

**OPEN SPACE ADVISORY COMMITTEE
STAFF REPORT**

MEETING DATE: June 18, 2012

AGENDA ITEM NUMBER: 3A

APPLICANT: Roger Moellendorf, Parks and Recreation Director
Vern L. Krahn, Park Planner

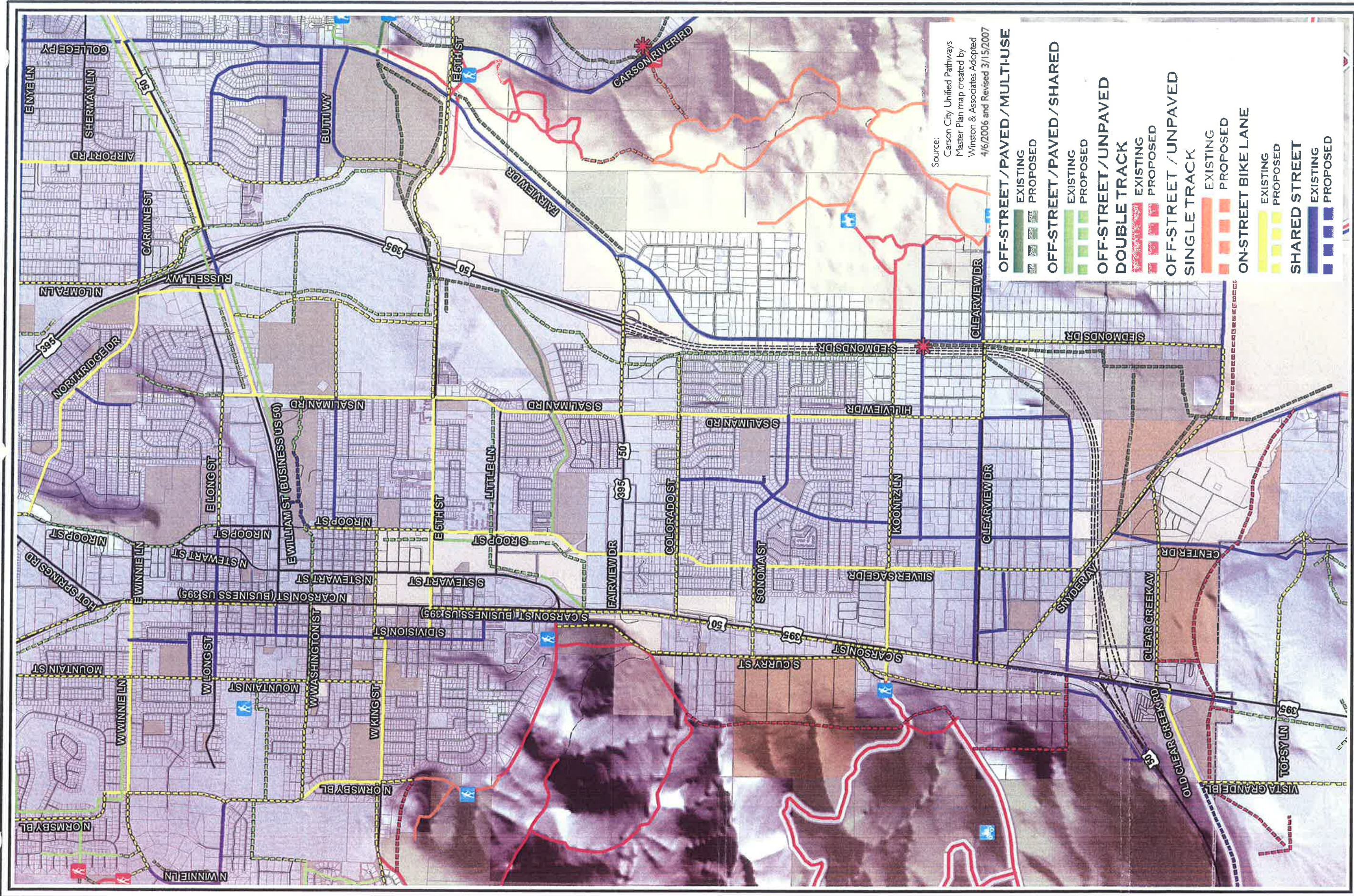
REQUEST: **For Possible Action:** to approve and recommend to the Planning Commission and the Board of Supervisors amendments to the Unified Pathways Master Plan (UPMP) map based on the Carson City Freeway Corridor Multi-Use Path Alignment Alternatives Study's preferred alignment and on completed off-street and on-street connectivity projects adjacent to the freeway corridor.

