



CIRCULATION AND USE PLAN FOR DENVER'S CITY PARK

RESTORATION IMPROVEMENTS
ASSESSMENT AND RECOMMENDATIONS

September 2010

PREPARED FOR DENVER PARKS AND RECREATION



DESIGN TEAM

Lead Consultant - Wenk Associates

Bill Wenk - Principal

Jesse Clark - Associate/Project Manager

Jonah Weiss - Landscape Designer

Transportation Consultants - Fehr & Peers

Carlos Hernandez - Associate

Emily Gloeckner - Senior Transportation Engineer

City Staff

Britta Herwig - City Park Planner

Juan Marsh - Superintendent

Tom Henry - Operation Supervisor

Stu Bader - Permitting Supervisor

Jim Johnson - Special Events

Acknowledgements

Carla Madison / City Council District 8

The City Park Alliance

Denver Zoo

Denver Museum of Nature & Science

TABLE OF CONTENTS

INTRODUCTION	6
PURPOSE OF THIS CIRCULATION STUDY	6
ORGANIZATION OF THIS STUDY	7
PUBLIC PROCESS	7
HISTORIC CONTEXT	8
PREVIOUS STUDIES	9
ISSUES & OPPORTUNITIES	10
EXISTING CONDITIONS	12
RECOMMENDATIONS	19
PLANS	22
ENLARGEMENTS & TYPICAL SECTIONS	26
IMPLEMENTATION	42
PROJECT ZONES	44
PRIORITIZATION & COST	46
PHASING	58

INTRODUCTION

City Park, one of Denver's oldest parks, is known for its pastoral open meadows, stately trees, and graceful lakes. The Park was created in the late 1800's and quickly became known as "the People's Park." For more than 100 years, City Park's landscape has been the common ground for the activities and celebrations of generations of Denverites— from scenic drives and picnics, to the popular summer events such as the City Park Jazz series.

As the use of public parks has changed, City Park went from being passive open space mostly for "viewing," to more programed active spaces. Denver Museum of Nature & Science, Denver Zoo, ball fields, playgrounds, walking & running trails, picnic grounds were all added. Walkways have disappeared and roads and parking no longer serve the changing needs of park users. Cycling and leisure walking is not well accommodated in the current park circulation system; and the degradation of the sinuous pedestrian circulation network has contributed to under utilized spaces and difficulty in navigating the Park, issues which were identified as a major concern by a task force of citizens and city staff in 1997. This was the impetus for a comprehensive planning effort in 2001 to address land use, circulation and preservation called "Revitalizing the Legacy of City Park" (Legacy Plan), a collaborative partnership between Denver Parks and Recreation planning staff and major stakeholders.

The four principal goals of the Legacy Plan were to:

- Maintain the park's historic character and beauty, while meeting today's needs
- Manage the park more cohesively, as a whole
- Ensure the safety of park users
- Create a clear circulation system with a hierarchy of trails, roads, and walks

PURPOSE OF THIS CIRCULATION STUDY

The objective of this circulation study is to supplement and update the 2001 Legacy Plan and to comprehensively address the fourth goal of that plan by providing specific recommendations for safe multi-modal access to as many users and user types as practical within the park and to update the park's infrastructure to meet today's needs. In 2007, the Better Denver Bond Initiative provided funds to begin implementing measures to realize these goals.

Each recommendation in this report was evaluated based on the following three goals:

- Improve park users experience
- Increase the safety of all park users
- Be fair and equitable to all types of users

This study has four major areas of focus:

- Refine and restore City Park's historic circulation routes to provide equitable access to all users, by:
 - Creating an interior, one-way vehicular circulation system using historic roads and entries in addition to a two-way park boulevard
 - Improving the clarity of entrances/gateways and way-finding through out the Park
 - Create a network of paths that complement the existing walks with a clear hierarchy of pedestrian paths
- Assess the demand for parking at the zoo and museum and ease conflicts between Park users and zoo- or museum-goers who park along Park roadways, by:
 - Improving the quantity and quality of parking
 - Integrating access and circulation throughout the Park
- Evaluate the master plan "Revitalizing the Legacy of City Park" recommendation to create a "pedestrian promenade" for pedestrians and bicyclists using historic carriage roads.
- Improve the circulation routes to enhance visitor experience while avoiding conflicts between vehicles, cyclists and pedestrians and reducing the number and extent of fragmented zones that are divided by circulation routes.

ORGANIZATION OF THIS STUDY

This report is organized in sections beginning with a brief *Introduction* consisting of images, maps, and diagrams of park context, highlights of previous studies, and key findings from stakeholders and public meetings. The *Issues & Opportunities* section describes the existing conditions of the park and evaluates the information collected. The third section of this report describes *Recommendations* for improvements within the park including conceptual plan drawings, enlargements, and typical cross-sections accompanied by diagrams and brief descriptions of the recommendations. The final section of the report includes recommendations for *Implementation* by “project zones” as well as individual project tasks to be completed within those zones as funding becomes available. The implementation section includes “order-of-magnitude” cost opinions by project task and recommendations for phasing based on priority, costs, and impact. The report outlines recommendations for the first phase of work which will begin to implement strategies designed to achieve the goals stated above, and which fits the budget designated by the 2007 Better Denver Bond Initiative for City Park circulation improvements.

PUBLIC PROCESS

Stakeholder and public involvement played an important role in understanding the needs and desires of park users, and served as a means for evaluating conceptual solutions and recommendations.

The involvement process for this study included:

- A public meeting to identify issues & opportunities and to review proposed recommendations
- A special event booth in the park to present alternatives to public
- An intercept survey in the park in order to understand personal preferences, use patterns from neighbors, and regional users who may not have had the opportunity to attend public meetings
- Interviews of stakeholders to understand needs, desires, and suggestions regarding parking, circulation, and cooperative use of park spaces
- Public meeting to present the final plan
- A presentation to Parks and Recreation Advisory Board
- A presentation to council committee members

Stakeholders Included:

- *Institutional stakeholders with specific functional requirements*
 - The Denver Zoo
 - The Museum of Nature and Science
- *Operations and management interests*
 - Denver Parks operations staff & Rangers
 - Denver Public Works staff
 - Denver Police
- *Community representation*
 - The City Park Alliance - a neighborhood group
 - City Council-woman Carla Madison
- *Event logistics and amenities*
 - Denver Parks events and permitting staff



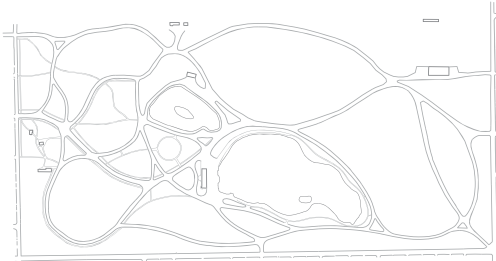
THE HISTORIC CONTEXT

CITY PARK: A DENVER ORIGINAL...A PARK FOR ALL PEOPLE

As early as 1878, City Park was envisioned as Denver's "east city park," with Sloan's Lake to be its complement as the "west city park," with the two parks linked by a tree-lined parkway. In the late 1800s City Park's framework was laid when its system of roads and looping paths were constructed. The paths and roads traversed meadows and wooded areas and helped guide visitors to areas with scenic views and vistas. Additional design efforts, accomplished during the "City Beautiful" era and administration of Mayor Robert Speer, resulted in a park that was enjoyed for both pleasure drives as well as quiet strolls.

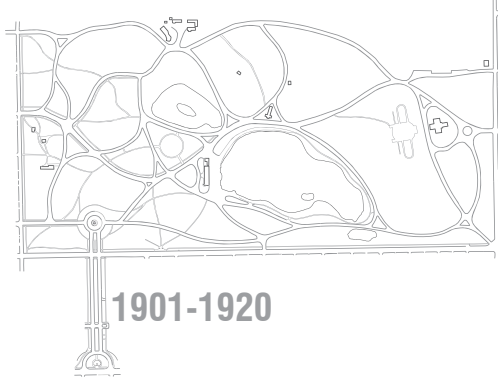
At the beginning of the century, the Denver Zoological Gardens and Museum of Nature and Science were constructed, enlarged over time, and remain the park's most significant institutions. The stately monuments and gateways that lend a distinctive character to the park, including the City Park Esplanade and Sullivan Gateway, serve as major entry ways were erected by 1920.

HISTORIC PARK DEVELOPMENT 1882-1960

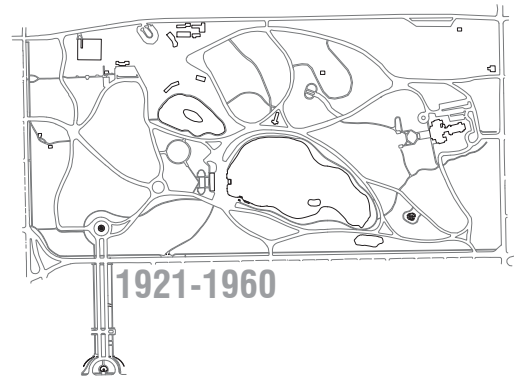


City Park Historic Site Assessment (Mundus Bishop Design, Inc. 2001)

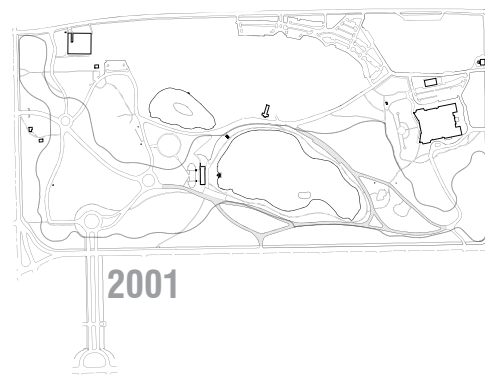
1882-1900



1901-1920



1921-1960



2001

The richness and inter-connectedness of roads & paths have been lost over time as park use went from passive recreation to active recreation (such as jogging & biking) and as the Zoo and Museum expanded. The increase in traffic and users resulted in roads being closed & paths being removed which degraded the original circulation system. The large footprint and traffic generated by the Museum and Zoo have also created a dramatic shift in access requirements and traffic patterns.

PREVIOUS STUDIES

Several studies have been commissioned over the last decade to address perceived problems in how City Park functions, and while some of the recommendations proposed by these studies have been implemented others have not. The previous studies were helpful in this study's evaluation of City Park's parking and circulation and helped this study to evaluate and build upon recommendations (implemented or not) from previous studies.

CITY PARK USE STUDY (BBC RESEARCH & CONSULTING 1998)

The purpose of the "City Park Use Study" was to provide quantitative and qualitative information on the use & users of the non-zoo and non-museum portions of the park.

The key findings of the "City Park Use Study" that relate to circulation & parking are:

- The typical park user does not see the park as a whole, does not know what facilities are available in other parts of the park and cannot easily access other parts of the park unless they are on foot.
- Parking pressure can occur on park roads south of the Zoo & south of the Museum during the Zoo's and Museum's peak hours & seasons.
- Haphazard road closures, confusing circulation and poorly marked park entrances/exits make it difficult for people to access the Park.

The "City Park Use Study" forms the basis of this study's demographic and park use data. However, because the data in the "City Park Use Study" was over ten years old at the time of this study that data was supplemented with intercept surveys, public meetings and stakeholder interviews to get a more current picture of park use.

NORTHEAST PARKING STUDY (MUNDUS BISHOP DESIGN, INC. 2000)

The purpose of "Northeast Parking Study" was to improve circulation and recommend an additional 813 parking spaces be created for Zoo & Museum visitors. The study's recommendations resulted in the construction of two below ground parking structures (one for the Museum and one for the Zoo). The "Northeast Parking Study" was used in this study to evaluate the need for additional or reconfigured parking around the Museum & Zoo.

CITY PARK HISTORIC SITE ASSESSMENT (MUNDUS BISHOP DESIGN, INC. 2001)

The purpose of the "City Park Historic Site Assessment" was to describe and record the historic character and appearance of City Park including its organization, circulation, features, topography and vegetation. The "City Park Historic Site Assessment" was the basis for the master plan report "Revitalizing the Legacy of City Park"

REVITALIZING THE LEGACY OF CITY PARK (MUNDUS BISHOP DESIGN, INC. 2001)

Building on the "City Park Historic Site Assessment" and the "Northeast Parking Study," the master planning document "Revitalizing the Legacy of City Park" provided the foundation for this circulation & parking study.

The key recommendations of the master planning document "Revitalizing the Legacy of City Park" that directly relate to circulation & parking include recommendations to:

- Address increased demand for parking at the Zoo and Museum through the construction of two garages (as proposed in the "Northeast Parking Study"), with the goal of easing conflicts between park users and zoo- or museum-goers who park in park lots or along roadways.
- Reestablish City Park's historic circulation routes to provide equitable access to all users by creating an interior, one-way vehicular circulation system using historic roads and entries.



While some of the report's recommendations have been successfully implemented, including the construction of two parking garages for the Zoo and Museum as well as the closure of a road to create the eastern half of the "pedestrian promenade," other recommendations including reestablishing the historic circulation routes have not been implemented.

ISSUES & OPPORTUNITIES

This section maps information gathered through field observations, intercept surveys, public and stakeholder meetings. The “Existing Conditions” map on the following pages shows the layout of the circulation system found in the summer of 2009. Specific areas on the “Existing Conditions” map where issues have been identified, and opportunities exist for improvement, have been given a letter which refers to a more detailed descriptions in the pages following the “Existing Conditions” map. The key issues uncovered by this study are:

ENTRIES

Main monumented entries are under used and park entrances are confusing.

ROADWAYS

Vehicular circulation through the Park is confusing & inefficient. Roads lack a “parkway” feel & divide large expanses of the East & West Meadow.

PARKING

While for most users of the Park parking is not an issue (except during gate closures) parking near the Zoo & Museum can be problematic during busy times.

PEDESTRIAN & BICYCLE ROUTES

A lack of clear signage, path types and connections makes it difficult for pedestrians and bicyclists to safely navigate through the Park.

SEE THE FOLLOWING PAGES FOR DETAILED DESCRIPTIONS OF ITEMS A-S:

- A) This is an exit only, however, many use it as an entry
- B) This is a primary park entry but it is difficult to find
- C) This road bisects large meadow & is not pedestrian friendly
- D) Poor gate design restricts bicycle traffic when the gates are closed
- E) The vehicular circulation in this area is confusing.
- F) Inconsistent material types are used in the perimeter path
- G*) Paths lacks definition of user type & way finding methods *(Occurs in multiple locations)
- H) Parking lot is poorly laid out, has a confusing entrance, is dangerous & is closed on Sunday
- I*) Closed road feels like a road not a pedestrian area *(Occurs in multiple locations)
- J) Gate negatively effects the character of the pedestrian promenade & does not allow bikes to enter
- K) Park Boulevard feels like a utility access road
- L) Park entrance feeds into zoo parking lot creating traffic jams
- M) Intersection is confusing
- N) Road bisects the East Meadow
- O) Exit encourages cut through traffic from Montview Blvd.
- P) Road passes through the Museum parking lot
- Q) This is a main entrance/exit but lacks monumentation or traffic signals.
- R) Paths are missing or don't pass through gate pedestrian portals
- S) Too few pedestrian crossings along 17th Ave



LEGEND

- Vehicular route
- Regional bicycle route
- 5280 loop
- Multi-use paths
- Entry monumentation
- Traffic light
- Vehicular gate
- Vehicular gate - Sunday closure

EXISTING CONDITIONS - ISSUES AND OPPORTUNITIES

A



THE HISTORIC MCCLELLAN GATEWAY AT 21st AVE. AND YORK ST. IS CURRENTLY DESIGNED AS AN EXIT ONLY.

Issue:

- Many park visitors use the gateway as a “shortcut” entry due to current inconvenient vehicular entry points
- Grand monimentation indicates sense of gateway or major entry; 5% of park visitors enter illegally through this exit.
- Pathways that once passed through “doorways” have either disappeared or have been re-routed creating disconnections in circulation and de-emphasizing the “Gateway:” character.

Opportunity:

- As a historic entry point, this gateway could once again provide the desired legal vehicular entry from the west side of the Park making it a major entrance.
- The pedestrian paths should extend through monument “doorways” to reinforce the gateway character.

B



THE ENTRY ALONG 23RD AVE. IS HEAVILY USED, BUT DIFFICULT TO FIND.

Issue:

- According to surveys and traffic studies, approximately 40% of visitors enter here due to a lack of options from York St.
- Many visitors describe this entry as being difficult to find and having to unnecessarily search for an entry point.
- The entry lacks clear signage or monimentation

Opportunity:

- Entry and direction signage would be appropriate at this entrance due to the amount of traffic that currently enters here and the expected increased in traffic as the greenhouse comes into public use.

C



THE ROAD BETWEEN THE WEST MEADOW AREA IS PERCEIVED TO BE A BARRIER FOR PEDESTRIANS AND CUTS THE MEADOW IN HALF.

Issue:

- The wide roadway makes it difficult for pedestrians to safely cross between two large activity areas.
- The road creates a confusing traffic pattern.
- Parked cars obscure the view into the meadows

Opportunity:

- This area presents an opportunity for increased access and flexible use for a variety of activities and pedestrian modes of travel by closing the road to vehicular traffic. (also refer to letter E)

D



THE ESPLANADE ENTRY FROM 17TH AVE. IS A MONUMENTED ENTRANCE WHERE BICYCLE ACCESS IS HINDERED WHEN GATES ARE CLOSED.

