



Valley Path



brand & wayfinding signage guidelines

May 22, 2015

★ Prepared for: Maricopa Association of Governments, AZ

The first part of the paper discusses the historical context of the study, tracing the roots of the research back to the early 20th century. It highlights the contributions of several key figures in the field, whose work laid the foundation for the current study. The second part of the paper presents the methodology used in the research, detailing the data collection process and the analytical techniques employed. The results of the study are then presented, showing a clear trend in the data that supports the hypothesis. Finally, the paper concludes with a discussion of the implications of the findings and suggests areas for future research.

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Executive Summary

The Phoenix metro area's bicycle network includes nearly 670 miles of off-street pathways. A cohesive wayfinding system will unify the network as it promotes the assets of the region while creating an appealing and intuitive cycling experience for all.

The Valley Path Brand & Wayfinding Signage Guidelines serve as a technical resource to guide parks and transportation agencies as they plan, design, and implement the brand and wayfinding signage along the off-street bicycle network in the Phoenix metro area. The Maricopa Association of Governments (MAG) and member agencies developed this manual in response to requests from the public for better uniformity and consistency of wayfinding signage throughout the regional off-street bicycle network.

The MAG bikeways network includes both on- and off-street facilities. Existing off-street bicycle facilities consist of paved multi-use pathways through the urbanized areas, while the preserves occurring on the periphery of the metro area have natural surface recreational paths. On-street bike lanes and routes follow the rectilinear street grid, while the off-street network largely follows miles of stormwater facilities and historic canals. Small scale neighborhood pathways feed into larger shared-use paths which extend through multiple cities. The focus of these wayfinding guidelines is the off-street bicycle network.

This document contains the results of the important process of gathering stakeholder and community input. The information within these guidelines will assist both current users of the bicycle network to find route options and discover new destinations, as well as entice non-system users to the option of bicycling. The wayfinding guidelines are aimed at both locals and visitors and are crafted to be easily understood and readily learned, while being legible and comprehensible to a wide range of users.

The document provides guidance for system brand applications, wayfinding element design, sign messaging, sign placement, and next steps. It should be used when signing new pathways for the first time, as well as when replacing or retrofitting signs along existing pathways. MAG member agencies should follow these guidelines and continue to coordinate with valley neighbors to assure that information is conveyed to travelers in a consistent manner. The Valley Path Brand & Wayfinding Signage Guidelines are organized as follows:

Section 1: Valley Path Brand Standards

The first section of the guidelines describes the Valley Path Brand Standards. Fonts, colors, and accepted layouts and applications of the brand identity are detailed. Native artwork files shall be available from MAG so that member agencies may consistently replicate the system brand mark while retaining the quality standards described within this document.

Section 2: Valley Path Wayfinding Tools

Section 2 describes the Valley Path Wayfinding Tools with the goal of creating a unified system of elements to guide and provide information to users of the off-street bicycle network. A menu of sign options is provided, including graphic standards and design details.

Section 3: Wayfinding Guidelines

Section 3 provides guidance related to destination selection and sign placement. A hierarchy of destination types and selection criteria is given so that municipalities can consistently select and prioritize destinations for inclusion on signs. Placement guidance within this section describes how to sign the most typically encountered navigational challenges encountered while on the off-street bicycle network.

Section 4: Implementation Approach

The fourth section describes specific next steps municipalities may take towards the implementation of a wayfinding system along pathways within their community. The master plan process is described, as well as the final design and fabrication process. Finally, an estimate of unit costs and funding opportunities are described.

These guidelines are intended to offer flexibility to agencies that already have wayfinding signs in place while working towards the creation of a unified Valley Path system.

Wayfinding options following the intent of the Manual on Uniform Traffic Control Devices (MUTCD) for bicycle facilities are included within this document. It is important to be in substantial conformance with the MUTCD standards in order to retain eligibility for federally-available transportation funding resources.

These guidelines should be considered a first edition. They should be updated on a periodic basis to ensure that they remain compliant with federal standards, as well as remaining at the forefront of technical knowledge as the practice of wayfinding continues to evolve.

section 1

Valley Path Brand Standards

- 1.1 Introduction
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Hundreds of miles of paved pathways guide commuters, students, families, adventurers and outdoor enthusiasts around the Phoenix metro area to various destinations. Always evolving, this Off-Street Bicycle Network requires an identity that captures all of its assets, character, uses and potential. The Off-Street Bicycle Network is used in many ways by many people, but at its core, it is an outdoor connection to different areas of the Valley. People use that connection for commuting, exercise, and as an escape from the motorized world.

This is Valley Path.

Brand Promise

The Valley Path promise is one of a safe, healthy outdoor transportation experience. Whether the goal is a commute to work, an exercise routine, a social activity or the best way to get to a destination within region, Valley Path is the outdoor connection. This promise will only strengthen as the Path continues to grow and connect the region even more in years to come.

Brand Personality

The Valley Path brand reflects the tone and attitude of the Off-Street Bicycle Network, as well as its role in the Phoenix metro area. It also incorporates the personalities of the people who populate the Network every day.

Brand Role

The Valley Path Brandmark has been developed to represent the Phoenix metro area's Off-Street Bicycle Network. Its primary role is promote the Network as an attraction and transportation corridor. The Network is still growing and evolving, but the brandmark is to remain constant as this change occurs. It promotes a visual connection throughout the region, linking cities, parks and destinations. It builds a feeling of trust for those using the Network, assuring them they are on the right path.

Valley Path brand personality is:

UNITING

Valley Path is made up of hundreds of miles of off-street pathways that wind through 27 incorporated cities and towns within the Phoenix metro area and the contiguous urbanized area. It connects the people of the valley to where they want to go.

FUNCTIONAL

Valley Path is an easy-to-access, safe way to get around the region and promotes a sustainable lifestyle. One of the main uses of the Path is commuting.

VIVID

What could be more beautiful than the desert backdrop at sunset on the Valley Path?

EXHILARATING

Valley Path promotes a healthy, outdoor lifestyle. It allows residents and visitors alike a chance to explore the Phoenix metro area and discover destinations along the way they may not have known about.

AN ESCAPE

No cars, no traffic jams, no horns or construction backups – just the serene, beautiful landscape of the valley. A chance to reflect on the day, or recharge for the day ahead.



