ADT volumes between 3,000 and 7,000, Westcliff Parkway is overbuilt. If volumes remain relatively low in the coming years, the segment is a prime candidate for a classic “road diet,” which should remove two through lanes. In their place should be two through lanes, two bicycle lanes, and a center turn lane. This configuration will still allow for an ADT volume of nearly 20,000, while also providing improved bicycle access.

Project 47: Otis Street

Segment: Between Westcliff Parkway and terminus of Otis Street at Big Dry Creek Trail neighborhood spur.

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): n/a

Notes: This short on-street bike route links Westcliff Parkway (Project 46) with a Big Dry Creek neighborhood spur at the terminus of Otis Street.

Project 48: Independence Street

Segment: Between 97th Avenue and 100th Avenue

Class/Type: Class III – Signed Bike Route

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This neighborhood route will link a proposed bike route along 100th Avenue (Project 13) with Lucas Elementary School and Westbrook Park, where an existing Big Dry Creek spur is already in place.

Project 49: Countryside Drive

Segment: Between 100th Avenue and Oak Street

Class/Type: Class II – Curbside Bicycle Lanes

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment will require narrowing wide vehicular lanes and re-allocating “dead space” to make way for bicycle lanes. When complete, it will link Wayne Carle Middle School with the neighborhoods to the north, including existing off-street paths around Ketner Lake and a proposed bikeway along Oak Street (Project 14).

Project 50: Countryside Drive

Segment: Between Oak Street and Simms Street

Class/Type: Class II – Curbside Bicycle Lanes

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment will link Countryside Park with the neighborhoods to the west, including a proposed bikeway along Oak Street (Project 14) and Simms Street (Project 90).

Project 51: 106th Avenue

Segment: Between Johnson Street and Oak Street

Class/Type: Class III – Signed Bike Route

Countermeasure(s): n/a

Notes: This segment will link proposed bicycle lanes along 104th Avenue/Johnson Street (Project 52), Oak Street (Project 14), and Countryside Park, with its numerous shared use paths.

Project 52: 104th Avenue/Johnson Street

Segment: Between Wadsworth Parkway and 108th Avenue

Class/Type: Class II – Curbside Bicycle Lanes

Countermeasure(s): Peg-a-tracking may be used through each intersection.

Notes: This segment will require narrowing two existing vehicular lanes to make way for two bicycle

lanes. It will link a proposed sidepath along Wadsworth Parkway (Project 53), and proposed bicycle lanes along 106th Avenue (Project 51) and 108th Avenue (Project 91).

Project 53: Wadsworth Parkway

Segment: Between 88th Avenue and northern City border with Broomfield (112th Ave.)

Class/Type: Class I – Sidepath (retrofit)

Countermeasure(s): Warning signs, path striping, and various pavement markings may be appropriate for various intersections. In general, more intensive safety and design countermeasures will have to take place at the following intersections: 88th Avenue, 92nd Avenue, 100th Avenue/Church Ranch Boulevard, and 108th Avenue

Notes: This important north-south segment links proposed bikeways along the following thoroughfares: 90th Avenue, 92nd Avenue, 94th Avenue, 100th Avenue/Church Ranch Boulevard, 104th Avenue, and 108th Avenue. At the Westminster/Broomfield border (112th Avenue), the segment connects with a sidepath in Broomfield. It also links directly with the Big Dry Creek Trail between Independence Drive and 100th Avenue/Church Ranch Boulevard, the Walnut Creek Trail at 106th Avenue, and the Farmers' Highline Canal Trail at 92nd Avenue.

Project 54: 100th Avenue/Northpark Avenue/103rd Avenue/Tennyson Court

Segment: Between Federal Boulevard and terminus of Tennyson Court

Class/Type: Class III – Signed Bike Route

Countermeasure(s): n/a

Notes: This inter-neighborhood bike route connects several neighborhoods to the primary north-south bikeways proposed for Federal Boulevard (Project 44) and Lowell Boulevard (Project 7).

Project 55: 101st Avenue/Wolff Street

Segment: Between Sheridan Boulevard and 104th Avenue

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be used through each intersection.

Notes: This bikeway connects a proposed sidepath along Sheridan Boulevard (Project 44) with the proposed 104th Avenue sidepath retrofit (Project 12). It also links to Hampshire Park and an existing inter-neighborhood shared use path.

Project 56: Hooker Street/Grove Street/107th Avenue

Segment: Between Northpark Avenue and King Street

Class/Type: Class III – Signed Bike Route

Countermeasure(s): n/a

Notes: This inter-neighborhood segment provides a north-south connection for those neighborhoods straddling either side of 104th Avenue. It also connects a proposed bike route along Northpark Avenue (project 54), a proposed sidepath along 104th Avenue (project 12), and a proposed bike route along King Street (Project 57). Additionally, the route terminates at shared use paths that wind through Windsor Park, which connect to proposed bicycle lanes along Legacy Ranch Parkway (Project 15).

Project 57: 101st/Hooker Street/108th Avenue/Bruchez Parkway/Alcott Court/111th Avenue/Clay Street/Ranch Reserve Parkway/ Decatur Street

Segment: Between 104th Avenue and Federal Boulevard

Class/Type: Class III – Signed Bike Route

Countermeasure(s): n/a

Notes: For people bicycling, this important inter-neighborhood provides one of the only north-south alternatives to Federal Boulevard. Because the route winds through numerous neighborhoods, wayfinding signs are imperative. The northern terminus of this route includes two legs: Stratford Lakes Drive at 114th Avenue and 119th Decatur Street/ 119th Avenue. The route connects to Windsor Park and numerous shared use paths spurs through the Northglenn open space and Vogel Pond Open Space preserves.

APPENDIX B: BIKEWAY PROJECT DESCRIPTIONS

Project 58: Irving Street

Segment: Between 114th Avenue and the northern terminus of Irving Street at a Big Dry Creek neighborhood path spur.

Class/Type: Class III – Signed Bike Route

Countermeasure(s): n/a

Notes: This short link will connect the proposed King Street/Stratford Lakes Drive/114th Avenue bicycle lanes (Project 15) with the Big Dry Creek Trail.

Project 59: Stuart Street/Tennyson Street/Cotton Creek Drive/ Vrain Street/Stuart Street

Segment: Between Legacy Ridge Parkway and 112th Avenue

Class/Type: Class III – Signed Bike Route

Countermeasure(s): n/a

Notes: This north-south segment connects proposed bicycle lanes along Legacy Ridge Parkway (Project 14) with a bike route slated for 107th Drive (Project 60), and bicycle lanes along 112th Avenue (Project 92). As this route is very curvilinear, and splits into two branches at Vrain/Stuart Streets, wayfinding signs are paramount.

Project 60: 107th Drive

Segment: Between Tennyson Street and Sheridan Boulevard

Class/Type: Class III – Signed Bike Route

Countermeasure(s): n/a

Notes: This east-west segment connects a proposed bike route along Tennyson Street (Project 59) with a proposed sidepath along Sheridan Boulevard (Project 45).

Project 61: Westminster Boulevard

Segment: Between 104th Avenue and 112th Avenue

Class/Type: Class I – Sidepath

Countermeasure(s): Warning signs, path striping, and various pavement markings may be appropriate for various intersections. In general, more intensive safety and design countermeasures will have to take place at Church Ranch Boulevard and 112th Avenue.

Notes: This north-south segment connects a proposed sidepath along Church Ranch Boulevard (Project 12) The Westminster Promenade shopping center, with an existing bicycle lane north of 112th Avenue in Broomfield. It also connects to a proposed signed bike route with sharrows along 108th Avenue (Project 62). Bicyclists should be asked to dismount and walk their bicycles at the plaza located between the Ice Centre and Westminster Boulevard.

Project 62: 108th Avenue

Segment: Between Westminster Boulevard and Eaton Street

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): n/a

Notes: This east-west segment connects a proposed sidepath along Westminster Boulevard with (Project 61) with a proposed north-south bicycle lane along Eaton Street (Project 63). It also connects to a proposed north-south segment along Harlan Street (Project 93).

Project 63: Eaton Street

Segment: Between 108th Avenue and 112th Avenue

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This north-south segment connects a bikeway proposed for 108th Avenue (Project 62) to a Big Dry Creek neighborhood spur and a proposed bicycle lane along 112th Avenue (Project 92). The bicycle lane should transition to sharrows briefly as the right and left turn lanes appear at the 112th Avenue intersection.

Project 64: 115th Avenue

Segment: Between Eaton Street and Wolff Street

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be used through each intersection.

Notes: This east-west segment connects a proposed bikeway along Eaton Street (Project 63) with a proposed bikeway along Wolff Street (Project 65). It also connects to a proposed sidepath along Sheridan Boulevard (Project 45) and an additional bikeway along Depew Way (Project 66).

Project 65: Wolff Street

Segment: Between 112th Avenue and 117th Avenue

Class/Type: Class II – Curbside Bicycle Lane

Countermeasure(s): Peg-a-tracking should be used through every intersection.

Notes: This north-south segment connects a proposed bike lane along 112th Avenue (Project 92) with a proposed signed bike route along 117th Avenue/Wolff Street (Project 61). It also connects to Westfield Village Park, with spurs connecting to the Big Dry Creek Trail, and Life Christian Academy.

Project 66: Depew Court/117th Avenue/Wolff Street

Segment: Between 115th Avenue and 118th Place

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection. Notes: This segment provides neighborhood connections to proposed bikeways along 115th Avenue (Project 68), Chase Street/118th Place (Project 67), Sheridan Boulevard (Project 45), and Wolff Street (Project 65).

Project 67: 118th Avenue

Segment: Between Chase Street and Greenway Drive (Broomfield).

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment provides a neighborhood connection to an existing north-south neighborhood shared use path in Broomfield.

Project 68: Chase Street/118th Place/Lowell Boulevard

Segment: Between 115th Avenue and 120th Avenue.

Class/Type: Class III - Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment provides an east-west connection between neighborhoods on either side of Sheridan Boulevard, including Bradburn. The segment connects the Primrose School, a major commercial shopping center, Hope Montessori School, Bradburn Boulevard's retail shops, and the Academy of Charter Schools. This segment also connects to numerous proposed bikeways, including Sheridan Boulevard (Project 45), 115th Avenue (Project 64), 117th Avenue/Wolff Street (Project 66), 118th Avenue (Project 67), a Big Dry Creek Trail spur, and at Lowell Boulevard, a proposed sidepath along 120th Avenue (Project 96).

Project 69: 117th Avenue/Quitman Street

Segment: Between Wolff Street and 118th Place

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment provides a neighborhood connection between proposed bikeways along Wolff Street (Project 66) and 118th Place (Project 68).

Project 70: Huron Street

Segment: 112th Avenue and the northern Westminster/Broomfield border

Class/Type: Class I – Sidepath (retrofit)

APPENDIX B: BIKEWAY PROJECT DESCRIPTIONS

Countermeasure(s): Warning signs, striping, and various pavement markings may be appropriate for various intersections. In general, more intensive safety and design countermeasures will have to take place at the following intersections: 112th Avenue, 120th Avenue, 128th Avenue, 136th Avenue, and 144th Avenue.

Notes: This segment provides needed direct north-south connection through the northeast quadrant of Westminster. It connects to numerous proposed bikeways, including 116th Avenue (Project 16), 120th Avenue (Project 96), 124th Avenue (Project 71), 132nd Avenue (Project 75), 134th Avenue (Project 19), 136th Avenue (Project 99), and 144th Avenue (Project 100). It also connects to the Big Dry Creek Trail, Quail's Crossing Park, and the Silver Hills Middle School and Mountain Range High School. Finally, it connects to RTD's Wagon Road park n' ride.

Project 71: Pecos Street/124th Avenue

Segment: Between 112th Avenue and Huron Street

Class/Type: Class II – Curbside Bicycle Lanes

Countermeasure(s): Peg-a-tracking may be considered through each intersection. Notes: This segment provides a north-south alternative to Huron Street, and links several neighborhoods, commercial shopping areas, and major employment centers. It connects to numerous proposed bikeways, including 116th Avenue (Project 16), 120th Avenue (Project 96), 122nd Avenue (Project 17), and Huron Street (Project 66). Finally, it connects to The Ranch Open Space preserve.

Project 72: Federal Parkway

Segment: Between 120th Avenue and 128th Avenue

Class/Type: Class II – Curbside Bicycle Lanes

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: When this roadway is widened, it should accommodate bicycle lanes. When complete, it will provide a north-south link between the proposed 120th Avenue sidepath (Project 96) and the proposed 128th Avenue bicycle lane. It will also connect to proposed bikeways along Zuni Street (Project 16), 122nd Avenue (Project 17), and the existing Big Dry Creek Trail. The existing bridge over the Big Dry Creek Trail should be improved to foster safe bicycle access, which it does not currently provide.

Project 73: Harmony Parkway

Segment: Between 128th Avenue and Zuni Street

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: When complete, this segment will provide a north-south link between the proposed 128th Avenue bicycle lanes (Project 96) and the proposed Zuni Street signed bike route with sharrows (Project 17). It will also connect to an existing shared use path segment that terminates at the Arapahoe Ridge Elementary School.

Project 74: Pecos Street

Segment: Between Harmony Parkway and 134th Avenue.

Class/Type: Class III – Signed Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment will provide a north-south link between a proposed Harmony Parkway bikeway (Project 73) and the proposed bikeway on 134th Avenue (Project 19). It will also link to Arapahoe Ridge Elementary School and proposed bikeway along 132nd Avenue (Project 75).

Project 75: 132nd Avenue

Segment: Between Pecos Street and Huron Street

Class/Type: Class II – Curbside Bicycle Lanes

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment will provide an east-west link between Arapahoe Ridge Elementary School and

a proposed signed bike route with sharrows along Pecos Street (Project 74) and the proposed sidepath along Huron Street (Project 71).

LONG-TERM PRIORITY PROJECTS

Project 76: 70th Avenue

Segment: Between Federal Boulevard and 68th Avenue

Class/Type: Class III – Signed Bike Route

Countermeasure(s): n/a

Notes: This segment will provide an east-west link between Federal Boulevard and proposed connections with the Twin Lakes neighborhood along 68th Avenue and an off-street shared use path spur connecting with the Little Dry Creek Trail. It also connects with a proposed signed bike route along Canosa Court (Project 19).

Project 77: Irving Street

Segment: Between 71st Avenue and 76th Avenue

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This short segment will provide an important north-south link between the industrial park area/RTD commuter rail station at 71st Avenue and the existing civic corridor along Irving Street, which includes the Municipal Court, Irving Street Library/Park, Westminster Elementary School, and the Westminster Swim and Fitness Center. This segment will also connect proposed bikeways along 72nd Avenue (Project 2), 74th Avenue (Project 78), and 76th Avenue (Project 23).

Project 78: 74th Avenue

Segment: Between Zuni Street and Irving Street

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection. Notes: This segment will provide an east-west link between the Skyline Vista neighborhood and the commercial shopping area straddling Federal Boulevard and the civic corridor along Irving Street. This segment will connect to proposed bikeways along Canosa Court (Project 20) and Irving Street (Project 77). This segment will terminate on the eastern end at a proposed on-street bikeway connection with Twin Lakes, a census-designated place (CDP) in Adams County.

Project 79: 78th Avenue

Segment: Between Lowell Boulevard and the terminus of 78th Avenue at Sunset Park.

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment will provide an east-west link between the proposed Lowell Boulevard (Project 6) signed bike route with sharrows and Sunset Park/Wolff Run Park. It will also connect with the proposed north-south signed bike route with sharrows along Bradburn Boulevard (Project 22) and a signed bike route along Tennyson Street (Project 24). To better facilitate a bicycle connection with Wolff Run Park/Little Dry Creek, and the disconnected segment of 78th Avenue on the west side of the railroad tracks, a bicycle and pedestrian underpass should be evaluated for consideration.

Project 80: 78th Avenue

Segment: Between Wolff Court/Wolff Run Park and Sheridan Boulevard.

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment will provide an east-west link between Sheridan Boulevard and Wolff Run Park,

APPENDIX B: BIKEWAY PROJECT DESCRIPTIONS

which includes a Little Dry Creek spur, and proposed bikeway along 78th Avenue (Project 79).

Project 81: US 36 Bike Trail

Segment: Between Turnpike Drive, at Bradburn Boulevard, and the northern border of Westminster, along Highway 36, between 112th Avenue and Wadsworth Boulevard

Class/Type: Class I – Shared Use Path

Countermeasure(s): Warning signs, striping, and various pavement markings may be appropriate for the few intersections where the proposed shared use path crosses thoroughfare right of ways. In general, underpasses or overpasses would be preferred.

Notes: This segment will provide a regional link between the City of Westminster and the City of Boulder to the northwest, and link and the City of Denver to the south. Wayfinding and signing are a key element in branding this route as a regional connection between Denver and Boulder. It will also connect 8 RTD stations along its regional route. In Westminster, it will connect numerous bikeways and key destinations.

Project 82: 92nd Avenue

Segment: Between Federal Boulevard and Wadsworth Parkway

Class/Type: Class II – Curbside Bicycle Lane, Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment will provide a needed east-west connection along a very busy arterial thoroughfare. This segment is comprised of a curbside bicycle lane between Federal Boulevard and Utica Court. A signed bicycle route with sharrows between Utica Court and Wadsworth Parkway is also proposed.

As proposed, this segment will connect to bikeways along the following thoroughfares: Federal Boulevard (Project 44), Lowell Boulevard (Project 7), Yates Street (Project 32), Center City Drive (Project 43), Sheridan Boulevard (Project 45), Bike Highway 36 (Project 81), Westminster Boulevard (Project 83), Pierce Street (Project 84), The Farmers' High Line Canal Trail, Wadsworth Boulevard (Project 87), Wadsworth Parkway (Project 53), and 92nd Avenue, west of Wadsworth Parkway (Project 37). The two segments will also link major commercial/employment centers like the Westminster Mall redevelopment site, Westminster City Hall, and City Center Park.

Project 83: Harlan Street/Westminster Boulevard

Segment: Between 88th Avenue and Church Ranch Boulevard

Class/Type: Class II – Curbside Bicycle Lanes

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment will provide north-south link between the Westminster Mall redevelopment site and the Promenade/City Park area. It will link to the Farmers High Line Canal Trail, proposed bikeways along 88th Avenue (Project 29) and Westcliff Parkway (Project 46), as well as the Waterpointe-Bellio Open Space, the Big Dry Creek Trail, and a proposed sidepath along Church Ranch Boulevard (Project 12). This project requires that those segments already widened to be re-configured to accommodate bicycle lanes, while those not yet widened should include bicycle lanes when they are.

Project 84: Pierce Street

Segment: Between 88th Avenue and Westcliff Parkway

Class/Type: Class II – Curbside Bicycle Lanes

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment will provide north-south link between the proposed 88th Avenue sidepath retrofit, 92nd Avenue (Project 82), the Farmers High Line Canal Trail, 98th Avenue (Project 86), and Westcliff Parkway (Project 46). It will also connect numerous shopping areas and Mandalay Middle School.

Project 85: 96th Avenue

Segment: Between Pierce Street and Wadsworth Boulevard

Class/Type: Class III – Signed Bike Route with Sharrows
Countermeasure(s): Peg-a-tracking may be considered through each intersection.
Notes: This short east-west segment connects two important proposed north-south bikeways along Pierce Street (Project 84) and Wadsworth Boulevard (Project 87), and connects Mandalay Middle School and Semper Elementary School.

Project 86: 98th Avenue

Segment: Between Pierce Street and Wadsworth Boulevard
Class/Type: Class III – Signed Bike Route with Sharrows
Countermeasure(s): Peg-a-tracking may be considered through each intersection.
Notes: This segment will provide a short east-west link between the proposed bicycle lanes on Pierce Street (Project 84) and Wadsworth Boulevard (Project 87). It will also connect Mandalay Middle School and Semper Elementary School.

Project 87: Wadsworth Boulevard

Segment: Between 92nd Avenue and the Westminster/Broomfield border near 112th Avenue
Class/Type: Class II – Bicycle Lane
Countermeasure(s): Peg-a-tracking may be considered through each intersection. Notes: Once the thoroughfare is widened, this segment will provide a north-south link between 92nd Avenue (Project 82), 96th Avenue (Project 85), 98th Avenue (Project 86), 99th Avenue (Project 11), Church Ranch Boulevard (Project 12), 108th Avenue (Project 90), and the US 36 Bike Trail (Project 81). This segment will also connect Semper Elementary School and the Big Dry Creek Trail.

Project 88: Alkire Street

Segment: Between 86th Parkway and 100th Avenue
Class/Type: Class II – Bicycle Lanes
Countermeasure(s): Peg-a-tracking may be considered through each intersection.
Notes: This segment, which overlooks Standley Lake, is already well used by recreational bicyclists. Upon widening, so that it may include bicycle lanes, it will connect an existing bikeway along 86th Parkway in Arvada and a proposed bicycle lane along 100th Avenue in Westminster (Project 89).

Project 89: 100th Avenue

Segment: Between Wadsworth Parkway and Alkire Street
Class/Type: Class II - Bicycle Lanes
Countermeasure(s): Peg-a-tracking should be used through every intersection.
Notes: This segment should include a Signed Bike Route with Sharrows between Wadsworth Parkway and Countryside Drive. Between Countryside and Alkire, Bicycle Lanes should be included alongside the City's plan to widen 100th Avenue. When complete, this segment will connect to proposed bikeways along Wadsworth Parkway (Project 53), Independence Street (Project 48), Countryside Drive (Project 49), Oak Street (Project 13), and Simms Street (Project 90). It will also link Wayne Carle Middle School with Standley Lake Regional Park, and spurs that connect to the Big Dry Creek Trail.

Project 90: Simms Street

Segment: Between 100th Avenue and the Westminster/Broomfield Border
Class/Type: Class II - Bicycle Lanes
Countermeasure(s): Peg-a-tracking may be considered through each intersection.
Notes: This segment will require the widening of Simms Street. When complete, this segment will connect to proposed bikeways along 100th Avenue (Project 89) Countryside Drive (Project 50), and 108th Avenue (Project 91). This segment will also connect to a few large office parks and a proposed bicycle lane north of the Westminster/Broomfield border.

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Project 91: 108th Avenue

Segment: Between Wadsworth Boulevard and Simms Street

Class/Type: Class II - Bicycle Lanes

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: When complete, this segment will connect proposed bikeways along Wadsworth Boulevard (Project 87), Wadsworth Parkway (Project 53), Johnson Street (Project 52), Oak Street (Project 14), and Simms Street (Project 90). In order to better connect the western edge of the Green Knolls subdivision to this bikeway, a north-south street or shared use path may be considered between 108th Avenue and the western terminus of 108th Place.

Project 92: 112th Avenue

Segment: Between Huron Street and the Westminster/Broomfield border near Highway 36.

Class/Type: Class II - Bicycle Lanes

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: 112th Avenue is a long and complex roadway, with numerous challenging intersections and varying right of way widths. For bicycle lanes to be implemented, the corridor will have to be re-organized, including adding pavement width in some sections. If completed, it will connect to numerous proposed and existing bikeways including: Huron Street (Project 70), Pecos Street (Project 71), Federal Boulevard (Project 44) Ranch Reserve Parkway (Project 57), King Street/Stafford Lakes Drive (Project 14), Stuart Street/Vrain Street (Project 59), Wolff Street (Project 65), Sheridan Boulevard (Project 45), Eaton Street (Project 63), Harlan Street (Project 93) Kendall Street (Project 94), and Main Street (Project 96). It also connects to the Big Dry Creek Trail, Northwest Open Space, Sheridan Green Park, the Front Range Community College and numerous employment and commercial destinations.