Issue:

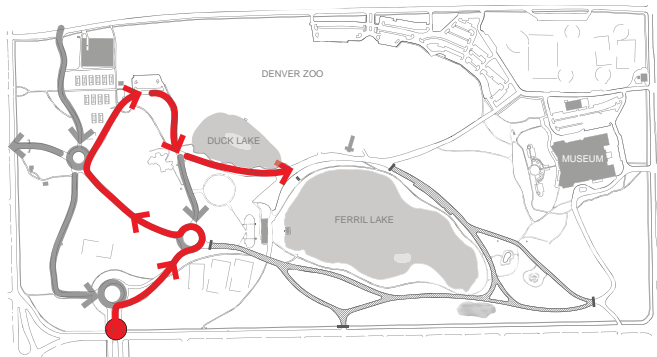
- Gate design and layout do not currently allow for bike lane continuity and access to roadway when closed. Bike riders must cut through landscape areas to bypass gates.



Opportunity:

- Gates could be redesigned to allow for cyclists to pass when closed.

E



THE LAYOUT AND SEQUENCE OF ONE-WAY ROADS ARE CONFUSING MAKING IT DIFFICULT TO NAVIGATE THROUGH THE PARK.

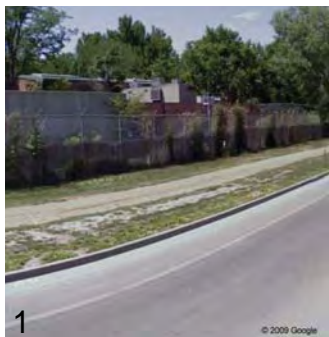
Issue:

- One way routes weave around the park sometimes directing the visitor away from desired destinations in a figure 8 pattern. Route indicated in red illustrates how a visitor would travel from the Esplanade entrance to the Pavillion parking area or to the north-east side of the park.

Opportunity:

- The circulation could be reconfigured allowing for the pedestrian promenade to be extended (also refer to letter C)

F



INCONSISTENT MATERIAL TYPES AND WIDTHS OF THE PERIMETER PATH HAVE VARYING USER AND MAINTENANCE QUALITIES. MANY VISITORS EXPRESS THE DESIRE FOR A CONSISTENT LOOP AROUND THE PERIMETER OF THE PARK.

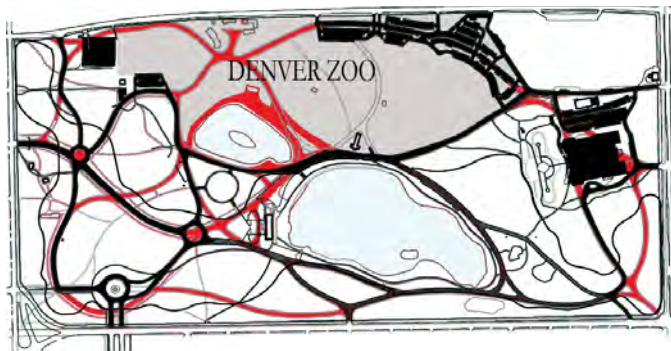
Issue:

- 1. The 8' crusher fines path along the north edge of the park is appealing and gets moderate use in dryer seasons, but gets muddy easily and cannot be plowed in snowy conditions.
- 2. The 8' asphalt path along the west edge of the park is appealing, gets heavily used, and accommodates a variety of travel modes (walking, running, biking). This path is easily plowed and maintained.
- 3. The 5' concrete walk and 3' crusher fines path along the east edge of the park from 17th Ave. to Montview mitigates the social trail that had evolved without it. * Note: There are no formal paved paths along the east edge of the Park from Montview to 23rd.
- 4. The 4' sandstone walkway along the south edge of the park is an appealing material, however the stone has heaved and shifted over the years, making it difficult for runners, walkers, bikers, and strollers to use safely. A parallel social trail has formed by users who avoid the uneven stone path.

Opportunity:

- The perimeter path should be a consistent material for both users & maintenance.

G*



PATHWAY HIERARCHY AND SINOUS CONNECTIONS HAVE DIMINISHED OVER TIME.

Issue:

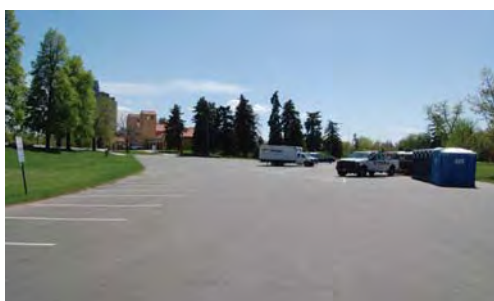
- Many pathways and connections have been lost as improvements and re-development have changed uses within the park. Areas in red indicate historic routes which no longer exist in the current configuration (in black).
- Inconsistent path materials, widths, and signage make way-finding and acceptable modes of travel confusing. (see images below)

Opportunity:

- Signage, width, and material types should be used in order to establish a clear trail hierarchy.



H



THE PAVILION PARKING LOT IS INEFFICIENT AND UNDESIRABLE FOR PEDESTRIAN MOVEMENT.

Issue:

- The pavilion parking lot is situated on leftover paving from a removed historic roadway making it inefficient in its layout. The entry is vast and potentially unsafe making it undesirable for pedestrian movement.

Opportunity:

- The lot could be reconfigured making it safer and possibly providing more parking spaces.

I



THE CLOSED ROADWAY CURRENTLY USED AS PEDESTRIAN PROMENADE FEELS LIKE A ROAD.

Issue:

- The closed roadway currently used as pedestrian promenade is an approximately 34' wide asphalt cross section. Large remaining street lights contribute to a scale and feel more consistent with vehicular roadways rather than pedestrian ways.

Opportunity:

- Elements such as benches, paving material and pedestrian scale lighting could be used to soften feel and scale of the promenade.

J



CLOSED GATES, USED TO PREVENT VEHICULAR TRAFFIC, NEGATIVELY AFFECT THE CHARACTER OF THE PEDESTRIAN PROMENADE

Issue:

- *The gate implies that the road closure is temporary and sometimes open for vehicular access.*

Opportunity:

- *Bollards could be used to improve the character of the pedestrian promenade.*

K



MAIN PARK ROAD CHARACTER IS MORE CONSISTENT WITH A VEHICULAR SERVICE ROAD RATHER THAN A PARK BOULEVARD.

Issue:

- *In some areas, the lack of curbing, enables parking to impact and sometimes extend into landscape areas.*
- *The lack of formal walkways forces people to walk in the roadway or through landscape areas causing social trails.*
- *Pull in parking does not allow for a dedicated bike lane and in some areas can create conflicts with pedestrians and bicyclists.*

Opportunity:

- *The character of the Park Boulevard could be improved by adding walks, curbs, bike lanes and limiting parking to parallel parking.*

L



City Park Race Track circa 1928

THE PARK ENTRANCE ROAD AT 23RD AVE. IS NOT AN OBVIOUS ENTRANCE INTO THE PARK.

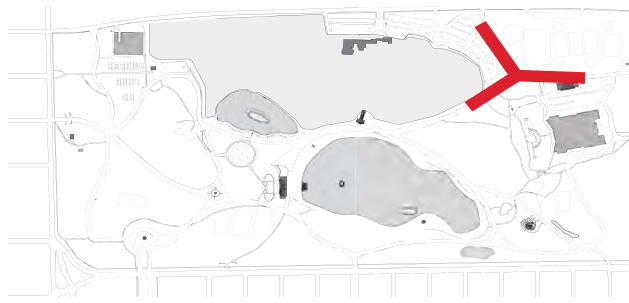
Issue:

- *Road alignment and parking access have been added over the years changing the sinuous and grand entries into the park. In its current form, the road appears to be an entrance into Zoo parking making it difficult to know that it is a major Park entrance.*

Opportunity:

- *The road could be realigned and given entry monumentation to signify its use as a major Park entrance.*

M



THE DESIGN OF THE INTERSECTION AT THE MUSEUM, ZOO & PARK ENTRY ROADS IS CONFUSING AND DOES NOT DIRECT TRAFFIC INTO THE PARK.

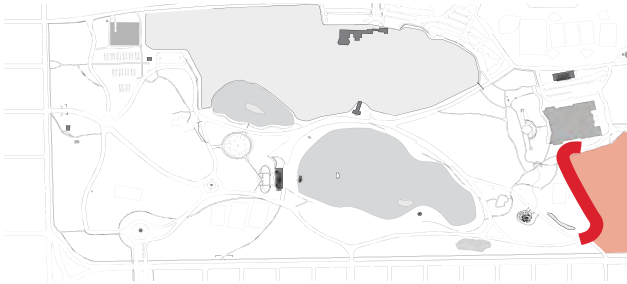
Issue:

- Way-finding monumentation and signage is insufficient and unclear.
- Roadway and intersection design implies that the Park road is insignificant relative to the loop road connecting from 26th Ave to Colorado Blvd. (also refer to letter K)

Opportunity:

- The intersection could be reconfigured and signage added to direct visitors into the Park.

N



PREVIOUS STUDIES, AND THE MOST RECENT MASTER PLAN, SUGGEST RESTORATION OF THE HISTORIC PARK ROAD ALIGNMENT IN THE EAST MEADOW.

Issue:

- The park road bisecting the meadow isolates the area adjacent to Colorado Blvd.
- Wooden bollards and the paved roadway create a barrier through the historic meadow which impedes active use and pedestrian movement in the Eastern meadow area.

Opportunity:

- This road could be realigned and a curb (rather than bollards) could be used to keep vehicles on the roadway.

O



THE 17TH AVE ENTRANCE (AT HARRISON ST.) ENABLES CUT THROUGH TRAFFIC FROM MONTVIEW AND COLORADO BLVD. AND IS UN-NECESSARY FOR PARK ACCESS.

Issue:

- The reduction of cut through traffic is highly desired by neighboring residents and park users for safety reasons and to improve the experience of visitors.

Opportunity:

- This entrance/exit could be closed to eliminate cut through traffic on this road.

P



THE ROAD ON THE EAST SIDE OF THE MUSEUM (IN RED) IS PERCEIVED TO ONLY SERVE MUSEUM PARKING, RATHER THAN AS A CONNECTION TO THE LARGER PARK ROAD SYSTEM (IN GREEN).

Issue:

- Visitors who enter through the Monti Gateway find it difficult to access other parts of the park. Routes that appear to “cut through” a parking lot also confuse visitors.
- Large museum attendance can sometimes create traffic blockages in this area.

Opportunity:

- This road could be realigned so that it doesn’t pass through the museum parking lot, reducing traffic jams caused by people trying to find museum parking.
- The historic roundabout at the Monti Gateway entrance could be reconstructed with signs to provide character and directional assistance to visitors entering through the gateway.

Q



THE CHARACTER OF THE ENTRY FROM COLORADO BLVD. AT 22ND AVE. IS NOT CONSISTENT WITH OTHER GATEWAY ENTRY POINTS.

Issue:

- The entry is perceived to serve the police station, the museum, and ballfields, with little indication (i.e. monumentation, signage, etc.) that it is a major Park entry or boulevard.

Opportunity:

- Future improvements at other entrances will make this a minor entry, however, park signage should be provided.

R



Missing pedestrian connection

PATHWAYS DEAD END OR NO LONGER MAKE SINUOUS CONNECTIONS AT THIS MONUMENTED ENTRANCE

Issue:

- Pathways that once passed through “pedestrian gateways” have either disappeared or have been re-routed creating disconnections in circulation and de-emphasizing the “Gateway:” character. (Also see G)

Opportunity:

- Paths should be realigned to pass through the “pedestrian gateways” to reestablish those connections and improve the “Gateway” character.



A LACK OF PEDESTRIAN CROSSINGS ON 17TH AVE. BETWEEN COLORADO BLVD AND STEELE ST. MAKE ACCESS FOR PEDESTRIANS DIFFICULT.

Issue:

- *The half mile distance between crossings along this busy section of 17th Ave. make it difficult for pedestrians to safely cross this street.*

Opportunity:

- *A push button crossing light should be added between the crossing at Colorado Ave. and the crossing at Steele St. to allow for pedestrians to safely cross.*

SUMMARY OF RECOMMENDATIONS

The following recommendations are based on the problem areas identified in the Issues & Opportunity section. In the following pages maps showing specific areas of improvements are keyed to sections & enlargements, which follow the maps.

PARK ENTRIES

The entries into City Park provide the user with their first park experience and it should be easy for visitors to identify major entrances into the park using existing monuments and added signage.

West Meadow:

This monumented exit onto York should be reconfigured as a park entrance. Gate closures on Sunday should also be reevaluated. By allowing vehicular access to the park on Sunday regional visitors will no longer be forced to park in the surrounding neighborhoods, walk great distances and cross major city streets in order to access park amenities.

Park Boulevard:

The “T” intersection where the Museum, Zoo and Park roads meet should be redesigned as a traffic circle and signed or monumented to indicate how to enter the rest of the Park. This will indicate to visitors the main vehicular entryway into the Park and the Park Boulevard.

East Meadow:

The entrance on to 17th Ave. should be closed to vehicular traffic to prevent cut through traffic, however, pedestrian & bicycle access should be provided in the south east corner of the park.

Museum & Zoo Roads:

The Northeast entrance by the Zoo should be reconfigured to separate the entrance drive from the Zoo parking lots and a monument gate and traffic signal should be added.

Pedestrian Promenade:

The gates at the main entrance to the Pedestrian Promenade along 17th Ave. at Steele St. should be replaced with removable bollards to allow for bicyclists to easily enter the Pedestrian Promenade.

VEHICULAR CIRCULATION

The present layout of the vehicular circulation system is confusing, difficult to navigate and is unsafe for pedestrians and cyclists. Sunday gate closures should be discontinued to allow for reliable and predictable parking & circulation. Way-finding signage would also be helpful for users to help navigate the park and locate their destination.

West Meadow:

Closing the road that bisects the West Meadow and changing the one-way circulation system in the West Meadow to a continuous loop will clarify the circulation through this area of the park. The roads through the West Meadow should have a consistent cross section with one-way roads, bike lane, curb & gutter and 45° pull-in parking as well as signage to help users to navigate.

Park Boulevard:

The Park Boulevard is the only road that runs from the east side of the park to the west side. This major park road feels more like a service road rather than a boulevard. A “park boulevard” experience should be established along this road which accommodates cars, walkers, and cyclists with separation between uses. The road should have a consistent design - for instance the roadway should include two-way vehicular traffic, curb & gutter, bike lanes, parallel parking (except in locations where it is too narrow to include parking), sidewalks and signage. The road section north of the West Meadow should be realigned to strengthen the Park Boulevard and improve access and visibility in that area. This Boulevard forms the spine of the park vehicle circulation; it is easy to navigate, locate entrances and all amenities can be accessed from it.

East Meadow:

Many drivers use the road along the East Meadow as a cut through. To prevent this the exit onto 17th Ave. should be closed and a turnaround, sized for museum bus traffic should be constructed. Curb and gutter should be added (instead of the bollards used in some places) to prevent vehicles from parking on grass. As the master plan, “Revitalizing the

Legacy of City Park” indicated the East Meadow road should also be realigned so that the large space next to Colorado Boulevard can be reconnected to the rest of the East Meadow. Parking should also be added in this location for museum buses.

Museum & Zoo Roads:

The roads that run along the Zoo & Museum parking lots function more as parking lot entrances and less as park entrances. These roads should be realigned separating park traffic from Zoo/Museum parking. Entrances to either parking lot should be limited to avoid congestion on park roads. Where the road north of the Museum and the road west of the Zoo intersect it is hard for drivers to figure out how to enter the park due to the lack of directional signage and the layout of the intersection. The current road alignment actually encourages drivers to drive past the park entrance and towards the Museum or Zoo. At this intersection a roundabout should be created with signage indicating how to enter the park.

PARKING

For the park visitor who accesses the park by car the availability and quality of convenient parking is important, and can affect the quality of a park experience and the safety of park visitors.

West Meadow:

Where feasible pull-in parking should be provided on the interior loop of this one-way road while parallel parking should remain on the outside of the loop. This will provide adequate parking for amenities inside the meadow, such as the ball fields and the playground while making up for any parking lost with the proposed closure of the road that bisects the meadow.

Park Boulevard:

Parking can create a safety issue, especially when a lack of pedestrian paths and bike lanes force pedestrians and cyclists to pass behind pull-in or angle-in parking; in these instances the parking should be converted to parallel parking. Sidewalks should also be provided around busy parking areas in order to reduce the necessity of users walking (sometimes pushing a stroller or wheelchair) in the street.

Pavilion Parking Lot:

The Pavilion parking lot should be reconfigured; the entrance width should be reduced and the layout of the lot should be rearranged to provide a safer and easier parking experience.

East Meadow:

Pull-in parking along the east side of the road should be provided while no parking should be allowed on the west side of the road. The pull-in parking areas need to also function as areas for bus parallel parking. This will accommodate the Museum needs as well as improve visitor access to the amenities on the east side (Lily Pond, playground, spray area)

Museum & Zoo Roads:

The layout of the parking lots is confusing. Many times parking lots blend with park roads making it difficult to distinguish where a visitor should go in order to reach the Park. For instance the Zoo and Museum lots blend in with park entrance and the parking lot. The park roads near the Zoo and the Museum should be realigned to selectively limit the entrances to the those lots. The realignment of those roads near the Zoo and the Museum will also result in the ability of those two organizations to expand their available parking. Further study is needed to assist the Zoo & Museum in realigning the roads to meet their program needs.

PEDESTRIAN & BICYCLE CIRCULATION

The pedestrian & bike circulation is confusing and in some places lacks separation from vehicular traffic. Paths also lack a consistent material use and signage. City Park would benefit from two types of trails; loops and trails that lead to destinations, both of these trail types are interconnected and important to providing a quality visitor experience. The historic trails accomplished both destination and loop travel but have been fragmented or lost. Where it makes sense the historic trail network should be reestablished.

West Meadow:

Interconnected trails and path networks that form loops through the West Meadow should be created, mapped and signed so that individuals who want to explore the park and return to their starting point, have that option. Looping paths should provide a variety of scales and experiences. An effort should be made to use consistent material on paths, to help create

a path hierarchy, for example major paths should be concrete walks while minor paths might use crusher fines or asphalt.