The distinctive Valley Path Brandmark reflects the environment, energy and welcoming characteristics of this family-friendly, outdoor experience. The colors are representative of the mountains, sun and vegetation found along the Path. The name Valley Path describes the vast area the Path encompasses and is open to many types of users, not just cyclists. The path disappears into the distance, symbolizing new routes to explore as the Network continues to grow and evolve.

USAGE

The tagline should only be used in conjunction with the Valley Path brandmark. The brandmark and tagline should be used in all advertising collateral or materials that are promotional in nature. For wayfinding situations you may use the brandmark without the tagline. An exception would be on pedestrian kiosks – the tagline may be used as a design element in this case.



Valley Path

Brandmark with Tagline

The tagline: “Adventure Your Way” is the approved tagline for the Valley Path brandmark. It speaks to the fact that the network is a multi-use path, for bicyclists, runners and walkers – families, commuters and exercise enthusiasts alike. You can use the Path the way YOU want to. The tagline captures a touch of maverick attitude and adventurous spirit, while being concise and memorable.



Valley Path

Adventure Your Way

The Valley Path brandmark may also be used as shown below with specific path names and cities/towns. These are to be used primarily on wayfinding elements, or on maps of the Network.

The brandmark shall be used throughout the valley where established paths exist. Identification of managing jurisdictions and path names may be integrated into the brand mark by specific location as shown below. Existing path names may also be used on wayfinding elements apart from the brandmark, as a separate design element (see at right).

- PEORIA • NEW RIVER
- SCOTTSDALE • INDIAN BEND WASH
- TEMPE • WESTERN CANAL
- PHOENIX • ARIZONA CANAL
- GLENDALE • THUNDERBIRD PASEO



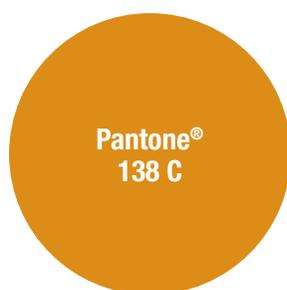
The Valley Path Brandmark is made up of three colors that represent the landscape the path traverses through (mountains, flowers), the time of day the path is used most often (dawn and dusk), and colors that will stand out in the environment. The colors also work well with other brands in the region.

PRIMARY PALETTE - Brandmark colors

Below are the Pantone® colors and CMYK, RGB and Web-safe color specifications.

PMS (Pantone® Matching System) is an industry standard system for color matching.

Pantone® is a registered trademark.

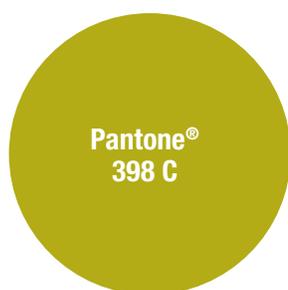


Pantone®
138 C

C: 0
M: 44
Y: 100
K: 13

R: 222
G: 124
B: 0

Web:
E17C00

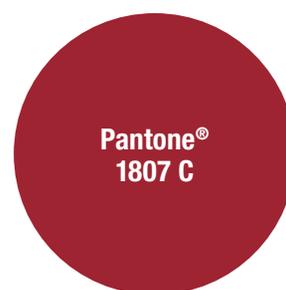


Pantone®
398 C

C: 14
M: 6
Y: 100
K: 24

R: 173
G: 164
B: 0

Web:
B2AC17



Pantone®
1807 C

C: 10
M: 93
Y: 71
K: 33

R: 164
G: 52
B: 58

Web:
A83338

KNOCKOUT LOGO - white logo on solid Primary Palette color

The Knockout logo has been specially designed to work on a solid color background. The background color should be limited to one of the Primary Palette colors, or Black.



Typography is an important tool in branding. It can convey a personality. The Valley Path typefaces are friendly and open, while at the same time modern and forward-thinking. They are also very legible at various sizes.

The Valley Path Brandmark and tagline have been specifically spaced and kerned for consistency using these typefaces. Always use the approved Brandmark artwork and do not attempt to recreate the Brandmark using the typefaces below. They are shown here for reference only.

Primary Brandmark Typeface

The Primary Brandmark typeface is **Insignia Roman**.

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Brandmark Tagline Typeface

The Brandmark Tagline typeface is **Helvetica Neue 57 Condensed**.

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Wayfinding Signage - Existing Path Typeface & MUTCD Sign Messages

The Wayfinding typeface is **Clearview Highway**.

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Valley Path is an evolving network that connects the MAG Region. It provides a way to get to work, a way to exercise, a way to play, and a way to enjoy the outdoors, either alone or with others. For this reason it is important to choose photographic images that capture the personality of the Brand. In materials that market Valley Path, choose images that show people of various ages, gender, and culture using the path in a variety of ways. Rural path sections as well as more urban path sections should be shown. Photography of the landscape and natural features of the Path may be used as supporting images as well.

There should NEVER be images of an empty trail used in materials promoting the Valley Path. Instead, show images of the path being used. Do not reproduce photos that are of low or poor quality. Never use staged or contrived photography.

Below are some examples of good Valley Path imagery.



Images from GettyImages

Clear Space

Community input and careful design decisions resulted in the Valley Path Brandmark. It is essential that the Brandmark be treated with care and respect.

A set clear area should be maintained around the brandmark when it is used at all times. This area should be the height of the “V” in the word **Valley**. The clear area will vary depending on the scale the logo is used.

Brandmark



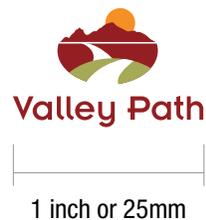
Brandmark with Tagline



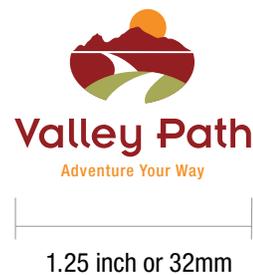
Minimum Size

The Brandmark should not be used below a certain size, or it becomes illegible. Please refer to the guidelines below for the smallest size at which the brandmark may be used.