GENERAL DISCUSSION:

During the development of the UPMP map in 2006/2007, Carson City approved a conceptual path alignment or a "desire line" along the Carson City Freeway south of Northridge Drive (Adopted UPMP Map – Exhibit A). Since then City staff has wanted a more detailed review of the planning, design, and constructability aspects of this conceptual path alignment. CAMPO hired Lumos and Associates to complete a Carson City Freeway Corridor Multi-Use Path Alignment Alternatives Study (Exhibit B). This study provides a detailed assessment for selecting the best route within the freeway's corridor for a multi-use path based on acquiring easements, land ownership patterns, land use conflicts, constructability issues, public safety, estimated construction costs, and design and space limitations (based on NDOT's construction documents for Phase 2B). The study identifies the best route as the **preferred alignment**. City staff believes this alignment is a better route for the multi-use path than the alignment identified on the adopted UPMP map. In addition, the study addresses the bicycle and pedestrian connectivity between Curry Street (an existing major north/south on-street bicycle and pedestrian route) and the Carson City Fairgrounds/Fuji Park. This connectivity is accomplished by an off-street multi-use path through the South Carson Street Interchange.

On Wednesday, May 4, 2011, City and CAMPO staff held a public information meeting on the study at the Community Center. It was well attended and a number of comments were received at the meeting (Exhibit C). On June 8, 2011, the study and corresponding UPMP map changes were presented to CAMPO and the Carson City Regional Transportation Commission. RTC voted 4 to 1 and 5-0 respectively in favor of the UPMP map changes based on the Lumos study and the proposed map updates (Refer to Exhibits D and E). Also, on October 4, 2011, the Parks and Recreation Commission voted 9-0 to approve the same changes (Exhibit F). City staff is asking the Committee to approve these changes to the UPMP map based on the study's **preferred alignment** along the freeway corridor, including the proposed facilities and connectivity routes along South Carson Street, Old Clear Creek Road, and Vista Grande Boulevard. Another aspect of City staff's request is to change the UPMP map to update the map with existing conditions from successfully completed off-street and on-street projects that are adjacent to the freeway corridor. (Proposed UPMP Map Change – Exhibit G).

RECOMMENDED ACTION: Move to approve and recommend to the Planning Commission and the Board of Supervisors amendments to the Unified Pathways Master Plan (UPMP) map based on the Carson City Freeway Corridor Multi-Use Path Alignment Alternatives Study's preferred alignment and on completed off-street and on-street connectivity projects adjacent to the freeway corridor.



Source:
 Carson City Unified Pathways
 Master Plan map created by
 Winston & Associates Adopted
 4/6/2006 and Revised 3/15/2007

- OFF-STREET / PAVED / MULTI-USE**
 - EXISTING
 - PROPOSED
- OFF-STREET / PAVED / SHARED**
 - EXISTING
 - PROPOSED
- OFF-STREET / UNPAVED**
 - EXISTING
 - PROPOSED
- DOUBLE TRACK**
 - EXISTING
 - PROPOSED
- OFF-STREET / UNPAVED SINGLE TRACK**
 - EXISTING
 - PROPOSED
- ON-STREET BIKE LANE**
 - EXISTING
 - PROPOSED
- SHARED STREET**
 - EXISTING
 - PROPOSED



1 Inch = 2,000 Feet

Exhibit "A" Adopted UPMP Map Along Freeway Corridor

Carson City
 GIS Division
 3505 Bulli Way
 Carson City, NV 89701
 (775) 887-2355

CARSON CITY, NEVADA
 THIS MAP IS PREPARED FOR THE CITY OF CARSON CITY
 AND IS NOT TO BE USED FOR ANY OTHER PURPOSES
 WITHOUT THE WRITTEN PERMISSION OF THE CITY OF
 CARSON CITY. THE CITY OF CARSON CITY ASSUMES
 NO LIABILITY FOR ANY ERRORS OR OMISSIONS
 TO THE SUBSCRIBER OR ACCURACY OF THE DATA
 DISPLAYED HEREON.

Carson City Freeway Corridor Multi-Use Path Alignment Alternatives Study



Prepared For:

**Carson Area
Metropolitan Planning Organization**
3505 Butti Way
Carson City, NV 89701



Prepared By:

Lumos & Associates, Inc.
800 East College Parkway
Carson City, NV 89706
(775) 883-7077

JN 7696.000

June 1, 2011

Exhibit B

TABLE OF CONTENTS

	Page
1.0 INTRODUCTION	
1.1 Project Background.....	1
1.2 Project Goals.....	1
2.0 DESIGN STANDARDS	
2.1 Background.....	2
2.2 Design Standards.....	3
3.0 ALIGNMENT ALTERNATIVES CONSIDERED	
3.1 General.....	4
3.2 Alignment Descriptions.....	4
4.0 PREFERRED ALIGNMENT RECOMMENDATION.....	14
5.0 PATH PHASING	22
6.0 PHASE 1A and 1B PRELIMINARY ESTIMATED COST.....	22
7.0 REFERENCES.....	23