Signage:

Directional signage and maps should be provided throughout the Park. Presently the lack of maps and clear signage makes it hard to figure out where a particular path leads. The lack of consistent material also makes it hard to discern what paths are major and minor.

Park Boulevard:

To help separate pedestrians from vehicular traffic, the Park Boulevard should have dedicated sidewalks. Striped crossings should also be provided where pedestrian paths cross the roadway.

East Meadow:

Interconnected trails and path networks that form loops through the East Meadow should be created, mapped and signed so that individuals who want to explore the park and return to their starting point, have that option. Looping paths should provide a variety of scales and experiences. An effort should be made to use consistent material on paths, to help create a path hierarchy, for example major paths should be concrete walks while minor paths might use crusher fines or asphalt.

Museum & Zoo:

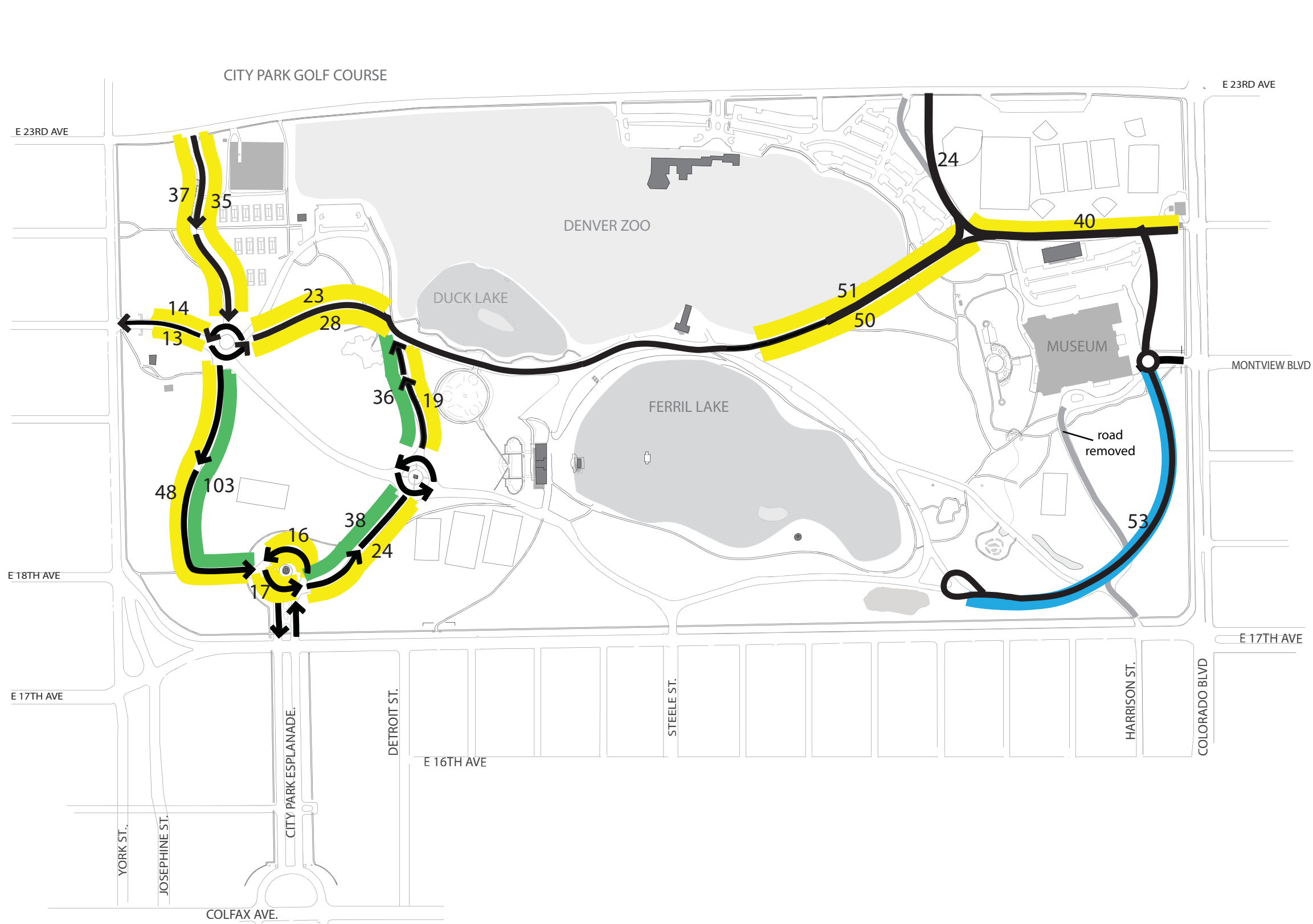
Sidewalks should be provided along the perimeter of the Zoo and Museum with clear directional signage to the their entrances.

Pedestrian Promenade:

The existing Pedestrian Promenade should be extended to the road that bisects the West Meadow. This will create a vibrant pedestrian area that runs almost the complete length of the park. This pedestrian area should have furnishings such as trash cans, benches & pedestrian lighting so that it feels like a pedestrian area. The promenade should also have different material types crusher fines in areas for walkers/runners and asphalt lanes for areas for bicycles, inline skaters etc.

MAPS OF RECOMMENDATIONS

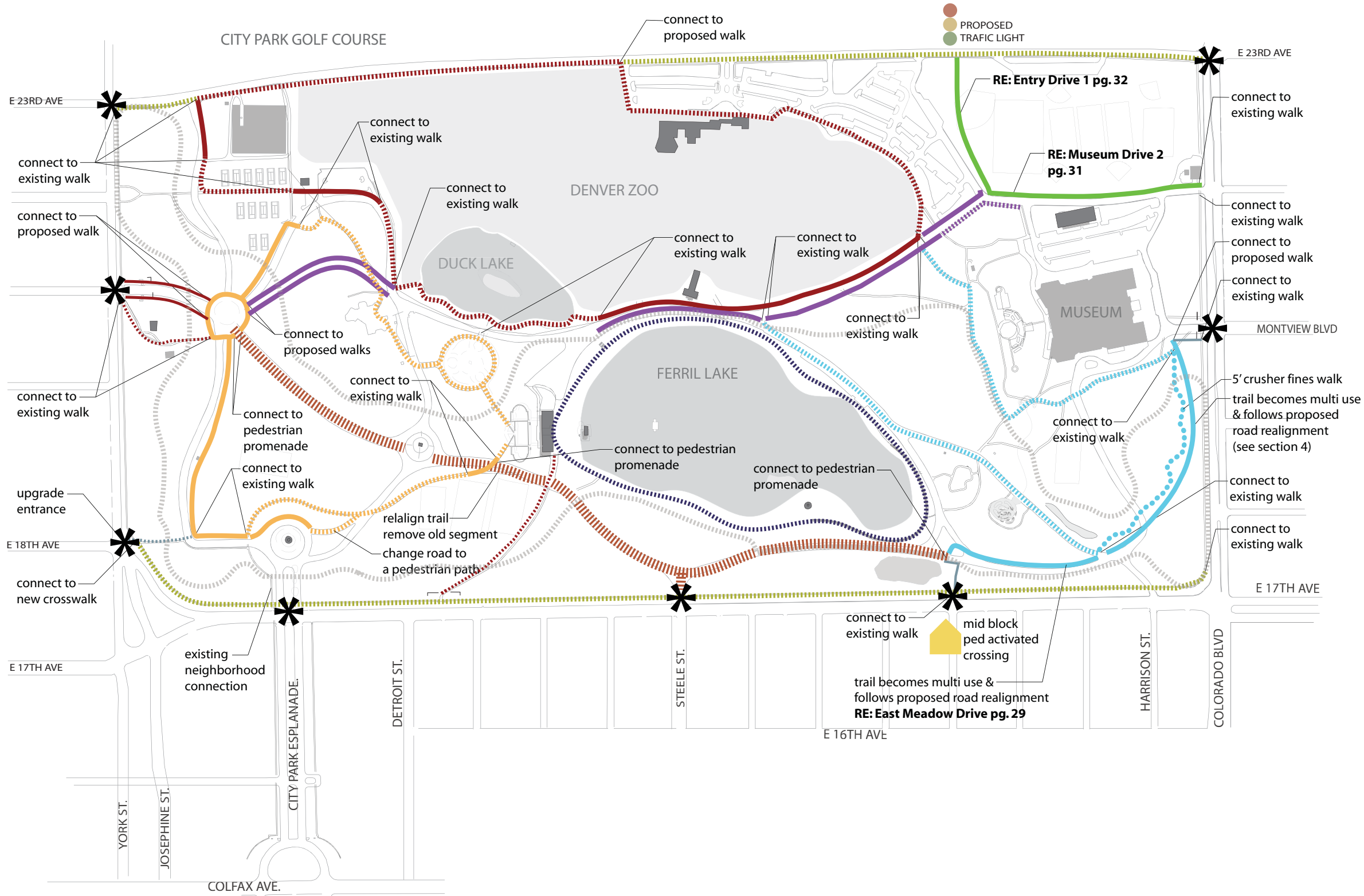
The following maps illustrate this report's recommendations. The recommendations are divided into four maps. The first map illustrates recommended changes to vehicular circulation which is followed by a map showing recommended parking changes and the estimated number of available on street parking spaces. The next map shows proposed changes to the pedestrian circulation system which is followed by recommended bicycle routes through the Park. Some of the recommended improvements are called out in bold and reference sheets (that follow the maps) that show plan enlargements, sections and design characteristics.



LEGEND

- Vehicular Route
- Parallel Parking
- Head-In Parking
- 45 Degree Angled Parking
- 35 Passenger Car Parking Spaces

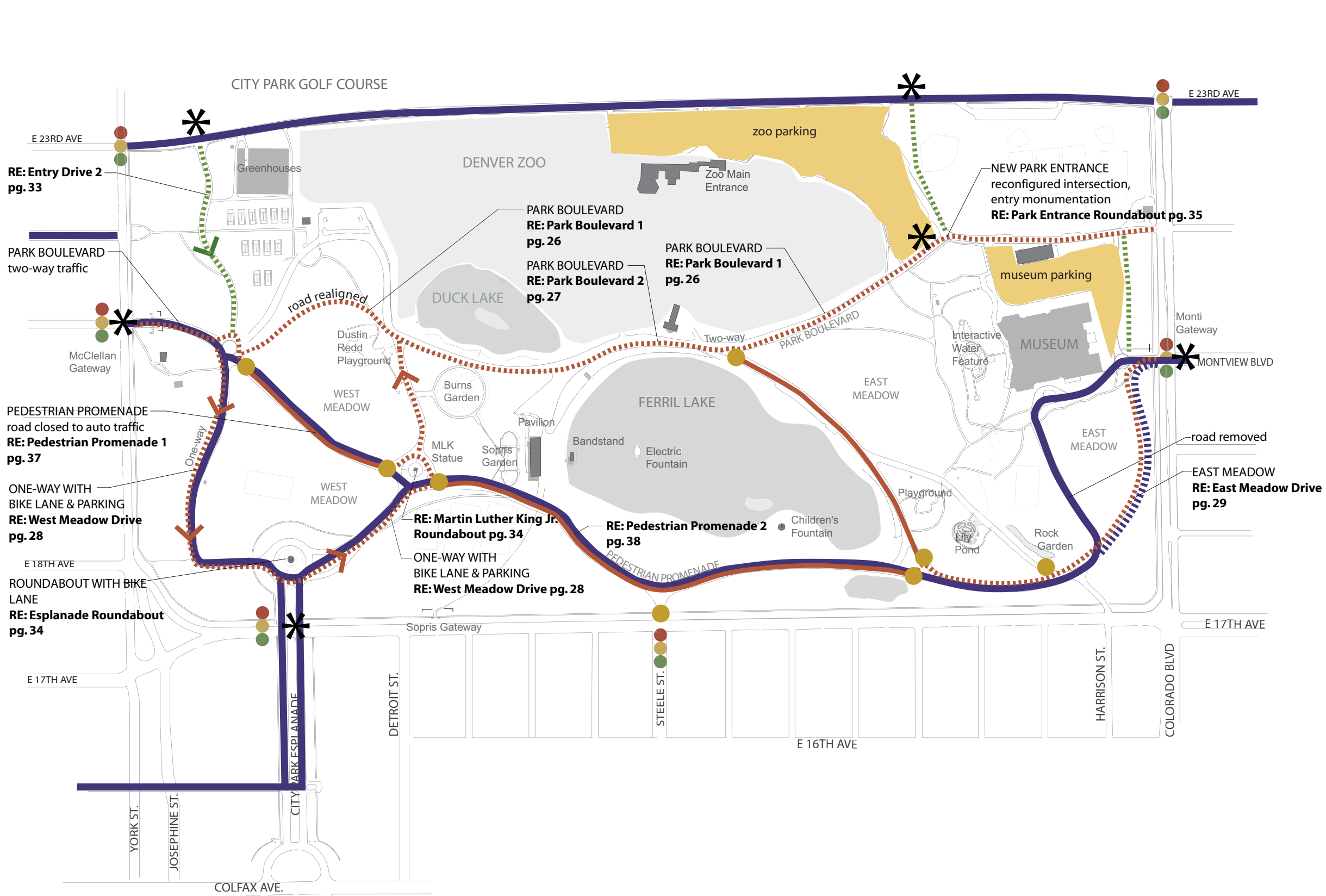
Estimated Roadway Parking Spaces (Summer 2009): 750
Proposed Plan Roadway Parking Spaces: 669



LEGEND

- 5280 loop (existing - no work proposed)
RE: 5280 Trail pg. 41
- Ferril Lake Loop (existing - add benches & trash cans)
RE: Lake Loop pg. 41
- West Meadow Garden Loop (proposed) & (existing)
alterations required **RE: East & West Meadow Loops pg. 40**
- Zoo Loop (proposed) & (existing)
alterations required **RE: Zoo Loop pg. 39**
- East Meadow (existing) alterations required
RE: East & West Meadow Loops pg. 40
- East Meadow (proposed)
RE: East Meadow Drive pg. 29
- Neighborhood connections (proposed) & (existing)
alterations required **RE: Neighborhood Connections pg. 40**
- Pedestrian Promenade (existing closed roadway)
alterations required
RE: Pedestrian Promenade 1 & 2 pg. 37-38
- Park perimeter path (existing)
alterations required **RE: Park Border pg. 39**
- Park Boulevard (proposed) & (existing)
alterations required **RE: Park Boulevard 1 & 2 pg. 26-27**
- Major pedestrian entry

Note:
**Bold type callouts refer to typical
Enlargements & Cross Sections**



LEGEND

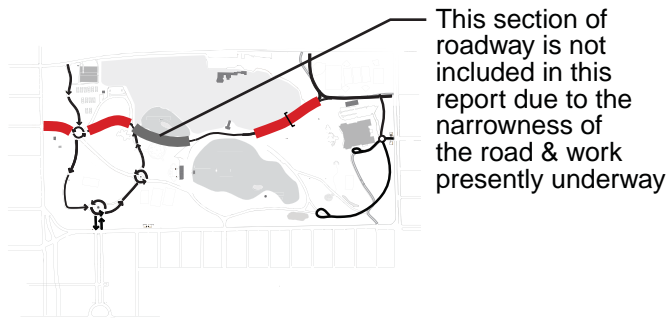
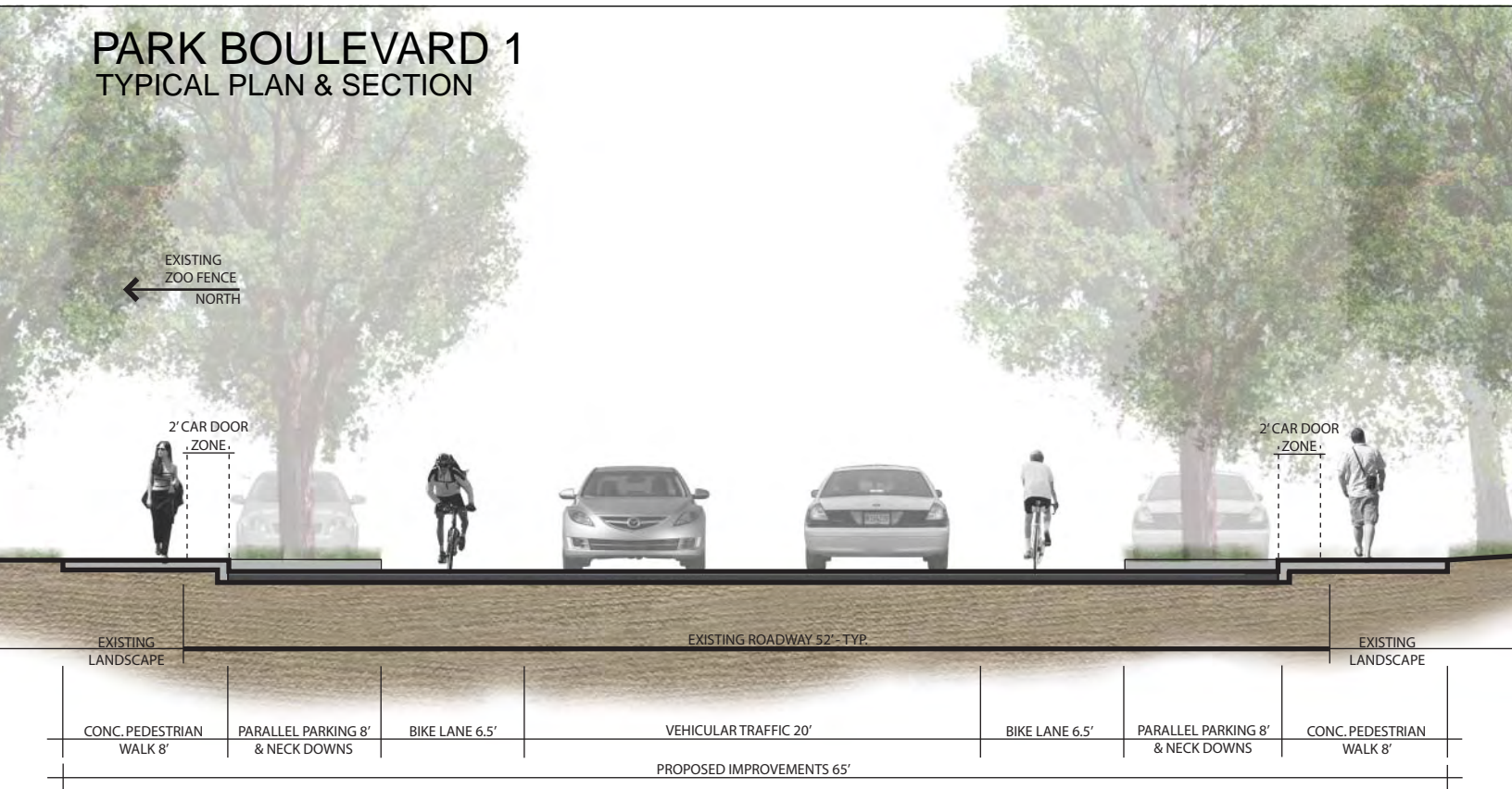
- Proposed bicycle trail
(no vehicular traffic)
- - - Proposed bicycle lane
(vehicular/bicycle traffic)
- . . . Proposed shared road
(vehicular/bicycle traffic)
- Existing bicycle route (D8)
- - - Proposed bicycle route (D8) realignment
- ✱ Vehicular entry
- Traffic light
- Removable bollards - to replace gates
(proposed)