Brandmark



Brandmark with Tagline

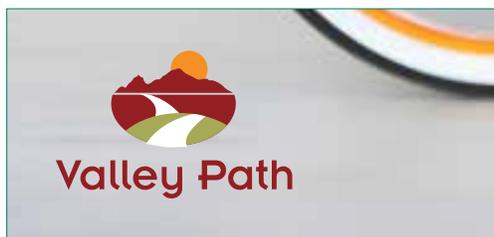
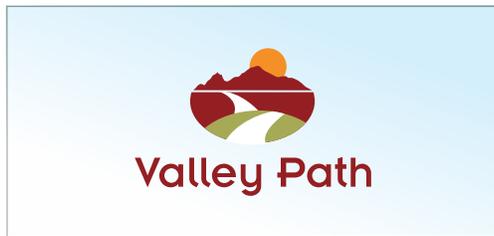
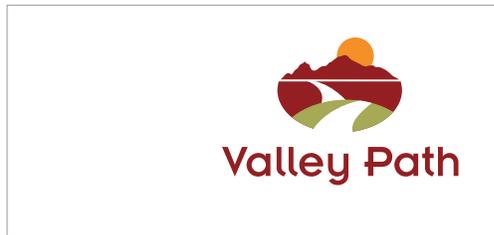


It is always preferred that the Brandmark appear on a white or light-colored background. Below are examples of the Brandmark used correctly on a background.

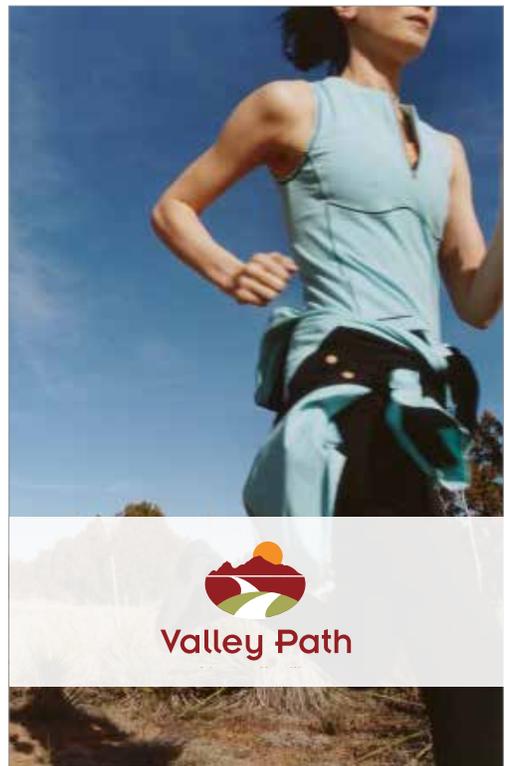
Usage on Dark Backgrounds

If a circumstance arises which requires a dark background, the Brandmark should be placed in a white or 90% screen of white contained box. Below is an example of the Brandmark used correctly on a dark background.

CORRECT



CORRECT



Examples of INCORRECT usage of the Brandmark

The Valley Path Brandmark was created specifically for the Maricopa Association of Governments Off-Street Network. It should be treated with care and respect. Using the Brandmark inconsistently will lessen its impact and tarnish the image of the Path itself.