Project 93: Harlan Street

Segment: Between 108th Avenue and 112th Avenue

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment provides a needed north-south interior neighborhood connection. When complete, it will link to proposed bikeways along 108th Avenue (Project 62), 111th Avenue (Project 94), and 112th Avenue (Project 90). It will also connect to Sheridan Green Elementary School and Stratford Park.

Project 94: 111th Avenue

Segment: Between Harlan Street and Westminster Boulevard path connection

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment provides a short east-west neighborhood connection between 112th Avenue/Harlan Street (Project 92, Project 93) and a proposed north-south sidepath along Westminster Boulevard (Project 61).

Project 95: Kendall Street/116th Avenue

Segment: Between 112th Avenue and Main Street

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This segment provides a north-south neighborhood connection. When complete it will link to proposed bikeways along 112th Avenue (Project 92), 115th Avenue (Project 96), and existing bicycle lanes along Main Street in Broomfield. It also connects to existing shared use paths through Sheridan Green Park, which link to the Big Dry Creek Trail.

Project 96: 115th Avenue/Eaton Street

Segment: Between Kendall Street and 112th Avenue

Class/Type: Class III – Signed Bike Route with Sharrows

Countermeasure(s): Peg-a-tracking may be considered through each intersection.
Notes: This segment provides an east-west, and north-south neighborhood connection. When complete it will connect to Ryan Elementary, Ryan Park, and proposed bikeways along 112th Avenue (Project 92) Kendall Street (Project 95) and Eaton Street (Project 63).

Project 97: Main Street

Segment: Between 112th Avenue and Westminster/Broomfield Border

Class/Type: Class II – Bicycle Lanes

Countermeasure(s): Peg-a-tracking may be used through each intersection.

Notes: This segment provides a north-south connection along the border of Westminster, which will link with existing bicycle lanes in Broomfield and an existing shared use path spur through the Sheridan Green neighborhood. It will also link to proposed bikeways along 112th Avenue (Project 92), and 116th Avenue (Project 95).

Project 98: 120th Avenue (southside)

Segment: Between Huron and Sheridan Boulevard

Class/Type: Class I – Sidepath (retrofit)

Countermeasure(s): Warning signs, striping, and other pavement markings may be appropriate for the few intersections where the proposed shared use path crosses thoroughfare rights of way. Bicycle/pedestrian underpasses may be appropriate in select locations. In general, more intensive safety and design countermeasures will have to take place at the following intersections: Huron Street, Pecos Street, Federal Boulevard, and Sheridan Boulevard.

Notes: This east-west segment provides better bicycle access through Westminster. It connects numerous proposed bikeways, including: Huron Street (Project 70), Pecos Street (Project 71), Zuni Street (Project 16), Federal Boulevard (Project 44), Federal Parkway (Project 72), Chase/118th Place/Lowell Boulevard (Project 68), Lowell Boulevard (Project 99) and Sheridan Boulevard (Project 45). This segment will also connect RTD's Wagon Road Park n' Ride, The Ranch Open Space, the Big Dry Creek Trail, and several commercial and employment centers.

Project 99: Lowell Boulevard

Segment: Between 120th Avenue and the Westminster/Broomfield border.

Class/Type: Class II – Bicycle Lanes

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This short north-south segment links into an existing bikeway in Broomfield. It also connects to the proposed 120th Avenue bikeway.

Project 100: 128th Avenue

Segment: Between I-25 and Zuni Street.

Class/Type: Class II – Bicycle Lanes

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This east-west segment will only be realized after the widening of the roadway to a more uniform four lanes. It will connect to the proposed bikeways along Huron Street (Project 70), Harmony Parkway (Project 73), and Zuni Street (Project 18). It will also link the Big Dry Creek Trail, Big Dry Creek Park, and a proposed connection in Thornton.

Project 101: 136th Avenue

Segment: Between Huron Street and Zuni Street.

Class/Type: Class II – Bicycle Lanes

Countermeasure(s): Peg-a-tracking may be considered through each intersection.

Notes: This east-west segment will require the current roadway configuration to be re-organized to be more amenable to bicycle lanes, including better use of the current 30 foot "dead zone" at Tejon Street. When built it will connect to proposed bikeways along Huron Street (Project 70), Zuni Street (Project 18). It will also link to the Quail Creek Trail, which connects to the Big Dry Creek Trail, and existing bicycle lanes in Broomfield.

APPENDIX B: BIKEWAY PROJECT DESCRIPTIONS

Project 102: 144th Avenue

Segment: Between I-25 and Zuni Street

Class/Type: Class I – Sidepath

Countermeasure(s): Warning signs, striping, and other pavement markings may be appropriate for the few intersections where the proposed shared use path crosses thoroughfare rights of way. In general, more intensive safety and design countermeasures will have to take place at the following intersections: Delaware Street, Orchard Parkway, Huron Street, North Huntington Trails Parkway, and Zuni Street.

Notes: This east-west segment will connect to proposed bikeways along Huron Street (Project 70) and existing bicycle lanes in Broomfield along Zuni Street.

C. GENERAL COST ESTIMATES

The cost of installing bicycle facilities varies greatly. Proposed bikeway type, existing street/land use/geographical conditions, design details, and materials costs are all variables that influence the expenditure outlay for bikeway implementation. For that reason, there is no single source for cost range estimates used by the bicycle planning profession. However, according to the Pedestrian and Bicycle Information Center, conventional bicycle lanes may cost as little as \$5,000 per mile, but may also cost as much as \$50,000 per mile.ⁱ According to the Colorado Department of Transportation, bikeway implementation costs are generally lower in communities located in the eastern plains, than those in the Rocky Mountains where topography can greatly influence cost, especially for Class I facilities. Additionally, the recent Nevada County Bicycle Master Plan (CA) included the following base per mile base costs for bicycle facilities (see Table 3).ⁱⁱ

TABLE 3: BASE PER MILE COST ESTIMATES FOR BICYCLE FACILITIES

<i>Class Type</i>	<i>Description</i>	<i>Cost per mile</i>
Class I	10-foot Shared Use Path: Excavation, asphalt, signing, striping	\$513,073
Class II	Bicycle Lane: Striping, pavement markings, signing, traffic control	\$14,060
Class III	Signed Bike Route: Signing	\$1,500
Class III	Signed Bike Route with Shared Use Lane Markings: pavement markings, signing, traffic control	\$3,500

These estimated costs do not include design or contingency costs.

In general, it is almost always most cost efficient to dovetail the implementation of bikeways with other general street construction, reconstruction, or resurfacing projects.

D. GENERAL FUNDING SOURCES

Funding for bicycle infrastructure and/or programs is available from a wide variety of federal, state, local, private, and non-profit sources. The following appendix describes several potential funding sources for implementing the Westminster 2030 Bicycle Master Plan.

1. FEDERAL TRANSPORTATION FUNDS: SAFETEA-LU

The Safe, Accountable, Flexible, Efficient, and Transportation Equity Act: A Legacy of Users (SAFETEA-LU), created in 2005, authorizes hundreds of billions of dollars in Federal gas-tax revenue and other federal funds for all modes of surface transportation. Under SAFETEA-LU, pedestrian and bicycle programs are eligible to receive over half the available funds, however there are no funds dedicated solely to the proliferation of bicycle or pedestrian facilities and/or programs.

The original SAFETEA-LU expired on September 30, 2009. However, Congress has since approved five short-term extensions of the bill. The fifth such extension was set to expire on December 31st, 2010. Whether the bill will be extended further, or replaced with new legislation, is still unknown. However, the federal government, via state department's of transportation, remain a primary source for funding bicycle implementation programs.

2. TRANSPORTATION ENHANCEMENTS

In 1991, Congress passed the Intermodal Surface Transportation Efficiency Act (ISTEA) to promote balanced, multimodal transportation. The provision of Transportation Enhancements (TE) funds was a key feature. Subsequent transportation legislation has expanded the TE program to comprise a 10 percent set-aside of the Surface Transportation Program, which translated to more than \$800 million in funding. TE funding may be used by local governments and non-profits with projects directly related to surface transportation. TE fund applicants can generally expect an 80 percent Federal share, with a 20 percent required match from various other sources. Since the program's creation, more than 24,000 projects have been funded.

3. RECREATIONAL TRAILS PROGRAM

The Recreational Trails Program (RTP) is a program of the US Department of Transportation's Federal Highway Administration (FHWA). Like TE funds, it was initially created under the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). The program was since amended by the Transportation Equity Act for the 21st Century (TEA-21), which greatly increased trails funding.

RTP provides funds to develop and maintain recreational trails and trail related facilities. Funding can be used for both motorized (snowmobiles, four-wheel vehicles, all terrain vehicles, etc.) and non-motorized (pedestrian, bicycling, equestrian, skiing, etc.) recreational trail use.

Every State administers their own program and develops their own procedures for selecting projects that will receive funding. To assist with the RTP, each State has their own State Recreational Advisory Committee that can either select projects for funding or be solely advisory. The money provided to each state must be split between varying recreational trail projects—30 percent of funds must be allotted to motorized trail uses, 30 percent for non-motorized trail uses, and 40 percent for diverse trail users.

Similar to TE funds, the Federal government provides 80 percent of funding, however a Federal agency project sponsor may endow additional funds provided the Federal share does not

exceed 95 percent. As listed by FHWA, RTP funds may be used for:

- Maintenance and restoration of existing trails.
- Development and rehabilitation of trailside and trailhead facilities and trail linkages.
- Purchase and lease of trail construction and maintenance equipment.
- Construction of new trails (with restrictions for new trails on Federal lands).
- Acquisition of easements or property for trails.
- Assessment of trail conditions for accessibility and maintenance.
- Development and dissemination of publications and operation of educational programs to promote safety and environmental protection related to trails (including supporting non-law enforcement trail safety and trail use monitoring patrol programs, and providing trail-related training) (limited to five percent of a State's funds).
- State administrative costs related to this program (limited to seven percent of a State's funds).

4. ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANT PROGRAM

As part of the American Recovery and Reinvestment Act of 2009, the Energy Efficiency and Conservation Block Grant program (EECBG) set aside \$1.9 billion in grant funding for select cities and counties. These funds are available for bicycle and/or pedestrian projects which “reduce energy use and fossil fuel emissions” in an environmentally sustainable manner that will “maximize benefits for local and regional communities.” For additional information, visit the EECBG program website at: <http://www.eecbg.energy.gov/>.

5. CONGESTION MITIGATION AND AIR QUALITY (CMAQ)

The Congestion Mitigation and Air Quality (CMAQ) Improvement Program was created in 1991 under the Intermodal Surface Transportation Efficiency Act (ISTEA) to fund transportation related projects that are designed to reduce traffic congestion and improve air quality. To date, bicycle and pedestrian projects comprise approximately 13 percent of all CMAQ projects.

CMAQ-funded bicycle/pedestrian projects include bike parking, pedestrian and bicycling promotion, sidewalk or pedestrian improvements and enhancements, bike maps and planning, and education efforts.

6. HUD COMMUNITY DEVELOPMENT BLOCK GRANTS

HUD Community Development Block Grants fund community-based projects. Examples of projects that qualify for the program include:

- Commercial district streetscape improvements
- Sidewalk improvements
- Safe routes to school
- Neighborhood-based bicycling and walking facilities that improve local transportation options or help revitalize neighborhoods

There is a wide range of other federal funds that can be used for bicycling and walking

facilities. Visit www.fhwa.dot.gov/environment/bikeped/bp-broch.thm#funding for a complete list of federal funding sources available for bicycle facilities/programs.

7. STATE TRANSPORTATION FUNDS

The State of Colorado raises funds for transportation infrastructure, including bicycle facilities, through a state motor-vehicle fuel tax. Much of the funding is available for local community-sponsored bicycle projects, especially those with a regional or statewide scope.

8. COLORADO & NATIONAL SAFE ROUTES TO SCHOOL FUNDING

Colorado's Safe Routes to School program is administered by the Colorado Department of Transportation. In an effort to encourage more students to safely walk and bicycle to school, federal funding has been made available to conduct educational or event driven programs at schools (non-infrastructure programs) or make improvements to streets, sidewalks, and paths near schools (infrastructure programs). In Colorado, these funds are awarded to K-8 schools that are chosen through a grant process. This process is conducted by the SRTS Advisory Committee, which includes educators, parents, bicyclists, pedestrians, law enforcement, and transportation planners. School districts, schools, cities, counties, state entities and tribal entities are eligible to apply. Nonprofits, such as Bicycle Colorado, are required to partner with a state subdivision or entity of the state in order to apply for funding.

8.1 COLORADO SAFE ROUTES TO SCHOOL FEDERAL FUNDING

Colorado's Safe Routes to School funding from Fiscal Years 2005 to 2009* totaled \$8,713,500 and includes annual apportionments ranging from \$1 million to nearly \$2.7 million. Table 4 below details actual spending by year.

TABLE 4: ANNUAL FUNDING TO COLORADO SAFE ROUTES TO SCHOOL

<i>Fiscal Year</i>	<i>Funding Amount (Actual Unless Noted)</i>
2005.....	1,000,000.00
2006.....	1,254,403.00
2007.....	1,679,463.00
2008.....	2,119,802.00
2009.....	2,659,832.00
2010.....	2,659,832.00 (Estimated)

Colorado's SRTS program applications are available online beginning in August and have a mid-December deadline. Grant awards are announced in March, with final contracts as early as the following August.

There are separate applications for infrastructure and non-infrastructure projects. Minimum funding for infrastructure projects is set at \$50,000 with maximum funding at \$250,000. Minimum funding for non-infrastructure projects is set at \$3,500.

*Funding for SRTS is being continued into FY2010 at FY2009 levels.

9. THE GREAT OUTDOORS COLORADO (GOCO)

A growing number of states are providing funds from non-transportation related revenue streams. Colorado's innovative GOCO program, for example, dedicates a portion of its lottery proceeds to projects that preserve, protect, and enhance Colorado's wildlife, parks, rivers, trails, and open spaces. Since it began awarding grants in 1994, GOCO has awarded almost \$489 million for 2,100 projects throughout the state. GOCO receives 50 percent of the proceeds from the Colorado Lottery, its only source of funding.

10. THE CITY OF WESTMINSTER

As noted earlier in this Plan, Westminster's voters approved a sales tax specifically earmarked for the acquisition and maintenance of open space. Much of this open space is developed with a shared use path system that now exceeds 74 miles. If maintained, this local source of funding will continue to be instrumental in the development of Westminster's off-street bikeway network.

11. NON-PROFIT GRANTS AND FOUNDATIONS

While non-profit grants may be very difficult to come by, national foundations and organizations like Bike Belong, located in Boulder, Colorado, have increasingly funded bicycle facilities and programs across the country. The Bikes Belong Grant Program strives to put more people on bicycles more often by funding important and influential projects that leverage federal funding and build momentum for bicycling in communities across the U.S. These projects include bike paths, lanes, and routes, as well as bike parks, mountain bike trails, BMX facilities, and large-scale bicycle advocacy initiatives.

Since 1999, Bikes Belong has awarded 215 grants to municipalities and grassroots groups in 49 states and the District of Columbia, investing \$1.7 million in community bicycling projects and leveraging close to \$650 million in federal, state, and private funding.

Additionally, national health care companies are increasingly involved in supporting active transportation. In October 2010, Kaiser Permanente Colorado partnered with the Colorado Department of Transportation to provide six Colorado municipalities with in-pavement bicycle counters. The pursuit of such innovative public-private partnerships can be a win-win for all involved.

E. BICYCLE SIGNING INDEX

Regulatory, guide and warning signs are essential to ensuring the educated and proper use of bikeway facilities. The City of Westminster should work with CDOT to install appropriate bicycle signs, according to the standards set forth in Chapter 9 of the MUTCD, whenever appropriate for new bicycle facilities.

The following appendix includes visual references for all signs recommended in Section 4.3, Action 3 (page 78).

CLASS I - SIDEPATH

- 'Bicycle' (W11-1) and 'Arrow' (W16-7p) or 'Bike/Ped [Symbols]' (CDOT W11-55) warning signs placed every quarter-mile along any sidepath route.



'Bicycle' (W11-1)



'Bike/Ped [Symbols]' (CDOT W11-55)



'Arrow' (W16-7p)

CLASS II - BICYCLE LANE

- 'Bike Lane' (R3-17) and 'Ahead' (R3-17a) regulatory signs at the beginning of a bike lane.
- 'Bike Lane' (R3-17) and 'Ends' (R3-17b) regulatory signs at the end of a bike lane.
- 'Bike Lane' (R3-17) regulatory sign placed after every intersection along any bike lane route.



'Bike Lane' (R3-17)



'Ahead' (R3-17a)



'Ends' (R3-17b)

CLASS III - SIGNED BIKE ROUTE & CLASS III - SIGNED ROUTE BIKE ROUTE WITH SHARED USE LANE MARKING

- 'Bike Route' (D11-1) and 'Begin' (M4-11) guide signs at the beginning of a signed bike route or sharrow route.
- 'Bike Route' (D11-1) and 'End' (M4-11) guide signs at the termination of a bicycle signed/facility route or bicycle sharrow/facility route.
- 'Bike Route' (D11-1) guide sign placed after every intersection along any bike lane route or sharrow route.
- 'Bicycle' (W11-1) and 'Share The Road' (W16-1) or 'Bicycle' (W11-1) and 'Arrow' (W16-7p) or 'Bike/Ped [Symbols] (CDOT W11-55) warning signs placed every quarter-mile along any signed route or sharrow route (see Class I - Sidepath on page 131 for examples of W11-1, W16-7p and CDOT W11-55).



'Bike Route' (D11-1)



'Begin' (M4-11)



'End' (M4-11)



'Share The Road' (W16-1)

F. PUBLIC ART BICYCLE RACKS

Unique, artistic, or multi-purpose bicycle racks can enhance the streetscape environment.



◀ This Louisville, KY bicycle rack is both function and whimsical. (Photo Credit: restaurantwidow.com)

▼ Artist Gadsby Creson designed this bike rack prototype as part of UrbanArt's exhibition series, Work in Progress, that highlights innovative urban design in the public realm. (Photo Credit: UrbanArt)



◀ This multi-purpose street furniture functions as a sculpture, fence, tree guard, bench and bicycle rack. (Photo Credit: environmentalartanddesign.com.au)

▼ The Louisville Downtown Management District sponsors a public art bicycle rack program, and has 22 sculptural racks in the downtown area. (Photo Credit: Broken Sidewalk)



▶ Vancouver's "Solar Bike Rack Tree" harnesses energy from the sun to power motion-sensor LED lights onto the bikes. (Photo Credit: Ken Ohrn)



▼ The City of Louisville, KY installs many public art bike racks, like this dragon-inspired one in front of the Actors Theatre of Louisville. (Photo Credit: USA Today)



▲ This rack features the functionality of the "Inverted U" rack, but is an iconic addition to the streetscape. (Photo Credit: Glenn Jackson Taylor of Core 77)

APPENDIX F: PUBLIC ART BICYCLE RACKS



◀ The City of Columbus, IN created bike racks from its “C” tourism logo. (Photo Credit: American Dirt, dirtamericana.blogspot.com)

▶ Outside of the Yellowstone Art Museum in Montana, street artists crocheted directly onto a standard wave rack. (Photo Credit: Micro Fiber Militia)



▲ Multi-disciplinary artist David Byrne designed nine unique bicycle racks for the City of New York. (Photo Credit: The Villager)

◀ This animal-inspired bicycle rack is located in North Carolina.

▼ Gadsby Creson designed this bike rack prototype as part of UrbanArt’s Work in Progress series. (Photo Credit: UrbanArt)

▲ Designed for a municipality with an annual jazz festival, this rack reflects the values of the community. (Photo Credit: Creative Metalworks)

▶ Spanish artist SpY reassembled “Inverted U” racks to create a more whimsical streetscape. (Photo Credit: SpY, spy.org.es)



◀ David Byrne’s nine unique bicycle racks draw inspiration from New York’s neighborhoods. This money rack is installed on Wall St. (Photo Credit: selecticism.com)

▶ As part of an international design competition for the City of Fayetteville, AR, BICI Planning & Design constructed this combination bicycle rack and bench. (Photo Credit: Blaine Davis)





◀ Artist Yvonne Bobo created two Ginkgo leaf inspired bike racks for the city of Memphis, TN. (Photo Credit: Alan Spearman)

▼ This bicycle rack, designed and fabricated by BICI Planning & Design, doubles as a wayfinding device; the “scales of justice” design is installed in front of a courthouse. (Photo Credit: Blaine Davis)



▲ Washington DC’s bike rack design competition yielded this tongue-in-cheek design. (Photo Credit: Golden Triangle BID)

▶ “Clip Art” bike racks add humor to one of DC’s office districts. (Photo Credit: Golden Triangle BID)

▼ The Council Tree Library in Fort Collins, CO has sculptural bicycle racks outside the building. (Photo Credit: Cassy Turner)



▲ Cleveland, OH has introduced artistic bike rack designs to their streetscape.

▶ This rack was submitted as part of New York City’s 2009 CityRacks bicycle parking design competition. (Photo Credit: SF StreetsBlog)



◀ This bicycle rack is also part of Louisville, KY’s artist bike rack program (Photo Credit: Broken Sidewalk)

▶ Bike racks in Cleveland, OH double as seats for pedestrians.



APPENDIX F: PUBLIC ART BICYCLE RACKS



◀ Public Art Bicycle Racks in Ottawa, Ontario use a standard rack shape with laser cut images to create a sense of place.
(Photo Credit: Flickr User veganbackpacker)

▶ This Palisade, CO rack is modeled after a potato masher.
(Photo Credit: Flickr User h. wren)



◀ This rack was created by Baroni Valeriani Architetti as part of the New York CityRacks Design Competition, which drew submissions from international artists and design firms.
(Photo Credit: Glenn Jackson Taylor of Core 77)

▼ Another CityRacks entry, by Francis Anthony Bitonti.
(Photo Credit: Michael Konrad)

▲ The Winnipeg Arts Council commissioned bike racks for the downtown area.
(Photo Credit: Winnipeg Arts Council)

▶ This Louisville, KY rack uses bicycles to create a sculptural parking structure.
(Photo Credit: Broken Sidewalk)

▼ Jones Chijoff's concept, *Derailed*, was created for the Powerhouse Museum.
(Photo Credit: Powerhouse Museum)



◀ This sculptural bicycle rack was designed by artist Mike Lesh.
(Photo Credit: Mike Lesh, mikeleshstudioart.com)

▶ In Ann Arbor, MI, these bicycle racks celebrate the city's art community, including the 100th anniversary of the Ann Arbor Art Center.
(Photo Credit: twofellswoops.com)



G. NOTES, CITATIONS, & RESOURCES

IN TEXT NOTES & CITATIONS

3. BICYCLE NETWORK PLAN

- i. Jacobsen, Peter, *Injury Prevention*, "Safety in Numbers: More Walkers and More Bicyclists, Safer Walking and Bicycling," 2003.
- ii. Geller, Roger, City of Portland Office of Transportation, "Four Types of Cyclists," 2009. <http://www.portlandonline.com/transportation/index.cfm?a=237507&c=44671>
- iii. Regional Transportation District (RTD) provides regional bus and rail transit throughout the Denver region. According to the agency's 2007 Bike-on-Bus Survey, more than 682,000 trips utilized the system's bike racks
- iv. Alta Planning + Design, *Bicycle Interactions and Streetcars: Lessons Learned and Recommendations*, 17 October 2008, available on the web at: http://www.altaplanning.com/App_Content/files/pres_stud_docs/Bicycle_Streetcar_Memo.pdf
- v. Eckerson, Clarence, "How to Properly Cross Rail Tracks on Your Bike," 11 February 2010, available on the web at: <http://www.streetfilms.org/how-to-properly-cross-rail-tracks-on-your-bike/>
- vi. Garrick, Norman, "Land Use Planning and Transportation Network Design in a Bicycle-Friendly American City," Transportation Research Board Annual Meeting CD (paper 05-2520), 2005.