Note:
**Bold type callouts refer to typical
Enlargements & Cross Sections**

TYPICAL PLANS AND SECTIONS

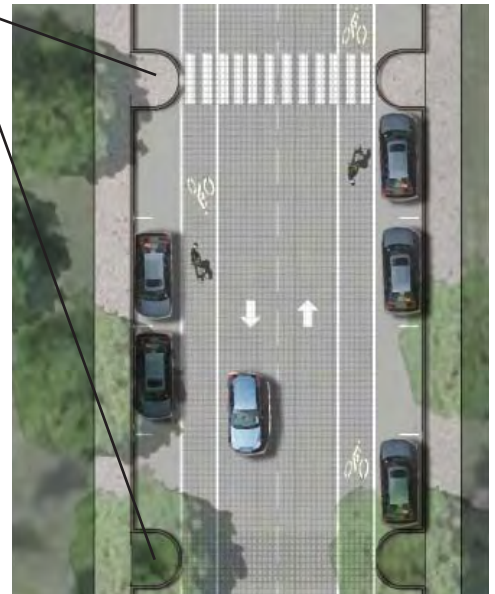
The following pages illustrate this report's recommendations through typical sections and plan enlargements. The pages are arranged to illustrate the proposed changes to the roadway system followed by proposed pedestrian pathway designs. Each set of illustrations include a key map which is color coded to indicate the area of the park for which the design is proposed. These plans and sections are diagrammatic and may change as the designs are finalized.

PARK BOULEVARD 1 TYPICAL PLAN & SECTION



Neck down at crossing

Planted neck down

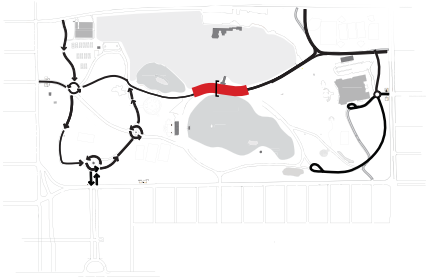


KEY CHARACTERISTICS

- Two-way auto & bike traffic (dedicated lanes)
- Parallel parking on both sides
- 6.5' bike lanes
- 8' attached concrete walks on both sides (to allow for car doors to open & pedestrian traffic to safely pass).
- Neck downs at pedestrian crossing
- Planted neck downs
- Striping at pedestrian crossings
- Curb & gutter

PARK BOULEVARD 2

TYPICAL PLAN & SECTION

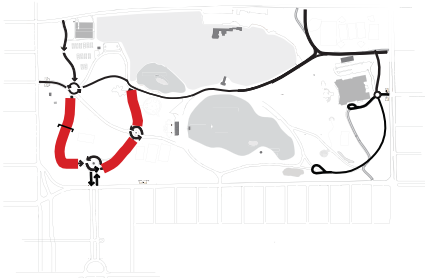


KEY CHARACTERISTICS

- Two-way auto & bike traffic (dedicated lanes)
- No parking on both sides
- 6.5' bike lanes
- 6' attached concrete walks on North side
- Extend a crusher fine buffer from the 5280 trail to the curb on the South side. Plant trees or grasses in the crusher fines buffer along the roadway.
- Striping at pedestrian crossings
- Curb & gutter

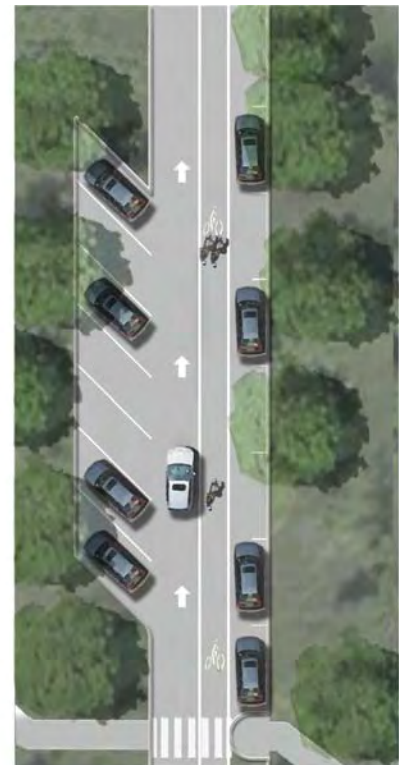
WEST MEADOW DRIVE

TYPICAL PLAN & SECTION

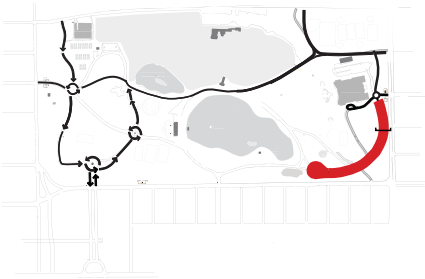
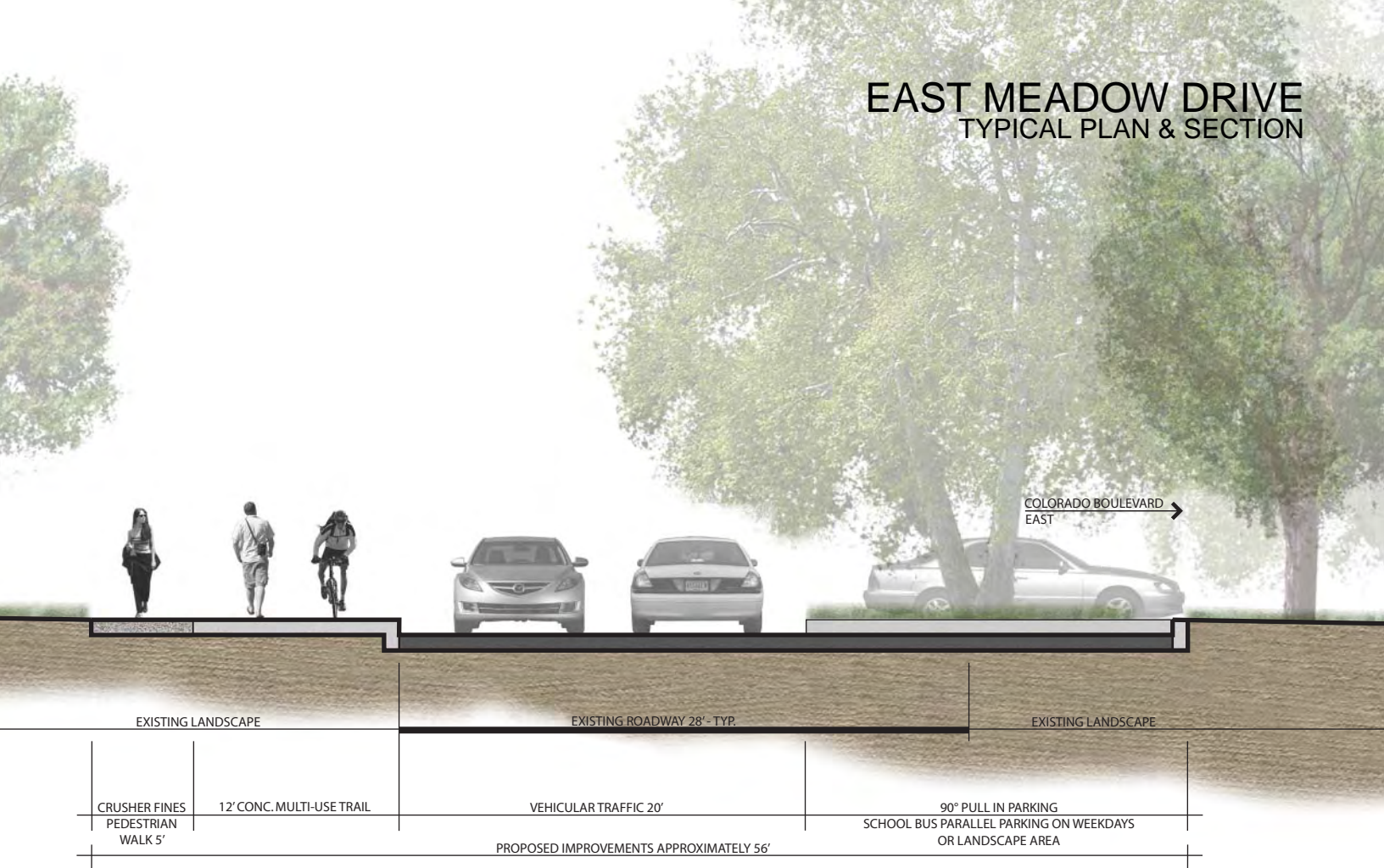


KEY CHARACTERISTICS

- One-way auto & bike traffic
- Parallel parking on the outer edge
- 45° pull-in parking on inner edge in select areas
- 6.5' bike lane
- No attached walks
- Neck downs at pedestrian crossing on parallel parking side
- Striping at pedestrian crossings
- Curb & gutter



EAST MEADOW DRIVE TYPICAL PLAN & SECTION



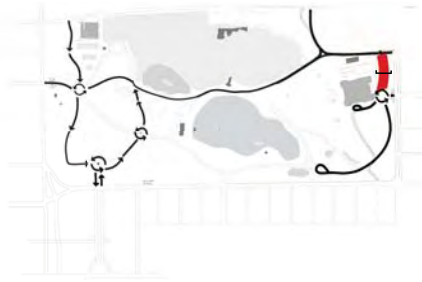
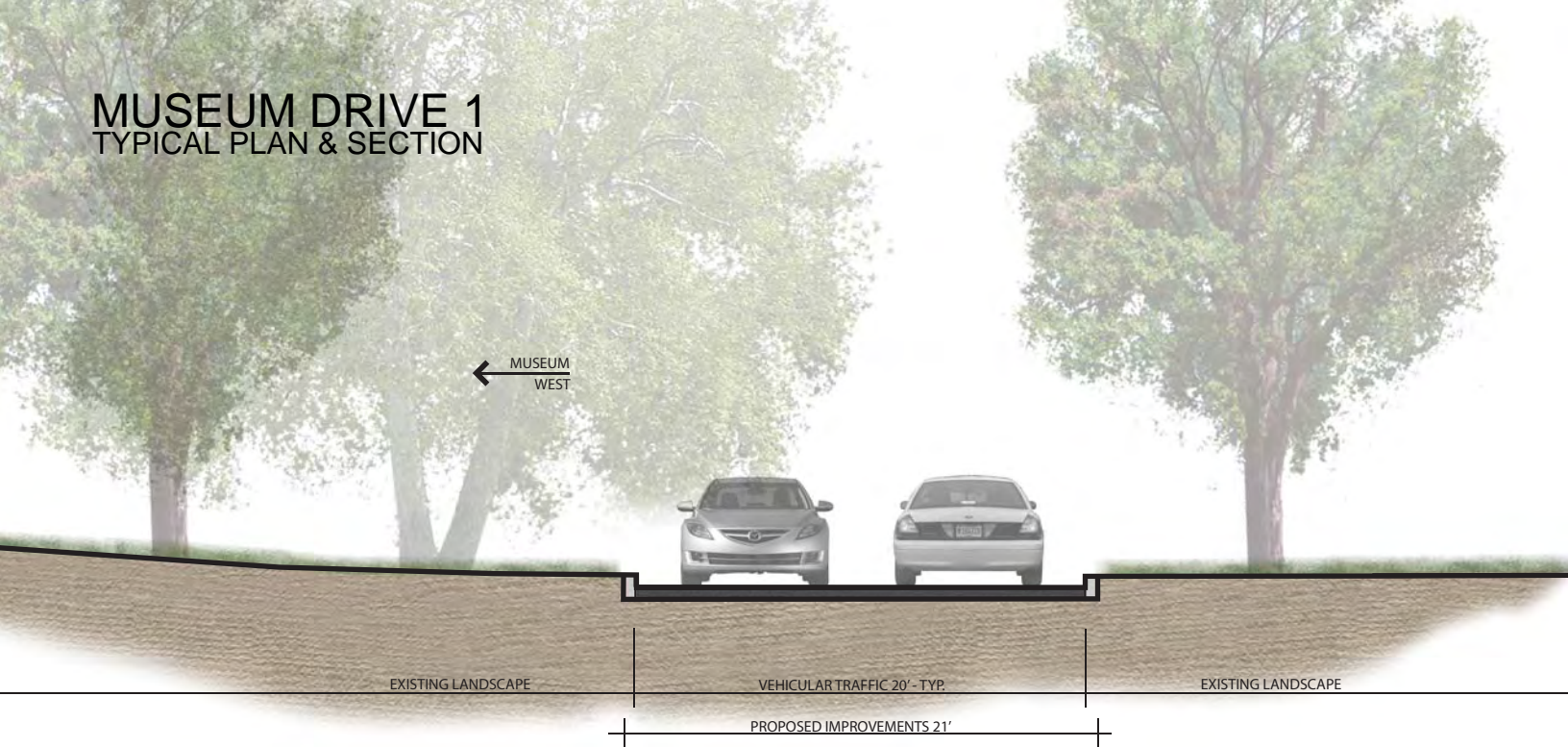
KEY CHARACTERISTICS

- Two-way auto traffic
- 90° pull-in parking on inner edge (also used as Bus parking)
- Turn around at the end of the road sized to accommodate bus traffic
- Attached 12' concrete Multi-use trail along the west side with a 5' crusher fines trail
- Striping at pedestrian crossings
- Curb & gutter
- On-street to off street transition will be required for bicycles



MUSEUM DRIVE 1

TYPICAL PLAN & SECTION

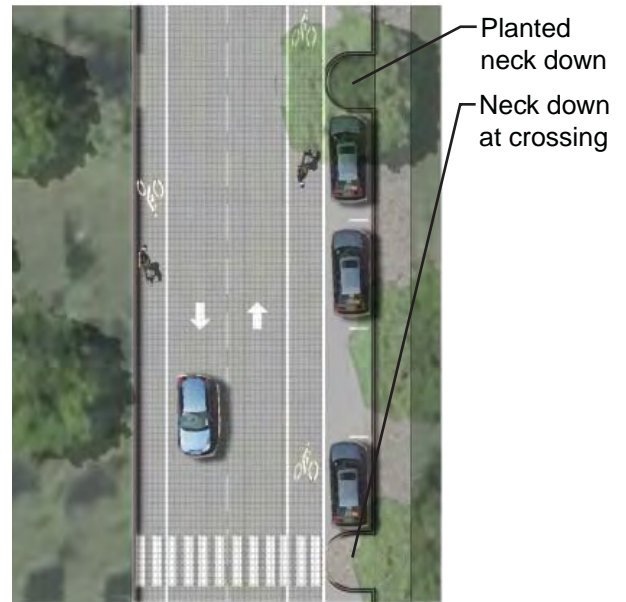
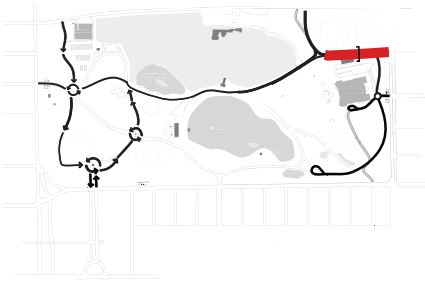
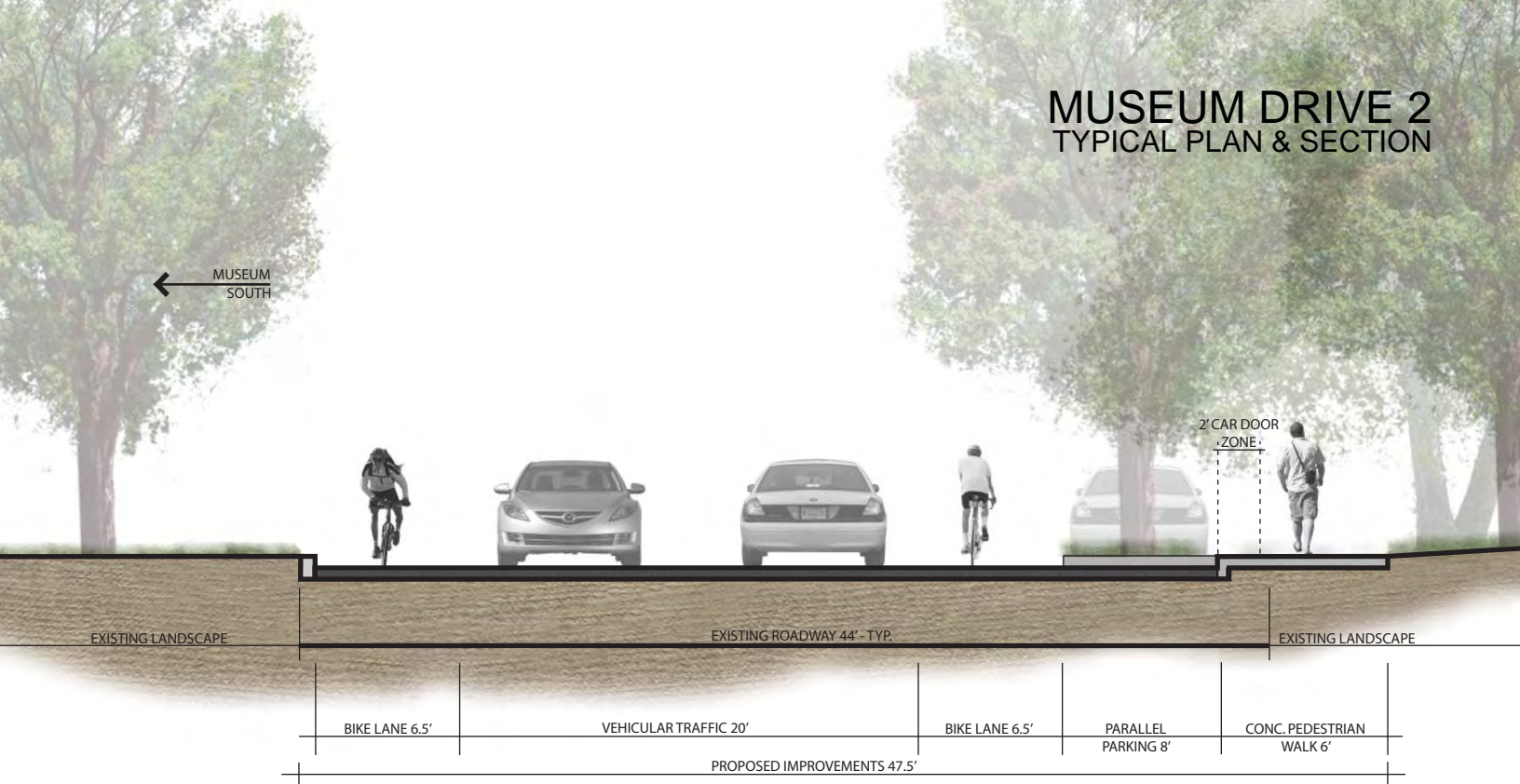