INCORRECT

- Do NOT stretch or distort the brandmark



- Do NOT rearrange components of the brandmark



- Do NOT use the brandmark on a colorful/busy background



- Do NOT use the brandmark in a sentence



- Do NOT rotate the brandmark



- Do NOT change color, placement or size of the tagline



- Do NOT change the text of the tagline

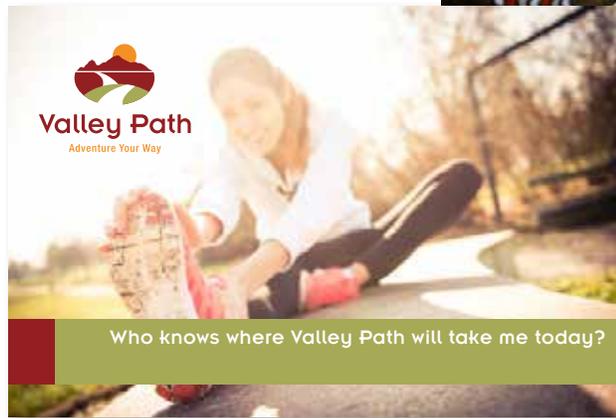


- Do NOT position the brandmark to be associated with any other entity



ADVERTISING

CORRECT use of the Brandmark



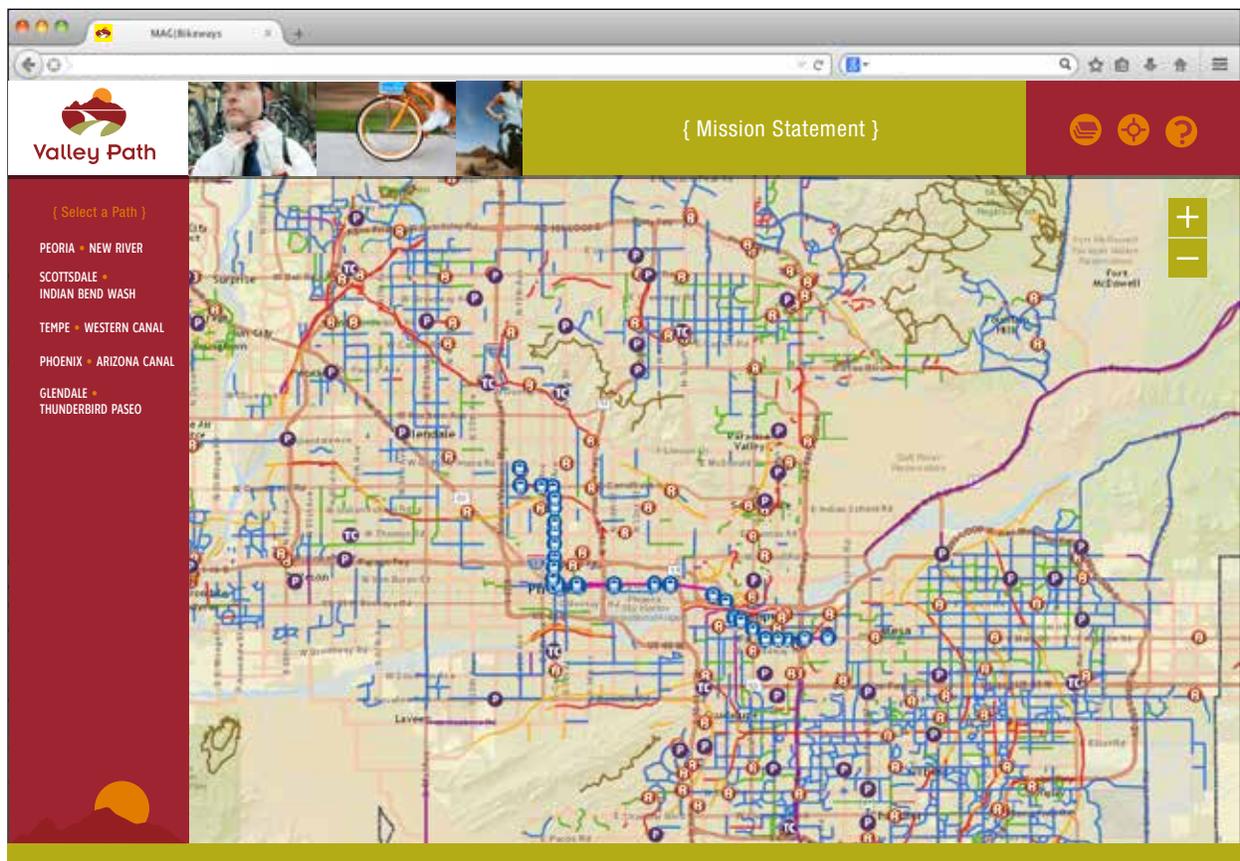
MERCHANDISE

CORRECT use of the Brandmark



WEBSITE

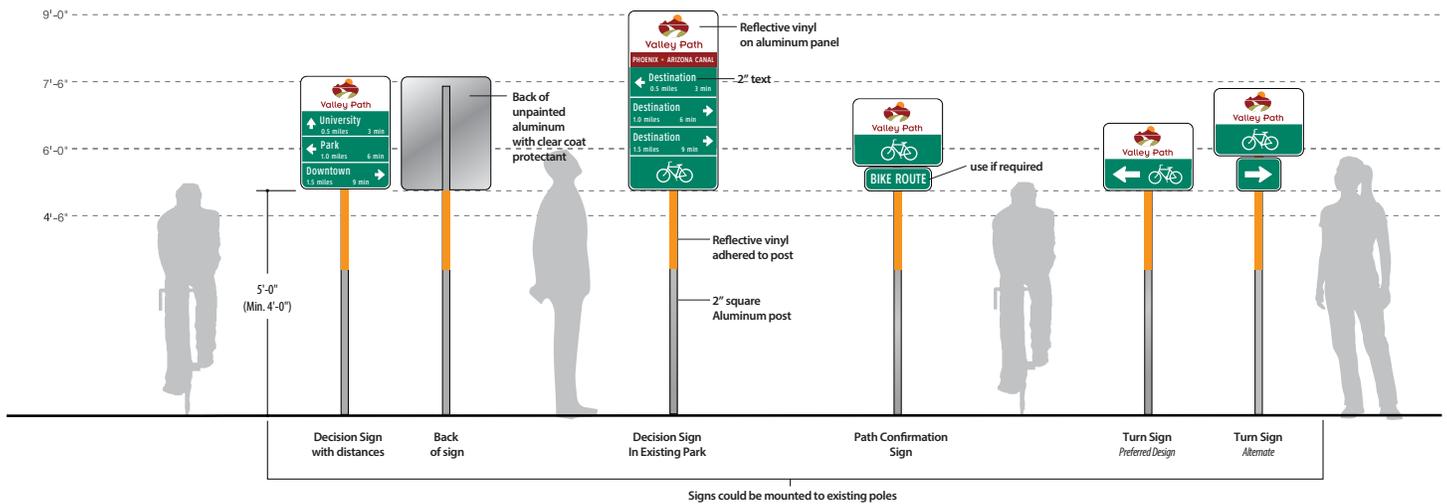
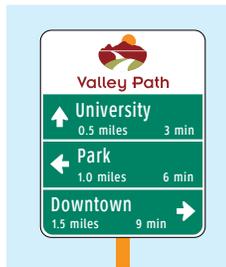
Using the MAG bike path map as a base, the Valley Path brand can be brought in as a header and side bar providing the user with quick links to established paths and possibly other links, like parking, public restrooms, public transit, etc.



SIGNAGE

A variety of signage has been developed for the Valley Path. The goal of the wayfinding signage is to create a unified look to wayfinding elements along the path, assuring the user they are in a safe area and providing them with the direction they need to reach their destination.

Below is a sampling of these signs. These and other sign types are detailed in Section 2 of this guidelines document.



A Cohesive Look for Valley Path

Valley Path is made up of hundreds of miles of off-street pathways that wind through 27 incorporated cities and towns within the MAG Region and the contiguous urbanized area. Seeing the same wayfinding elements along the path, wherever they are in the region, helps the user trust that the information being presented is correct.

Aside from signage, there are other ways to brand the path. There are also ways to mark the path itself, with branded pavement graphics, painted underpasses, and use of consistent streetscape elements along the path. Streetscape elements may use similar materials as the wayfinding signage, and may include:

- Bike Racks
- Benches
- Shade Structures
- Trash receptacles
- Fitness Equipment

These elements are not traffic control devices, but ways the brand can be utilized along the Valley Path. Some examples are shown at the right. These are **examples only** and require further conversation with MAG.



Access Ramp to Path from neighborhood



Painting /Branding underpasses



Trash Receptacle (area for logo) Weathered steel bike rack



section 2

Valley Path Wayfinding Tools

- 2.2 Introduction
- 2.3 Graphic Standards
- 2.8 Menu of Sign Types
- 2.13 Signage Drawings
- 2.37 Signage Enhancements

Wayfinding Tools

A variety of wayfinding tools have been developed for the Valley Path. This “Kit of Parts” will allow each city to address the wayfinding needs of the Valley Path in their municipality.

It is important to maintain a cohesive look to the signage along the Valley Path as it crosses the MAG Region. There are opportunities for individual cities to be identified on some wayfinding elements, but the goal is to promote the Path first. For that reason, we have provided graphic standards to be used when implementing various wayfinding tools along the Valley Path.

The sign drawings contained in this section are NOT shop drawings. Any city wanting to install Valley Path signage must have shop drawings created by their sign shop or local fabricator and approved by the city. For larger structures, shop drawings may need to be signed and sealed by an Arizona registered architect or engineer.

Wayfinding Signage - MUTCD Sign Messages

The Wayfinding typeface is **Clearview Highway**.

Clearview Highway
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Primary Brandmark Typeface - Use on Brand Signage Elements

The Primary Brandmark typeface is **Insignia Roman**.

Insignia Roman
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Brandmark Tagline Typeface - Use on Brand Signage Elements

The Brandmark Tagline typeface is **Helvetica Neue 57 Condensed**.

Helvetica Neue 57 Condensed
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

TYPOGRAPHY & TYPEFACES

Please refer to Section 1 of this guidelines document for additional information about typography.