4. WAYFINDING & SIGNAGE PLAN

- i. Colorado Department of Transportation, "CDOT Sign Library," 4 November 2010, available on the web at: <http://www.coloradodot.info/library/traffic/traffic-manuals-guidelines/fed-state-co-traffic-manuals/cdot-sign-library.html>
- ii. Federal Highway Administration (FHWA), *Manual on Uniform Traffic Control Devices (MUTCD)*, available on the web at: http://mutcd.fhwa.dot.gov/kno_2009.htm

5. BICYCLE PARKING PLAN

- i. The City of Westminster, Colorado, *Westminster Site Design Guidelines*, Section 11-7-4, E1-E2

6. EDUCATION, ENCOURAGEMENT, ENFORCEMENT & EVALUATION

- i. A 2004 District of Columbia, Department of Transportation study
- ii. Klobucar, Michael and Fricker, Jon D., "Feasibility Study for Bicycle Safety: Data Assessment and Network Evaluation," *Joint Transportation Research Program*. Paper 249. 2007. Available on the web at: <http://docs.lib.purdue.edu/jtrp/249>

C. GENERAL COST ESTIMATES

- i. Pedestrian and Bicycle Information Center
- ii. Nevada County Bicycle Master Plan (CA)

GENERAL RESOURCES

- American Association of State Highway and Transportation Officials, A Guide for the Development of Bicycle Facilities, 1999.
- American Association of State Highway and Transportation Officials, A Policy on Geometric Design," 2009.
- American Association of State Highway and Transportation Officials (AASHTO), *Provisional Standards, 2009 Edition*, 2009, available on the web at: http://www.knovel.com/web/portal/browse/display?_EXT_KNOVEL_DISPLAY_bookid=2670&VerticalID=0
- Association for Pedestrian and Bicycle Professionals, Bicycle Parking Guidelines (2nd Edition), 2010.
- Colorado Department of Transportation, "Bike and Pedestrian Policy Directive," 2009.
- Denver Region Council of Governments, Guideline for Successful Pedestrian and Bicycle Facilities in the Denver Region," 2010
- Federal Highway Administration, BikeSafe: Bicycle Countermeasure Selection System, 2006
- Federal Highway Administration (FHWA), *Manual on Uniform Traffic Control Devices (MUTCD)*, available on the web at: http://mutcd.fhwa.dot.gov/kno_2009.htm
- Pedestrian and Bicycle Information Center, BicyclingInfo.org. Bikeability Checklist. Accessed at: <http://www.bicyclinginfo.org/cps/checklist.htm>
- Policy Statement on Bicycle and Pedestrian Accommodation - Regulations and Recommendations, 2010
- Portland State University Bicycle Box Study
- United States Department of Transportation Federal Highway Administration, *Manual on Uniform Traffic Control Devices*, Chapter 9: Traffic Control for Bicycle Facilities. 2009. 789 - 816. Available on the web at: http://mutcd.fhwa.dot.gov/pdfs/2009/pdf_index.htm
- United States Department of Transportation (USDOT), "Policy Statement on Bicycle and Pedestrian Accommodation - Regulations and Recommendations," 2010.

THANK YOU!

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The Street Plans 
Collaborative





Staff Report

Information Only Staff Report
October 20, 2014



SUBJECT: WURP Street to be named 'Central Parkway'

PREPARED BY: Natalie Winsen, Planner

Summary Statement

This report is for City Council information only and requires no action by City Council.

The naming of streets in the new downtown generally follows the Denver street grid naming convention (i.e. numbered east-west avenues). When the naming convention is applied, there are more east-west streets in the new downtown than there are numbers; therefore the street between 89th Avenue and 90th Avenue currently has no name in the Downtown Specific Plan.

The unnamed street connects through the heart of the site, linking East Park with Center Park, Central Square and the core of activity along Westminster Boulevard and Gray Street as well as provides views to the mountains beyond. A public outreach effort was designed to gain the public's recommendations for a new street name for this important central street. Based on the public input received, staff has determined to identify the street as "Central Parkway."

Background Information

The central street in the new downtown runs northeast/southwest between 89th and 90th Avenues. The northeast views terminate on a new (to be determined) landmark, and to the southwest there are long views to the mountains including Mt Evans. The street connects a variety of uses from residential to commercial and links the Center Park and Central Square. A wide pedestrian pathway will stretch along the length of the street between the square and Central Park.

Input for a street name was requested at the September 10th Open House, online via WestyConnect and from City employees via COWnet. Over 110 people attended the open house, and 34 provided feedback on ideas for naming the unnamed street. There was no clear favorite, but Westminster Way / Westy Way/ West Way (5 votes), Center Parkway / Central Parkway (4 votes), Madison Avenue (3 votes) and Mt. Evans Parkway (3 votes) received the most votes. Input was received on the WestyConnect site between September 2nd and September 14th. During that period, 350 people visited the site and 25 people voted on the unnamed street. There was also no clear favorite for the online input, but Mt. Evans Parkway (6 votes), Central Parkway (5 votes) and Park View Avenue (5 votes) were the top three scorers. Finally, 54 votes were received on the City's intranet, COWnet. Abbey Road received 10 votes followed closely Central Square Parkway/ Central Parkway Center/Avenue with 8 votes and DeSpain Lane with 6 votes.

The consolidated totals from the outreach identified the following top three street names:

- Central Parkway / Center Parkway / Central Square Parkway (17 votes)
- Abbey Road (11 votes)

- Mt Evans Parkway / Mt Evans View (9 votes)

A complete summary of all the names identified by the public outreach effort and votes in support is attached.

In addition to the public input sought on the street name, staff also consulted with the Engineering Division to determine what policies exist, which may help determine an appropriate street name for this important street. It is Westminster's policy to utilize the Denver street grid naming convention. And as the unnamed street is a "half-street" (a street located between two numbered streets) and is not planned to connect through onto adjacent properties, there is not a predetermined name for the street, which allows the City to determine an appropriate name.

The reoccurring comments from the public outreach included the fact that people wanted the street name to be unique, link to the history of the site, and appreciate the views to/from the site. Based on the feedback received, as well as the role the unnamed street will play in the new downtown, staff has determined to name the street "Central Parkway."

Staff will proceed to update the Downtown Specific Plan document to reflect the chosen street name in preparation for Planning Commission and City Council hearings in October/November unless Council directs otherwise.

Respectfully submitted,

J. Brent McFall
City Manager

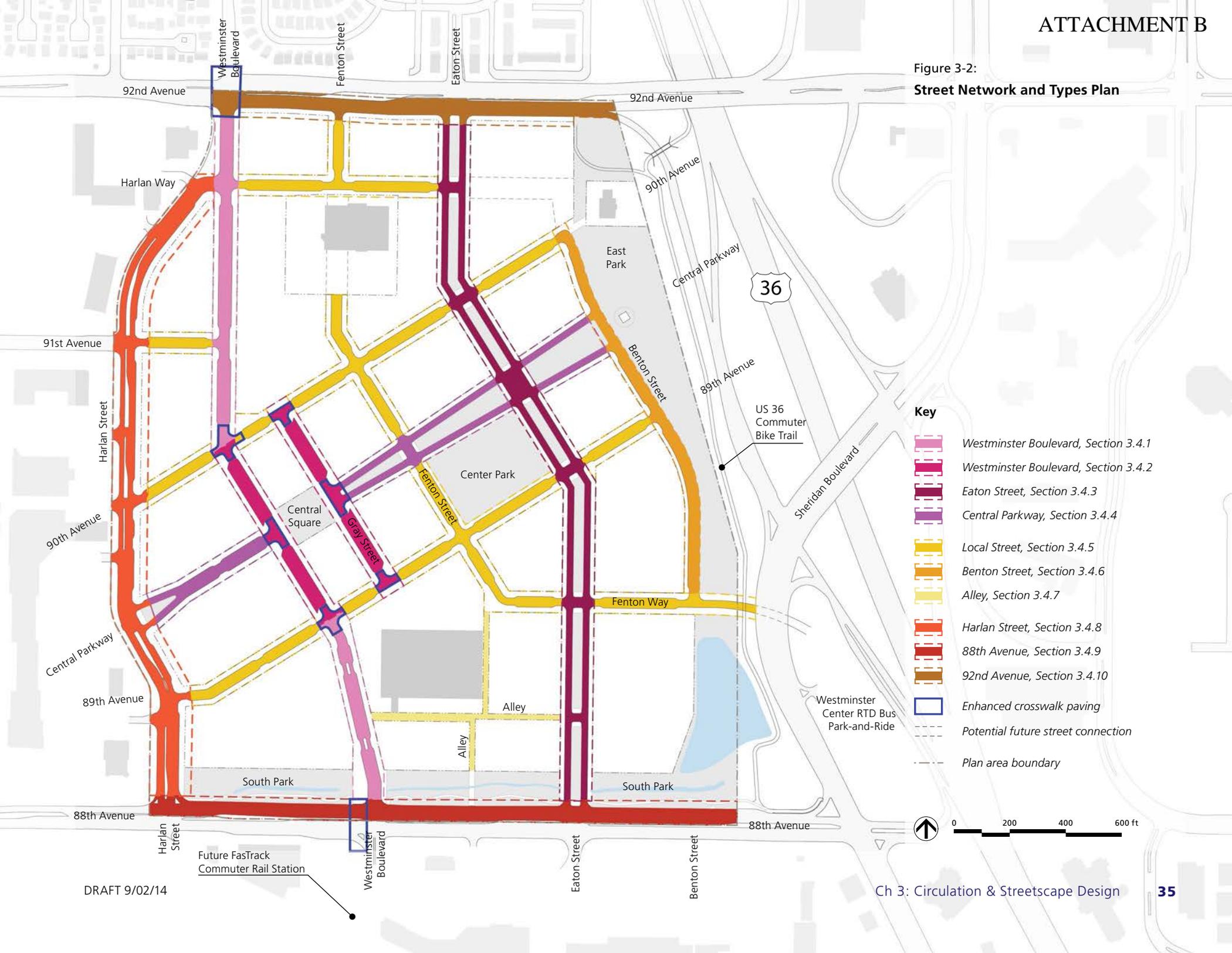
Attachments

- Summary of input received from COWnet, WESTY Connect, and the public Open House held September 10
- Downtown Specific Plan - Street Network and Types Plan (Draft Only)

ATTACHMENT A

<u>Suggested Name</u>	<u>Total In Support</u>	<u>Source 1</u>	<u>Source 1 Support</u>	<u>Source 2</u>	<u>Source 2 Support</u>	<u>Source 3</u>	<u>Source 3 Support</u>
Center Parkway / Central Parkway / Central Parkway / Central Square Parkway	17	Open House	4	WestCOnect	5	COWnet	8
Abbey Road /Lane	11	COWnet	10	Open House	1		
Mt Evans Parkway / Boulevard	9	WestyCOnect	5	Open House	3	WestyCOnect	1
DeSpain Lain	6	COWnet					
Westminster Way / Westy Way/ West Way	6	Open House	5	Open House	1		
Main Street	5	COWnet	3	Open House	2		
Park View Avenue	5	WestyCOnect					
Pleasant Blvd.	5	COWnet					
Bell Tower Blvd	4	COWnet					
Madison Avenue	3	Open House					
McFall Boulevard / Parkway / Way	3	Open House	1	COWnet	2		
Parkway Avenue	3	WestyCOnect	2	Open House	1		
Penny Lane	3	COWnet					
Spirit Street	3	COWnet					
89.5 Avenue	2	Open House					
Balloon Boulevard	2	WestyCOnect					
Columbine Parkway / Blvd	2	COWnet	1				
Downtown Boulevard	2	WestyCOnect					
Kinetic Parkway	2	WestyCOnect					
Peakview Parkway	2	COWnet					
Ridgeway Blvd.	2	COWnet					
Apple Grove Boulevard	1	Open House					
Bicycle Blvd	1	COWnet					
Caldwell Avenue	1	COWnet					
Center Avenue;	1	COWnet					
Green or Greenway Avenue	1	WestyCOnect					
Heart Central	1	Open House					
London Lane	1	Open House					
Middle / Avenue / Blvd / Parkway / Avenue	1	Open House	1	Open House	0	WestyCOnect	0
New Town Way	1	Open House					
Notting Hill Way	1	Open House					
Our Town Boulevard	1	Open House					
Oz	1	Open House					
Panorama Parkway	1	Open House					
Parkridge Blvd	1	COWnet	1	WestCOnect	0		
Rocky Mountain Way	1	Open House					
World Trade Center Boulevard	1	Open House					
Bicycle Boulevard	0	WestyCOnect					
Britain Boulevard	0	WestyCOnect					
Sculpture Boulevard or Parkway	0	WestyCOnect					
Total Votes	113						

Figure 3-2:
Street Network and Types Plan



DRAFT 9/02/14



Staff Report

Information Only Staff Report
October 20, 2014



SUBJECT: Annual Tap Fee CPI Adjustment

PREPARED BY: Mike Happe, Utilities Planning and Engineering Manager
Stu Feinglas, Water Resources Analyst

Summary Statement

This report is for City Council information only and requires no action by City Council. This report provides information on the annual adjustment to water and sewer tap fees in accordance with the Westminster Municipal Code effective January 1, 2015.

- Westminster Municipal Code requires Westminster's tap fees to be adjusted annually in accordance with the Consumer Price Index (CPI) for the previous calendar year as established for the Denver metropolitan area.
- This annual adjustment keeps the tap fee price current and moderates the need for large and infrequent tap fee increases.
- This Staff Report is provided to inform City Council that the City's water tap fee and a portion of the sewer tap fee will increase on January 1, 2015 by the 2013 Consumer Price Index (CPI) amount in accordance with City Code.
- The latest CPI data was released in March of 2014 and reflects a 2.9% increase over the 2013 CPI.
- The CPI adjustment will be applied to the water tap fee and the collection portion of the wastewater tap fee. The single family combined water and wastewater tap fee will increase by \$659 to \$27,370, a 2.47% increase.
- Staff will mail notification letters to a comprehensive list of builders and developers, including the Home Builders Association, no later than October 30, 2014 to provide a minimum of 60 days of notice prior to the tap fee adjustment implementation.

Background Information

Water and wastewater tap fees are charged to new utility customers to connect to the City's water system, and are based on the current value and size of the utility system. The structure of each tap fee is composed of several components that together reflect the equitable portion of the utility system impacted by new customers. As new customers connect to the system, they pay for the portion of the developed system they will use. In this way, current customers benefit from lower water and wastewater rates and increased reliability, while new customers pay their equitable share.

To keep the tap fee price current and to mitigate infrequent and large increases, Westminster Municipal Code calls for the City to adjust the water tap fee and the collection portion of the wastewater tap fee annually by the Denver metropolitan area's Consumer Price Index (CPI).

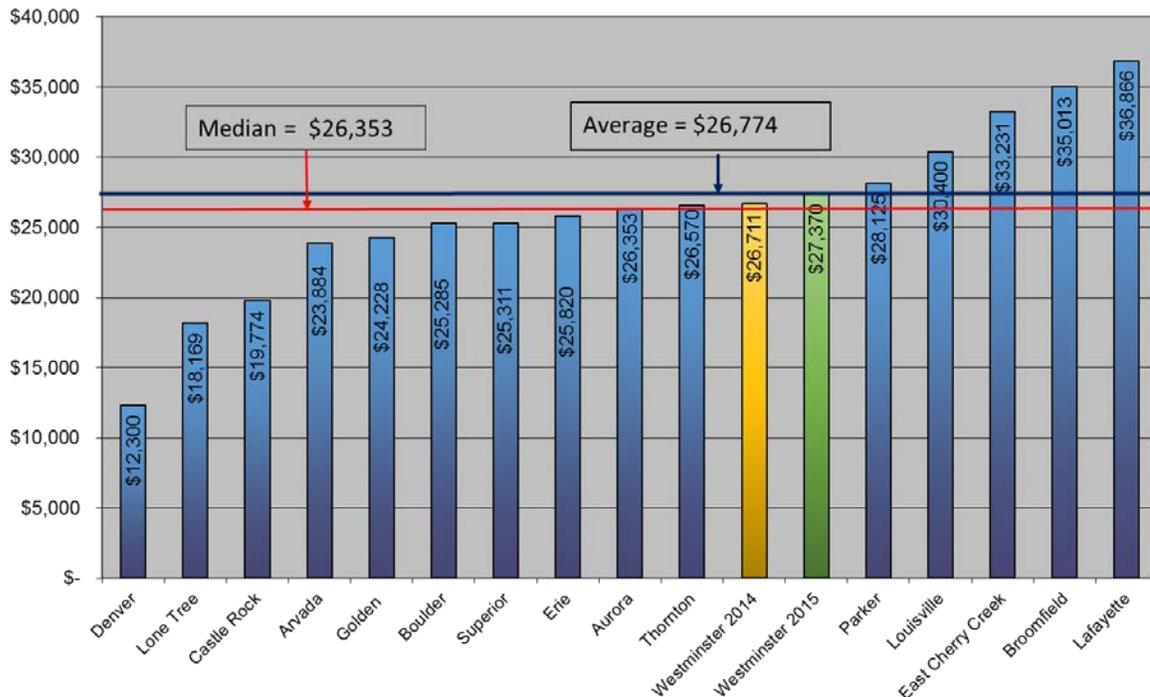
The latest CPI data was released in March of 2014 and reflects a 2.9% increase over the 2013 CPI. This adjustment will apply to the water tap fee and the collection portion of the wastewater tap fee. The City has been notified that the Metro Wastewater Reclamation District will not raise its sewer tap fees in 2015, therefore there will be no increase to the City's wastewater treatment/Metro component.

By adjusting the water and wastewater tap fees to reflect the Denver Metro Area CPI, the City’s 2015 combined single family tap fee will increase by a total of \$659, or 2.47% over the 2014 combined single family tap fee.

<u>Combined Tap Fee</u>	<u>Amount</u>
2014 Single Family water and wastewater tap fee	\$26,711
2.9% CPI increase to water tap fee and transport component of wastewater tap fee	\$659
2015 Single Family wastewater tap fee	\$27,370

Staff has updated the regional tap fee survey to reflect the City’s 2015 combined tap fees in comparison with other cities’ combined 2014 tap fees.

2015 Single Family Water and Sewer Tap Fee Survey



The tap fees shown for other cities do not reflect increases they may implement in 2015.

In 2013, City Council directed Staff to increase the water tap fees effective January 1, 2014 to respond to the increase in the market value of the City’s water rights portfolio and the value of the utility system infrastructure. This resulted in a combined single family tap fee of \$26,711, and was the first significant water tap fee increase since 2006.

Historically the CPI adjustment has been implemented in April of each year, immediately after the most recent CPI data has been released. In order to align the annual tap fee adjustments with the recommended water and wastewater rate changes which, if approved by City Council, would take effect

on January 1, 2015, the tap fee adjustment will be implemented on January 1, 2015. Because the 2014 CPI will not have been released, Staff recommends adjusting the tap fees by the 2013 CPI increase of 2.9%.

Staff will send a notification letter to approximately 135 builders and developers, including the Home Builders Association, no later than October 30, 2014 to provide 60 days of notice prior to the tap fee adjustment.

This annual adjustment to the City's water and wastewater tap fees supports the City Council's Strategic Plan goal of "Excellence in City Services" by funding the City's water and wastewater infrastructure to support the services of providing high quality drinking water and reliable wastewater services.

Respectfully submitted,

J. Brent McFall
City Manager



WESTMINSTER

Staff Report

Information Only Staff Report
October 20, 2014



SUBJECT: Capital Improvement Program (CIP) Project
Status Report – 2014 2nd Period

PREPARED BY: Aric Otzelberger, Assistant to the City Manager

Summary Statement

This report is for City Council information only and requires no action by City Council.

Attached is the second period status report for 2014 on Capital Improvement Program (CIP) projects. The project name, a brief description and status update is provided for each project. If City Council has questions about any of the projects included in this report, Staff will follow up with additional information.

Background Information

Staff has compiled the attached status report on Capital Improvement Program (CIP) projects for activities through the second reporting period of 2014, ending September 30, 2014.

The “Updated” column on the far left side of the attached report will have a mark (▶) in it denoting that the project information (such as the description, status, budget, projected completion date or percent complete) has been updated, or it will have “NEW” typed in to identify any new projects added to the CIP Status Report since last period, or it will have “TO BE CLOSED” typed in to identify projects that have either been closed in the financial management system or will be closed this year. If a project does not have a mark designating that an update has been provided, it does not necessarily mean that no work has been conducted on the project during the most recent period; it simply means that nothing substantial enough to report to City Council has occurred that warrants providing an update.

The definition for each of the columns included in the report is noted on the attached document (“Attachment A: Definitions – Capital Improvement Program (CIP) Project Status Report”). The definitions are utilized internally to ensure that Staff is reporting information as consistently as possible.

The project name, a brief description of the project, project status, project budget, project expenditures as of September 30, 2014, the project manager(s), engineering firms/contractors, start date, projected completion date and percent complete is provided for each project on the “Capital Improvement Program – Major Projects” pages (Attachment B) and “Capital Improvement Program – Ongoing Projects” pages (Attachment C).

The projects are sorted based on whether they are ongoing in nature or have a definitive beginning and completion date. Some projects may include funding from both the General and Utility Funds but are listed only once, reflecting the consolidated total in this report. Those projects on the Ongoing Projects pages do not include a start date, projected completion date or a percent complete due to the nature of these projects (i.e., they are continuing projects from year to year).

Major Projects are expensed each year rather than waiting until each project is substantially complete per generally accepted accounting procedures. As such, for continuity in this report, Staff is reporting the revised budgets for each project, excluding any expensing required by the auditors, so that City Council and the public may see the full cost of the project rather than an annually modified amount that does not accurately reflect the full cost and scope of the project. On the Ongoing Projects pages, the capitalized/expensed amounts will continue to be shown so that City Council and the public may see what funds are actually available for these projects that are continuous in nature.

This Staff Report supports all eight of City Council's Strategic Plan Goals including Visionary Leadership and Effective Governance; Vibrant and Inclusive Neighborhoods; Comprehensive Community Engagement; Beautiful, Desirable, Environmentally Responsible City; Proactive Regional Collaboration; Dynamic, Diverse Economy; Excellence in City Services; and Ease of Mobility.

Respectfully submitted,

J. Brent McFall
City Manager

Attachments

– DEFINITIONS –

Capital Improvement Program (CIP) Project Status Report

Updated – The Updated column is intended to simplify the review of the report by drawing attention to those projects with new updates since the last report. The column will have a ► mark in it denoting that the project information has been updated, or will include “NEW” to identify any new projects that may have been added since the last report via supplemental appropriations (such as from carryover, the receipt of a grant or the subdividing of a larger project into smaller components), or will include “TO BE CLOSED” if the project will be closed before the next report. If a project does not have a mark designating that an update has been provided, it does not necessarily mean that no work has been conducted on the project since the previous report; it simply means that nothing substantial enough to report to City Council has occurred that warrants providing an update.

Project Title/Description – The Project Title is common name utilized by Staff in identifying the project. The Project Description is a brief description of the project, specifically focusing on the scope of the project for which funds are budgeted (i.e., are the funds appropriated for the full project, from design to construction, or simply the design/engineering component of the project).

Project Status – A brief update as to the progress made on this project, providing information such as how much work has been completed, if the project is on schedule, ahead or behind, if any challenges have developed as a result of contractors or the weather, etc. Staff will also use this section to report on construction change orders where formal Council action is not required. Reporting this information in the CIP Status Reports presents this information in a streamlined fashion and addresses a requirement in the Westminster Municipal Code.