KEY CHARACTERISTICS

- Two-way auto & bike traffic (shared lanes)
- No parking
- No attached walks
- Striping at pedestrian crossings
- Curb & gutter



MUSEUM DRIVE 2 TYPICAL PLAN & SECTION



KEY CHARACTERISTICS

- Two-way auto & bike traffic (dedicated lanes)
- Parallel parking on the north side
- No parking on the south side
- 6.5' bike lanes
- 8' attached concrete walk on the north side (to allow for car doors to open & pedestrian traffic to safely pass)
- Neck downs at pedestrian crossing on the north side only (at parallel parking)
- Planted neck downs on the north side only (at parallel parking)
- Striping at pedestrian crossings
- Curb & gutter

ENTRY DRIVE - 1

TYPICAL PLAN & SECTION

ZOO PARKING
WEST

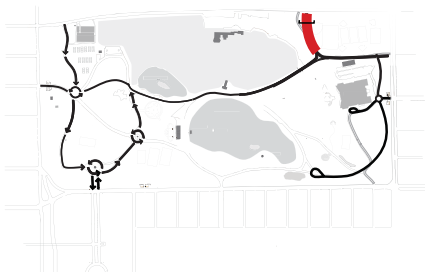


existing



proposed

- Add entry monument
- Add planted median
- Additional Zoo parking
- Vegetated buffer
- Realign roadway
- 90° pull in parking
- Maintain Zoo access
- Walks
- Crosswalks

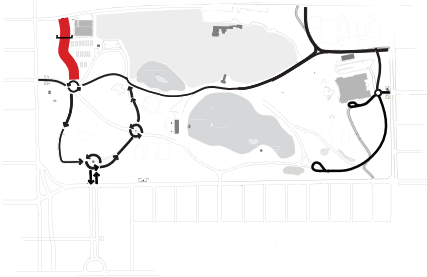
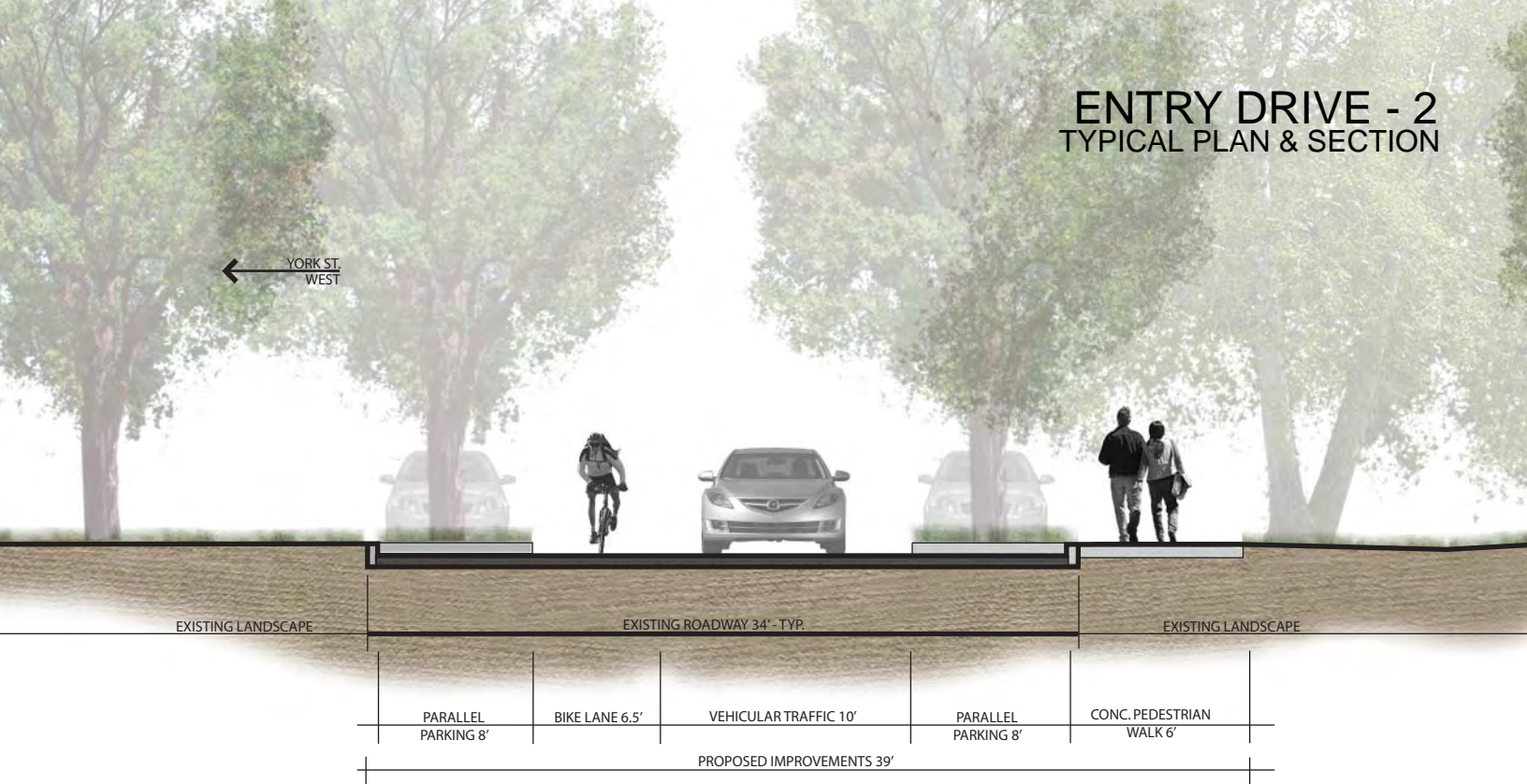


- Reconfigured entry allows for more direct park road access
- Reconfigured entry allows for additional Zoo parking

KEY CHARACTERISTICS

- Two-way auto & bike traffic (shared lanes)
- No parking on the west side
- 6' detached concrete walk on the east side
- 90° parking on the east side
- Striping at pedestrian crossings
- Curb & gutter

ENTRY DRIVE - 2 TYPICAL PLAN & SECTION

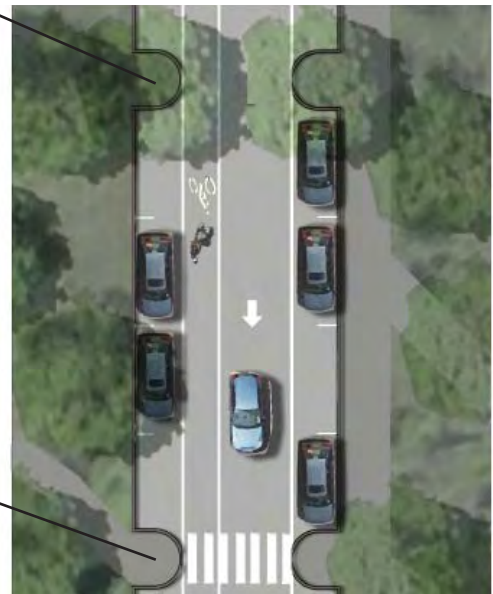


KEY CHARACTERISTICS

- One-way auto & bike traffic (dedicated lanes)
- Parallel parking on both sides
- 6.5' bike lane
- Neck downs at pedestrian crossing
- Planted neck downs
- Striping at pedestrian crossings
- Curb & gutter

Planted
neck down

Neck down
at crossing



ESPLANADEROUNABOUT

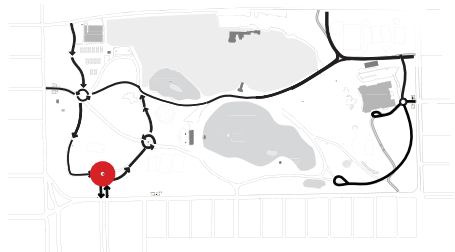


existing



proposed

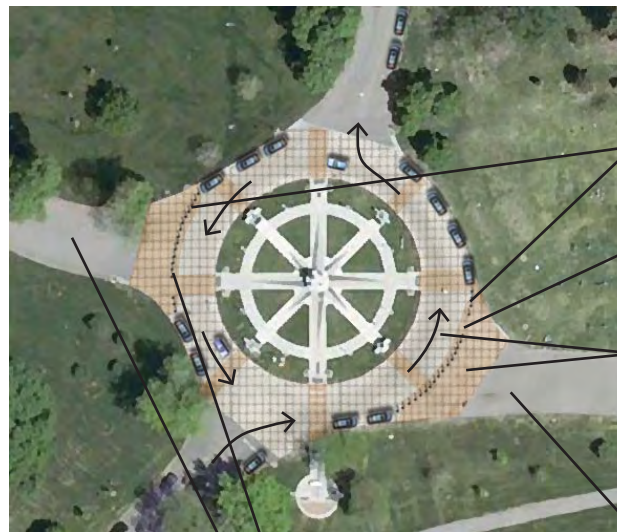
- Close existing road & convert it to a pedestrian trail
- Parallel parking
- Bike lanes



MARTIN LUTHER KING JR. ROUNDABOUT

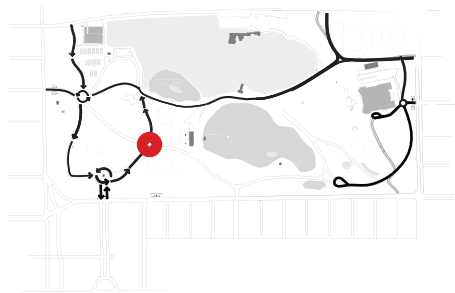


existing



proposed

- Removable bollards spaced @ 5' o.c.
- Leave space for maintenance vehicle access
- Score, sandblast & color existing pavement or replace with pavers
- Road closed to auto traffic



PARK ENTRANCE ROUNDABOUT

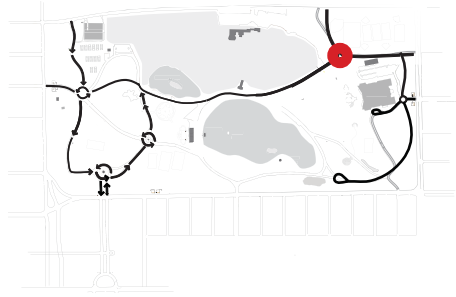


existing



proposed

- Close zoo parking lot access
- Add roundabout
- Crosswalks with pedestrian refuge



EAST MEADOW TURNAROUND



existing



proposed

- RE: Pedestrian Promenade 2
- Removable bollards with space to allow for maintenance vehicle access
- New turnaround
- RE: East Meadow Drive

- New Path
RE: Neighborhood Connection



- Turnaround must accommodate bus & emergency vehicles

MUSEUM ROUNDABOUT

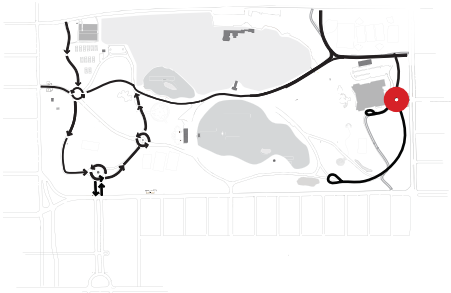


existing



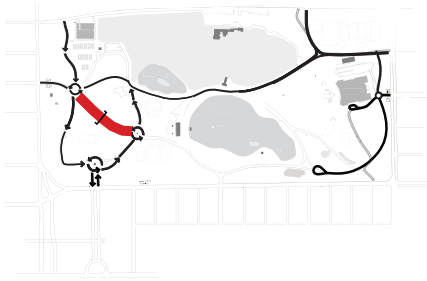
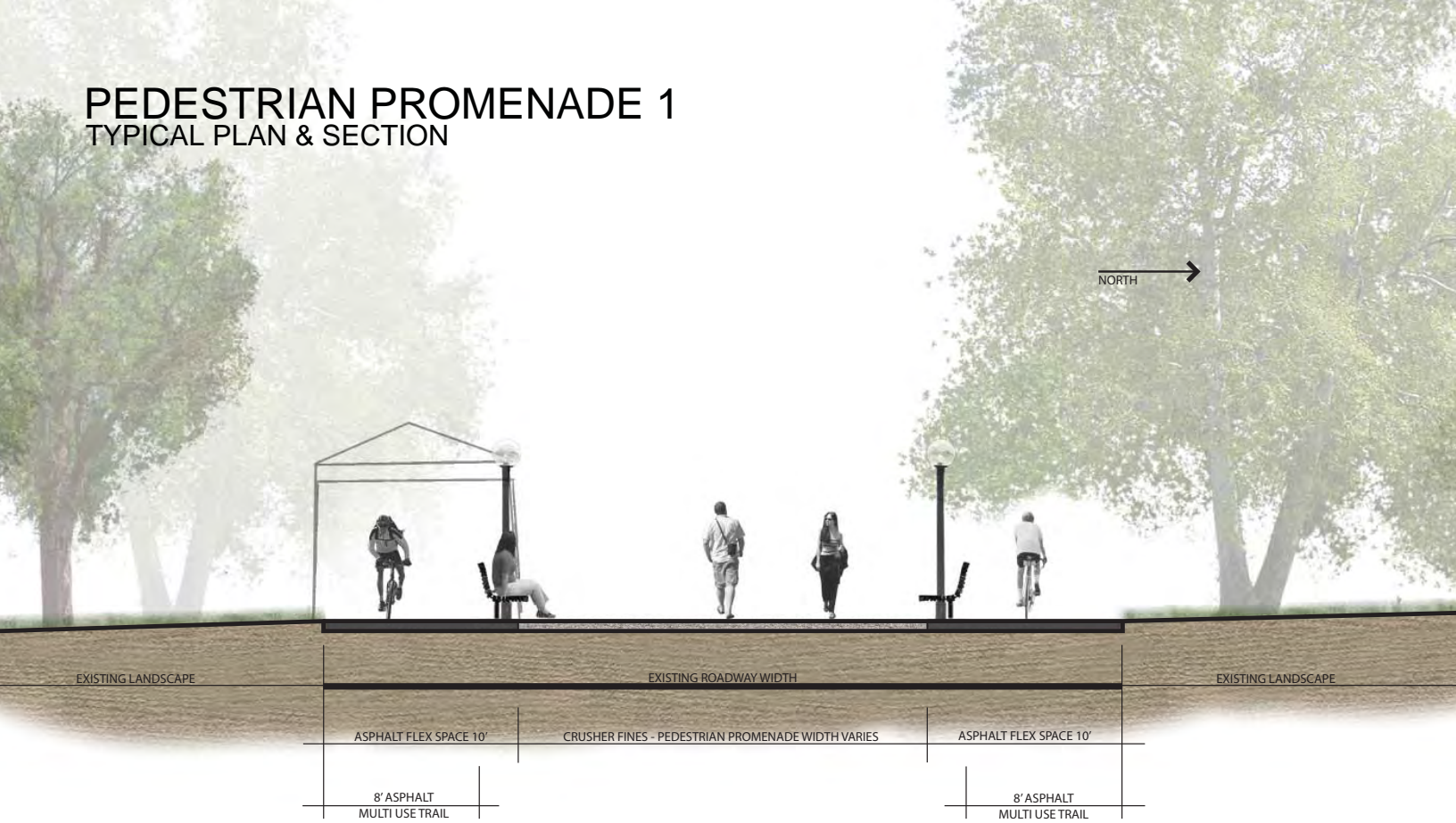
proposed

- Realigned road
- Add roundabout
- Crosswalks with pedestrian refuge
- Realigned road