This page provides a reference for the typefaces for the Valley Path Wayfinding Signage.

Typefaces may not be changed. During fabrication, the height and width ratio of letter forms must be maintained proportionately.

MUTCD Signage:

Typeface for MUTCD signs is Clearview Highway. Type must be title case or upper- and lower-case letters for primary destinations. All other words appearing on the signs should appear in all upper case.

Bicycle Signage:

Min. 2" high copy is recommended for signs used by bicyclists.

Pedestrian Signage:

1" high copy is recommended for pedestrian directional signs.

These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

COLORS & MATERIALS

Consistent use of a color palette creates a recognizable “system”.

The Color Palette found on the following pages provides a reference for specifying a paint color or other material.

Paint is used as a protective coating when reflectivity is not required.

Reflective vinyl is required for MUTCD signs. It ensures additional visibility at night, promoting bike safety.

The Fabricator is required to submit painted color chips and material samples for approval prior to sign fabrication.

The ADA requires a minimum of 70% contrast between text and background for the legibility.

PMS (Pantone® Matching System) is an industry standard for color matching.

Pantone® is a registered trademark.

Paint Colors

| | Name | Specification | Process |
|---|----------------------------|--|---|
|  | P1 Umbria Red | To match PMS 1807C MP07505 | Surface applied, exterior sign paint and protective top coat: MATTHEWS Acrylic Polyurethane w/ Clear Coat Satin finish. |
|  | P2 Moline Orange | To match PMS 138C MP00170 | Surface applied, exterior sign paint and protective top coat: MATTHEWS Acrylic Polyurethane w/ Clear Coat Satin finish. |
|  | P3 Alga Green | To match PMS 398C MP00817 | Surface applied, exterior sign paint and protective top coat: MATTHEWS Acrylic Polyurethane w/ Clear Coat Satin finish. |
|  | P4 Ripasso Red | To match PMS 1817C MP13353 | Surface applied, exterior sign paint and protective top coat: MATTHEWS Acrylic Polyurethane w/ Clear Coat Satin finish. |
|  | P5 Pepsi Red | To match PMS 1797C MP12565 | Surface applied, exterior sign paint and protective top coat: MATTHEWS Acrylic Polyurethane w/ Clear Coat Satin finish. |
|  | P6 Clintonite Green | To match PMS 7492 MP14762 | Surface applied, exterior sign paint and protective top coat: MATTHEWS Acrylic Polyurethane w/ Clear Coat Satin finish. |
|  | P7 Standard Green | To match Standard MUTCD Green for bike signs | Surface applied, exterior sign paint and protective top coat: MATTHEWS Acrylic Polyurethane w/ Clear Coat Satin finish. |
|  | P8 Verizon White | To match PMS white MP27386 | Surface applied, exterior sign paint and protective top coat: MATTHEWS Acrylic Polyurethane w/ Clear Coat Satin finish. |

Reflective Vinyl Colors

| | Name | Specification | Process |
|---|--------------------------|--|---|
|  | V1 Umbria Red | To match PMS 1807C | Background & Characters 3M custom inks applied directly to 3930 with 3M approved clear UV/Graffiti Vinyl Over-laminates.* |
|  | V2 Moline Orange | To match PMS 138 | Background & Characters 3M custom inks applied directly to 3930 with 3M approved clear UV/Graffiti Vinyl Over-laminates.* |
|  | V3 Alga Green | To match PMS 398 | Background & Characters 3M custom inks applied directly to 3930 with 3M approved clear UV/Graffiti Vinyl Over-laminates.* |
|  | V4 Standard Green | To match Standard MUTCD Green for bike signs | Background & Characters 3M custom inks applied directly to 3930 with 3M approved clear UV/Graffiti Vinyl Over-laminates.* |
|  | V5 Verizon White | To match PMS White | Background & Characters 3M custom inks applied directly to 3930 with 3M approved clear UV/Graffiti Vinyl Over-laminates.* |

A 3M warranty for reflective vinyl covers fading. Sherine Industries (see * below) provides a 3M warranty for custom colors against fading for 7 years. Contact Sherine Industries for more information.

These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

*MUST comply with MUTCD section Table 2A-3 – Minimum maintained retroreflectivity levels.

Approved Process: Durst RHO 161 TS printer. Sherine Industries: (604) 513-1887, or approved equal

NOTE: All 3M products are to be processed and applied according to 3M specifications. The seaming of material is NOT preferred. If the height of a sign panel is greater than 48 inches, the 3M 3930 material should be oriented vertically with stripes at 0 degrees, to avoid the seaming of material. If seaming is required, it should occur at the rule line or between messages.

Materials

| | Name | Specification | Process |
|---|-------------------------------|--------------------------------|--|
|  | M1 Perforated Screen | Side Stagger Slotted holes | Raw aluminum or stainless steel perforated screen |
|  | M2 Graphic panel | Direct Embed Product or Equal | www.directembedcoating.com |
|  | M3 Gabion Basket | Wire frame basket | N/A |
|  | M4 Reflective Tape | To match Standard MUTCD Yellow | 2" wide tape Adds safety feature of reflectivity at night |
|  | M5 Mill Finish Steel | N/A | Pre-rusted and sealed with clear-coat |
|  | M6 Aluminum Sign panel | .080" Aluminum or greater | Reflective vinyl adhered to panel |
|  | M7 Aluminum Sign post | 2" sq Aluminum post - standard | Unpainted aluminum |

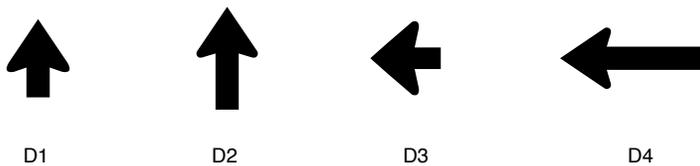
COLORS & MATERIALS

Consistent use of a color palette creates a recognizable "system"

The Fabricator is required to submit painted color chips and material samples for approval prior to sign fabrication.

The ADA requires a minimum of 70% contrast between text and background for the legibility.

ADOT Standard Arrows D1-D4



ARROWS

ADOT Standard arrows approved for MUTCD signs

These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

PEDESTRIAN PICTOGRAMS

Pictograms will be utilized on pedestrian wayfinding elements such as Kiosks, Trail and Signage, and maps. These elements will be well off the trail.