Budget – For Major Projects, this is the total amount City Council has appropriated via the current and/or prior years’ budgets. Some projects have funding from multiple sources, i.e., the General and Utility Funds; in these cases, the combined total for the project is shown in this report.

For Ongoing Projects, this is the amount that has been entered into the financial management system that City Council has appropriated via the current or prior years’ budgets. This amount may be different from the total amount that has been appropriated over the years, since many projects that are ongoing have received funding for many years, in some cases over ten years. Showing the cumulative budget since project inception is not only difficult to gather given the financial management system conversion in 2000, but is not representative of the funds actually available to spend on these ongoing projects. Some projects may include open contracts from which some expenditures have been made but the “Spent” column reflects only those actual expenditures, and therefore the associated encumbrances (i.e., financial obligations) are not reflected in these figures.

Spent – Actual expenditures made to date, *excluding* encumbrances.

Project Manager(s) – The City staff member(s) overseeing the completion of the project. Regardless of having an external project manager, a City staff member will always oversee City projects.

External Project Manager Utilized – This column identifies if the primary project lead is a City staff member or an outside contractor. On complex construction projects of approximately \$3-5 million or more, the City is likely to hire a professional project manager on a contracted basis (in addition to an independent project construction inspector) to provide overall project management under the direction of City staff. If an external project manager is utilized, the name of the contractor is listed in this column.

Engineering Firms Or Contractors – Lists all outside firms the City has hired to work on this project, excluding the external project manager if applicable.

Start Date – Identifies the month and/or year in which the project was initiated (noted on the Major Projects’ pages only).

Projected Completion Date – The projected/targeted date for which the project is anticipated/scheduled to be complete (noted on the Major Projects’ pages only).

Percent Complete – Identifies the amount of the overall project, as funded via City Council appropriations and defined in the Project Title/Description that is complete. It is based solely on what has been funded to date and may not include actual completion/construction of the project. There will not necessarily be a one-for-one correlation between the percent complete and the amount expended. (For example, City Council may have funded the design only of a project and based on this funding level, the project may be 75% complete, which would be reflected in the Percent Complete column. However, when looking at the overall project, which might be for the construction of a new bridge, the design component is only 5% of the overall project; however, City Council has not appropriated the construction funds as of yet and therefore this percent complete would remain at 75% until the total project funds are appropriated. Once the entire project budget is appropriated, the percentage complete column would be adjusted to 5%, reflecting the percentage of the total project that the design work represents. Some projects may be 100% complete but may reflect some funds remaining in the project and the project remains on this report due to warranty work that is yet to be completed; once warranties expire, the project will be closed.)

UPDATED	PROJECT TITLE	PROJECT STATUS (as of 8/31/14)	BUDGET	SPENT (8/31/14)	PROJECT MANAGER (DEPARTMENT)	EXTERNAL PROJECT MANAGER UTILIZED?	ENGINEERING FIRMS OR CONTRACTORS	START DATE	PROJECTED COMPLETION DATE	% COMPLETE
GENERAL FUND CAPITAL IMPROVEMENTS										
▶	120th Avenue and Federal Boulevard Intersection Improvement Project - This project includes the installation of additional lanes at this intersection and an overall configuration improvement. Improvements will include additional turn lanes and widening 120th Avenue to six through lanes and Federal to four through lanes north of 120th Avenue. This is a Colorado Department of Transportation project that was also awarded Transportation Improvement Program (TIP) funds from the Denver Regional Council of Governments. This budgeted amount represents the City's local match contribution. The City will also fund the construction of a pedestrian underpass under 120th Avenue, approximately 300 feet east of Federal Boulevard. This component of the project will be funded by the City's Stormwater Drainage Fund (Please see "Ranch Creek at 120th Avenue and Federal Boulevard" project description in the "Water, Wastewater and Stormwater" project section below.)	The Denver Regional Council of Governments has shifted the construction phase of this project to 2015. Design is 50% complete with construction to begin in 2Q 2015. Completion is scheduled for 2Q 2016.	\$580,000	\$153,986	Dave Loseman (CD)	Colorado Department of Transportation	TBD	9/2014	4/2016	50% design; 0% construction
▶	120th Avenue/Lowell Boulevard Intersection Improvements (FASTER) - The Colorado Department of Transportation (CDOT) is improving the intersection of 120th Avenue and Lowell Boulevard to provide for double left turn lanes in both directions on 120th Avenue and three through lanes for east-bound 120th Avenue. Raised medians will be provided as well as a new mast arm traffic signal. The budget shown is the City's contribution towards this \$3.2 million FASTER project.	Construction of this project has commenced and is being managed by CDOT. Completion is expected in 4Q 2014.	\$110,000	\$0	Dave Loseman (CD)	Colorado Department of Transportation	Jalisco International, Inc.	4/2015	11/2014	50%
▶	136th Avenue/144th Avenue Bridge Railing Painting and Repairs - This project will fund bridge railing painting and repairs at 144th Avenue and 136th Avenue over I-25. Westminster will cover 50% and Thornton will cover 50% of the project cost.	The 144th Avenue bridge work was first bid in June 2013. One bid was received and it was substantially over budget. The project was rebid in 1Q 2014 with changes in the scope of work. As a result of the second round of bidding, both Westminster and Thornton had to commit to \$305,122 to cover their half of the project cost in order for the project to move forward. Thornton will not put forward funding for this project until 2015, therefore the project is on hold until Thornton can provide their portion of the funding. The \$179,986 in the "Bridge/Pedestrian Railing Repainting Project" in the "Ongoing Projects" section will be applied to the projects at the 144th Avenue and 136th Avenue bridges. Thornton Staff has indicated that they will request funding for the 136th Avenue bridge in 2016.	\$289,911	\$11,000	Rob Dinnel (PW&U)	City Employee	Wiss, Janney, Elstner Associates, Inc. (WJE)	12/2012	9/2016	5%
▶	72nd Avenue/Little Dry Creek Bridge Replacement - This project will replace the bridge at 72nd Avenue over Little Dry Creek. This project will be funded from federal bridge replacement funding of \$1.8 million and local funding to support the project. The approach will be to design and construct the structure and raise the pedestrian trail through it (reducing the frequency of trail inundation by creek flows) such that the realignment of Bradburn Boulevard can happen at some future date.	Design is complete and the construction of the project was awarded to Hamilton Construction Company. Based on local business concerns and City Council direction, the full closure of 72nd Avenue that would have ran from June 2015 to November 2015 is not being pursued. Staff is developing an alternative project approach and associated costs. This will also extend the project schedule. Specific details will be provided in the near future. Other funds will need to be identified to cover increased project costs, which are likely to be several hundred-thousands of dollars.	\$4,933,418	\$517,367	Dave Loseman (CD)	City Employee	Jacobs Engineering Group	8/2010	01/2016 (subject to change based on recent change in direction)	100% design; 0% construction
▶	92nd Avenue/Federal Boulevard Intersection Improvements - This project will provide additional lanes at the intersection to improve traffic flow and existing overhead utilities will be placed underground. The City of Federal Heights was awarded DRCOG Transportation Improvement Program (TIP) funding in early 2012 that included matches from CDOT and Westminster for this intersection improvement. The total project cost is \$5.67 million and the City's share is \$601,000. This project is being managed by Federal Heights with oversight by CDOT. Westminster Staff will be involved in all funding and design decisions.	An IGA with Federal Heights was executed in 4Q 2012. Design is currently underway with construction scheduled to begin 1Q 2015. Right-of-Way acquisitions are ongoing with 17 affected properties. Completion of construction is anticipated in 4Q 2015.	\$601,000	\$13,596	Dave Loseman (CD)	Federal Heights	Muller Engineering	8/2012	11/2015	85% design; 0% construction

CAPITAL IMPROVEMENT PROGRAM - MAJOR PROJECTS

UPDATED	PROJECT TITLE	PROJECT STATUS (as of 8/31/14)	BUDGET	SPENT (8/31/14)	PROJECT MANAGER (DEPARTMENT)	EXTERNAL PROJECT MANAGER UTILIZED?	ENGINEERING FIRMS OR CONTRACTORS	START DATE	PROJECTED COMPLETION DATE	% COMPLETE
▶	Bowles House Soffit and Gutter Replacement - This project will replace aging soffits and gutters at the Bowles House historic structure, which also hosts the Westminster Historical Society's museum and displays.	Staff applied for and received a historic preservation grant. Repair documents have been developed and received to complete repairs. Staff is currently contracting with an architect. The project is anticipated to begin in 4Q 2014 and be completed by 2Q 2015.	\$46,000	\$0	Tom Ochtera (GS) Patrick Caldwell (CD)	City Employee	Slater Paul Architects; Spectrum Construction	1/2014	4/2015	20%
▶	City Council Chambers and Boardroom Renovation/Upgrade - The project includes renovation of interior spaces including flooring, furnishings, finishes, security and enhanced multimedia equipment and function. This project seeks to upgrade the facilities to improve the working environment and personal safety of the public, City Council and City Staff. These rooms have not had major updates since City Hall opened in 1988.	Staff is finalizing a Request for Qualifications (RFQ), which will be released in October 2014. Staff is anticipating consultant selection through City Council by the end of 2014. Work on the project would commence next year.	\$395,000	\$0	Mark Ruse (GS) Tom Ochtera (GS) Barbara Opie (CMO)	City Employee	TBD	1/2014	10/2015	5%
▶	City Hall Courtyard Concrete Replacement - This project will fund the removal and replacement of 2,000 square feet of deteriorated concrete, re-caulk 4,000 linear feet of joints and power wash and re-seal 15,500 square feet of concrete courtyard to match the existing color.	Spot repairs of deteriorated concrete panels at the Public Safety Center and City Hall courtyard were completed in July 2014. The remainder of the project has been placed on hold while City Council considers and adopts the 2015-2019 5-Year Capital Improvement Program, which includes significant funding for improvements to the City Hall Courtyard.	\$67,000	\$5,000	Rob Dinnel (PW&U)	City Employee	Keene Concrete Company	9/2013	TBD	5%
	City Hall Furniture Replacement - This project will start the process of replacing existing cubicle furniture at City Hall. The current cubicle system was acquired in 1988 and this project will address cubicle product availability and appearance concerns.	Staff has commenced research related to this project and met with representatives from the City's current office cubicle system manufacturer to tour their showroom and discuss choices and costs. No funds have been expended at this time.	\$10,000	\$0	Mary Joy Barajas (CMO)	City Employee	TBD	8/2013	TBD	5%
▶	City Hall HVAC Cooling Loop - This project will replace the current City Hall cooling loop with a geothermal solution. The current heat sink portion of the cooling system for City Hall no longer meets plumbing code and must be replaced. Total project cost is estimated at \$600,000.	\$350,000 is set aside in the Building Operations and Maintenance (BO&M) Major Maintenance account to fund the remainder of this project. Those funds will be moved into this project at a later date. Design is 90% complete. The project will be bid during 4Q 2014.	\$250,000	\$11,184	Tom Ochtera (GS)	City Employee	Beaudin Ganze Engineering; Ameresco	1/2013	TBD	5%
▶	City Park Recreation Center Aquatic Enhancement - Funded in part by the 2007 POST bond issue, this project is for the renovation of the City Park Recreation Center aquatics area and locker rooms, to include additional amenities into the pool area to increase the play-ability of the pool area, including a lazy river feature, a new waterslide and an outdoor splash pad. Locker room renovation will include the addition of family changing rooms.	This project remains under warranty and Staff continues to work with both the contractor and architect to resolve issues with the pool's filtration and ozone systems. The project warranty has been extended through 1Q 2015. The recreation pool has been acid washed and re-filled and HVAC improvements were completed in spring 2014, with positive results being recorded. Staff continues to evaluate what additional measures may be necessary and new filtration for the recreation pool is currently being considered for installation in early 2015.	\$6,793,881	\$6,750,467	Becky Eades (PR&L)	City Employee	Sink Combs Dethliefs / Adolphson Peterson	11/2007	5/2010	100%

CAPITAL IMPROVEMENT PROGRAM - MAJOR PROJECTS

UPDATED	PROJECT TITLE	PROJECT STATUS (as of 8/31/14)	BUDGET	SPENT (8/31/14)	PROJECT MANAGER (DEPARTMENT)	EXTERNAL PROJECT MANAGER UTILIZED?	ENGINEERING FIRMS OR CONTRACTORS	START DATE	PROJECTED COMPLETION DATE	% COMPLETE
▶	Citywide Radio System Replacement - This project will replace the City's existing radio system with a P-25 digital interoperable simulcast radio system. The City's current radio system is 19 years old and its technology has reached end-of-life status. The P-25 radio system will provide improved coverage, direct interoperability with surrounding agencies and increased choices in radios themselves, as the P-25 system is non-proprietary. This project includes replacement of the major radio system components and dispatch equipment. Radios will be purchased separately.	On December 5, 2013, the new P-25 Radio System went live. It provides clear digital audio transmission. Simulcast towers (or radio sites) at the Public Safety Center, Fire Station 1 and Fire Station 6 have been operating very well. The dedicated fiber network connecting the three new radio sites is operating equally well. The "ISSI" was the final component of the radio system. It allows for the connection to any radio system, providing true interoperability. The install and completion of the ISSI has allowed for the process of the final payment to Cassidian Communications in the amount of \$475,095, which should be completed sometime during 4Q 2014. Once the payment is completed, the project will be completed and can be closed.	\$2,528,579	\$1,677,303	Russ Bowers (PD) Nelson Martinez (PD)	City Employee	24/7 Networks; Advanced Fiber Response; AT&T Mobility; Avtec, Inc.; Cassidian Communications; CHDG; dbSpectra; Frontier Communications; Motorola; Keene Concrete; Kelly Electric; Park Range Construction; SBSA; TAIT Communications	1/2013	12/2014	95%
▶	Community Development Building Division Computer System Enhancements - Online Permit Issuance - This project will fund software design and implementation to allow customers to submit, pay and print out issued permits remotely for items like water heaters, air conditioners and furnaces. The City's current system only allows for online application, but customers must still come into City Hall to pay for and pick up these types of permits.	Staff recently completed consultant selection and has just obtained a signed contract. It is anticipated that the work will begin in September 2014.	\$20,000	\$0	Dave Horras (CD)	City Employee	Truepoint Solutions	9/2013	3/2015	20%
▶	Community Development Building Division Computer System Enhancements - Rental Housing Inspections - This project will fund the development of a mobile application for the City's Housing Inspectors to use in the field. This will allow automation of current inspection paperwork processes, thereby improving efficiency and accuracy. This project will also fund the purchase of iPads for use in the field.	The vendor has restarted development work following the completion of the mobile strategic initiative developed by the Information Technology Department. An initial prototype of the app has been developed and presented to the Rental Property Staff. Feedback was given to the vendor. Minor changes are being made to the app based on the feedback given. The app is being tested for connectivity and will be given to Staff for initial testing.	\$20,000	\$9,658	Keith Alvis (PW&U)	City Employee	CityGovApp	8/2013	1/2015	50%
▶	Computer-Aided Dispatch/Report Management System (CAD/RMS) Software Upgrades - This project funds upgrades on a two to four year basis for Public Safety computer applications (computer-aided dispatch, records management, iLeads, and iMobile) to insure ongoing product support and enhancements. The City of Westminster has made a significant investment in application software to provide public safety services and records management tools for employees. These software products require upgrades to acquire new features and to guarantee ongoing vendor support.	No upgrades are planned for this year. Funds are being held for upgrades in future years. Annually appropriations to this account assists in planning and "smoothing out" investments in these upgrades. Staff will be issuing an RFP later this year for a new records management system, as Intergraph is discontinuing its iLeads component.	\$170,000	\$0	Carmen Zukas (IT)	City Employee	TBD	TBD	TBD	0%
NEW	Creekside Drive (Westminster Station/South Westminster Transit Oriented Development) - The proposed first phase of Creekside Drive will run along the south side of Little Dry Creek from approximately 69th Avenue and Lowell Boulevard to approximately Irving Street. Additionally, the proposed project would include a parking lot that would serve the park and provide direct access to Westminster Station (commuter rail). Creekside Drive would also provide direct access to the forthcoming Little Dry Creek Park and Open Space area.	City Council appropriated \$90,537 in 2013 carryover into this project. Adams County recently indicated that they would not be interested in funding part of this project, despite it being adjacent to the unincorporated Goat Hill neighborhood. Proposed 2016 funding would be directed towards design. Subsequent funding would be necessary in future years for construction. The total phase one cost is approximately \$1.7 million. A second phase might be considered in the future, extending the roadway east towards Federal Boulevard. However, without Adams County's participation, this seems unlikely in the near future.	\$90,537	\$0	John Burke (CD)	City Employee	TBD	1/2016	TBD	0%
▶	FasTracks Local Match - This project is to fund the City's anticipated FasTracks local match associated with RTD's commuter rail line through Westminster. While the total cost to local jurisdictions remains unknown at this time, it is anticipated that the City of Westminster's share will be significant.	Staff worked with RTD and corridor stakeholders on how to proceed with plans for the Northwest Rail corridor through the Northwest Area Mobility Study (NAMS). Based on outcomes of NAMS, it does not appear the a future extension of rail past Westminster Station will occur in the near future. Based on this fact, Staff is proposing re-appropriation of these dollars through the 2015-2016 Budget process to project activities related to Westminster Station infrastructure projects (commuter rail).	\$250,000	\$0	Aric Otzelberger (CMO)	City Employee	N/A	N/A	TBD	0%

CAPITAL IMPROVEMENT PROGRAM - MAJOR PROJECTS

UPDATED	PROJECT TITLE	PROJECT STATUS (as of 8/31/14)	BUDGET	SPENT (8/31/14)	PROJECT MANAGER (DEPARTMENT)	EXTERNAL PROJECT MANAGER UTILIZED?	ENGINEERING FIRMS OR CONTRACTORS	START DATE	PROJECTED COMPLETION DATE	% COMPLETE
▶	Federal Boulevard/Burlington Northern Santa Fe (BNSF) Bridge Enhancements - This project will provide for architectural enhancements to the southern entryway for Westminster along Federal Boulevard near the forthcoming Westminster Station (FasTracks Commuter Rail) and associated transit-oriented development area. The Colorado Department of Transportation is managing the overall bridge replacement project and these funds will allow architectural elements to be added to the scope.	The City submitted proposed conceptual architectural enhancements to CDOT. Staff is now working through detailed cost estimates and value engineering concepts with CDOT. Additionally, Staff is also working on a draft IGA and associated cost sharing alternatives that mutually benefit both CDOT and the City. CDOT plans to have the project out to advertise in September 2014 with construction starting in January 2015. The project is anticipated to last 18 months with a Summer 2016 targeted completion date.	\$400,000	\$137,726	John Burke (CD)	CDOT	Atkins Global/DTJ Design	8/2013	6/2016	75% design; 0% construction
▶	Federal Parkway/122nd Avenue Turn Lane - This project will provide funding to install a southbound left-turn lane on Federal Parkway onto eastbound 122nd Avenue. With the forthcoming 300-plus unit Longsview apartment complex to the south of 122nd Avenue, traffic volumes will increase in the area. The developer of the Longsview project will share the responsibility and cost of this improvement (estimate for developer portion is \$20,000 for asphalt widening to the south of the intersection).	The southbound left-turn lane will be installed by a contractor hired by the developer of the Longsview apartment project (subject to Staff and Council approval) in order to achieve an "economy of scale" on the road work and to avoid any potential conflicts in the field. As of August 2014, the Longsview developer had not commenced construction on the development. Due to this late start, it is likely that the road construction on Federal Parkway will not occur until 2015.	\$30,000	\$0	Dave Downing (CD)	City Employee	TBD	1/2014	8/2015	0%
▶	Fire - Information Technology and Radio Upgrades - This project will address information technology and radio communication needs at various fire stations.	Technology upgrades for both the Knox box key system and the Medic vaults are in process. The Knox box key system upgrade will streamline the dispatch procedures to remotely release the Knox key, increase the security of the system identifying/tracking individual users, and provide a visible warning light in the vehicle showing the key has been removed. Additionally, the Knox box key system will now be independent of the radio system, saving a substantial amount of hardware investment that would have been necessary to link it to the new radio system. A similar identification and tracking system will also be used with the medic vaults.	\$122,000	\$69,168	Bill Work (FD)	City Employee	Various	1/2013	12/2014	85%
▶	Fire EMS Field Reporting (Hardware) - This project is to purchase and install field reporting tablets (laptops) and software, which will be integral components to the Fire Department's records management system. Field tablets will permit personnel to complete all required EMS, fire and inspection reports in the field, thereby reducing the need for paper reports and improving the efficiency of operations.	Fire reporting (NFIRS), EMS reporting (NEMESIS) and training modules have all been deployed. The connectivity solution used for the medical units has been extended to the entire Fire Department fleet for future deployment on field inspections. The fire pre-plan module is complete and has been deployed. The fire inspection module has been completed for desktop input and was deployed in 1Q 2014. Mobile inspection software is currently in beta testing, along with inventory modules. Mobile reporting hardware for the engines and trucks have been demonstrated by vendors. Two units are currently deployed in field testing along with protective cases to minimize potential damage. Numerous quality assurance and benchmarking reports have been constructed by IT and are available to users from within the application. Additional tablets have been secured for field testing and are deployed to two ambulances. Mobile inspection software is also ready for deployment for field testing and should be on the streets in October 2014. Hose module has been configured and data conversion underway.	\$350,000	\$189,421	Alan Kassen (FD)/Rich Welz (FD)/Derik Minard (FD)	City Employee	Alpine Software	3/2008	3/2015	85%
TO BE CLOSED	Fire Station #2 Office Creation and Reconfiguration - This project will create a professional and private office space for the Battalion Chiefs, Fire Station #2 Officers and the Training Coordinator.	Construction was completed 1Q 2014. The remodel allowed for four offices and specific Fire and EMS training areas. This project can be closed.	\$52,000	\$49,135	Alan Kassen (FD)	City Employee	Sand Construction/Scott Communications	1/2013	6/2014	100%
▶	Golf Course Fund Transfer - This transfer from the General Capital Improvement Fund (GCIF) to the Golf Course Fund is necessary in order to attain a balanced budget for the Golf Course Fund. Due to continuing debt obligations at The Heritage and challenges facing the golf industry as a whole, revenues from Golf operations alone are not projected to cover the total expenditures proposed for Golf operations in 2014.	This represents the budgeted transfer from GCIF to the Golf Course Fund for 2014. This transfer payment is occurring in monthly installments of approximately \$28,250.	\$336,000	\$224,000	Barbara Opie (CMO)	City Employee	N/A	1/2011	12/2014	66%