PEDESTRIAN PROMENADE 1

TYPICAL PLAN & SECTION



New trees should maintain the original allee alignment

Flexible space for event tents or multi use path

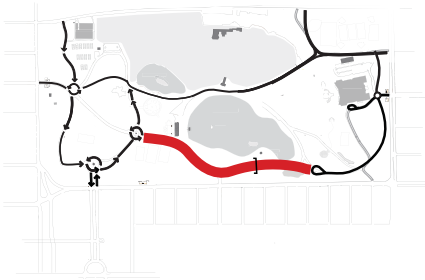
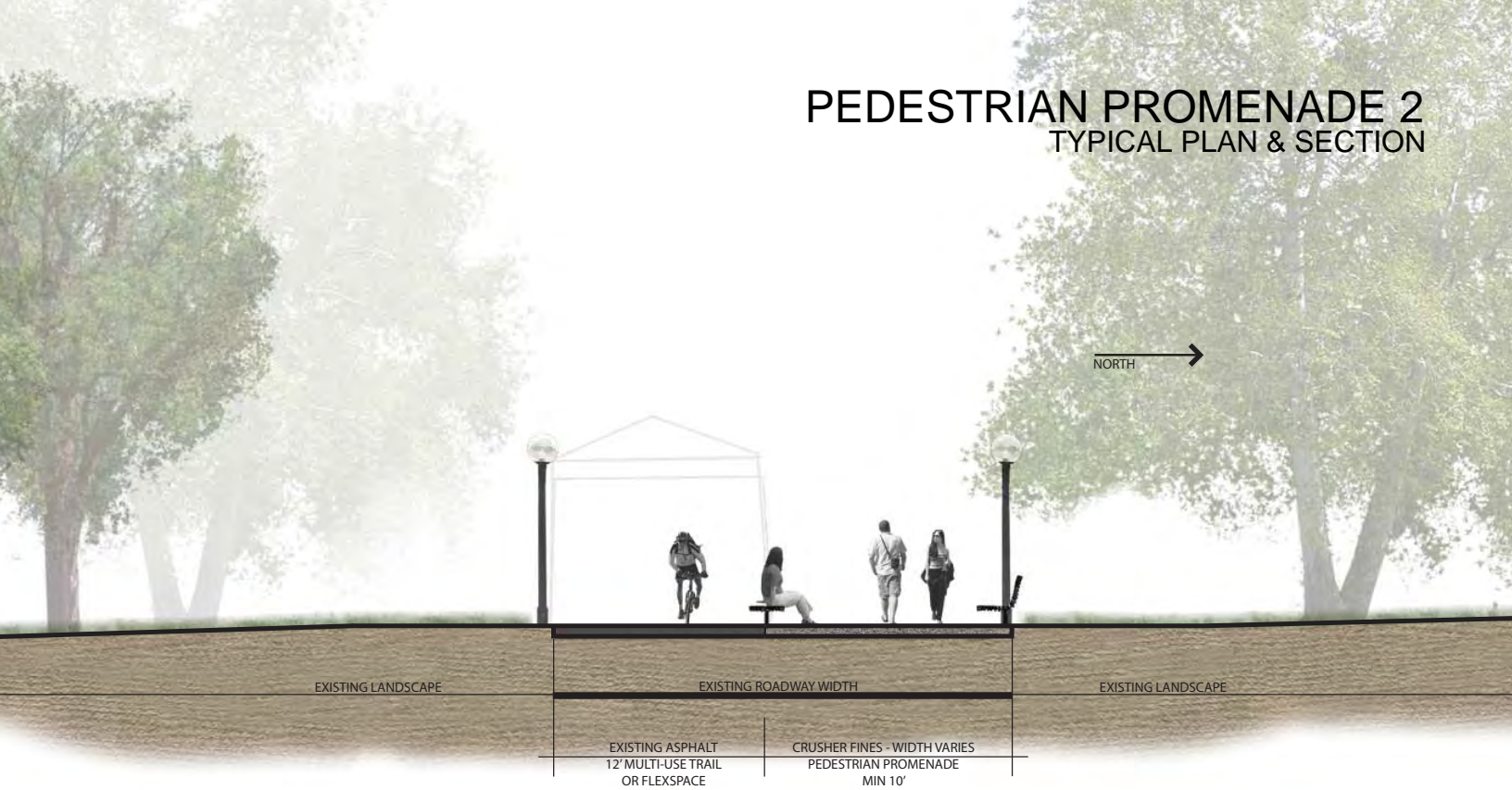


KEY CHARACTERISTICS

- Crusher fines replaces asphalt in the center of the promenade - storm drainage must be maintained.
- One-way, multi-use trails on outer edges (doubles as flexible event space)
- Pedestrian lights, trash cans, & benches regularly spaced
- New trees must maintain original allee alignment

PEDESTRIAN PROMENADE 2

TYPICAL PLAN & SECTION



KEY CHARACTERISTICS

- Crusher fines replaces asphalt on the North side of the promenade
- Multi-use trail on South side (doubles as flexible event space)
- Pedestrian lights, trash cans, & benches regularly spaced
- New trees must maintain original allee alignment

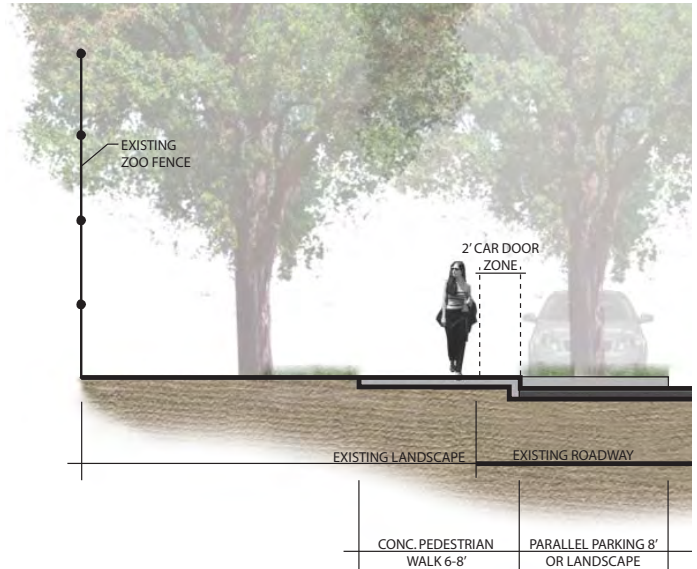


PEDESTRIAN DESIGN CHARACTERISTICS & TYPICAL SECTIONS

ZOO LOOP

KEY CHARACTERISTICS

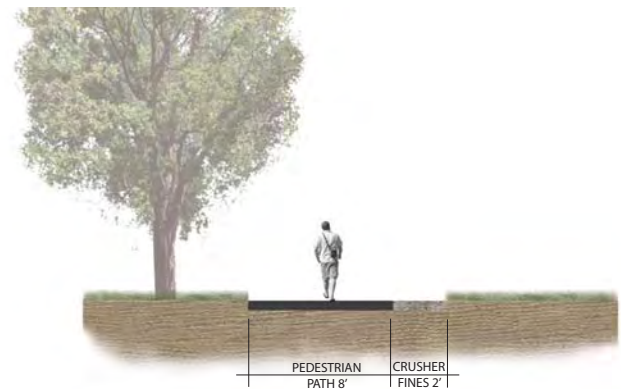
- Enhanced Zoo pedestrian access
- Enhanced Duck Lake pedestrian access
- Stroller accessible
- Attached sidewalks next to parallel parking must allow for car doors to open & pedestrian traffic to safely pass (min. 8' width).
- 6' width when there is no adjacent parallel parking
- Sidewalks are attached concrete walks when adjacent to road
- Creative integrated way-finding which directs to zoo (sandblasted, concrete. bands, etc.)
- Trash cans where needed
- No lighting
- No benches
- Curb & Gutter.



PARK PERIMETER

KEY CHARACTERISTICS

- Path along the outer edge of the park
- 8' asphalt or concrete path with a crusher fines edge 2' for joggers



EAST & WEST MEADOW LOOPS

KEY CHARACTERISTICS

- Strolling & continuity in paths
- Family strolling & passive viewing
- Continuity & connections to other trails.
- Curvilinear layout
- Significant features i.e. gardens, Bible House, playgrounds, picnic & signage.
- Main loop should be a 6' asphalt path
- Minor trails should be a 4' crusher fines path
- Benches & trash cans in special places
- No lights
- Paths are to pass through the pedestrian portals in the entry gates.
- Wayfinding signage



NEIGHBORHOOD CONNECTIONS

KEY CHARACTERISTICS

- connects the "Park Perimeter" to the interior circulation
- 6' Asphalt path
- wayfinding
- direct connections



LAKE LOOP [EXISTING]

RECOMMENDED IMPROVEMENTS

- Add benches (two every 250') and trash cans (one every 1000') to south & north edges



5280 TRAIL [EXISTING]

RECOMMENDED IMPROVEMENTS

- Mile markers



IMPLEMENTATION

PROJECT ZONES AND PROJECTS

Recommended improvements are organized into 3 tiers for the purposes of prioritizing design and construction in a flexible manner to be implemented as funds become available. First, these improvements are arranged into groups of geographically related improvements referred to as Project Zones (i.e. “West Meadow” project zone). Individual projects within a zone are identified with a project number (i.e. “W3”. Project zones) and projects are identified on the Project Zone Map following this page. In the “Prioritization & Cost” section of this document, specific tasks within each project have been identified by a lower case letter in order to complete a project (i.e. “W3.b”), which are briefly described (i.e. “repair asphalt roadway”) and assigned an order of magnitude opinion of cost.

PRIORITIZATION

Each project has been ranked using the following criteria:

- Costs of construction and design
- Safety of park users
- Equity for all modes of transportation and access to activities and areas within the park
- Value Impact of implemented projects (one bigger vs. several smaller projects)
- Park disruption during construction or with incomplete project zones

COST

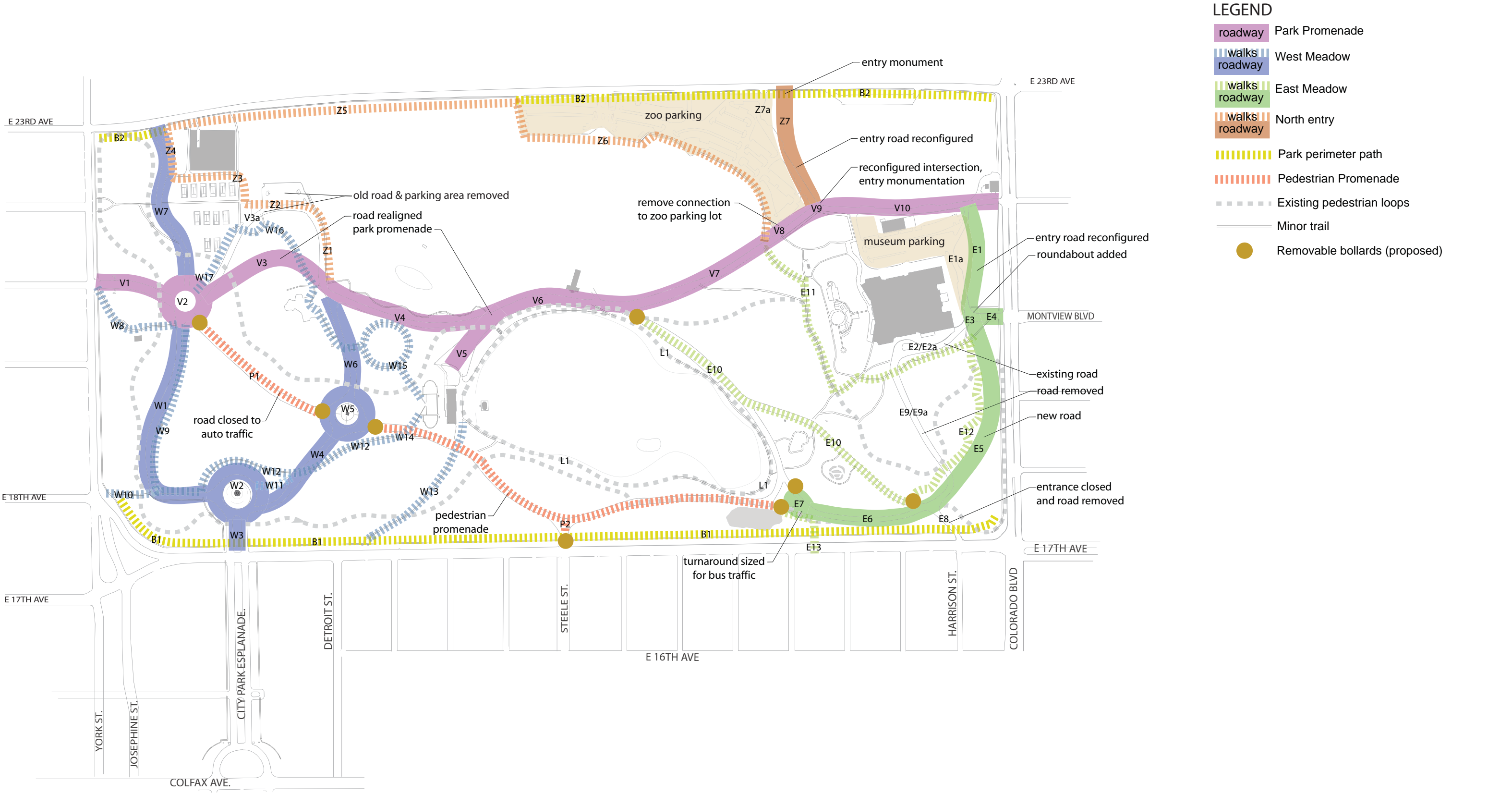
Estimated costs are in 2010 dollars and have been based on information from the Colorado Department of Transportation (CDOT), Urban Drainage and Flood Control District (UDFCD), recent constructed or bid projects & consultant data from City and County of Denver and design team members.

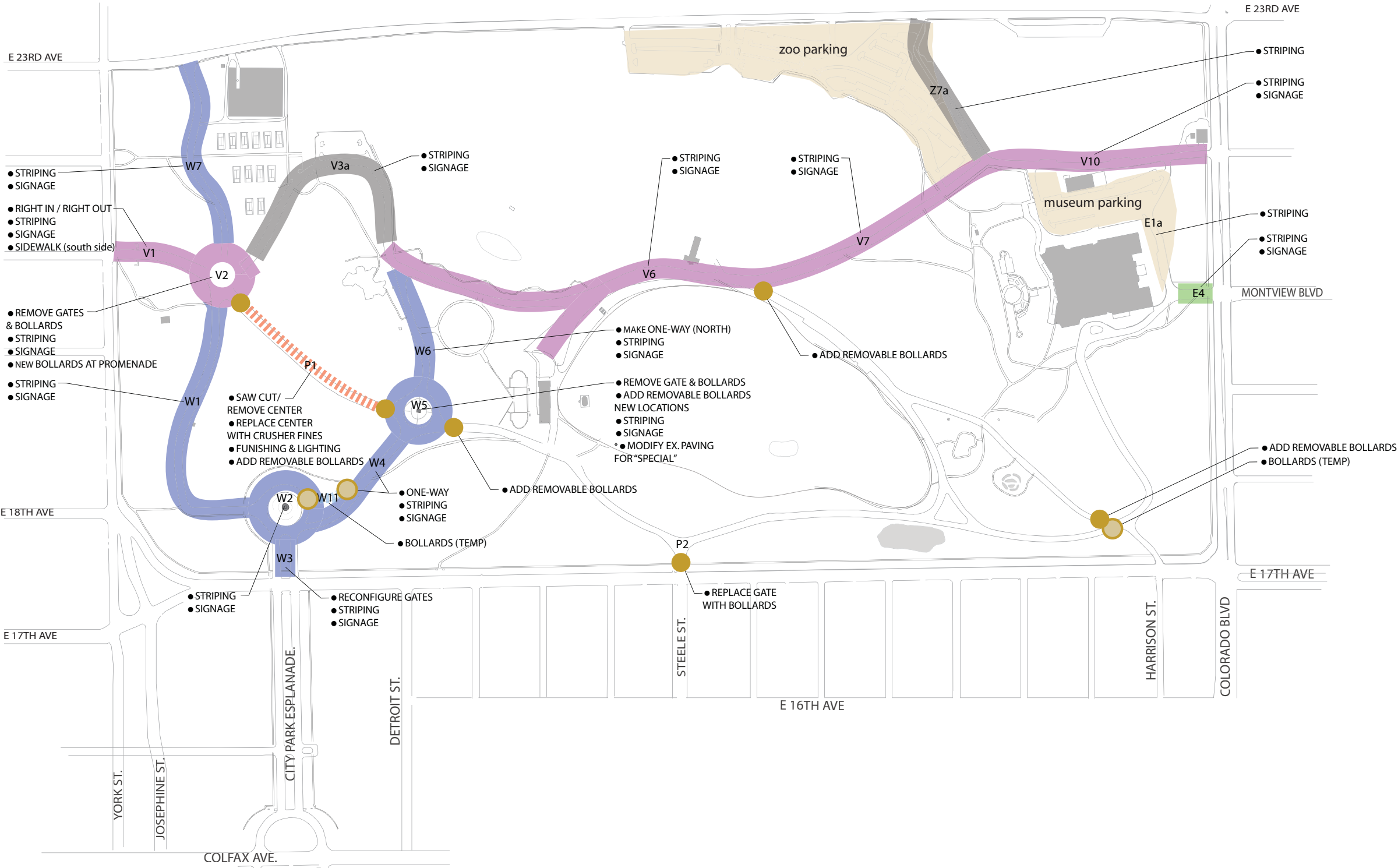
Unit take-offs are at a conceptual level based on maps, plans, and typical sections included in this report. As detailed design occurs, quantity requirements for individual projects will likely change.

PHASING

Projects are divided into five phases according to prioritization rank. Each phase has been individually cost estimated in order to provide for flexibility in planning, design, and construction based on the availability of funds.