Benefits of pictograms:

- Understandable
- Memorable
- Common Language
- Distinguishable
- Character
- Expandable

The pictograms shown at right are for Pedestrian Signs only. Should a municipality wish to include a pictogram on a Bicycle sign, MUTCD-approved symbols must be used.

AMENITIES



Restrooms
A4



Lite Rail
A2



Picnic Site
A3



Fishing
A4

ACCESS / INFORMATION



Bike Path
B1



Pedestrian Trail
B2



Rollerblading
B3



Horseback Riding
B4



Pets Permitted
B5



Information
B6

REGULATORY



No ATVs Allowed
C1



No Skateboarding Allowed
C2



Motorcycles Not Allowed
C3



Horseback Riding Not Allowed
C4



Swimming Not Allowed
C5



No Dogs Allowed
C6

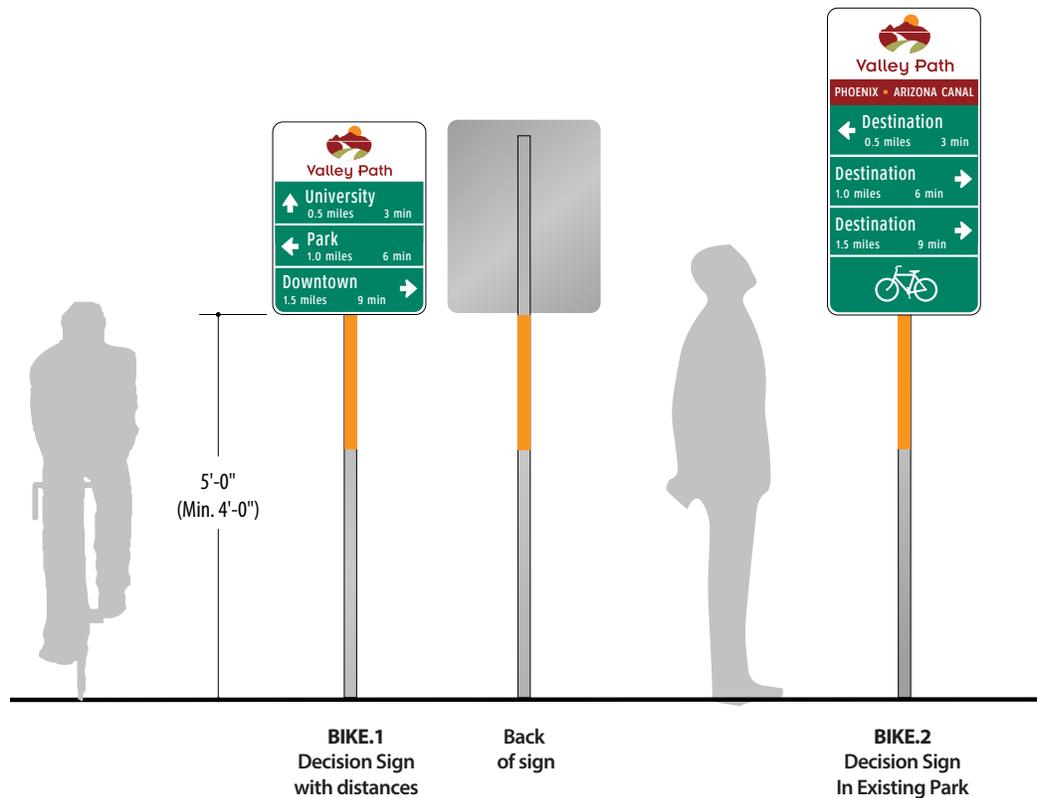


No Fishing Allowed
C7

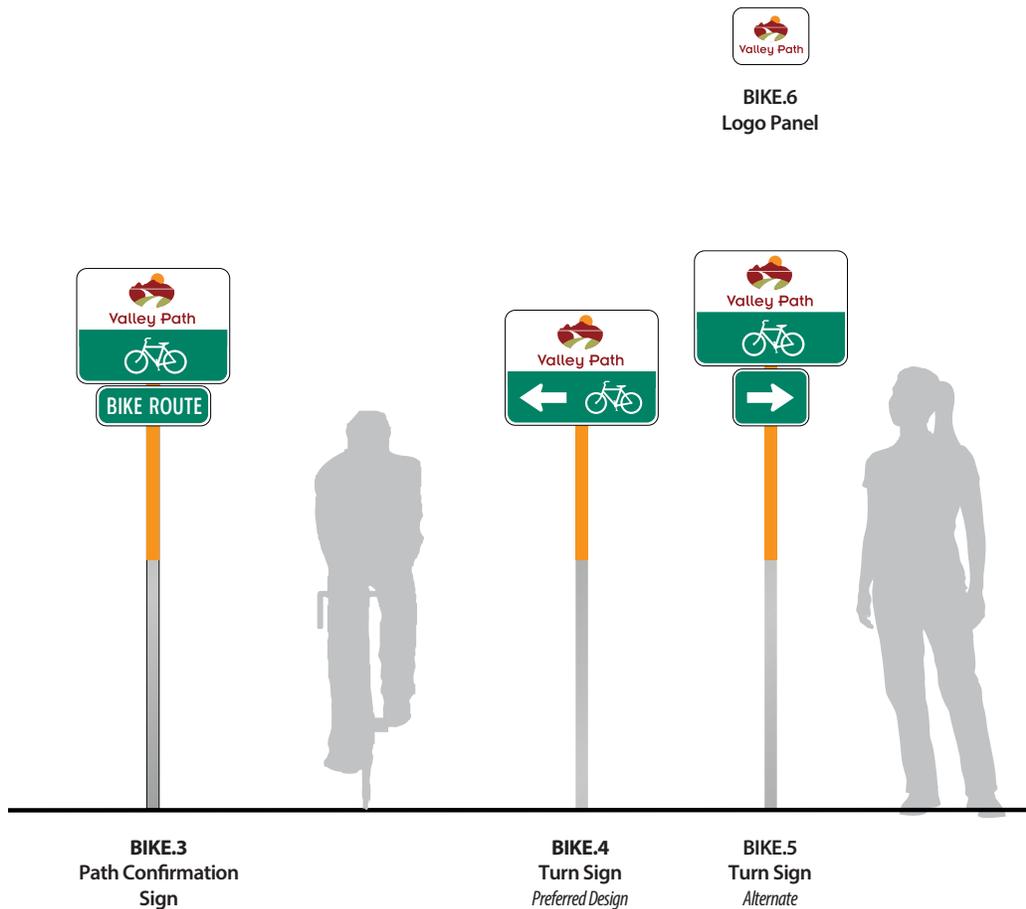
These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