CAPITAL IMPROVEMENT PROGRAM - MAJOR PROJECTS

UPDATED	PROJECT TITLE	PROJECT STATUS (as of 8/31/14)	BUDGET	SPENT (8/31/14)	PROJECT MANAGER (DEPARTMENT)	EXTERNAL PROJECT MANAGER UTILIZED?	ENGINEERING FIRMS OR CONTRACTORS	START DATE	PROJECTED COMPLETION DATE	% COMPLETE
TO BE CLOSED	Heritage Club House HVAC Retrofit/Fire Sprinkler Renovation - The purpose of this project is to renovate the existing HVAC systems in the Heritage Clubhouse and add controls to address heating and cooling issues and make the building significantly more energy efficient. This project will also address freezing pipes in the bathrooms and renovate the existing fire detection and sprinkler system at The Heritage.	The project is now complete. Staff will be going to City Council with a recommendation to use remaining project funds for replacing the concrete apron around The Heritage Clubhouse. Please see project description below.	\$525,000	\$263,983	Tom Ochtera (GS)	City Employee	SBSA Farnsworth Group (design engineer)/ AMS of Colorado Springs (contractor)	12/2012	6/2013	100%
NEW	Heritage Patio Repairs - This project will address the concrete patio surrounding the club house. Significant settling has occurred in this area causing cracking, heaving and general trip hazards. These funds will be utilized to potentially excavate, replace soils, compact and construct a new patio around the clubhouse.	Soils report is completed and recommendation/estimates to remove and replace slab on grade are very expensive. Another solution is providing a Trex deck over the soils and this concept is being reviewed. Architectural design bids are being solicited with significant soils and foundation engineering planned.	\$175,000	\$0	Tom Ochtera (GS)	City Employee	TBD	03/2015	TBD	5%
▶	Holly Park - The funds provided were used to clear condemned buildings from the property as well as routine maintenance until the property could be sold.	Boulder Creek Communities has dropped their offer to purchase the property and the contract with them is no longer active. Several other interested parties have submitted proposals and are currently being reviewed by Staff.	\$1,161,780	\$1,115,751	Dave Loseman (CD)	City Employee	N/A	7/2005	6/2015	90%
TO BE CLOSED	Huron Street and 144th Avenue Roadway Settlement Mitigation - This project is to stabilize severely settled areas on Huron Street and 144th Avenue. The settlement in the subgrade and pavement have caused moderate to severe "rideability" pavement condition ratings. This work is being done in preparation of the planned maintenance work included in the 2014 Arterial Roadway Grinding/Resurfacing project.	The project was completed in late 2013 and once the warranty expires, the project can be closed. Work was completed on Huron Street only, as the underground voids were much larger than anticipated and used all of the allotted material within budget before the contractor could move to 144th Avenue. The 144th Avenue settlement areas were corrected with asphalt prior to resurfacing. The injected stabilization material is performing as designed to fill the voids in the pavement/subgrade.	\$100,000	\$96,564	Rob Dinnel (PW&U)	City Employee	Concrete Stabilization Technologies Inc.	9/2013	9/2013	100%
▶	Hyland Village Public/Private Improvements - The City received a settlement payment for performance bonds associated with the original McStain project located at 98th Avenue and Sheridan Boulevard. These funds will be utilized to install improvements that were the original obligations of the developer.	The construction of 98th Avenue adjacent to the Hyland Village site was substantially completed in December 2013 and all miscellaneous costs of construction (e.g. street lighting) were paid by April 2014. The construction of 98th Avenue was completed at a cost under the estimate that was prepared by Staff in early 2013. The project is under warranty. The remaining funds in this project will be used to pay for other improvements within Hyland Village as development continues.	\$1,957,000	\$1,080,488	Dave Downing (CD)	City Employee	NV5, Inc. (design)/NORRA (construction)	8/2012	4/2014	100% of 98th Avenue construction
▶	I-25 North Express Lanes - This \$59 million dollar project will fund one new express toll lane in each direction on I-25 between U.S. 36 and 120th Avenue. This express lane will allow motorists a choice to carpool, take transit or pay a toll to access the lane. A \$15 million federal TIGER IV discretionary grant was awarded to this project. State, regional and local dollars will fund the remaining project cost. \$500,000 represents Westminster's contribution to this project (part of over \$5 million total in local contributions) and is to be paid over a period of three years per agreement with the Colorado Department of Transportation commencing in 2013. This project is a top priority of the North Area Transportation Alliance (NATA).	Construction commenced in September 2013, with project completion anticipated in October 2015. The first phase of work has focused on the three-mile northbound stretch of highway between U.S. 36 and Thornton Parkway. The profile under the 88th Avenue bridge was lowered by one foot and now meets clearance standards. The remainder of the required lane work will occur in 2014. Median work, an asphalt overlay, installation of tolling infrastructure and connecting to the existing HOT/HOV lanes will occur in 2015.	\$334,000	\$167,000	Aric Otzelberger (CMO)	Colorado Department of Transportation	TBD	1/2013	10/2015	35%
▶	I-25 Trail Connection Project - This is an Adams County Open Space grant project. The project will use funds to construct a trail adjacent to McKay Creek and as a local match to complete two segments of the I-25 trail that will connect to the Big Dry Creek and Tanglewood Creek trails. This project will provide safe, off-street shared use paths for residents living in this area and commuters traveling to businesses and offices. The total project cost is anticipated to be \$1,284,544 with \$428,459 of this cost coming from the Adams County Open Space Grant.	Since this project is connected to the McKay Lake Outfall project, the same design engineer, Merrick and Company was hired to do the design which is currently 50% complete. The intent would then be to construct these trails as a change order to the McKay Lake Outfall project, subject to City Council approval. The McKay Lake Outfall project is discussed separately below and costs to date are reflected there for the overall project.	\$856,085	\$0	Dave Loseman (CD)	City Employee	Felsburg, Holt & Ullevig	4/2014	6/2015	50%

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	JD Edwards System Upgrade - Oracle's JD Edwards EnterpriseOne is the enterprise application the City uses for financial management, human resources, budgeting and other functions. A multiple number of subprojects must take place over the next several years to extend the useful life of the EnterpriseOne system to see that it continues to deliver productivity in a cost-effective manner. This project would fund those subprojects.	The previously used Create!Form application has been replaced with the newer Transform application for forms delivery. Staff successfully upgraded JD Edwards to the newest major tools release 9.1.4.5, installed a new application to deliver single sign on capability, and implemented a new user interface for the workforce. Staff also expanded to a clustered webserver environment to improve performance.	\$107,000	\$82,860	Larry Garlick (IT)	City Employee	Denovo, Bottomline Technologies, GSI	6/2013	12/2015	60%
TO BE CLOSED	Jessica Ridgeway Memorial Park - Formerly known as Chelsea Park, this project will be funded by a combination of donations, grants, CIP funds and in kind services. The park will be renovated to include custom play equipment, a shelter, plaza, tables, benches and lighting. This project also includes an account for ongoing maintenance (\$10,000) from a contribution from Kaiser Permanente.	The park was completed on time and has a one year warranty through August 2014. A small drain has been added to the playground to keep the high ground water out of the play area. Contractor is working on warranty issues and should be completed by end of September 2014. Closeout of the capital project will immediately follow. The project with ongoing maintenance dollars will remain open.	\$460,788	\$427,888	Kathy Piper (PR&L)	City Employee	T2 Construction, Inc.	12/2012	9/2013	100%
	Lowell Boulevard (120th Avenue to 124th Avenue) - This project will fund the widening of Lowell Boulevard between 120th Avenue and 124th Avenue to a four-lane arterial street with turn lanes and a raised median. The City and County of Broomfield will manage the project, and Westminster will pay approximately \$1.7 million of the cost of the work associated with the one northbound lane that will be within the City's jurisdiction. The City is also responsible for \$289,000 associated with right of way purchases from Metzger Farm. Per and IGA, the \$1.7 million is to be paid in annual increments from 2015-2018.	The City and County of Broomfield is managing this project. Final design was completed in 3Q 2014. Construction is anticipated to start in the 4Q 2014 and be completed in 2Q 2015.	\$463,000	\$170,419	Dave Loseman (CD)	City/County of Broomfield	TBD	1/2014	6/2015	100% design; 0% construction
	Lowell Boulevard Redevelopment (HUD Section 108) - This project represents funds awarded by the U.S. Department of Housing and Urban Development (HUD) through the HUD Section 108 Loan Fund program. These funds will be utilized for land acquisition and site preparation relative to redevelopment of a portion of the 7200 block of Lowell Boulevard.	Structural assessment of Penguin Building is underway. Staff continues work with developer to re-work the development plan and re-structure funding strategy.	\$662,107	\$259,237	Tony Chacon (CD)	City Employee	TBD	10/2012	6/2015	75%
	McKay Lake Outfall Drainage - This is a joint project between the cities of Thornton and Westminster. It includes the planning, cost apportionment, design and construction of improvements to reduce the significant floodplain between Huron Street and Washington Street, north of 136th Avenue.	A contract for final design services was approved by City Council in September 2013. Right-of-way for the project from the affected land owners has already been acquired. Permission to cross FRICO's Bull Canal facilities is being pursued and arrangements are being made to relocate a gas facility, which is in conflict with the work. The original design included the construction of a permanent lake, but with the lack of water rights to maintain this lake, the design is being modified to a dry bottom concept. Construction is expected to get underway in 4Q 2014.	\$9,589,386	\$4,255,420	Dave Loseman (CD)	City Employee	Merrick and Company	1/1999	6/2015	95% (final design portion); 0% construction
	Municipal Court Security System Upgrades - This project will replace, upgrade and/or enhance the existing security systems at the Municipal Court, including replacement of the metal detector at the front entry, replacement of approximately 40 security cameras, and enhancement of video recording equipment. This project will also fund replacement of card readers, burglar alarm system, intercoms, panic alarms, and proxy card interfaces.	The National Center For State Courts was contracted to conduct a Court Security Audit. This project is completed. Staff is in the process of procuring bids to replace existing cameras, install eight new cameras, replace the existing panic alarm system and possibly add more panic alarms.	\$30,000	\$7,927	Carol Barnhardt (GS)	City Employee	National Center for State Courts for audit; vendors undetermined at this point for cameras and duress alarms	4/2014	12/2014	20%
	Open Space Management Plan - This project will fund the development of a comprehensive open space management plan, which will help guide recommendations and decisions on how resources are utilized for open space maintenance and management.	The Open Space Stewardship Plan (OSSP) was presented in final draft form to City Council in July. It is scheduled to be presented to the Parks, Recreation, Libraries and Open Space Advisory Board in September and then brought back to City Council for final adoption in October/November 2014.	\$75,000	\$75,000	Rod Larsen (PR&L)	City Employee	Studio CPG	8/2013	10/2014	95%

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▶	Orchard Parkway - 136th Avenue to 144th Avenue - This project will construct Orchard Parkway between 136th Avenue and 144th Avenue. This will be a four lane roadway between 142nd Avenue and 144th Avenue and a two lane roadway between 136th Avenue and 142nd Avenue. Features of the project include a 4 foot on-street bike lane, 8 foot detached walks, street lights and a raised landscape median.	Construction is well underway and is anticipated to be completed in 4Q 2014. Six change orders have currently been processed in the total amount of 1.01% of the contract amount or \$69,102.54. All of these change orders are due to unforeseen conditions such as the need for unsuitable material removal for the McKay Box Culvert; and additional wiring and signal equipment for the signal at 142nd Avenue and Huron Street because of relocating the planned pole installation due to utility conflicts.	\$5,766,081	\$4,315,473	Dave Loseman (CD)	City Employee	United Civil Design/Scott Contracting	9/2012	11/2014	65%
▶	Photovoltaic Solar Panel System - The City entered into a power purchase agreement with Main Street Power for the installation of photovoltaic solar panels on four facilities. Pursuant to this agreement, the City needs to set aside the first six years of energy purchase funds as a guarantee to Main Street Power and their financiers that they will be receiving the income stream from the City's energy payments. At the conclusion of the six-year period, should the City decide to exercise the option to purchase the system, these funds could be utilized towards that purchase.	As of December 30, 2009, all solar energy systems were installed and producing energy at City Park Recreation Center, Westview Recreation Center, the Public Safety Center and the Municipal Service Center. No expenditures have been made to date, as these funds serve as an energy payment "guarantee" as discussed in the project description. Preliminary cost benefit analysis is being conducted and an appraisal of the systems is being considered.	\$503,000	\$0	Tom Ochtera (GS)	City Employee	Main Street Power / Simple Solar	7/2009	12/2009 (funding will stay in place until 2015)	100%
TO BE CLOSED	Promenade Light Towers - This project will repair the light towers at the Westminster Promenade between The Westin and the Promenade Lake. Currently, these towers are not functional and need significant repairs. This project will also convert the previous neon lights to LED technology, which will reduce energy and maintenance costs.	This project is complete and the one year warranty period is coming to a close.	\$110,721	\$100,387	Rich Dahl (PR&L)	City Employee	Kelly Electrical Inc.	5/2013	8/2013	100%
▶	Railroad Crossing Surface Replacement Program - This program will replace railroad crossing surfaces at several crossing locations throughout the City with concrete crossing pad materials. These crossings are rated poor to very poor. The program is proposed to be funded over several years.	Burlington Northern Santa Fe (BNSF) crews replaced the Bradburn Boulevard railroad crossing surface (rubber panel) in January 2014. All railroad crossing surfaces in the City are now "concrete panel" material, however some original design concrete panel crossings installed in 1995 are now deteriorating. The next crossing in need of replacement is West 76th Avenue. Staff will begin working with BNSF and the Public Utilities Commission (PUC) regarding the replacement of original design concrete panel crossings and verification of future availability of 50/50 cost sharing between the City and BNSF. BNSF staff has indicated (verbally) that they will continue to participate with the 50/50 cost sharing for future pad replacement projects. A cost estimate and contract for the 76th Avenue crossing is being prepared by BNSF staff. City Staff have asked BNSF for a 2015 project target date.	\$233,507	\$164,253	Dave Cantu (PW&U)	City Employee	BNSF Railroad	1/2009	12/2015	70%
▶	Railroad Quiet Zone Study - Originally associated with the FasTracks Commuter Rail effort, this project will provide funds to conduct a quiet zone study. The Regional Transportation District (RTD) will not commence the preparation of a quiet zone study until revenue is identified to fund the future extension of the Northwest Rail Line. Staff is exploring legislative and potential funding strategies to realize quiet zones in advance of the Northwest Commuter Rail Line.	A quiet zone assessment is complete. Total cost for implementation of quiet zones at all of the City's nine railroad crossings is estimated between \$2.2 million and \$3.4 million. Low-cost quiet zone attainment appears possible at the 88th Avenue crossing. Staff made median adjustments at 88th Avenue to facilitate quiet zone implementation. Staff completed a field diagnostic with representatives from Burlington Northern Santa Fe, the Federal Railroad Administration and the Public Utilities Commission. Staff has filed a Notice of Intent to create the quiet zone with all interested parties. Following a required 60-day comment period, Staff will proceed with finalizing the quiet zone.	\$100,000	\$32,704	Aric Otzelberger (CMO) / Dave Downing (CD)	City Employee	Felsburg Holt and Ullevig	1/2008	6/2015	60%
▶	Recycling Drop-Off Location - This project will fund improvements at an existing City facility to create one consolidated, staffed, community recycling drop-off location. Pavement, fencing and other on-site improvements will be necessary after a specific site is vetted and chosen.	This project is currently on hold. Further review is needed with new cost estimates and information to be shared with City Council in 1Q 2015. Information on additional options will be presented at this time as well.	\$180,000	\$0	Tom Ochtera (GS)	City Employee	Hangar41	1/2013	TBD	5%

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▶	Revegetation of Sisters of the New Covenant Open Space Property - This project account is to help fund the revegetation and restoration of the recently-acquired 25.49-acre Sisters of the New Covenant open space property located at 100th Avenue and Alkire Street.	Staff has selected Smith Environmental to perform this revegetation project. However, the project is on hold until the State confirms adequate funding to cover the project through the Natural Resource Damage Funds.	\$88,000	\$0	Heather Cronenberg (CD)	City Employee	Smith Environmental	3/2014	3/2016	10%
▶	Shoenberg Farm Restoration - This project will help facilitate the acquisition and restoration of historic properties located at the former Shoenberg Farm site to make them available for commercial or non-profit users. The restoration projects to be pursued include the barn, the milk house, the wood and concrete silos, the farm house, the carriage unit, and the power plant.	Staff is in the process of securing bids to restore the exterior of the Milk House. Staff anticipates construction beginning in November 2014 and concluding by March/April 2015.	\$1,594,580	\$1,219,679	Tony Chacon (CD)	City Employee	TBD	3/2012	4/2015	75%
	Shoenberg Farm Site Improvements - This project represents funds received from the developer of Shoenberg Farms for design and construction improvements to Sheridan Boulevard abutting the commercial property at this location. The funds are being held for future potential parking lot or site improvements.	No use of funds have been necessary to date.	\$281,502	\$0	John Carpenter (CD)	City Employee	TBD	1/2014	TBD	0%
▶	South Westminster Transit-Oriented Development - NORTH - This project will assist with the redevelopment projects and land acquisitions necessary for the FasTracks project (Northwest Rail) for the Westminster Station near 71st Avenue and Irving Street, along with the development of the surrounding area. This project also includes investments in station infrastructure, a parking structure and development of the north plaza. This project includes funding associated with the Westminster Housing Authority (\$2,200,000) for infrastructure improvements.	The Beck Team was selected for the design/build parking structure project. A stakeholder group, which includes a number of City departments and RTD Staff, are meeting on a regular basis during the design phase of this project. The City has an executed purchase and sale agreement with the Nolan property with a closing date of October 31, 2014 to acquire land needed for the north plaza and street right of way. Staff will begin demolition of the existing vacant building west of the Nolan's main building in November. Nolans will remain in operation.	\$13,462,815	\$5,713,673	John Burke (CD)	City Employee	Martin/Martin Inc.	12/2008	6/2016	75% (design); 0% (construction)
▶	South Westminster Transit-Oriented Development - SOUTH - This project will fund components of the RTD FasTracks project (Northwest Rail) for the Westminster Station near 71st Avenue and Irving Street, including development of the south plaza area and betterments to the station platform itself.	The Westminster Station Betterment Request is currently in design and value engineering alternatives are being discussed in order to keep this betterment within the authorized budget. The final costs for the betterment will come to City Council for review in the fall of 2014 with an anticipated construction start of November 2014. This is on the critical path to complete the project prior to the date of March 2016 identified in the IGA between the City and RTD.	\$4,827,138	\$1,179,322	John Burke (CD)	City Employee	TBD	7/2013	6/2016	100% (betterment request); 30% (design)
▶	South Westminster Transit-Oriented Development Roadway Improvements - This project will assist with the roadway improvements needed around Westminster Station and the City-proposed parking structure near 71st Avenue and Irving Street. The project funding is from the City's share of Adams County road tax revenues.	Final design work for the two primary access streets (Hooker Street and Westminster Station Drive) is currently in progress. Staff is coordinating with RTD and its concessionaire, Denver Transit Partners (DTP), and with BNSF on the components of station infrastructure. Staff is also working with CDOT on the proposed Federal Boulevard/Westminster Station Drive intersection. Construction of several of these elements will get underway in 2015.	\$553,839	\$534,262	John Burke (CD)	City Employee	Martin/Martin	8/2010	12/2016	90% (phase 1 design); 0% (construction)
▶	U.S. 36 Betterments/CDOT Land Swap - This project represents the funds the City of Westminster received from the Colorado Department of Transportation (CDOT) in relation to a land exchange between the two entities in relation to necessary right of way for the U.S. 36 Managed Lanes Project. Projects originally identified for this funding include landscaping design and improvements at the Sheridan Boulevard/U.S. 36 Interchange (\$398,818), an upgrade to LED lighting (versus high pressure sodium) for street/highway lights (\$310,017), additional aesthetic enhancements to the Sheridan Bridge (center pier) (\$29,497) and to the Promenade Underpass (wrought iron fencing) (\$56,921), and illuminated street name signs at the Sheridan ramps (\$20,000).	Several expenditures have taken place to date. The wrought iron fence budget was shifted to the landscape budget because the Colorado Department of Transportation and Ames/Granite were going to require an additional \$63,000 for the wrought iron fence. Staff believes this is not a prudent use of City funds. City Council will consider the landscape construction budget in 1Q 2015 prior to proceeding.	\$815,253	\$133,645	Dave Loseman (CD)	City Employee	PKM Design Group	7/2013	5/2015	85% design; 60% construction

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▶	U.S. 36 Bikeway Underpass at 92nd Avenue - As part of the Colorado Department of Transportation's (CDOT) U.S. 36 Managed Lanes Project, CDOT will construct a bikeway parallel bikeway that will run from roughly Pecos Street/Federal Boulevard in Westminster to Table Mesa in Boulder. The original project design contained an at-grade crossing of 92nd Avenue adjacent to the Westminster Urban Reinvestment Project (WURP) site. In order to improve safety and decrease travel time for citizens and commuters, the City proposed installing an underpass at 92nd Avenue for the bikeway. CDOT and its contractor examined the feasibility and have agreed to construct the underpass, provided the City provides a portion of the funding needed for the project (50%).	Design and construction of this underpass is 100% complete. Construction of the concrete trail through the underpass is scheduled for 4Q 2014.	\$250,000	\$0	Dave Loseman (CD)	Colorado Department of Transportation	Ames/Granite	2/2013	6/2014	100% design; 85% construction
▶	U.S. 36 Bus Kiosks Local Match - This project represents the City's share of the corridor-wide FASTER grant award through CDOT for U.S. 36 Bus Kiosks. Per the grant proposal, 14 kiosks will be installed along the U.S. 36 corridor, totaling \$781,000. Two kiosks will be installed at each park n ride along the corridor. These kiosks will allow more convenient payment for commuters and will help decrease travel time along the corridor, as the kiosks will eliminate some cash transactions between the driver and commuters.	The installation of the bus kiosks is not yet programmed by the contractor. Design concepts were submitted to City Staff for review and comment. The City has paid for its portion of the project.	\$44,630	\$44,630	Dave Loseman (CD)	City Employee	Ames/Granite	4/2012	6/2015	25%
▶	U.S. 36 Pedestrian Box Widening - Shops at Walnut Creek - This project is related to the U.S. 36 Managed Lanes project. Per a previous intergovernmental agreement (IGA) with CDOT, the City is obligated to lengthen the existing underpass that connects the Westminster Promenade to The Shops at Walnut Creek. The IGA was signed when the bridge was originally constructed. Per negotiations with CDOT, the City's total cost of this project is \$855,373. An additional \$467,000 will be needed in future years. The City will pay project costs to CDOT in three installments spread out over three years.	The widening of this bridge, part of the U.S. 36 Managed Lanes Project, is nearly complete. The City has entered into an IGA with CDOT, which identifies a payment schedule in 2013, 2014 and 2015 for the total City obligation of \$855,373. City Staff has proposed the remainder of necessary funds for this project be funded as part of the 2015 Capital Improvement Program (CIP).	\$571,000	\$570,250	Dave Loseman (CD)	City Employee	Ames/Granite	1/2013	12/2014	90%
▶	Westminster Center Urban Reinvestment Project (WURP) - Master Planning Efforts - These funds represent a transfer from the Sales and Use Tax Fund to the Westminster Economic Development Authority (WEDA) for planning and architectural services necessary to prepare a master plan for the WURP site.	A Specific Plan has been drafted for the Downtown Westminster area. The plan includes policy objectives, land use requirements and form-based zoning for development within the site. Additional work contributing to this planning effort includes planning for public spaces and a parking management strategy for the site.	\$619,353	\$556,246	Mac Cummins (CD)	City Employee	Torti Gallas and Partners/Projects for Public Spaces/Fox Tuttle	7/2013	12/2014	80%
▶	Westminster Center Urban Reinvestment Project (WURP) Roadway Project - This project includes the design and construction of the "backbone" roadways within the WURP redevelopment site. The roads to be designed and constructed include Westminster Boulevard, Eaton Street, B Street and G Street. Design will begin in 2Q 2014 with construction anticipated in 4Q 2014.	The selection of a design consultant was completed in the 1Q 2014 with Drexel/ Barrell being the selected design firm. Design is currently underway and approximately 40% complete.	\$453,195	\$0	Dave Loseman (CD)	City Employee	Drexel/Barrell	5/2014	7/2015	40% (design); 0% construction
▶	Wireless Communications Upgrade - This project will increase the wireless network availability and performance within all City facilities. This project involves increasing the number of access points, moving an existing Wireless LAN Controller (WLC) to the disaster recovery facility and adding new switching equipment. This project will result in increased wireless capacity and higher performance between the data center at City Hall and the City's computer disaster recovery facility.	Staff has selected the wireless system by Adtran. Staff requested and received City Council authorization to proceed with purchase of equipment and services. Final planning steps are being completed for the water plant installations and equipment installs will begin in September 2014.	\$75,000	\$0	Dan Hord (IT)	City Employee	Adtran	10/2013	11/2014	65%