A specific assembly of high priority (Phase I) projects is illustrated on the Phase 1 Project Zones map on page 45. This assembly of projects has been tailored to fit available funds from the 2007 Better Denver Bond Initiative allotted for City Park improvements and to provide a framework for flexible and logical implementation of following projects.





LEGEND

- roadway Park Promenade
- walks West Meadow
- roadway
- walks East Meadow
- roadway
- Road to be removed in future phase
- Pedestrian Promenade
- Minor trail
- Proposed bollards
- Temporary bollards

Project Zone/#	Vehicular circ. Project	Cost magnitude			Priority
West Meadow					
W1	Refer to "West Meadow Drive" design guidelines:	quantity	unit price	total	
a	new curb & gutter	2632	\$8 LF	\$21,056	2
b	repair asphalt roadway (2" overlay)	5783	\$8 SY	\$46,264	2
c	45 deg pull-in parking	103	\$500 EA	\$51,500	2
d	roadway striping (for circulation, 45 deg parking & bike lane)*	10528	\$0.30 LF	\$3,158	1-2
e	regulatory signage	26	\$200 EA	\$5,200	1
	SUB TOTAL			\$127,178	
f	10% grading & landscape removal allowance			\$12,718	2
g	5% irrigation & landscape repair allowance			\$6,359	2
	10% design allowance			\$14,626	
	TOTAL			\$160,881	
W2	Refer to "Esplanade Roundabout" design guidelines:	quantity	unit price	total	
a	new curb & gutter	754	\$8 LF	\$6,032	2
b	repair asphalt roadway (2" overlay)	1382	\$8 SY	\$11,056	2
c	decorative paving to clarify pedestrian circulation	12438	\$2 SF	\$24,876	2
d	roadway striping (for circulation, 45 parking & bike lane)*	3016	\$0.30 LF	\$905	1-2
e	regulatory signage	10	\$200 EA	\$2,000	1
	SUB TOTAL			\$44,869	
	10% design allowance			\$4,487	
	TOTAL			\$49,356	
W3	Refer to "West Meadow Drive" design guidelines:	quantity	unit price	total	
a	reconfigure gates to accommodate bike traffic when closed*				1
b	repair asphalt roadway (2" overlay)	1847	\$8 SY	\$14,776	4
c	new curb & gutter	839	\$8 LF	\$6,712	4
d	roadway striping (for circulation, parking & bike lane)*	3356	\$0.30 LF	\$1,007	1-4
e	regulatory signage	4	\$200 EA	\$800	1
	SUB TOTAL			\$23,295	
	10% design allowance			\$2,329	
	TOTAL			\$25,624	
W4	Refer to "West Meadow Drive" design guidelines:	quantity	unit price	total	
a	new curb & gutter	1419	\$8 LF	\$11,352	3
b	repair asphalt roadway (2" overlay)	2663	\$8 SY	\$21,304	3
c	45 deg pull-in parking	38	\$500 EA	\$19,000	3
d	make road one-way going North*	-	-	-	1
e	roadway striping (for circulation, parking & bike lane)*	5676	\$0.30 LF	\$1,703	1-3
f	regulatory signage	14	\$200 EA	\$2,800	1
	SUB TOTAL			\$56,159	
g	10% grading & landscape removal allowance			\$5,616	3
h	5% irrigation & landscape repair allowance			\$2,808	3
	10% design allowance			\$6,458	
	TOTAL			\$71,041	
W5	Refer to "Martin Luther King Jr. Roundabout" design guidelines:	quantity	unit price	total	
a	remove existing gate & bollards	-	-	-	1
b	decorative paving to clarify pedestrian circulation	16184	\$2 SF	\$32,368	2
d	roadway striping (for circulation, parking & bike lane)*	2744	\$0.30 LF	\$823	1
e	regulatory signage	10	\$200 EA	\$2,000	1
	SUB TOTAL			\$35,191	
	10% design allowance			\$3,519	
	TOTAL			\$38,710	
W6	Refer to "West Meadow Drive" design guidelines:	quantity	unit price	total	
a	new curb & gutter	1253	\$8 LF	\$10,024	2
b	repair asphalt roadway (2" overlay)	2398	\$8 SY	\$19,184	2
c	45 deg pull-in parking	36	\$500 EA	\$18,000	2
d	make road one-way going North*	-	-	-	1

*High-priority & low-cost project

	e	roadway striping (for circulation, parking & bike lane)*	5012	\$0.30 LF	\$1,504	1-2
	f	regulatory signage	12	\$200 EA	\$2,400	1
		SUB TOTAL			\$51,112	
	g	10% grading & landscape removal allowance			\$5,111	2
	h	5% irrigation & landscape repair allowance			\$2,556	2
		10% design allowance			\$5,878	
		TOTAL			\$64,656	
W7		Refer to "Entry Drive" design guidelines:	quantity	unit price	total	
	a	new curb & gutter	1969	\$8 LF	\$15,752	5
	b	repair asphalt roadway (2" overlay)	3829	\$8 SY	\$30,632	5
	c	roadway striping (for circulation, parking & bike lane)*	7876	\$0.30 LF	\$2,363	1-5
	d	regulatory signage	21	\$200 EA	\$4,200	1
		SUB TOTAL			\$52,947	
	e	10% grading & landscape removal allowance			\$5,295	5
	f	5% irrigation & landscape repair allowance			\$2,647	5
		10% design allowance			\$6,089	
		TOTAL			\$66,978	
		Pedestrian circ. Project				
W8		Refer to Museum/Garden & Meadow Loop design guidelines	quantity	unit price	total	
	a	improve & repair existing trail (to make it a 6' asphalt path)	398	\$13 SY	\$5,174	2
	b	site furniture allowance	603	\$16 LF	\$9,648	2
		SUB TOTAL			\$14,822	
		10% design allowance			\$1,482	
		TOTAL			\$16,304	
W9		Refer to Museum/Garden & Meadow Loop design guidelines	quantity	unit price	total	
	a	new 6' asphalt path	841	\$13 SY	\$10,933	3
	b	site furniture allowance	1262	\$16 LF	\$20,192	3
		SUB TOTAL			\$31,125	
	c	10% grading & landscape removal allowance			\$3,113	3
	d	5% irrigation & landscape repair allowance			\$1,556	3
		10% design allowance			\$3,579	
		TOTAL			\$39,373	
W10		Refer to Museum/Garden & Meadow Loop design guidelines	quantity	unit price	total	
	a	improve & repair existing trail (to make it a 6' asphalt path)	191	\$13 SY	\$2,483	2
	b	site furniture allowance	287	\$16 LF	\$4,592	2
		SUB TOTAL			\$7,075	
		10% design allowance			\$708	
		TOTAL			\$7,783	
W11		Refer to Museum/Garden & Meadow Loop design guidelines	quantity	unit price	total	
	a	convert old roadway to a 6' asphalt path (demo excess roadway)	5282	\$1.20 SF	\$6,338	4
	b	site furniture allowance	284	\$16 LF	\$4,544	4
	c	temp. bollards in closed road segment*	14	\$800 EA	\$11,200	1
		SUB TOTAL			\$10,882	
	d	5% irrigation & landscape repair allowance			\$544	4
		10% design allowance			\$1,143	
		TOTAL			\$12,569	
W12		Refer to Museum/Garden & Meadow Loop design guidelines	quantity	unit price	total	
	a	improve & repair existing trail (to make it a 6' asphalt path)	378	\$13 SY	\$4,914	3
	b	site furniture allowance	567	\$16 LF	\$9,072	3
		SUB TOTAL			\$13,986	
		10% design allowance			\$1,399	

*High-priority & low-cost project

		TOTAL	\$15,385			
W13	Refer to Museum/Garden & Meadow Loop design guidelines:	quantity	unit price	total		
a	improve & repair existing trail (to make it a 6' asphalt path)	617	\$13 SY	\$8,021	4	
	SUB TOTAL			\$8,021		
	10% design allowance			\$802		
	TOTAL			\$8,823		
W14	Refer to Museum/Garden & Meadow Loop design guidelines:	quantity	unit price	total		
a	new 6' asphalt path	40	\$13 SY	\$520	4	
b	site furniture allowance	79	\$16 LF	\$1,264	4	
	SUB TOTAL			\$1,784		
c	10% grading & landscape removal allowance			\$178	4	
d	5% irrigation & landscape repair allowance			\$89	4	
	10% design allowance			\$205		
	TOTAL			\$2,257		
W15	Refer to Museum/Garden & Meadow Loop design guidelines:	quantity	unit price	total		
a	improve & repair existing trail (to make it a 6' asphalt path)	902	\$13 SY	\$11,726	4	
b	site furniture allowance	1353	\$16 LF	\$21,648	4	
	SUB TOTAL			\$33,374		
	10% design allowance			\$3,337		
	TOTAL			\$36,711		
W16	Refer to Museum/Garden & Meadow Loop design guidelines:	quantity	unit price	total		
	Work to be done after playground is relocated:	-	-	-		
a	improve & repair existing trail (to make it a 6' asphalt path)	699	\$13 SY	\$9,087	5	
b	site furniture allowance	1049	\$16 LF	\$16,784	5	
	SUB TOTAL			\$25,871		
	10% design allowance			\$2,587		
	TOTAL			\$28,458		
W17	Refer to Museum/Garden & Meadow Loop design guidelines:	quantity	unit price	total		
a	new 6' asphalt path	347	\$13 SY	\$4,511	5	
b	site furniture allowance	840	\$16 LF	\$13,440	5	
	SUB TOTAL			\$17,951		
c	10% grading & landscape removal allowance			\$1,795	5	
d	5% irrigation & landscape repair allowance			\$898	5	
	10% design allowance			\$2,064		
	TOTAL			\$22,708		
PROJECT TOTAL				\$834,824		

*High-priority & low-cost project

Project Zone/#	Pedestrian circ. Project	Cost magnitude			Priority
Ped Prom.					
P1	Refer to "Pedestrian Promenade 1" design guidelines:	quantity	unit price	total	
	a saw cut center section of asphalt	1790	\$2 LF	\$3,580	1
	b remove interior section of asphalt	19602	\$1.00 SF	\$19,602	1
	c crusher fines in the center of roadway	19602	\$2 SF	\$39,204	1
	d site furniture and lighting allowance	895	\$124 LF	\$110,980	1
	e removable bollards see east end (fancy)	14	\$1,500 EA	\$21,000	1
	f removable bollards see west end at MLK (fancy)	22	\$1,500 EA	\$33,000	1
	SUB TOTAL			\$227,366	
	10% design allowance			\$22,737	
	TOTAL			\$250,103	
P2	Refer to "Pedestrian Promenade 2" design guidelines:	quantity	unit price	total	
	a replace existing gate with bollards at 17th*	9	\$800 EA	\$7,200	1
	b saw cut asphalt	2927	\$2 LF	\$5,854	5
	c remove North section of asphalt	35124	\$1.05 SF	\$36,880	5
	d crusher fines in the removed asphalt section	35124	\$2 SF	\$70,248	5
	e site furniture and lighting allowance	2927	\$31 LF	\$90,737	5
	f removable bollards see west end at MLK (fancy)	25	\$1,500 EA	\$37,500	1
	g removable bollards see east end	5	\$800 EA	\$4,000	2
	SUB TOTAL			\$252,419	
	10% design allowance			\$25,242	
	TOTAL			\$277,661	
PROJECT TOTAL				\$527,764	

*High-priority & low-cost project

P1 Site furniture:

lights two every 100LF @ \$6000

Bench two every 50LF @ \$2570

Trash two every 250LF @ \$2850

P2 Site furniture:

lights one every 200LF @ \$3000

Bench one every 100LF @ \$1285

Trash one every 500LF @ \$1425

Project Zone/#	Vehicular circ. Project	Cost magnitude			Priority
Park Blvd.					
V1	Refer to "Park Boulevard 1" design guidelines:	quantity	unit price	total	
	a get traffic approvals for right-in right-out access	-	-	-	1
	b get traffic approvals for left-in left-out access	-	-	-	2
	c curb & gutter	620	\$8 LF	\$4,960	2
	d repair asphalt roadway (2" overlay)	2730	\$8 SY	\$21,840	2
	e new 8' concrete walks	8336	\$6 SF	\$50,016	2
	f roadway striping (for circulation, parking & bike lane)*	2480	\$0.30 LF	\$744	1-2
	g regulatory signage	10	\$200 EA	\$2,000	1
	SUB TOTAL			\$79,560	
	10% design allowance			\$7,956	
	TOTAL			\$87,516	
V2		quantity	unit price	total	
	a removal of gates and bollards	-	-	-	1
	b repair asphalt roadway (2" overlay)	1669	\$8 SY	\$13,352	3
	c roadway striping (for circulation, parking & bike lane)*	2244	\$0.30 LF	\$673	1-3
	d re-landscape in roundabout	12727	\$3 SF	\$38,181	3
	e new 8' concrete walks	3040	\$6 SF	\$18,240	3
	f regulatory signage	10	\$200 EA	\$2,000	1
	SUB TOTAL			\$72,446	
	10% design allowance			\$7,245	
	TOTAL			\$79,691	
V3	Refer to "Park Boulevard 1" design guidelines:	quantity	unit price	total	
	a new asphalt roadway & parallel parking	4134	\$15 SY	\$62,010	5
	b curb & gutter	1550	\$8 LF	\$12,400	5
	c new 8' concrete walks on north & South side	12400	\$6 SF	\$74,400	5
	d roadway striping (for circulation & bike lanes)*	7750	\$0.30 LF	\$2,325	5
	e regulatory signage	16	\$200 EA	\$3,200	5
	SUB TOTAL			\$154,335	
	f 10% grading & landscape removal allowance			\$15,434	5
	g 5% irrigation & landscape repair allowance			\$7,717	5
	10% design allowance			\$17,749	
	TOTAL			\$195,234	
V3a	Road to be removed	quantity	unit price	total	
	a roadway striping (for circulation & bike lanes)*	14310	\$0.30 LF	\$4,293	1
	b regulatory signage	27	\$200 EA	\$5,400	1
	SUB TOTAL			\$9,693	
	10% design allowance			\$969	
	TOTAL			\$10,662	
V4	Duck Lake:	quantity	unit price	total	
	a repair asphalt roadway (2" overlay)	3392	\$8 SY	\$27,136	2
	b curb & gutter (on South side only)	833	\$8 LF	\$6,664	2
	c 8' concrete walk (on South side only)	6664	\$6 SF	\$39,984	2
	d roadway striping (for circulation & bike lanes)*	8330	\$0.30 LF	\$2,499	1-2
	e regulatory signage (no parking)	16	\$200 EA	\$3,200	1
	SUB TOTAL			\$79,483	
	10% design allowance			\$7,948	
	TOTAL			\$87,431	
V5	full retrofit = \$230,000	quantity	unit price	total	
	a asphalt removed	14156	\$1 SF	\$14,156	2
	b new asphalt	1249	\$15 SY	\$18,735	2
	c concrete vallypan	224	\$20 LF	\$4,480	2
	d repair asphalt (2" overlay)	3111	\$8 SY	\$24,888	2
	e curb & gutter	1808	\$8 LF	\$14,464	2
	f roadway striping (for circulation & bike lanes)*	2500	\$0.30 LF	\$750	2
	g regulatory signage	10	\$200 EA	\$2,000	2
	SUB TOTAL			\$79,473	
	h 10% grading & landscape removal allowance			\$7,947	2
	i 5% irrigation & landscape repair allowance			\$3,974	2

*High-priority & low-cost project

	10% design allowance				\$7,947	
	TOTAL				\$99,341	
V6	Refer to "Park Boulevard 2" design guidelines:	quantity	unit price	total		
	a repair asphalt roadway (2" overlay)	6016	\$8 SY	\$48,128		3
	b curb & gutter	1844	\$8 LF	\$14,752		3
	c new 6' concrete walk on the North side	5532	\$6 SF	\$33,192		3
	d roadway striping (for circulation & bike lanes)*	9220	\$0.30 LF	\$2,766		1-3
	e removable bollards*	25	\$800 EA	\$20,000		1
	f regulatory signage (no parking)	18	\$200 EA	\$3,600		1
	g crusher fines along 5280 trail	4130	\$2 SF	\$8,260		3
	SUB TOTAL			\$130,698		
	h 10% grading & landscape removal allowance			\$13,070		3
	i 5% irrigation & landscape repair allowance			\$6,535		3
	10% design allowance			\$15,030		
	TOTAL			\$165,333		
V7	Refer to "Park Boulevard 1" design guidelines:	quantity	unit price	total		
	a repair asphalt roadway (2" overlay)	5980	\$8 SY	\$47,840		3
	b curb & gutter	2456	\$8 LF	\$19,648		3
	c new 8' concrete walks on North & South side	19648	\$6 SF	\$117,888		3
	d roadway striping (for circulation & bike lanes)*	12280	\$0.30 LF	\$3,684		1-3
	e regulatory signage	25	\$200 EA	\$5,000		1
	SUB TOTAL			\$194,060		
	f 10% grading & landscape removal allowance			\$19,406		3
	g 5% irrigation & landscape repair allowance			\$9,703		3
	10% design allowance			\$22,317		
	TOTAL			\$245,486		
V8	Refer to "Park Entrance Traffic Island" design guidelines:	quantity	unit price	total		
	a remove asphalt driveway (between park road & parking lot)	1316	\$1 SF	\$1,316		5
	SUB TOTAL			\$1,316		
	b 5% irrigation & landscape repair allowance			\$66		5
	10% design allowance			\$138		
	TOTAL			\$1,520		
V9	Refer to "Park Entrance Traffic Island" design guidelines:	quantity	unit price	total		
	a remove asphalt roadway	2484	\$1 SF	\$2,484		2
	b replace asphalt roadway	297	\$15 SY	\$4,455		2
	c curb & gutter	167	\$8 LF	\$1,336		2
	d new 8' concrete walks	832	\$6 SF	\$4,992		2
	e roadway striping (for circulation & bike lanes)*	835	\$0.30 LF	\$251		2
	f regulatory signage	10	\$200 EA	\$2,000		2
	g landscaping in center of traffic island	350	\$3 SF	\$1,050		2
	SUB TOTAL			\$16,568		
	h 10% grading & landscape removal allowance			\$1,657		2
	i 5% irrigation & landscape repair allowance			\$828		2
	10% design allowance			\$1,905		
	TOTAL			\$20,958		
V10	Refer to "Museum Drive 2" design guidelines:	quantity	unit price	total		
	a repair asphalt roadway (2" overlay)	3724	\$8 SY	\$29,792		4
	b curb & gutter	2206	\$8 LF	\$17,648		4
	c new 6' concrete walk on South side	6618	\$6 SF	\$39,708		4
	d roadway striping (for circulation, parking & bike lanes)*	11030	\$0.30 LF	\$3,309		1-4
	e regulatory signage	11	\$200 EA	\$2,200		1
	SUB TOTAL			\$92,657		
	10% design allowance			\$9,266		
	TOTAL			\$101,923		
PROJECT TOTAL				\$691,112		