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MUTCD SIGNS

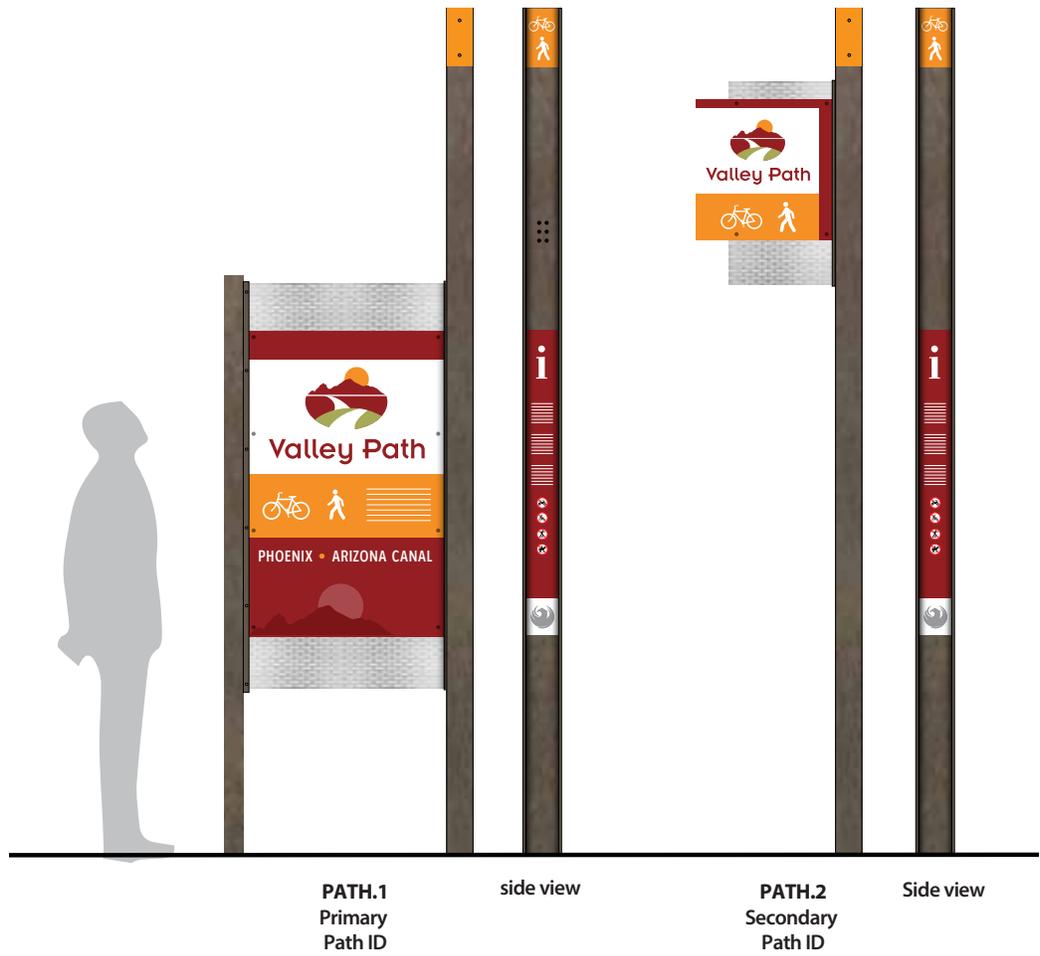


These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

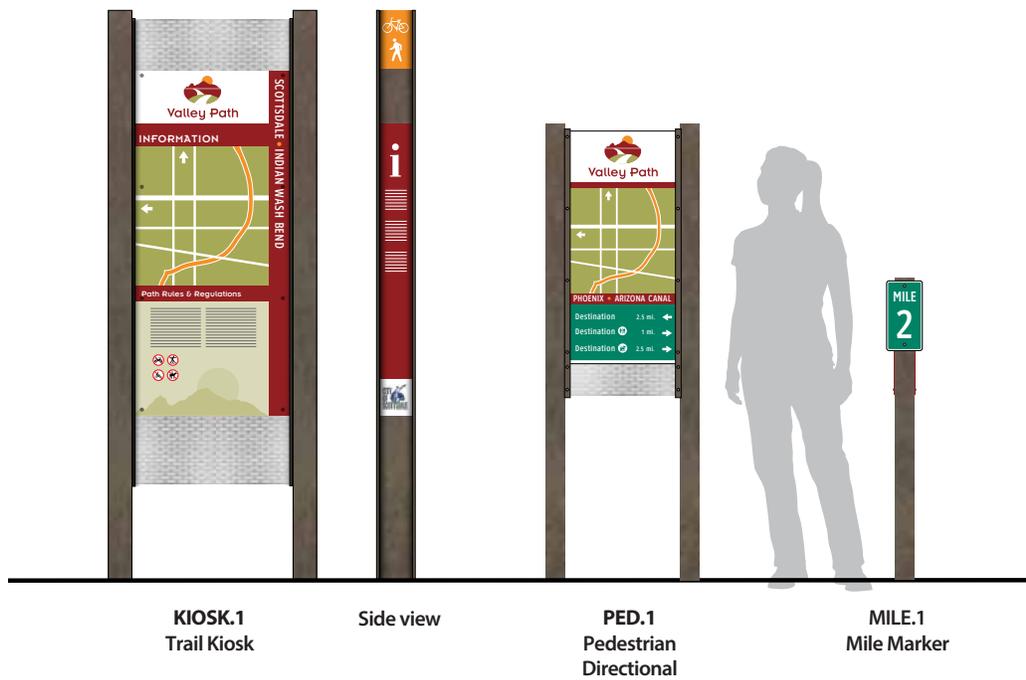


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BRAND SIGNAGE



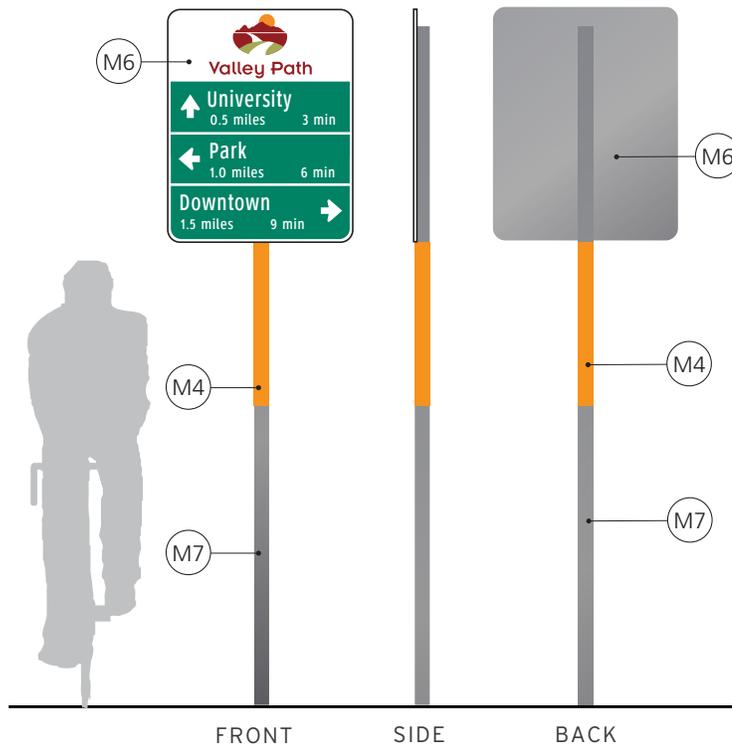
These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.



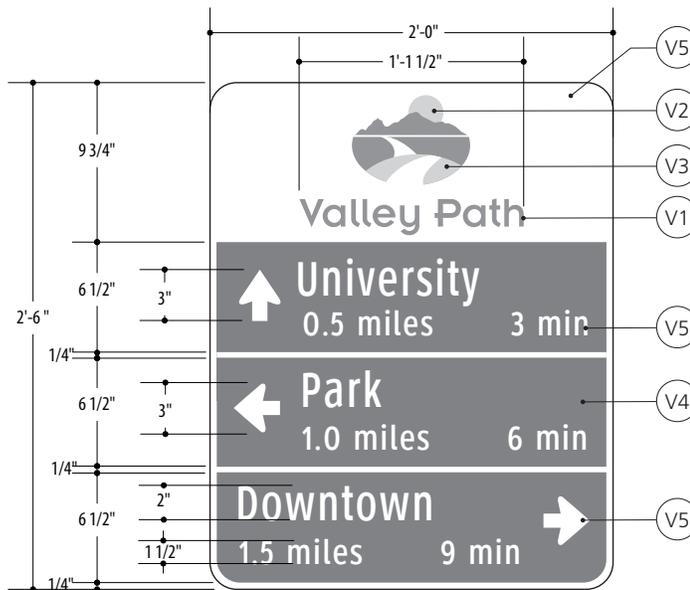
These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

2.12

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1 Color Schedule - BIKE.1
Scale: 3/8"=1'



2 Typical Layout Guidelines - BIKE.1
Scale: 1"=1'

**BIKE.1
DECISION SIGN**

The BIKE.1 Sign type is a decision bike sign and should be located at decision points along the Valley Path.

The intent of this sign is to follow general MUTCD guidelines for bicycle signage, using MUTCD approved typefaces, arrows and standard colors. Signs are limited to three listings with time and distance to each destination.