FIGURES

Figure 1	Study Area Map
Figure 2	Multi-use Path Typical Sections
Figures 3.1 – 3.5	1" = 500' Alignment Alternatives Maps

APPENDIX A - Phase 1 Preliminary Construction Cost Estimate

1.0 INTRODUCTION

1.1 Project Background

A multi-use path along the Carson City Freeway Corridor was completed from Silver Oak Drive to Northridge Drive as part of Phase 1 of the freeway. A 2001 agreement between Carson City and the Nevada Department of Transportation (NDOT) relieved NDOT from the obligation to construct a north-south path along the freeway corridor in subsequent freeway phases. NDOT did agree to leave room for a future path within the freeway right-of-way where possible, and did construct an important east-west link in the City's path system as part of Phase 2A of the freeway. This east-west link extended the Linear Park path under the freeway just north of Fifth Street and connected it to Butti Way. However, no north-south path was constructed with Phase 2A of the freeway.

Phase 2B of the freeway, which will extend it from Fairview Drive to Hwy 50 West, will interrupt a number of east-west and north-south routes currently used by bicyclists and pedestrians, including the currently designated north-south bike route along Silver Sage Drive, bike and pedestrian access to the Edmonds Sports Complex from Hillview Drive, and access to the Prison Hill Recreation Area. At the same time, the freeway corridor provides an unprecedented opportunity to expand the City's non-motorized path system to connect neighborhoods, schools, and recreational facilities such as the Boys & Girls Club, Mills Park, Carson High School, and Governor's Field in the northern and central parts of the community with Edmonds Sports Complex and Carson City Fairgrounds/Fuji Park in the south. Opportunities and sufficient space exist for path segments in various sections of the freeway corridor. However, these opportunities are disconnected and occur on different sides of the freeway. In addition, NDOT is preparing to dispose of surplus property that was purchased to construct the freeway, and these sales potentially could preclude a path in key areas.

To expand the City's path system in a cohesive and well planned manner, an alignment alternatives study is necessary to ensure the various path segment opportunities are connected to provide the best possible path alignment. This will enable the City to identify a preferred path alignment, add the alignment to the City's *Unified Pathways Master Plan* and the Carson Area Metropolitan Planning Organization's (CAMPO) *Regional Transportation Plan*, establish a phasing plan, and seek funding for the highest priority phases. This Alignment Alternatives Study analyzes and evaluates the alignment alternatives for the approximately seven-mile length of the freeway corridor from Northridge Drive to the Carson City Fairgrounds/Fuji Park, and then south to Jacks Valley Road in Douglas County. The study area is shown on Figure 1.

1.2 Project Goals

The City's *Unified Pathways Master Plan* shows an off street multi-use path, for use by bicyclists and pedestrians, along Phase 2 of the freeway corridor. The path is intended to be both a transportation and a recreational facility with the goals of:

- Providing an off-street multi-use path that connects Northridge Drive at the Boys and Girls Club to the intersection of South Carson Street and Old Clear Creek Road.
- Providing connections to existing and proposed paths on the *Unified Pathways Master Plan*, including 5th Street, the Linear Park path, and the Edmonds Sports Complex.

- Providing an alternative north-south bicycle route to mitigate the interruption of the current routes by Phase 2B of the freeway.
- Providing access and connectivity to adjacent neighborhoods that will be cut off when Phase 2B of the freeway is completed by providing alternative routes along and across the freeway.
- Completing an important section of path identified in the City's *Unified Pathways Master Plan*.

The purpose of this alignment alternatives study is to describe the design parameters and criteria used to determine the preferred alternative alignment, briefly describe the alternatives considered, evaluate the alternatives based on the criteria listed below, and present a more detailed description of the alignment that best meets the goals and objectives. Criteria and factors considered in this study include:

- Ability to meet the project goals
- Effectiveness in connecting existing path segments
- Impact on NDOT freeway facilities
- Willingness of property owners to grant the required easements
- Safety at major road crossing points
- Estimated cost
- Phasing of path segments
- Constructability
- Maintenance

2.0 DESIGN STANDARDS

2.1 Background

The Americans with Disabilities Act (ADA) of 1990 prohibits discrimination on the basis of disability. However, the current ADA Accessibility Guidelines (ADAAG) do not specifically address sidewalk and path/trail design. In an effort to determine when ADAAG provisions apply to sidewalks and paths/trails, the Federal Highway Administration (FHWA) sponsored a project to research existing conditions on sidewalks and paths/trails for people with disabilities. The project resulted in a two-part publication titled *Designing Sidewalks and Trails for Access*. Part I is a review of existing guidelines and practices, and Part II is a best practices design guide.