*High-priority & low-cost project

Project Zone/#	Pedestrian circ. Project		Cost magnitude			Priority
Zoo Loop						
Z1	Refer to "Zoo Loop" design guidelines:		quantity	unit price	total	
a	remove or modify existing walk - make it an 8' concrete walk		4120	\$6 SF	\$24,720	5
	SUB TOTAL		\$24,720			
	b 10% grading & landscape removal allowance		\$2,472			5
	c 5% irrigation & landscape repair allowance		\$1,236			5
	10% design allowance		\$2,843			
	TOTAL		\$31,271			
Z2	Refer to "Zoo Loop" design guidelines:		quantity	unit price	total	
a	8' concrete walk		2336	\$6 SF	\$14,016	5
	SUB TOTAL		\$14,016			
	b 10% grading & landscape removal allowance		\$1,402			5
	c 5% irrigation & landscape repair allowance		\$701			5
	10% design allowance		\$1,612			
	TOTAL		\$17,730			
Z3	Refer to "Zoo Loop" design guidelines:		quantity	unit price	total	
a	remove or modify existing walk - make it an 8' concrete walk		5768	\$6 SF	\$34,608	5
	SUB TOTAL		\$34,608			
	b 10% grading & landscape removal allowance		\$3,461			5
	c 5% irrigation & landscape repair allowance		\$1,730			5
	10% design allowance		\$3,980			
	TOTAL		\$43,779			
Z4	Refer to "Zoo Loop" design guidelines:		quantity	unit price	total	
a	8' concrete walk		3784	\$6 SF	\$22,704	5
	SUB TOTAL		\$22,704			
	b 10% grading & landscape removal allowance		\$2,270			5
	c 5% irrigation & landscape repair allowance		\$1,135			5
	10% design allowance		\$2,611			
	TOTAL		\$28,721			
Z5	Refer to "Park Perimeter Path" design guidelines:		quantity	unit price	total	
a	preserve 2' of the existing crusher fines trail		-	-	-	5
	b 8' asphalt trail		1856	\$13 SY	\$24,128	5
	SUB TOTAL		\$24,128			
	c 10% grading & landscape removal allowance		\$2,413			5
	d 5% irrigation & landscape repair allowance		\$1,206			5
	10% design allowance		\$2,775			
	TOTAL		\$30,522			
Z6	Refer to "Zoo Loop" design guidelines:		quantity	unit price	total	
a	remove or modify existing walk - make it an 8' concrete walk		16840	\$6 SF	\$101,040	5
	SUB TOTAL		\$101,040			
	10% design allowance		\$10,104			
	TOTAL		\$111,144			
Vehicular circ. Project						
Z7	Refer to "Park Entrance" design guidelines:		quantity	unit price	total	
a	remove old asphalt roadway		16404	\$1 SF	\$16,404	2
	b new asphalt roadway		250	\$15 SY	\$3,750	2
	c repair asphalt roadway (2" overlay)		272	\$8 SY	\$2,176	2
	d curb & gutter		1408	\$8 LF	\$11,264	2
	e concrete walk		8448	\$6 SF	\$50,688	2
	f stripe roadway (for circulation, bike lanes & symbols)*		3000	\$0.30 LF	\$900	2
	g no parking signage		13	\$200 EA	\$2,600	2
	h landscape for traffic median		1329	\$3 SF	\$3,987	2

*High-priority & low-cost project

	i	entry monument	1	\$150,000 EA	\$150,000	2
		SUB TOTAL			\$241,769	
	j	20% grading & landscape removal allowance			\$48,354	2
	k	5% irrigation & landscape repair allowance			\$12,088	2
		10% design allowance			\$30,221	
		TOTAL			\$332,432	
Z7a		Refer to "Park Entrance" design guidelines:	quantity	unit price	total	
	a	stripe roadway (for circulation)*	3052	\$0.30 LF	\$916	1
		SUB TOTAL			\$916	
		10% design allowance			\$92	
		TOTAL			\$1,007	
		PROJECT TOTAL			\$596,606	

*High-priority & low-cost project

Project Zone/#	Vehicular circ. Project		Cost magnitude			Priority
East Meadow						
E1	Refer to "Museum Drive 1" design guidelines		quantity	unit price	total	
	a	remove existing roadway	23936	\$1 SF	\$23,936	4
	b	new asphalt roadway	710	\$15 SY	\$10,650	4
	c	curb & gutter	639	\$8 LF	\$5,112	4
	d	roadway striping (for circulation)*	1278	\$0.30 LF	\$383	4
	e	signage (no parking)	6	\$200 EA	\$1,200	4
	SUB TOTAL		\$41,281			
	f	10% grading & landscape removal allowance	\$4,128 4			
	g	5% irrigation & landscape repair allowance	\$2,064 4			
			10% design allowance			
	TOTAL		\$52,221			
E1a	Road to be removed		quantity	unit price	total	
	a	roadway striping (share roads & circulation)*	1344	\$0.30 LF	\$403	1
	SUB TOTAL		\$403			
	10% design allowance		\$40			
	TOTAL		\$444			
E2			quantity	unit price	total	
	Museum to make necessary alterations and repairs		- ?			
E2a			quantity	unit price	total	
	a	roadway striping (share roads & circulation)*	1000	\$0.30 LF	\$300	2
	SUB TOTAL		\$300			
	10% design allowance		\$30			
	TOTAL		\$330			
E3			quantity	unit price	total	
	a	remove asphalt for roundabout	2164	\$1 SF	\$2,164	3
	b	asphalt roadway around roundabout	241	\$15 SY	\$3,615	3
	c	new curb & gutter	511	\$8 LF	\$4,088	3
	d	repair asphalt roadway (2" overlay)	313	\$8 SY	\$2,504	3
	e	roadway striping (for circulation & bike lane)*	2555	\$0.30 LF	\$767	3
	f	regulatory signage	10	\$200 EA	\$2,000	3
	g	landscape for roundabout	2164	\$3 SF	\$6,492	3
	SUB TOTAL		\$21,630			
	h	10% grading & landscape removal allowance	\$2,163 3			
	i	5% irrigation & landscape repair allowance	\$1,081 3			
			10% design allowance			
	TOTAL		\$27,361			
E4			quantity	unit price	total	
	a	new curb & gutter	180	\$8 LF	\$1,440	3
	b	repair asphalt roadway (2" overlay)	784	\$8 SY	\$6,272	3
	c	roadway striping (for circulation, parking & bike lane)*	900	\$0.30 LF	\$270	1-3
	d	6' concrete sidewalk through monument entrance	990	\$6 SF	\$5,940	3
	e	no parking signage	2	\$200 EA	\$400	1
	SUB TOTAL		\$14,322			
	10% design allowance		\$1,432			
	TOTAL		\$15,754			
E5	Refer to "East Meadow Drive" design guidelines		quantity	unit price	total	
	a	new asphalt roadway	2196	\$15 SY	\$32,940	3
	b	pull-in parking spaces	35	\$500 EA	\$17,500	3
	c	curb & gutter	1976	\$8 LF	\$15,808	3
	d	12' concrete multi-use trail	11856	\$6 SF	\$71,136	3
	e	5' crusher fines trail	4940	\$2 SF	\$9,880	3
	f	roadway striping (for circulation)*	1976	\$0.30 LF	\$593	3
	g	parking signage	40	\$200 EA	\$8,000	3

*High-priority & low-cost project

	h	ped lights every 200 LF	988	\$15 LF	\$14,820	3
		SUB TOTAL	\$170,677			
	i	10% grading & landscape removal allowance	\$17,068 3			
	j	5% irrigation & landscape repair allowance	\$8,534 3			
		10% design allowance	\$19,628			
		TOTAL	\$215,906			
E6		Refer to "East Meadow Drive" design guidelines	quantity	unit price	total	
	a	repair & reuse existing asphalt roadway (2" overlay)	606	\$8 SY	\$4,848	3
	b	pull-in parking spaces	18	\$500 EA	\$9,000	3
	c	curb & gutter	1636	\$8 LF	\$13,088	3
	d	12' concrete multi-use trail	9816	\$6 SF	\$58,896	3
	e	5' crusher fines trail	4090	\$2 SF	\$8,180	3
	f	roadway striping (for circulation)	1636	\$0.30 LF	\$491	3
	g	removable bollards*	16	\$800 EA	\$12,800	1
	h	temporary bollards*	6	\$800 EA	\$4,800	1
	i	parking signage	24	\$200 EA	\$4,800	3
	j	ped lights every 200 LF	818	\$15 LF	\$12,270	3
		SUB TOTAL	\$129,173			
	k	10% grading & landscape removal allowance	\$12,917 3			
	l	5% irrigation & landscape repair allowance	\$6,459 3			
		10% design allowance	\$14,855			
		TOTAL	\$163,404			
E7		East Meadow Turnaround	quantity	unit price	total	
	a	repair & reuse existing asphalt roadway (2" overlay)	137	\$8 SY	\$1,096	2
	b	new asphalt roadway	46	\$15 SY	\$690	2
	c	curb & gutter	420	\$8 LF	\$3,360	2
	d	12' concrete multi-use trail	2184	\$6 SF	\$13,104	3
	e	5' crusher fines trail	910	\$2 SF	\$1,820	3
	f	roadway striping (for circulation)*	420	\$0.30 LF	\$126	2
	g	removable bollards (not at P2)*	5	\$800 EA	\$4,000	2
	h	regulatory signage	10	\$200 EA	\$2,000	2
	i	asphalt demo	995	\$1 SF	\$995	2
		SUB TOTAL	\$27,191			
	j	10% grading & landscape removal allowance	\$2,719 2			
	k	5% irrigation & landscape repair allowance	\$1,360 2			
		10% design allowance	\$3,127			
		TOTAL	\$34,397			
E8			quantity	unit price	total	
	a	close 17th Ave. & remove asphalt roadway	7132	\$1 SF	\$7,132	2
	b	remove wood bollards	-	-	-	2
	c	repair curb & gutter at 17th	45	\$8 LF	\$360	2
		SUB TOTAL	\$7,492			
	d	5% irrigation & landscape repair allowance	\$375			
		10% design allowance	\$787			
		TOTAL	\$8,653			
E9			quantity	unit price	total	
	a	remove asphalt roadway	29042	\$1 SF	\$29,042	3
	b	remove wood bollards	-	-	-	3
		SUB TOTAL	\$29,042			
	c	5% irrigation & landscape repair allowance	\$1,452 3			
		10% design allowance	\$3,049			
		TOTAL	\$33,544			
E9a		Road to be removed	quantity	unit price	total	
	a	roadway striping (share roads & circulation)*	828	\$0.30 LF	\$248	2

*High-priority & low-cost project

	SUB TOTAL		\$248				
	10% design allowance		\$25				
	TOTAL		\$273				
	Pedestrian circ. Project						
E10			quantity	unit price	total		
a	site furniture allowance		2090	\$16 LF	\$33,440	4	
	SUB TOTAL		\$33,440				
	10% design allowance		\$3,344				
	TOTAL		\$36,784				
E11			quantity	unit price	total		
a	site furniture allowance		1813	\$16 LF	\$29,008	4	
	SUB TOTAL		\$29,008				
	10% design allowance		\$2,901				
	TOTAL		\$31,909				
E12			quantity	unit price	total		
a	5' crusher fines trail		5760	\$2 LF	\$11,520	4	
	SUB TOTAL		\$11,520				
	10% design allowance		\$1,152				
	TOTAL		\$12,672				
E13			quantity	unit price	total		
a	mid-block crossing		1	\$15,000 EA	\$15,000	2	
	b	connection to ped promenade new 6' asphalt path	172	\$13 SY	\$2,236	2	
		SUB TOTAL		\$17,236			
		10% design allowance		\$1,724			
		TOTAL		\$18,960			
PROJECT TOTAL			\$652,611				

*High-priority & low-cost project

Project Zone/#	Pedestrian circ. Project	Cost magnitude			Priority
Park Perim.					
B1	Refer to "Park Border" design guidelines:	quantity	unit price	total	
a	2' crusher fines trail	10464	\$2 SF	\$20,928	5
	8' asphalt trail	1550	\$13 SY	\$20,150	5
	SUB TOTAL			\$41,078	
	10% design allowance			\$4,108	
	TOTAL			\$45,186	
B1	Refer to "Park Border" design guidelines:	quantity	unit price	total	
a	preserve 2' of the existing crusher fines trail	-	\$2 SF	-	5
	8' asphalt trail	881	\$13 SY	\$11,453	5
	SUB TOTAL			\$11,453	
	10% design allowance			\$1,145	
	TOTAL			\$12,598	
PROJECT TOTAL		\$57,784			

*High-priority & low-cost project

Project Zone/#	Pedestrian circ. Project	Cost magnitude			Priority
Lake Loop					
L1	Refer to "Lake Loop" design guidelines:	quantity	unit price	total	
a	Benches & Trash Cans	4156	\$7 LF	\$29,092	4
	SUB TOTAL			\$29,092	
	10% design allowance			\$2,909	
	TOTAL			\$32,001	
PROJECT TOTAL				\$32,001	

*High-priority & low-cost project

L1 Site furniture:

Bench one every 250LF @ \$1285

Trash one every 1000LF @ \$1425

PHASING

	PHASE 1:		PHASE 2:		PHASE 3:		PHASE 4:		PHASE 5:	
W1	d,e	\$8,358	a,b*,c,d*,f,g	\$141,055						
W2	d,e	\$2,905	a,b,c,d*	\$42,869						
W3	a,d,e	\$1,807								
W4	d,e,f	\$4,503			a,b*,c,e*,g,h	\$60,080	b*,c,d*	\$22,495		
W5	a,c,d	\$2,823	b	\$32,368						
W6	d,e,f	\$3,904	a,b*,c,e*,g,h	\$56,379					a,b*,c*,e,f	\$56,689
W7	c,d	\$6,563								
W8			a,b	\$14,822						
W9					a,b,c,d	\$35,794				
W10			a,b	\$7,075						
W11	c	\$11,200			a,b	\$13,986	a,b,d	\$11,426		
W12							a	\$8,021		
W13							a,b,c,d	\$2,051		
W14							a,b	\$33,374	a,b	\$25,871
W15									a,b,c,d	\$17,951
W16										
W17										
P1	a,b,c,d	\$227,366								
P2	a,f	\$44,700	g	\$4,000					b,c,d,e	\$203,719
V1	a,f,g	\$27,752	b,c,d*,e,g*	\$52,552	b*,c*,d,e	\$70,446				
V2	a,c,f	\$2,673								
V3										
V3a	a**,b	\$9,693							a,b,c,d,e,f,g	\$177,486
V4										
V5#			a*,b,c,d,e	\$79,483						
V6	d,e,f	\$26,366	a,b,c,d,e,f,g,h,i,#	\$230,000	a*,b,c,d*,f,g,h,i	\$127,537				
V7	d,e	\$8,684			a*,b,c,d*,f,g	\$218,169			a,b	\$1,382
V8										
V9			a,b,c,d,e,f,g,h,i	\$19,053						
V10	d,e	\$5,509					a*,b,c,d*	\$90,457		
Z1									a,b,c	\$28,428
Z2									a,b,c	\$16,119
Z3									a,b,c	\$39,799
Z4									a,b,c	\$26,109
Z5									a,b,c,d	\$27,747
Z6									a	\$101,040
Z7			a,b,c,d,e,f,g,h,i,j,k	\$332,432						
Z7a	a**	\$916								
E1							a,b,c,f,g,d,e	\$47,473		
E1a	a**	\$403								
E2										
E2a			a**	\$300						
E3					a,b,c,d,e,f,g,h,i	\$24,874				
E4	c,e	\$670			a,b*,c*,d	\$13,922				
E5					a,b,c,d,e,f,g,h,i,j	\$196,279				
E6	g,h	\$17,600			a,b,c,d,e,f,i,j,k,l	\$130,949				
E7			a,b,c,f,g,h,i,j,k	\$16,346	d,e	\$14,924				
E8			a,b,c,d	\$7,867						
E9					a,b,c	\$30,494				
E9a			a**	\$248					a,b	\$33,440
E10									a,b	\$29,008
E11									a,b	\$11,520
E12										
E13			a,b	\$17,236						
B1									a,b	\$41,078
B2									a,b	\$11,453
L1							a	\$29,092		
SUB TOTAL		\$414,395		\$1,054,085		\$937,454		\$318,357		\$774,871
30% contingency		\$124,319		\$316,226		\$281,236		\$95,507		\$232,461
10% design allowance		\$53,871		\$137,031		\$121,869		\$41,386		\$100,733
TOTAL		\$592,585		\$1,507,342		\$1,340,559		\$455,251		\$1,108,066

* evaluate the need for pavement repair and re-striping

** striping for roads to be removed in later phases

alternative pricing of \$91,394 for limited reconstruction of the pavilion parking lot