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UTILITY FUND CAPITAL IMPROVEMENTS (WATER, WASTEWATER AND STORMWATER)										
▶	72nd Avenue and Bradburn Boulevard Sewer Relocation - As part of the continuing effort to revitalize the south Westminster area, this project will replace the existing concrete culvert that carries 72nd Avenue and its intersection with Raleigh Street over Little Dry Creek. Sewer improvements will be constructed in concert with the 72nd Avenue bridge replacement project to replace aged pipelines and to improve hydraulic capacity. Nearly 3,000 feet of large-diameter sewer main will be replaced as part of this project.	Design is complete and construction will commence in 3Q 2014. Originally, Staff had identified funds in the open cut sewer project account for this purpose, but those funds were recently programmed for unanticipated needs with the 87th Avenue and Wadsworth Parkway lift station replacement project. Carryover funding of \$350,000 was transferred to the account to complete the project funding.	\$900,000	\$0	Dave Loseman (CD)	City Employee	Jacobs Engineering Group, Inc./Hamilton	4/2012	12/2015	100% (design); 0% (construction)
▶	72nd Avenue and Bradburn Boulevard Water Line Replacement - As part of the continuing effort to revitalize the south Westminster area, this project will replace water mains that are aged and undersized and will be constructed in concert with the 72nd Avenue bridge replacement project. Nearly 2,800 feet of water main will be replaced as part of this project.	Design is complete and construction will commence in 3Q 2014.	\$1,014,540	\$0	Dave Loseman (CD)	City Employee	Jacobs Engineering Group, Inc./Hamilton	4/2012	12/2015	100% (design); 0% (construction)
▶	80th Avenue and Clay Lift Station Elimination - Retiring or replacing the existing station is necessary because its components have reached the end of their useful life and are out of compliance with current safety standards and electrical codes. Based on a study completed by the City in 2011, the lift station can either be replaced or eliminated by re-directing its sewer flows to the Crestview Water and Sanitation District sewer system. Eliminating the lift station is currently the most cost-effective approach.	Staff is negotiating the details of an intergovernmental agreement with the Crestview Water and Sanitation District to send the wastewater flows from the City's Shadow Ridge neighborhood to the regional Metro Wastewater Reclamation District via their sanitary sewer system. This agreement would allow the City to eliminate the lift station. Once the IGA is finalized, Staff will design improvements to a portion of Crestview's downstream sewer. Design is anticipated to begin in 4Q 2014.	\$2,000,000	\$0	Julie Koehler (PW&U)	City Employee	Stantec	6/2014	12/2015	95% (IGA); 0% (design)
▶	87th and Wadsworth Lift Station Replacement - The existing lift station was built in 1992. This project will construct a larger wet well, install parallel force mains, improve mechanical and electrical equipment and stand-by power. These improvements will improve functionality and help mitigate the risk of sewage overflows.	Project construction is substantially complete and the new facilities are successfully in operation. Construction items are complete and project closeout is anticipated for the fall of 2014. The settlement agreement for acquisition of the fee property and easements has been finalized and is now complete. The old lift station has been demolished and the old site restored. The contractor has submitted several claims that have been reviewed in accordance with the contract procedures. Claims that could not be substantiated were denied. Staff is anticipating the contractor's application for final payment. Overall, a total of 13 construction change orders and/or change directives have been processed for this project; the net amount of all approved construction changes is \$315,856 to date. All of these changes are within the scope of the project, do not require Council action for approval pursuant to WMC and were only necessary due to unforeseen conditions or variations in project quantities from that shown in the design documents.	\$5,065,868	\$4,779,221	Dan Strietelmeier (PW&U)	City Employee	RN Civil Construction, Carollo Engineers, Inc. Western States Land Services, Inc. Clayton and Company, Inc.,	3/2011	10/2014	100% (design); 95% (construction)
▶	95th Avenue and Federal Boulevard Lift Station (Sunset Ridge) Remodel/Improvement Project - This project will remodel the lift station and its pumps to improve its performance and to enhance safety and reliability. In addition, this project will include construction of improvements to better protect the lift station from possible vehicular damage.	Design engineering is now complete and the project is currently out for bid. The start of construction is anticipated for 4Q 2014.	\$550,000	\$99,167	Stephen Grooters (PWU)	City Employee	Lidstone and Associates	1/2014	5/2016	95% (design); 0% construction
▶	Big Dry Creek Wastewater Treatment Facility Biosolids Dewatering Pilot Testing and Pre-Design - Wastewater treatment at the Big Dry Creek Wastewater Treatment Facility results in the generation of a byproduct known as biosolids. Biosolids are treated at the plant to make it suitable for land application and subsequently hauled to the City's Strasburg Natural Resource Farm for ultimate disposals as a farming fertilizer. This project involves the completion of a pilot testing and pre-design process to evaluate various dewatering systems and determine the most cost-effective system to implement on a full scale.	City Council awarded the engineering contract in May of 2014. The pilot testing protocol has been designed and testing began in August. Testing will continue into Fall 2014 with predesign completion anticipated early 2015.	\$150,000	\$0	Kent Brugler (PW&U)	City Employee	Black and Veatch	5/2014	TBD	20%

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▶	Big Dry Creek Wastewater Treatment Facility: 2013 Major Repairs and Replacement - This account consolidates a number of priority electrical repair/replacement projects at the Big Dry Creek Wastewater Treatment Facility including repairs to the primary electrical switch gear, replacement of two primary electrical transformers, replacement of damaged fiber optic cable, installation of redundant power feeds to the raw sewage pump stations, replacement of existing boilers with high efficiency models and replacement of the North Huron lift station electrical equipment.	City Council awarded a design contract to Black & Veatch, and design work for Project A (electrical work) is complete and bids have been received. Staff is preparing a recommendation to City Council for award of the construction contract. Construction for Project B (boiler replacement) is underway with completion expected by the end of 2014.	\$2,138,000	\$316,942	Kent Brugler (PW&U)	City Employee	Black and Veatch/ RK Mechanical (Project B), Inc./TBD (Project A)	8/2013	3/2015	Project A: 100% (design); 0% (construction) Project B: 100% (design); 10% (construction)
TO BE CLOSED	Brighton Ditch Enlargement - This project is part of the City's Comprehensive Water Supply Plan (CWSP) - Wattenberg Gravel Lakes project, which will be a series of lined reservoirs adjacent to the South Platte River in southern Weld County. This specific project will provide for study, design and construction of an enlargement of the Brighton Ditch, which diverts water from the South Platte River. This added capacity will be used to divert Westminster's water from the South Platte into storage at Wattenberg Gravel Lakes. This project will also fund any necessary permitting.	Staff has conducted a needs assessment and is continuing to evaluate the options to best address the City's long term water storage needs. This project will be considered in the upcoming Raw Water Master Plan to ensure that the options considered provide sufficient flexibility and storage to meet build out needs. A preliminary review suggests this project will not be required, but may need to be replaced with a better, more-cost effective alternative. Funds in the amount of \$900,000 were transferred from this account to the water supply development capital account in order to fund a high priority purchase of water rights. This project has been postponed indefinitely.	\$0	\$0	Sharon Williams (PW&U)	City Employee	Slattery & Hendrix Engineering, LLC.	4/2011	N/A	100% (Needs Assessment Study); 0% (design and construction)
▶	Brookhill/Vance Street Water Main Replacement - This project will replace old water lines near the apartment complex located just off Vance Street, south of 92nd Avenue and north of 90th Avenue. This area has a significant pipe break history.	Bids for the project have been received. Staff will present a recommendation to City Council for award of the construction contract and an amendment to the engineering contract in September 2014.	\$1,037,506	\$0	Stephanie Bleiker (PW&U)	City Employee	Jacobs Engineering Group, Inc./T. Lowell Construction Inc.	12/2011	3/2015	100% (design); 0% construction
TO BE CLOSED	Comprehensive Water Supply Plan (CWSP) - South Westminster Non-Potable System - This project consists of pursuing the development of non-potable water sources for irrigation purposes in the southern area of the City, which includes planning, design and construction of the system in conjunction with south Westminster development and redevelopment. The system would use sources of water that the City has rights to but cannot incorporate into the potable water system. The system would be separate and distinct from the City's Reclaimed Water System.	Staff is continuing to develop and scope a follow-up study to the URS feasibility report, which identified potential system demands, developed conceptual system infrastructure and provided "study-level" pre-design costs. The follow-up study will incorporate a broader master plan approach and assess potential water sources. It will also seek to enhance system design, develop better cost information and estimate the project schedule. Funds in the amount of \$334,965 were transferred from this account to the water supply development capital account in order to fund a high priority purchase of water rights. This project has been postponed indefinitely.	\$40,035	\$40,035	Sharon Williams (PW&U)	City Employee	URS	5/2008	TBD	25% (study) 0% (design)
▶	Comprehensive Water Supply Plan (CWSP) - Standley Lake Bypass - This project will reduce vulnerability of the City's water supply system under certain emergency scenarios including drought, infrastructure failure, or water quality upsets by providing a delivery system that bypasses Standley Lake and provides raw water directly from supply canals to the City's treatment facilities.	A construction contract was approved by City Council in May 2014 with T. Lowell Construction, Inc. Their crews plan to mobilize to the site and begin construction on the new pipeline in September 2014. The first phase of the project will involve removing existing utility conflicts in the pipeline path. Closure of the Farmer's Highline Canal trail west of Wadsworth Parkway will be necessary starting in September 2014 and lasting through summer of 2015.	\$6,600,000	\$901,065	Julie Koehler (PW&U)	City Employee	Hatch Mott MacDonald /T. Lowell Construction Inc.	3/2009	6/2015	100% (design); 0% (construction)
	Comprehensive Water Supply Plan (CWSP) - Wattenberg Gravel Lakes Storage - In order to meet the City's build-out water demand, the City is pursuing construction of reservoirs from reclaimed gravel mines along the South Platte River near Wattenberg in Weld County. This project involves the mining company, Aggregate Industries, constructing water storage for Westminster as part of their mining reclamation plan. Westminster is responsible for constructing inlet and outlet facilities. The project is anticipated to take 17 years to complete.	Construction of the gravel lakes has begun, including completion of a slurry wall around the reservoir property. Aggregate Industries' (AI) mining operations are accelerating. Due to permitting issues and a drastically slowed construction environment in previous years, Staff negotiated new agreements with AI in 2008 with updated timelines and delivery dates for each component's completion. Staff also negotiated lease agreements with AI at that time. September 2013 flooding required additional work for repairs, but the budget and expected completion date are still on track.	\$2,610,846	\$2,222,232	Sharon Williams (PW&U)	City Employee	Aggregate Industries	1/2000	12/2017	20%
▶	Croke Canal and Standley Lake Improvements - This project involves both formal inspections and follow-up repair work for these facilities. Costs for Standley Lake maintenance are coordinated and shared with members of the Standley Lake Operating Committee. This project will fund repair and replacements to the dam tender's house. Croke Canal improvements and repair work are anticipated to be a multi-year project beginning in 2013.	The dam tender's house repair and replacement have been completed. The Standley Lake Operating Committee (SLOC) along with its engineer, Ecological Resource Consultants, Inc. (ERC), are preparing for a State inspection of the Standley Lake facilities from the valve house to the intakes per Dam Safety requirements. Part of the preparation includes repairs to two 8-inch bypass pipelines within the valve shaft. The design of these repairs was finalized by ERC. Construction commenced in December 2013 and was completed in 2Q 2014.	\$370,000	\$100,099	Sharon Williams (PW&U)	Ecological Resource Consultants, Inc.	Ecological Resource Consultants, Inc.	1/2013	TBD	40%

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▶	Gregory Hill Pump Station Piping and Yard Structures - The City operates several potable water pump stations that are used to meet potable water demands and for fire flow service during emergencies. Repairs are required on a regular basis in order to maintain safe operations and high quality potable water service to City customers. This project includes routine repairs and equipment replacement at the Gregory Hill Pump Station. The major infrastructure to be replaced includes 1,000 feet of waterline piping in the yard, yard valves and buried concrete valve vaults.	Staff is scoping the project internally and has combined it with other pump station improvement projects. Staff will solicit engineering design proposals from consultants in Fall 2014.	\$412,000	\$0	Julie Koehler (PW&U)	City Employee	TBD	1/2014	TBD	0%
▶	Gregory Hill Water Tank Repair and Replacement - Recently completed inspections of the City's water system storage tanks identified the need for several improvements to extend the lives of the tanks and improve reliability within the distribution system. This project will repair and replace key components on the tanks including replacement of roof supports, improvements to tank overflow piping, access "man-ways" and safety features and recoating of the tank exterior and interior.	An internal survey of both the east and west tanks was completed in March 2014. The information from these inspections will be used during the design phase of the repairs, which should begin in Fall of 2014 with anticipated construction beginning in Fall of 2015.	\$375,000	\$66,692	Stephen Grooters (PW&U)	City Employee	Carollo Engineers, Inc.	1/2014	5/2016	5% (design)
▶	Hydropillar Water Tank Repair and Replacement - Repair of the City's water tanks is a critical priority and this project will fund design and construction associated with the water tank located west of Federal Boulevard near the Environs/North Park residential neighborhoods.	Design of the project is now complete, and Staff is preparing a recommendation to City Council for award of the construction contract and an amendment to the engineering contract. 2012 carryover appropriations approved by City Council in 2013 allowed for an accelerated schedule and this project is set up for construction during the low water demand period of the 2014/2015 winter months.	\$2,300,000	\$102,702	Dan Strietelmeier (PW&U)	City Employee	Carollo Engineers, Inc./Classic Protective Coatings, Inc.	12/2013	3/2015	100% (design); 0% (construction)
▶	Lift Station Improvements (wastewater lifts) - This project consists of wet well lining, impeller replacements, spare pump purchases, access hatch replacements, emergency force main connections and preliminary investigation of emergency overflow connections to adjoining agencies' collection systems.	No funds have been used from this account year-to-date in 2014. Expenditures shown reflect work in previous years, along with financial assistance for the 87th Avenue and Wadsworth Lift Station Replacement project.	\$385,567	\$315,071	Bob Booze (PW&U)	City Employee	Carollo/RN Civil	4/2008	3/2015	75%
▶	Little Dry Creek Interceptor Repair - Federal Boulevard and U.S. 36 Crossing - The existing pipeline will remain in place for redundancy in cases of emergency and/or maintenance activities. The new pipeline construction will involve tunneling under the highway to reduce costs and limit impacts to traffic. This project will increase hydraulic capacity and enhance the safety and reliability of the City's sewer service in the area.	A construction contract was approved by City Council in March 2013. Final design efforts are being coordinated with the U.S. 36 highway construction efforts. Construction is anticipated to be completed by year-end 2014.	\$400,000	\$0	Andy Walsh (PW&U)	City Employee	Ames Granite Joint Venture	3/2013	12/2014	10% (design); 0% (construction)
▶	Little Dry Creek Interceptor Repair Design - Overall, this work will enhance the safety and reliability of the City's sewer service in the southern third of the City. This project will specifically address hydraulic capacity and age/condition issues. Work is needed to replace aged piping that is in poor condition and also to improve hydraulic capacity to support existing City customers, City growth, development, and redevelopment. This design work will improve construction sequencing, accelerate construction, streamline project costs and Staff resources, and improve site safety and security. The project will fund design, permitting, and land acquisition anticipated for the larger combined project. Staff will prepare cost estimates as the design work commences and request additional funds in future years for construction.	City Council authorized the predesign phase contract in May 2014 and work is well underway. Design flows, design criteria, and preliminary hydraulic modeling have been established. The preliminary design phase is scheduled for completion in December 2014.	\$2,520,000	\$45,591	Stephanie Bleiker (PW&U)	City Employee	HDR Engineering, Inc.	1/2014	TBD	20% (preliminary design); 0% (design); 0% (construction)
▶	Little Dry Creek Regional Detention - This project is located between Federal and Lowell on the south side of the Burlington Northern Santa Fe (BNSF) railroad. This project will create a regional detention area to help facilitate the redevelopment of the TOD area north of the BNSF railroad between Federal and Lowell, south of 72nd Avenue. The project will also create an open space amenity for the neighborhood and the train station and surrounding area. The current estimated total project cost is \$11.6 million and is anticipated to be funded over several years.	Construction activities are continuing on this project. During 2013 to 2Q 2014, the sanitary sewer relocations, Barnum property demolition and three tunneling projects under Federal Blvd (54", 14" and 108") were completed. The 10' X 14' box culvert extension and channel work east of Federal Boulevard is under contract to begin in October 2014. The larger earthwork project will go out to bid in September 2014 with earthwork commencing during the winter.	\$7,322,969	\$5,586,689	John Burke (CD)	City Employee	Muller Engineering	9/2009	4/2016	100% (design); 20% (construction)

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▶	Lowell Boulevard/Bradburn Drive Water Main Replacement - Phase 1 (2012) of this project replaced approximately 1,750 feet of aging water main in Lowell Boulevard from Chestnut Lane south to West 84th Avenue. Phases 2 and 3 of the project continue the water line replacement in Lowell Boulevard, from West 84th Avenue to Bradburn Drive, then continuing down Bradburn Drive to the Gregory Hill water tank site. The final phases of the project will replace approximately 2,200 feet of aging water line.	This project was successfully completed on time and within budget. A key driver of this project was to complete the pipeline work ahead of planned street repairs. This goal was met and street repairs are now in progress. Overall, a total of one construction change order was processed for this project; the total amount of all construction change orders was a deduct of \$105,181. All change orders were within the scope of the project, did not require Council action for approval pursuant to WMC and were only necessary to correct for the actual quantities construction that were less than bid quantities.	\$1,965,380	\$1,145,213	Julie Koehler (PWU)	City Employee	Burns & McDonnell, American West Construction, LLC	1/2012	9/2014	100%
▶	Municipal Service Center Gasoline Recovery Remediation Project - Starting in 1985, the City began remediation of gasoline that leaked into groundwater from tanks at the Municipal Service Center (MSC). Recent testing indicated the continued presence of gasoline in the groundwater.	Phase I, which includes pilot testing remediation alternatives, is approximately 80% complete with allocated operating budget money spent out of the Property & Liability Fund. Once the pilot test phase is complete, active remediation of the project will begin with project funds. This work is estimated to begin in 4Q 2014.	\$375,000	\$0	Martee Erichson / Nick Butel (GS)	City Employee	A. G. Wassenaar, Inc.	3/2013	1/2016	10%
▶	North Park Pump Station Improvements - The North Park Pump Station project will include pump replacement, electrical equipment replacement, installation of a standby generator and relocation from its current below ground vault to within the existing Wandering View Pump Station building to enhance access, maintenance, and safety for operations Staff.	Staff is scoping the project internally and has combined it with other pump station improvement projects. Staff will solicit engineering design proposals from consultants in Fall 2014.	\$900,000	\$0	Julie Koehler (PW&U)	City Employee	TBD	1/2014	TBD	0%
▶	Northridge Water Storage Tank #3 - This project includes design and construction of a new 3 million gallon water storage tank near the existing Northridge Water Tanks. The project includes water distribution system improvements needed to allow sufficient flow of water between the City's tanks and its customers. The specific areas for water transmission main replacement and the alignment of the new water mains will be determined during the design phase of the project.	The design phase is nearly complete with bidding anticipated in October 2014. Construction completion is anticipated for 3Q 2015.	\$5,800,000	\$297,663	Dan Strietelmeier (PW&U)	City Employee	Burns and McDonnell	5/2013	7/2015	90% (design) 0% (construction)
▶	Northwest Water Treatment Facility (NWTF) Tank Repair and Replacement - This project will fund structural repairs to roof supports and a re-coating of the tank as part of regular life cycle maintenance. These repairs were identified through inspections performed in 2010 and will improve the structural integrity of the tank while extending its operational life.	This project is now complete. Riley Industrial began the construction phase in December 2013. Construction is complete and the tank is back on line, allowing operation of the Northwest Water Treatment Facility. This project is under warranty.	\$1,161,376	\$1,043,904	Dan Strietelmeier (PW&U)	City Employee	Carollo Engineers, Inc., Riley Industrial Services, Inc.	1/2013	5/2014	100%
▶	On-Site Sodium Hypochlorite Generation Feasibility/Predesign - This project includes studying potential improvements to the water disinfection systems at the Semper and Northwest Water Treatment Facilities (WTFs). The study will evaluate the feasibility of adding on-site sodium hypochlorite generation at either or both of the City's water treatment facilities. Currently 10-12% strength sodium hypochlorite is used in the treatment and disinfection of water and requires regular deliveries to meet demands. This engineering study will help determine the costs and benefits of producing sodium hypochlorite on-site in lieu of purchased deliveries. The study will incorporate a life-cycle cost-benefit analysis and recommendations for future improvements at the treatment facilities.	The project is anticipated to begin 1Q 2015.	\$150,000	\$0	Stephen Grooters (PW&U)	City Employee	TBD	1/2015	TBD	0%
▶	Pressure Zone 3 Expansion - This project is for the design of a new pump station, new transmission pipelines and a new elevated water storage tank within the water distribution system. The overall intent of this project is to improve significant portions of the distribution system to meet the level of service experienced elsewhere in the system for adequate water pressure and flow. The project will also provide needed operational storage to meet daily demand fluctuations, emergency needs and fire flow. The Pressure Zone 3 Improvements project involves work between Pierce Street and Yates Street (west/east) and 88th Avenue and the Niver Canal (south/north). The improvements will be sized for buildout demands within the City, including anticipated development and redevelopment (including the Westminster Center Urban Reinvestment Project). The improvements relieve water supply and storage requirements from other pressure zones in the City's water distribution system, thereby increasing levels of service, reliability, and redundancy in a relatively larger portion of the City.	City Council authorized the predesign phase contract in May 2014 and work is underway. Design flows, design criteria, and preliminary hydraulic modeling have been established. The preliminary design phase is scheduled for completion in December 2014.	\$5,900,000	\$0	Dan Strietelmeier (PW&U)	City Employee	Burns and McDonnell	1/2014	12/2016	20% (preliminary design); 0% (design); 0% (construction)