Designing Sidewalks and Trails for Access, Part II: Best Practices Design Guide provides design recommendations for both *Recreation Trails* and *Shared Use Paths*, as does the American Association of State Highway Officials (AASHTO) *Guide for the Development of Bicycle Facilities*. These two documents, together with input from Carson City and NDOT staff and advocacy groups, have been used to develop the preliminary design standards for the Freeway Corridor Multi-Use Path.

2.2 Design Standards

Path Surface

The main 10-foot path will be constructed with a minimum of 3 inches of asphalt concrete pavement on 6 inches of compacted aggregate base.

Path Width

The path will consist of a 10-foot paved width with 2-foot unpaved shoulders on either side. 10 feet of paving is the AASHTO desired standard for a multi-use path or trail. In some tightly constricted areas, the path width may be reduced to 8 feet and/or shoulder width reduced. See Figure 2 for path typical sections.



Typical path

Design Speed

The design speed for the path will be 20 mph wherever practicable, which is the AASHTO minimum design speed for a Class 1 Bikeway. Portions of the path will have a lower design speed due to physical constraints. These sections will be posted accordingly.

Horizontal Alignment and Cross Slope

The standard path cross slope will be 2% to provide adequate drainage. The AASHTO minimum bike path curve radius for a 20 mph design speed is 100 feet. This will be used on the path wherever possible. However, it is recognized that this standard may need to be reduced in areas of difficult terrain to a minimum of 40 feet. Where the path approaches a stop at an existing road or path junction, the approach radius may be further reduced with appropriate signage.

Grades

Grade requirements for ADA compliance are given in *Designing Sidewalks and Trails for Access, Part II: Best Practices Design Guide*, and are summarized as follows: Wherever possible, the maximum longitudinal grade on the path will be limited to 5%. In areas of steep slopes where this is not possible, grades may be increased to 8% for a maximum of 200 feet and 10% for a maximum of 30 feet. Resting areas with slopes of 2% or less will be provided between steeper sections of path. Vertical curves will be provided where grade changes exceed 3%. Curve lengths will be in accordance with the *AASHTO Guide for the Development of Bicycle Facilities*.



Typical railing at path drop-off

Edge Protection (guardrail or handrail)

Edge protection will be provided in areas of steep side slopes where there is a retaining wall on the downhill side or the existing slope presents a significant hazard to users. Concrete barrier rail with access control fencing will be placed between the path where it is adjacent to a freeway travel lane or ramp.

Signs

Signs will be provided to alert users to conditions that do not meet the preferred standards for a recreational path, such as steep grades or sharp curves. It is likely that there will be some interpretive signage installed along the path.

Erosion Control

Cut and fill slopes will be revegetated with an appropriate dryland seed mix and either mulch or an erosion control blanket.



Example of path signs

3.0 ALIGNMENT ALTERNATIVES CONSIDERED

3.1 General

A path alignment that meets the primary vision and goal of the project, namely to provide an off-street north-south route for pedestrians and bicyclists, must by necessity be located within the freeway corridor right-of-way (ROW) in areas where there is existing development on either side of the freeway that precludes a path outside the ROW. In areas where there is undeveloped land, there are more options to move the path outside the NDOT ROW; however, the options will depend on the willingness of private property owners to dedicate easements for the path.

The Preliminary Alignment Alternatives 1" = 500' exhibits (Figures 3.1 to 3.5) show a number of alternative alignments on both sides of the freeway. These alignment alternatives were developed during several site reconnaissance visits by Lumos staff, followed by Lumos and City staff reconnaissance on August 25, 2010, and then further refined after a meeting with NDOT staff on November 15, 2010. For an alternative to be viable, it must be acceptable to NDOT if it is within NDOT ROW or on property owned by NDOT. At the November 15, 2010 meeting, NDOT indicated areas where it would not be acceptable to them for the path to be inside their ROW and/or control of access (COA) fence, and areas where they would consider a path within property they currently own.

A broad range of alignment alternatives were considered on both east and west sides of the freeway. The purpose of this study is to identify a preferred alignment on one side or the other of the freeway. However, the preferred alignment could be on different sides of the freeway between major east-west cross streets if there can be safe and logical connection points at these cross streets. For example, the preferred alignment could be on the east side of the freeway between Hwy 50 and the existing Linear Park path and on the west side of the freeway between the Linear Park path and Fairview Drive because the existing Linear Park path provides a safe crossing under the freeway.

3.2 Alignment Descriptions

A number of alignment alternatives and several variations were considered. These alternatives are briefly described below and shown on Figures 3.1 to 3.5. The alignment alternatives are described from north to south.