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	Ranch Creek at 120th Avenue and Federal Boulevard - This project will increase the size of the box culvert and also accommodate a pedestrian cell component into the design. Additionally, portions of the upstream and downstream sections Ranch Creek channel will be stabilized with this project. CDOT has scheduled the widening of 120th Avenue at this location in 2014. The Ranch Creek work needs to be done in advance of CDOT's project.	Design of this project is 75% complete with construction anticipated to begin in 4Q 2014 and be complete in November 2015. The intent of this schedule is to have this project completed in coordination with the 120th Avenue and Federal Boulevard Intersection improvement project. Adams County Open Space funds were secured in 1Q 2014 to assist with this project.	\$1,246,000	\$0	Dave Loseman (CD)	City Employee	Felsburg, Holt & Ullevig	2/2013	11/2015	75% (design); 0% (construction)
	Raw Water System Improvements (Study) - The purpose of the study is to evaluate the current condition of the two raw water pipelines that connect Standley Lake with the Semper Water Treatment Facility to develop a cost-effective approach to repairing, replacing, maintaining or improving these important infrastructure components. This project also includes an analysis of the City's raw water pump station that conveys flows to the water treatment facilities during times when Standley Lake water levels are low. The station is nearing the end of its useful life and this project will help determine the most cost-effective way to repair, replace, or improve its operations and performance.	This project is scheduled to commence 3Q 2014.	\$200,000	\$0	Stephanie Bleiker (PW&U)	City Employee	TBD	9/2014	TBD	0%
	Raw Water System Infrastructure Master Plan - This project will inventory and provide assessments of structures, facilities, and other components of the raw water delivery and storage system while identifying vulnerabilities in the existing system. The master plan will also recommend improvements to the system. Some of the items to be included in the assessment are stream bypass structures, sampling stations, SCADA software systems and hardware.	This project is scheduled to commence 3Q 2014.	\$325,000	\$0	Stephanie Bleiker (PW&U)	City Employee	Hatch Mott MacDonald	3/2014	TBD	0%
TO BE CLOSED	Reclaimed Water Salinity Projects - This project will provide funds to implement a management plan to assist reclaimed water customers and City Staff is dealing with issues related to salinity in landscaping at reclaimed water customer sites. The project will also fund the implementation of efforts to prevent or mitigate the impacts of salinity in reclaimed water.	Many landscape issues that were originally thought to be due to salinity in the reclaimed water have been determined to have a variety of other causes. Staff will assess existing data to quantify the causes as well as the level of salinity in the City's reclaimed water, develop approaches to address these variables and work with customers to plan for successful landscapes. Funds in the amount of \$299,802 were transferred from this account to the water supply development capital account in order to fund a high priority purchase of water rights. This project has been postponed indefinitely.	\$198	\$198	Sharon Williams (PW&U)	City Employee	TBD	4/2011	N/A	100%
	Rocky Flats Wildlife Refuge - This project represents funds received from Kaiser Hill in 2006 as payment to the City for the Rocky Flats closure. These funds will be utilized for water quality monitoring purposes within and around Rocky Flats Wildlife Refuge.	A review of appropriate monitoring systems is in process by Standley Lake cities. No use of City funds has been necessary at this time.	\$100,000	\$0	Mike Happe (PW&U)	City Employee	TBD	6/2007	TBD	5%
	South Westminster TOD Sewer Utilities - The primary project is the design and construction of the Little Dry Creek interceptor sewer relocation between Lowell Boulevard and Federal Boulevard and was initiated due to the RTD FasTracks project and the Little Dry Creek Park project. As a separate project, RTD is coordinating with the City to relocate roughly 2,000 feet of the interceptor sewer east of Federal Boulevard. The City will pay for betterments associated with this relocation. RTD and the City are jointly working on acquiring easements in the TOD area for the relocation of sewers around Westminster Station.	City project construction was substantially completed at the end of 2013. Station-area betterments associated with utilities are currently being constructed by RTD. RTD's betterment work on the main sewer adjacent to the proposed station is now complete. Work on betterments east of Federal are anticipated to begin in September 2014 with completion anticipated in early 2015.	\$3,850,000	\$2,864,656	Andy Walsh (PW&U)	Edge Contracting, Inc. (construction); URS (construction management)	URS	11/2010	2/2014 (City-led construction); 6/2016 (betterment funding)	100% (City-led construction); 20% (betterment funding)
	South Westminster TOD Storm Sewer (North Plaza/Infrastructure) - This project provides funding for stormwater-related needs to meet desirable opening day access and operational requirements for Westminster Station as generally required by the intergovernmental agreement with the Regional Transportation District. The request will supplement and/or substitute for portions of a very basic first phase of work that would meet RTD's minimal requirements.	The final design for the north side infrastructure of Westminster Station is currently being scoped and will commence in fall 2014. Staff is also coordinating the design and construction activities with CDOT for their Federal Boulevard bridge replacement project by sharing the costs associated with the water quality facility that will be constructed on the recently acquired Nolan property. Additionally, Staff is working on the design and construction of a waterline that needs to be placed in Federal Boulevard. Staff is working together on the design in order to have the construction happen before CDOT places new pavement on Federal Boulevard.	\$765,728	\$0	John Burke (CD)	City Employee	TBD	1/2013	1/2016	20% (design)

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TO BE CLOSED	Strasburg Natural Resources Farm Projects - This project will fund the evaluation and refurbishment/replacement of three wells and pump systems that provide water to two pivot irrigation systems at the Farm.	This project is complete and can be closed. The permanent well equipment was installed in Spring 2014 and successfully placed into operation for Summer 2014. Overall, a total of one construction change orders was processed for this project; the total amount of all construction change orders was \$31,223. All change orders were within the scope of the project, did not require Council action for approval pursuant to WMC and were only necessary due to variations in project conditions from that shown in the design documents.	\$407,919	\$355,672	Kent Brugler (PW&U)	City Employee	Hemenway Groundwater Engineering / Canfield Drilling (Design/Builder)	8/2012	5/2014	100%
▶	SWTF 2013/2014 Repairs - This account consolidates a number of priority repair/replacement projects at the Semper Water Treatment Facility including equipment related to the filter backwash return system and chemical injection systems, underground piping and systems that transfer water through the plant, the disconnection of obsolete piping to prevent the risk of leaks and confirmation on the condition and replacement timeline of several underground 30-40 year old pipes.	Design has been completed and bids received. Staff is preparing a recommendation to City Council for award of the construction contract and an amendment to the engineering contract. Construction completion is scheduled for 2Q 2015.	\$1,885,000	\$160,050	Kent Brugler (PW&U)	City Employee	J&T Consulting/ Glacier Construction, Inc.	8/2013	4/2015	100% (design); 0% (construction)
▶	SWTF High Service Pump Station Transformer Replacement - This project will replace a large transformer at the Semper Water Treatment Facility.	Staff is evaluating several alternatives for cost-effectively performing this work. The analysis showed that the existing transformer remains in good working condition despite its age and that providing a new redundant transformer is the recommended approach moving forward. The work, which also requires improvements to Xcel Energy's system, will be planned for future implementation.	\$70,000	\$12,344	Kent Brugler (PW&U)	City Employee	Black and Veatch	8/2013	3/2015	100% (design); 0% (construction)
▶	SWTF Process Improvements - This project is to implement an additional process in the water treatment process at the Semper Water Treatment Facility to improve the sedimentation and filtration processes. The project will also fund a variety of chemical addition process improvements to replace aging piping and pump systems.	Work has focused on chemical system rehabilitation, replacement of aging chemical piping, valves and feed pump equipment. Replacement work is to continue throughout 2014. Caustic soda feed system has been rebuilt in stainless steel and 2 caustic feed pumps have been replaced.	\$300,000	\$156,952	Tom Scribner (PWU)	City Employee	Internal	6/2010	12/2014	85%
▶	Wandering View Pump Station Improvements - The Wandering View Pump Station has many components that have reached the end of their useful lives. This project involves replacing these components and includes yard piping, valves and pump station structures, electrical connections and service equipment, and key instrumentation equipment used to safely operate the facility.	Staff is scoping the project internally and has combined it with other pump station improvement projects. Staff will solicit engineering design proposals from consultants in Fall 2014.	\$1,342,000	\$0	Julie Koehler (PW&U)	City Employee	TBD	1/2014	TBD	0%
▶	Water Quality Lab Equipment - Major Repair/Replacement - A gas chromatographer is an instrument used to analyze treated water. It is used by the City to verify drinking water safety and compliance with Colorado Department of Public Health and Environment and Safe Drinking Water Act requirements. This project consists of purchasing a new gas chromatographer for the Water Quality Lab to replace the existing machine that has reached the end of its useful life. Installation of a new ventilation hood/fan in the room containing this equipment is required by building codes and is included as part of the project.	Staff is evaluating options for the purchase of the laboratory equipment based on demonstrations of potential instruments.	\$75,000	\$0	Mary Fabisiak (PW&U)	City Employee	TBD	1/2014	TBD	20%
▶	Zone 4 System Improvements - This project consists of the design and construction of pipeline improvements to provide a redundant source of supply to the current Silo pump station located at approximately 90th Avenue and Wadsworth Boulevard and internal zone pipe improvements. The piping improvements will increase redundancy in this pressure zone as well as better regulate water system pressures to an acceptable standard. This new pipeline was shown to be more cost effective than an additional pump station.	Project construction is progressing rapidly. The main 18-inch pipeline adjacent to Standley Lake has been installed and remediation activities have been substantially completed. Water line replacement in Everett Circle is now complete and in service and construction crews are focused on the remaining neighborhood pipeline work along Independence and 90th Avenue. Overall, a total of one construction change order has been processed for this project; the total amount of all construction change orders is \$0 to date as the work was a substitution, not an addition to the project. All change orders are within the scope of the project, do not require Council action for approval pursuant to WMC and were only necessary due to variations in project conditions from that shown in the design documents.	\$5,987,000	\$3,908,524	Kent Brugler (PW&U)	City Employee	ID Modeling, Inc. (Pre-Design); HDR Engineering, Inc. (Final Design) B T Construction (Construction)	9/2008	11/2014	75%
▶	Zuni Street Water Main Replacement (84th Avenue to 88th Avenue) and 88th Avenue Water Main Replacement (Federal Boulevard to Zuni Street) - Staff is coordinating these two waterline replacement projects to streamline Staff resources and reduce project costs. Combining these projects also allows the City to complete work at the site more quickly and minimizes impacts to citizens and businesses in the area.	City Council approved the engineering contract with Kennedy Jenks Consultants in June 2014. The project is currently under design with construction anticipated Spring 2015. A portion of this work is being performed in conjunction with the City of Federal Heights and an IGA is being prepared to document responsibilities.	\$2,400,000	\$162,129	Julie Koehler (PW&U)	City Employee	Kennedy Jenks Consultants	1/2014	TBD	20% (design) 0% (construction)

CAPITAL IMPROVEMENT PROGRAM - ONGOING PROJECTS

UPDATED	PROJECT TITLE	PROJECT STATUS (as of 8/31/14)	BUDGET	SPENT (8/31/14)	PROJECT MANAGER (DEPARTMENT)	EXTERNAL PROJECT MANAGER UTILIZED?	ENGINEERING FIRMS OR CONTRACTORS
GENERAL FUND CAPITAL IMPROVEMENTS							
▶	Arterial Roadway Rehabilitation and Improvements - This project is to supplement arterial street maintenance in the operating budget. Project funds will be used for improvements to existing pavement on major arterials to extend the life of the pavement and to offset repair costs. In addition to various resurfacing strategies, improvements include cracksealing, concrete replacement, re-striping of lane lines and new pavement marking installations.	The 2014 project consists of resurfacing the following roadways: Huron Street from 144th Avenue to 150th Avenue, Zuni Street from 128th Avenue to 136th Avenue, 84th Avenue from Lowell Boulevard to Zuni Street, 92nd Avenue from Grove Street to Vrain Street and Sheridan Boulevard from 104th Avenue to 113th Avenue. As part of City Council's appropriation of 2012 carryover funds, \$400,000 was approved to rehabilitate other roadways in 2013. \$320,000 of these funds were not utilized in 2013 due to weather constraints. These funds are slated to rehabilitate the following roadways in 2014: 128th Avenue and Huron Street to the I-25 Bridge, 76th Avenue from Sheridan Boulevard to Turnpike Drive. Work is underway and should be completed by the end of 3Q 2014. No expenditures have been necessary or processed to date, but these will be reflected soon.	\$1,153,191	\$0	Rob Dinnel (PW&U)	City Employee	Cutler Repaving Inc., A-1 Chipseal and Asphalt Specialties.
▶	City Facility Parking Lot Maintenance - This project funds the program to maintain City facility parking lots on an on-going basis (crack sealing, seal coating, resurfacing and reconstruction).	The Public Safety Center's secured parking lot was funded with 2013 and 2014 funds. This reconstruction project has been completed.	\$348,181	\$342,280	Rob Dinnel (PW&U)	City Employee	J & T Consulting Inc. Martin Marieta
	Adams County Open Space Land Acquisition - The project funds will be utilized for the acquisition of additional open space lands in Westminster. The funds are a portion of the open space sales tax revenue received from Adams County from the 2001 voter-approved tax.	These funds are used towards annual debt payment for the acquisition of Metzger Farm.	\$276,185	\$0	Heather Cronenberg (CD)	City Employee	Various
▶	Aquatics Major Maintenance - This project provides dedicated funds for major repair and replacement of aquatics equipment at the City's pools. This equipment includes pool pumps, motors, heat exchangers, boilers and ozone equipment. The City operates indoor pools at City Park Recreation Center and at Swim and Fitness Recreation Center. The City operates an outdoor pool at Countryside.	This project has funded tile replacement around the pool edges and replacement of two circulation pumps at the Swim and Fitness Center. This project has also funded replacement of contact chambers for hot tub filter systems at City Park Recreation Center and Countryside Pool. Remaining available funds are earmarked for ongoing repair/replacement of major pool infrastructure and equipment at City Park Recreation Center, Swim and Fitness Center and Countryside Outdoor Pool. City Council authorized an ozone generator replacement for the City Park Recreation Center hot tub in December 2013. This project commenced in August 2014.	\$173,460	\$46,931	Brian Grucelski (GS)	City Employee	Various
▶	BO&M Major Maintenance - This project is for major maintenance projects throughout City facilities. These projects are considered one-time major maintenance items such as roof and glass replacement and minor equipment changes. \$250,000 of the total project is set aside as an "emergency reserve" for major, unanticipated needs.	Recent projects include the development of a Request for Proposals (RFP) for a computerized maintenance management system, roof replacement at West View Recreation Center, repairs and replacement to the skylight at Fire Station #6 and the development of an Americans with Disabilities (ADA) pilot study.	\$995,374	\$50,426	Brian Grucelski (GS)	City Employee	Various; Beaudin Ganze
▶	Bridge/Pedestrian Railing Repainting Project - This project is for repainting railings along bridges, drainage ways and right of way walkways throughout the City. Staff has identified 11 bridge locations with railings and fencing over state highways and railroad overpasses throughout the City.	Remaining funds in this project will help address the 136th Avenue/144th Avenue Bridge Railing Painting and Repairs. Please see the description for this project in the "Major Projects" tab.	\$179,986	\$0	Rob Dinnel (PW&U)	City Employee	Wiss, Janney, Elstner Associates, Inc. (WJE)

CAPITAL IMPROVEMENT PROGRAM - ONGOING PROJECTS

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	Cash-In-Lieu for Park Acquisition and/or Open Space Purchases - These are funds collected from private developers in lieu of land dedications for park and open space areas. These funds may be utilized for either park or open space acquisitions.	Funds are being held for potential opportunities in the future.	\$159,940	\$0	Barbara Opie (CMO)	City Employee	N/A
▶	City Facility Energy Improvements - As part of the City's ongoing efforts to reduce energy consumption, this project funds the salary of the City's Energy and Facilities Project Coordinator, along with projects focused on reducing energy consumption.	Following a technical energy audit (TEA), the City is implementing several projects at fire stations and recreation centers to improve energy efficiency. Additional specific energy saving projects were identified by the 2013 Ameresco preliminary energy audit and are being prioritized for implementation.	\$92,130	\$37,399	Tom Ochtera (GS)	City Employee	N/A
NEW	City Park - Major Repair and Maintenance - This ongoing project was created to better identify and track funding associated with major repair and replacement needs at the City Park complex. This account provides funding for needs with the City Park grounds (athletic fields, parkland, etc.) and for facility needs (City Park Recreation Center and City Park Fitness Center).	Staff is in the process of prioritization projects to pursue with existing capital project account balances that have been generated through savings realized with other projects that have been completed. Funds will be transferred into this account and reported on in the next period.	\$0	\$0	Chris Johnson (PR&L)	City Employee	TBD
▶	Community Enhancement Program (CEP) - These funds provide for a variety of projects throughout the Westminster community. Project accounts include Travelways, City Amenities, Neighborhood Enhancements, Contractual Maintenance, General Maintenance and Staffing. Project types can include gateways, medians, rights-of-way, street improvements, bridges, public art and lighting. The budget, actual spent and descriptions shown reflect capital projects exclusively and do not reflect staffing and contractual maintenance accounts. This is in order to give a clearer picture of non-operating items funded by CEP.	Almost all capital funds appropriated in 2013 through 2015 are committed to architectural enhancements to the Sheridan Boulevard bridge as part of the U.S. 36 Managed Lanes project. Expenditures in 2014 include Neighborhood Enhancement grants. Remaining funds will be used to conduct the Standley Lake Master Plan and the City Park Master Plan. The City Park Master Plan is out to bid and the Standley Lake Master Plan is currently completing contract documents. Some remaining funds from previous years' appropriations (project savings) will be available for other projects, which will be identified in the near future.	\$1,282,706	\$406,539	Kathy Piper (PR&L)	City Employee	Various
▶	Facelift Program - This program provides matching grants to qualifying commercial properties and/or businesses to improve the aesthetic appearance of the site and/or buildings. The grant is provided on a one-for-one dollar basis and can be used for landscaping, painting, awnings and signage for facade improvements.	Funds were used to rebuild the awning of the historic Red & White building at 3949 W. 73rd Avenue.	\$41,857	\$14,899	Tony Chacon (CD)	City Employee	N/A
▶	Facility and Infrastructure Stewardship - As a component of the Building Operations and Maintenance (BO&M) Major Maintenance CIP program, this project account will fund, when appropriate, all or part of the incremental cost for utilizing higher efficiency equipment or design in certain projects when a Life Cycle Cost Analysis shows long term savings to the City. The fund can only cover the cost of the upgrade, not the cost of the capital improvement itself.	The Stewardship account helped fund the purchase and installation of GPS units to assist with fuel/idling management for City vehicles. \$55,260 of this cost will be rebated through a Regional Air Quality Council (RAQC) Grant. Other projects include a LED lighting retrofit project at The Heritage Clubhouse.	\$234,731	\$79,147	Tom Ochtera (GS)	City Employee	Various

CAPITAL IMPROVEMENT PROGRAM - ONGOING PROJECTS

UPDATED	PROJECT TITLE	PROJECT STATUS (as of 8/31/14)	BUDGET	SPENT (8/31/14)	PROJECT MANAGER (DEPARTMENT)	EXTERNAL PROJECT MANAGER UTILIZED?	ENGINEERING FIRMS OR CONTRACTORS
▶	Fire Station Concrete and Asphalt Replacement Program - This project provides funding for on-going replacement of deteriorated concrete curb, gutter and sidewalk, along with asphalt paving adjacent to the six fire stations.	Staff will continue to conduct annual reviews of fire station concrete deficiencies and will identify a replacement priority schedule in conjunction with the budget development process. No expenditures are anticipated in 2014. Staff will also work to coordinate projects that may fall under the City Facility Parking Lot Maintenance project.	\$8,374	\$0	Bill Work (FD)	City Employee	N/A
▶	Fire Station Major Modifications - This ongoing project will fund necessary modifications that fall outside of the purview of Building Operations and Maintenance. This project covers all six fire stations, the training tower and the storage facility (Former Station #2).	Work in 2014 has included minor repair and modifications to old Fire Station #2, which is used for storage and other purposes.	\$80,756	\$7,455	Bill Work (FD)	City Employee	Various
▶	Geographic Information System - The GIS is the central repository for geographic data, mapping and spatial analysis. This program supports planning public safety, record keeping and maintenance activities throughout the City. The Capital Improvement Program provides funding for specific data, training and application development funding for this program.	Activities in 2014 include the purchasing of aerial imagery, topographic data enhancements and training. Custom program enhancement is also conducted through this account.	\$151,374	\$45,822	John Burke (CD) / Dave Murray (CD)	City Employee	N/A
▶	Golf Course Improvements - These funds are for capital projects at the City's two golf courses, Legacy Ridge and The Heritage.	Heritage Course: The hole #9 renovation project, in coordination with Trimble LLC, is complete. Heritage Clubhouse: Staff purchased an outside service podium and new display cases for golf shop. Legacy Ridge Course: Staff installed a new lake screen flush line and filter, along with a new bridge through the wetlands on hole #11.	\$393,488	\$142,849	Lance Johnson (PR&L)	City Employee	Various
▶	Greenbelt Drainage Improvements - This project provides funding for improvements along greenbelts and drainageways. These improvements may be caused by flooding or mandates for wetland mitigation/monitoring. This project also funds improvements to ditches that convey raw water to ponds and environmental repair to areas damaged by prairie dog colonies (including removal and re-seeding).	Wetland mitigation continues with water monitoring of the Big Dry Creek underpass at Wadsworth Boulevard, as this project requires continued monitoring for the environmental and wetland permit status. Ongoing rains throughout the 2014 season continue to wash out adjacent trails and headwall structures requiring Staff to rebuild, reinforce or rebuild the structures.	\$81,549	\$23,558	Richard Dahl (PR&L)	City Employee	Various
▶	Historical Preservation Grants - This is a project for City-sponsored preservation projects. Most of these projects are grant funded, but the City must often up-front costs and then be reimbursed. This account provides the up-front funds.	Bids were received relative to restoration of the Shoenberg Farm Milk house. Construction is expected to commence by October 2014.	\$16,751	\$15,515	Tony Chacon (CD)	City Employee	Various
▶	Laserfiche Upgrades - This project is utilized for license purchases, software support and upgrades, and consulting services associated with the City's records management software.	In 2014, Staff purchased 50 full licenses, Laserfiche electronic forms, 10 pack scan connect licenses, import agent, and continued retention of professional services to develop, design and implement workflows between Laserfiche and City data bases. This is an ongoing project through 2018.	\$54,430	\$54,430	Traves McCabe (GS)	City Employee	SCorp (Laserfiche local vendor)

CAPITAL IMPROVEMENT PROGRAM - ONGOING PROJECTS

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▶	Libraries Repair and Maintenance - This project provides for an ongoing repair and maintenance program for the City-owned College Hill and Irving Street Libraries. Funds address facility maintenance activities to upgrade and/or renovate existing facilities and equipment.	As of August 2014, painting at Irving Street and installation of chair rails throughout the building to protect the newly painted walls have been completed. Other proposed projects may include restroom countertop replacement, replacement or re-upholstery of furniture at College Hill, signage for the northeast entrance to the College Hill Library and replacement of the hot water heater circulation pumps at the Irving Street Library.	\$40,000	\$130	Kate Skarbek (PR&L)	City Employee	TBD
▶	Median Rehabilitation (Minor Median Maintenance) - This project rehabilitates and maintains medians throughout the City.	2014 median work occurred on 92nd Avenue adjacent to City Hall. These expenses have not been reflected in this account to date.	\$28,371	\$0	Kathy Piper (PR&L)	City Employee	CoCal
▶	Microsoft Software Replacement - The City plans to upgrade Microsoft Office, Microsoft Exchange, Microsoft SharePoint and Microsoft Lync on a four year cycle. These software upgrades ensure ongoing support and security patch availability from Microsoft, provide users with more advanced features and improved application interface, and achieve and maintain document compatibility between all versions of Microsoft Office being used both internally and externally.	Microsoft Office 2013 upgrades have been completed. IT Staff is working with Dell Services to finalize the upgrade to the Microsoft Exchange Environment with completion projected by the end of 3Q 2014.	\$498,563	\$197,748	Scott Rope (IT)	City Employee	Microsoft
	Miscellaneous Community Development Construction Projects - This ongoing project will provide funding for the maintenance and repair of City-owned brick walls and wood fences, as well as minor construction and maintenance work within public rights-of-way and other public lands.	In the summer of 2012, funds from this project were used to perform maintenance improvements to a portion of the wall located along the south side of 120th Avenue at The Ranch Subdivision. Future phases of this wall rehabilitation will be implemented as sufficient funds are accrued in this project account.	\$48,058	\$0	Dave Downing (CD)	City Employee	Martin/Martin
▶	New Art Participation - This project serves as a "holding account" for developer contributions toward public art.	A new sculpture entitled "Harley II," a six foot long fish with scales that are made with chrome mufflers of Harley Davidson motorcycles, will be installed in City Park along the Big Dry Creek Trail.	\$75,407	\$12,667	John Carpenter (CD)	City Employee	N/A
▶	New Bicycle Facilities - This project is aimed at implementing bicycle facilities identified in the 2030 Bicycle Master Plan developed in 2010. The project includes striping and signing of bike lanes on certain streets that are going to be resurfaced. Funds will also be utilized for signage and marking for other roadways that provide connections to existing bicycle facilities.	In the third quarter of 2014, bicycle facilities will be installed at various locations in conjunction with the City's resurfacing projects, including Lowell Boulevard between 92nd Avenue and 104th Avenue.	\$30,855	\$1,011	Mike Normandin (CD)	City Employee	Various

CAPITAL IMPROVEMENT PROGRAM - ONGOING PROJECTS

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	<p>New Development Participation - This project funds the City's share of certain public improvements (e.g. the middle portion of arterial streets) installed by private developers.</p>	<p>In the summer of 2013, a Broomfield developer commenced a minor realignment of 108th Avenue at Simms Street to avoid conflict with an existing gas metering station located at the west leg of this intersection. Due to the City's desire to avoid an offset of 108th Avenue across Simms Street, the City's share of this expense was previously budgeted in New Development Participation and will be paid in 2014. Also, the LongView apartment project, located at Federal Parkway and Zuni Street, may be under construction in 2014, and City participation in the widening of Federal Parkway adjacent to this development would be paid out of this project.</p>	\$561,556	\$1,354	Dave Downing (CD)	Various Developers	N/A
▶	<p>Open Space Repair and Maintenance - This project will provide for an ongoing repair and maintenance program for the City's open space properties. Historically, a majority of funding for the open space program has been dedicated to land acquisitions. As the City reaches its open space preservation goal, resource allocation is being shifted to reflect a proactive repair and maintenance program.</p>	<p>These funds are currently being used to aid in key areas of open space management. Specific contracts were established with outside contractors performing herbicide spraying services, goat grazing services, concrete trail construction, and sign construction.</p>	\$225,000	\$32,625	Rod Larsen (PR&L)	City Employee	Various
▶	<p>Park Operations Facilities Repair and Maintenance - This project will provide an ongoing repair and maintenance program for Park Operations Facilities. Funds will address facility maintenance activities that will upgrade and/or renovate existing facilities and equipment. Facilities that would be supported through this project include the Greenhouse, the Open Space and Forestry Operations facility at the Braugh Property, the Park Operations Center, and the Lift Station and Pumphouse at City Park.</p>	<p>Staff is working to repair and replace HVAC and boilers at both the Braugh property and the park operations center. Work is scheduled to be completed in the 2014, but no expenses are reflected in this account to date.</p>	\$30,000	\$0	Rich Dahl (PR&L)	City Employee	TBD
▶	<p>Parks Renovation Program - This program funds improvement projects that are needed to update the safety and quality of Westminster parks.</p>	<p>The renovation of Torii Square Park and Countryside Park tennis court and playground are complete. The grand stair case renovation at City Park is out to bid and construction is slated for 2014. The renovation of Quails Crossing Park is nearly complete.</p>	\$1,580,185	\$321,039	Richard Dahl (PR&L)	City Employee	Various
	<p>Public Art Maintenance and Historic Preservation - This project will provide for an ongoing preservation, repair, and maintenance program for art and historic sites owned by the City. Funds will address art preservation and repairs, along and historic site facility maintenance activities that will upgrade and/or renovate existing facilities and equipment. This project would support over 100 individual works of art contributed to the City through development activities, along with historic sites including the Semper Farm/Allison Property, Bowles House, Savory and Shoenberg Farms.</p>	<p>In 2014, projects include repairs to the circle drive art wall at City Park Recreation Center, an inventory of the condition of all public art owned by the City and general upkeep at the Semper Farm. No expenses have been reflected in this project account to date.</p>	\$45,000	\$0	Jason Genck (PR&L)	City Employee	TBD

CAPITAL IMPROVEMENT PROGRAM - ONGOING PROJECTS

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▶	Public Safety Facilities Major Maintenance (BO&M) - This project provides funds for major maintenance projects for the Public Safety Center and fire stations. Types of projects include both interior and exterior replacements and improvements, along with major mechanical (HVAC), plumbing and electrical work.	Carpet has been replaced in both Fire Stations #5 and #3, and the painting of the exterior of Station #3 has been completed. 2nd Qtr 2014 Updates: Sallyport and kennel conditions and potential repairs were investigated by engineering firm SBSA, who concluded the building is safe and not settling any more. Some additional investigation will be addressed. Cosmetic repairs are being planned, but the structural integrity of the building is sound.	\$79,037	\$47,919	Brian Grucelski (GS)	City Employee	Various
▶	Recreation Facilities Major Maintenance (BO&M) - This project provides funds for timely repairs and maintenance of all recreation facilities. Priority projects will focus on needs identified through the Bornengineering facility needs assessment study.	Staff is in the process of completing a prioritization of future recreation facility capital projects. Upcoming projects include replacement of cracked glass windows at City Park Recreation Center, facility adjustments associated with filter replacement at City Park Recreation Center and HVAC/roof replacement at Legacy Ridge Golf Course. Additional projects completed during this period include installation of destratification fans in the natatorium at City Park Recreation Center, resurfacing of concrete flooring at the Westminster Sports Center and resurfacing all gymnasium and racquetball court wood flooring. Other work completed in 2014 to date includes building automation system upgrades, foundation repairs at Legacy Ridge Golf Course and various HVAC projects.	\$2,225,587	\$89,702	Brian Grucelski (GS)	City Employee	Various
▶	Recreation Facility Improvements - This project funds projects at various recreation facilities to enhance guest experiences. Types of projects include replacements and upgrades to aquatics, weight rooms, cardiovascular equipment, etc.	The MAC: New stainless steel counter tops and sinks were installed in kitchen area. Two new treadmills were purchased to replace old equipment. West View Recreation Center: New strength equipment has been installed, along with a new smart TV in the Community Room.	\$1,044,725	\$226,874	Lance Johnson (PR&L)	City Employee	Various
▶	Sidewalk Connections - This project provides funding for the design and construction of "missing links" of sidewalks at various locations where private development is not anticipated in the foreseeable future.	Funds will be spent in 2014 to install very minor missing links of sidewalk and curb ramps throughout the City.	\$17,150	\$2,432	Dave Downing (CD)	City Employee	Various
▶	Small Business Assistance Program (Capital Grant Program) - This project provides financial assistance to encourage the growth of existing businesses in Westminster with 50 or fewer employees. The program is designed to pay for one-time project related costs. Qualifying projects include tangible asset costs, office furnishings, specialized equipment, software purchases, IT equipment, capital improvements and machinery.	As of August 2014, all budgeted funds have been either paid out or committed. A total of 10 grant applications are expected to be paid out by year end.	\$40,149	\$25,000	Susan Grafton (CMO)	City Employee	N/A
▶	South Westminster Revitalization - These project funds are to be used in conjunction with planning, appraisals, and capital funding of redevelopment within the south Westminster area.	The Rodeo Market Park improvements were completed. The Westminster Grange/Rodeo Market Community Center Feasibility study commenced.	\$132,419	\$23,943	Tony Chacon (CD)	City Employee	Various
▶	Standley Lake Regional Park Improvements - This project will fund improvements that upgrade, update, or renovate existing facilities at the Standley Lake Regional Park.	Projects that have been completed include the completion of upgrades to docks and the repair of restrooms.	\$288,034	\$78,720	Lance Johnson (PRL)	City Employee	Various

CAPITAL IMPROVEMENT PROGRAM - ONGOING PROJECTS

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	Street Lighting Improvements - This project provides funding for the installation (by Xcel Energy) of isolated street lights in appropriate areas in response to citizen requests.	Currently there are no funds available for new installations.	\$0	\$0	Mike Normandin (CD)	Xcel Energy	Xcel Energy
▶	Traffic Signal System Improvements - This project provides funding for the design and installation of traffic signals at selected intersections and the installation of major traffic signal infrastructure improvements.	The annual Traffic Signal Warrant Study was completed in the 2Q of 2014 with no intersections meeting the City's criteria for the installation of a new traffic signal. Staff recently completed the purchase of Speed Awareness Signs for installation on various residential collector streets and new Ethernet Switches that increase bandwidth communications at various traffic signals. The Speed Awareness Signs are digital signs that indicate what speed you are actually traveling (i.e. "Your Speed Is"). Staff is working on replacing a number of cracked and faded illuminated street name signs throughout the City.	\$380,823	\$153,531	Mike Normandin (CD)	City Employee	W/L Contractors, Inc.; Atielah Construction
▶	Trail Development - This project provides funding to implement the trails master plan by developing trails throughout the City.	Construction of nearly one mile of regional trail, associated grading and creek channel stabilization within Tanglewood Creek Open Space is complete. Four construction change orders have been processed for this project; the total amount of all construction change orders is \$17,638 to date. These change orders are within the scope of the project, do not require Council action for approval pursuant to WMC, and were only necessary due to unforeseen conditions associated with existing conditions on site related to the creek channel stabilization, site grading necessary for trail construction, winter protection for concrete during an extended duration of freezing temperatures, and irrigation system adjustments. This project is funded in part with a \$434,000 Adams County Open Space Grant.	\$884,946	\$522,964	Sarah Washburn (PR&L)	City Employee	T2 Construction, Muller Engineering
▶	Tree Mitigation - This project serves as a "holding account" for developer contributions toward landscaping requirements. These funds will be utilized throughout the City towards forestry projects, including tree replacement and new plantings as needed.	\$14,071 was expended through 2Q 2014 to purchase 84 replacement trees that were planted by City crews at West View Recreation Center, Stratford Park, Zuni Street right-of-way, Lowell Boulevard right-of-way and other locations. A tree spade contractor was hired to move one tree at Quails Crossing Park due to playground reconstruction. Staff is putting together a bid proposal to plant replacement trees in the medians on 104th Avenue east of Sheridan, Sheridan from 104th Avenue to 112th Avenue, 92nd Avenue west of U.S. 36, and Church Ranch Boulevard. This project is slated for completion by June 2015.	\$60,387	\$14,017	Richard Dahl (PR&L) / John Kasza (PR&L)	City Employee	N/A
	Underground Utility Lines - This project houses funds that are collected from private developers as "cash-in-lieu" payments for the underground relocation of overhead utilities adjacent to their sites. Xcel Energy will not perform these relocations for short lengths of lines. In such cases, funds are collected from the developers for future, longer projects.	There are no current projects in process at this time. Funds are being held for future project opportunities.	\$177,124	\$0	Dave Downing (CD)	Xcel Energy	Xcel Energy
	Westminster Sports Center - This project will fund major capital needs associated with the Westminster Sports Center.	Funds are being accumulated to replace the synthetic turf on the indoor soccer fields.	\$95,000	\$0	Sean Layfield (PR&L)	City Employee	TBD

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UTILITY FUND CAPITAL IMPROVEMENTS (WATER, WASTEWATER AND STORMWATER)							
▶	Big Dry Creek Waste Water Treatment Facility - Major Repair and Replacement - This project funds major repair and replacement needs associated with the Big Dry Creek Waste Water Treatment Facility that were not addressed as part of the recent major capital projects at the plant. This project will fund replacement of existing equipment that is integral to treatment processes, along with major site maintenance and facility work.	This account is currently funding a project to resolve water penetration issues that the BDCWWTF Administration Building experiences during heavy rain events. Staff has confirmed a waterproofing product will protect the building's exterior and prevent wind-driven rain from entering the building, potentially causing mold and other water damage. While testing the product on the building, Staff discovered that the conference room windows leak and contracted for their repair. Further window repairs will be performed and waterproofing the building will occur in 2014/2015. Digester cleaning will be funded from this account and will commence in 3Q 2014.	\$496,665	\$88,309	Tim Woodard (PW&U) / Chris Gray (PW&U)	City Employee	J & T / Lillard & Clark / Keene
▶	Comprehensive Water Supply Plan (CWSP) - Water Supply Development - The purpose of this project is to replace the annual volume of water supply lost due to the elimination of the treated water contract with Thornton and to develop water supply to meet future water demand of the City at build-out. This includes purchasing additional water rights, expanding the reclaimed system, developing a non-potable water system for the southern portion of Westminster, optimizing the raw water system and increasing water conservation efforts.	The City used funding from this account and other capital project savings to purchase new water rights in August 2014. These rights include both direct flow rights from Clear Creek and additional storage in Standley Lake. Staff continues to integrate water availability with land use planning. Hydros Consulting is updating and upgrading the City's proprietary computer model of water supply operations and simulations.	\$3,035,254	\$2,852,697	Mike Happe (PW&U) / Sharon Williams (PW&U)	City Employee	Various
▶	Gravel Lakes Facilities - Major Repair and Replacement - This ongoing project will provide funds for needs at the City's gravel lakes facilities, which were developed to operate a series of water right exchanges to provide additional water to, and to help protect the quality of, Standley Lake. Projects will include work at the Kershaw Ditch, Sheets Lake facilities, Jim Baker Reservoir and the West Gravel Lakes facilities.	This ongoing project is for work at the Kershaw Ditch and Sheets Lake facilities. The project involves repair and enhancement of the pump inlet and piping infrastructure between the lake and the pump station, as well as modifications to the lake outlet to allow for appropriate operations. Additional work will occur at Jim Baker Reservoir including repair and replacement of outlet control, along with flow measuring and monitoring equipment. A site condition assessment is included as part of this work. Project work adjacent to Jim Baker Reservoir related to construction of the RTD Gold Line FasTracks project on the adjacent property is continuing.	\$209,299	\$26,410	Sharon Williams (PW&U)	City Employee	Various
▶	Miscellaneous Stormwater Drainage Improvements - This project is intended to fund the design and construction of all types of drainage improvements on an ongoing basis.	The Little Dry Creek Major Drainageway Planning update with the Urban Drainage and Flood Control District, Arvada and Adams County will begin in late 2014. Smaller drainage projects will be addressed on an as needed and as funding allows.	\$154,884	\$56,942	John Burke (CD)	City Employee	Various
▶	NWTF Major Repair and Replacement - The Northwest Water Treatment Facility (NWTF) was placed into service in 2002. This ongoing project funds a variety of necessary building and equipment maintenance and repairs for items including HVAC components, emergency generator upkeep and maintenance of on-site pavement.	In 2013 and 2014, Staff acquired and successfully installed major system components, repaired storage tanks, recoated floors, and rehabilitated drain systems. The caustic soda chemical feed system was rebuilt with stainless steel components to replace the plastic components. Staff also purchased chemical feed pump and tank heater replacement units, which were installed during a facility shutdown in early 2014. In August 2014, City Council approved the purchase of a new 24 inch raw water flow control sleeve valve to replace the original device.	\$299,750	\$70,999	Tom Scribner (PW&U)	City Employee	TBD
	Ongoing Water System Modeling/Master Planning: Project Development/Prioritization - This project is part of overall modeling and master planning efforts. This project will select certain proposed projects from this modeling to receive a pre-design level of detail, including appropriate timing and implementation scheduling for these projects.	This project supports ongoing modeling efforts related to design, development and planning. No expenditures have been necessary to date in 2014.	\$230,992	\$0	Andy Walsh (PWU)	City Employee	TBD

CAPITAL IMPROVEMENT PROGRAM - ONGOING PROJECTS

UPDATED	PROJECT TITLE	PROJECT STATUS (as of 8/31/14)	BUDGET	SPENT (8/31/14)	PROJECT MANAGER (DEPARTMENT)	EXTERNAL PROJECT MANAGER UTILIZED?	ENGINEERING FIRMS OR CONTRACTORS
▶	Ongoing Water System Modeling/Master Planning: Transmission Mains and Pressure Zones - This project is part of overall modeling and master planning efforts. Computer modeling will be performed to provide a variety of design scenarios related to planned improvements throughout the City. Pressure zones throughout the City will also be examined and modeled.	City Council approved the engineering contract with HDR Engineering, Inc. in July 2014. The project is scheduled for completion early 2015.	\$250,000	\$0	Andy Walsh (PW&U)	City Employee	HDR Engineering, Inc.
▶	Open Cut Water Line Replacements - This project is for the replacement of identified sections of water distribution system piping that has reached the end of its economic life. Locations are selected based on part pipe break history, anticipated changes in pressure zones, or coordination with other sewer line or street rehabilitation projects. Vulnerable pipes are identified based on age, pipe material, pressure and other criteria.	A current open cut project funded from this account is the water line replacement being performed in coordination with the 72nd Avenue Bridge replacement project. Please see that project's status in the "Major Projects" tab.	\$496,945	\$45,782	Andy Walsh (PW&U) / Dan Strietelmeier (PW&U)	City Employee	Jacobs Engineering
▶	Payment in Lieu of Use Tax - This item represents a payment from the City's Utility and Stormwater Funds to the City's Sales and Use Tax and Parks, Open Space and Trails (POST) Funds. Use taxes must be paid on materials used by contractors on projects conducted by all institutions, including governmental, religious and charitable organizations. This payment is calculated based on estimated construction materials used in projects undertaken by the Utility and Stormwater Funds, calculated at the 3.85% use tax rate.	These payments are being made on a monthly basis from the Water, Wastewater and Stormwater funds to the City's Sales and Use Tax and Parks, Open Space and Trails funds. For all three funds combined, the total monthly payment is approximately \$29,500.	\$354,000	\$236,000	Barbara Opie (CMO)	City Employee	N/A
▶	Pump Station Improvements - This ongoing project allows for the general replacement of pump station mechanical, electrical and process equipment on an as-needed or on-condition basis.	These accounts are used to fund a variety of improvement projects at water pump station facilities. The entry gates and fences at the Wandering View facility (located at 104th and Hooker) and the Countryside facility (located at 108th and Simms) are being rehabilitated to allow safer entry by Staff into the facility.	\$799,003	\$14,693	Stephen Gay (PW&U) / Bob Booze (PW&U)	City Employee	Various
▶	Pump Stations Piping and Yard Structures Repair and Replacement - This project includes routine repairs and equipment replacement at the Northridge, Silo, Countryside, and Jim Baker Reservoir pump stations. Also planned are improvements to electrical components at the Silo and Countryside stations to enhance safety and reliability and to allow for quick connections to trailer-mounted emergency generators.	Staff is scoping the project internally and has combined it with other pump station improvement projects. Staff will solicit engineering design proposals in late 2014.	\$246,000	\$12,450	Julie Koehler (PW&U)	City Employee	TBD
▶	Reclaimed Water Distribution System Improvements - This project is for the design of improvements to the reclaimed water distribution system. These improvements will upgrade the distribution system to meet current and future demands. This project will also provide new customers with reclaimed water service and improved service to existing customers.	Staff continues to work with City property owners to educate them about the benefits of reclaimed water and to encourage connections to the reclaimed water system. The Reclaimed Water System Infrastructure Master Plan is continuing on schedule to identify and prioritize reclaimed system repairs and improvements. Funds in the amount of \$456,933 were transferred from this account to the water supply development capital account in order to fund a high priority purchase of water rights.	\$1,287,485	\$73,757	Sharon Williams (PW&U)	City Employee	Various
▶	RWTF - Major Repair and Replacement - This ongoing project is for the maintenance and upkeep of the Reclaimed Water Treatment Facility (RWTF). Types of individual projects will include painting, mechanical equipment and pump replacement, electrical equipment maintenance and replacement, general building maintenance, and roofing replacement and repairs.	Staff completed concrete work in 2013 and will evaluate ongoing needs during the year.	\$181,482	\$0	Tim Woodard (PW&U)	City Employee	Various/Keene concrete
▶	Sanitary Sewer Line Trenchless Rehabilitation - This project will provide funds for the repair of deteriorated local sanitary sewer lines by trenchless rehabilitation (lining). This project will extend the lifespan of the existing collection system, while minimizing backups, inflow and infiltration into the sanitary sewer system.	Staff is currently reviewing the 2014 lining projects and will be bidding the project for the next three years. Construction will occur during the remainder of 2014 and into 2015.	\$308,802	\$0	Bob Booze (PW&U) / Dan Shjandemaar (PW&U)	City Employee	Insituform Technologies, Inc.

CAPITAL IMPROVEMENT PROGRAM - ONGOING PROJECTS

UPDATED	PROJECT TITLE	PROJECT STATUS (as of 8/31/14)	BUDGET	SPENT (8/31/14)	PROJECT MANAGER (DEPARTMENT)	EXTERNAL PROJECT MANAGER UTILIZED?	ENGINEERING FIRMS OR CONTRACTORS
▶	SCADA/PLC Ongoing Improvements - The supervisory control and data acquisition (SCADA) system and programmable logic controllers (PLC) are computer equipment and programs that automate many systems at the treatment facilities. They also allow Staff to perform many of the plant operations from a remote location. This project allows for the general repair and replacement of these devices due to age, condition, or if replacement parts become obsolete.	Staff has identified and purchased the PLCs which are due for replacement at the Semper Water Treatment Facility. Staff will replace these devices in-house. Recognizing the importance of ongoing SCADA and PLC replacements, this account was funded from savings in a completed 2007 Semper SCADA replacement project and 2012 carryover funds.	\$286,532	\$13,897	Tom Scribner (PW&U)	City Employee	TBD
▶	Sewer Line Open-Cut Replacement - This project funds open cut replacement of sanitary sewer lines where trenchless technology cannot be utilized. Open cut replacements are also used to increase pipe sizes, eliminate sags and address other critical defects. These replacements will help to minimize backups and limit inflow and infiltration into the sanitary sewer system.	2014 open-cut point repairs are being evaluated for funding from this account. This account is also providing a portion of the funding to complete the sewer component of the 72nd Avenue Bridge Replacement Project, which is described in the "Major Projects" tab.	\$194,927	\$71,224	Mike Happe (PW&U) / Stephen Gay (PW&U) / Bob Booze(PW&U)	City Employee	Quick's Backhoe & Landscaping
▶	SWTF Major Repair and Replacement - This ongoing project funds major repair and replacement needs at the Semper Water Treatment Facility (SWTF). Projects include general facility maintenance, painting, flooring replacement, HVAC major repair/replacement and pavement improvements. Other projects include replacement of various instruments.	Facility HVAC maintenance repairs were completed. New on-line chlorine analyzers were acquired and installed. New uninterrupted power supply units have been installed for various critical computer systems. A new turbidity analyzer was purchased and the facility's instrument wall was rebuilt.	\$195,416	\$31,024	Tom Scribner (PW&U)	City Employee	Various
▶	Utility Fund Facilities Parking Lot Maintenance Program - This ongoing project funds contractual cracksealing, resurfacing, sealcoating and concrete replacement at seven utilities-related municipal sites. Rotation for asphalt pavement requires cracksealing once every three years and sealcoating once every six years.	There is no scheduled work for 2014. Accordingly, there is no current budget for this ongoing project account.	\$0	\$0	Rob Dinnel (PW&U)	City Employee	TBD
▶	Water Meter Transponder Replacement Program - This project includes the replacement of customer water meters that are at the end or near the end of their useful life.	A master meter replacement program is being evaluated by Staff. This will be performed in conjunction with CIP projects and in-house construction projects.	\$140,518	\$0	Bob Booze (PW&U) / Dan Shjandemaar (PW&U)	City Employee	Various
	Water Pressure Zone Improvements - This project consists of multi-year efforts including ongoing hydraulic modeling of the potable water distribution system and the repair/replacement of pressure reducing valves throughout the system.	Miscellaneous pressure reducing valve field repairs and replacements are anticipated in 2014.	\$200,000	\$0	Andy Walsh (PW&U)	City Employee	TBD
	Water/ Wastewater Facility and Infrastructure Stewardship - This project account was created to encourage the utilization of higher efficiency equipment or design alternatives for appropriate capital improvement projects in the Utility Fund. The purpose of these accounts is to provide funding for all or part of the incremental cost for utilizing higher efficiency equipment or design alternatives for appropriate capital improvement projects.	Stewardship funds were used to coat the heated and cooled sections of the Semper Roof Project with a white EPDM product that will keep the roof cool. Final accounting has not occurred, so currently no expenditure is shown.	\$192,500	\$0	Tom Ochtera (GS)	City Employee	TBD