The top of the sign is an enhancement marker with the Valley Path brand. Layouts are shown below for the graphic panel of this sign.

This a single-sided sign. The back of the sign panel is unpainted aluminum with a protective clear coat applied.

Refer to page 2.4 for the paint and material callouts on this drawing.

Refer to the following page for an elevation drawing of this sign type.

Refer to page 2.24 for a modular system option for this sign type.

These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

BIKE.1
DECISION SIGN

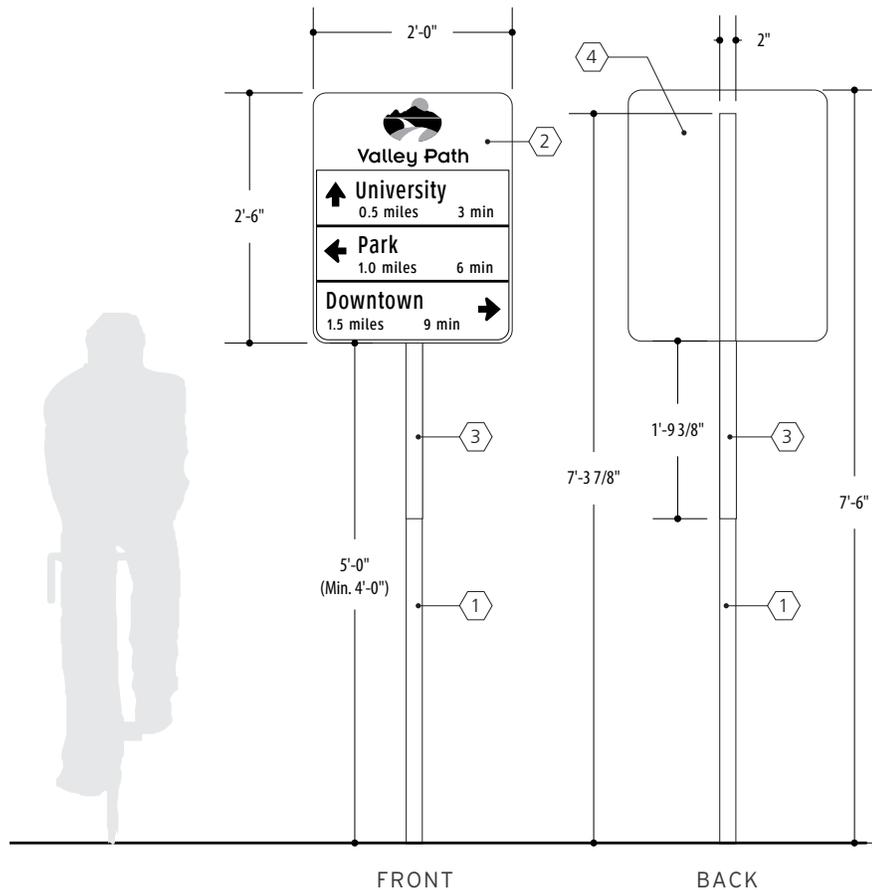
The BIKE.1 Sign type is a decision bike sign and should be located at decision points along the Valley Path.

The intent of this sign is to follow general MUTCD guidelines for bicycle signage, using MUTCD approved typefaces, arrows and standard colors. Signs are limited to three listings with time and distance to each destination.

The top of the sign is an enhancement marker with the Valley Path brand. Layouts are shown below for the graphic panel of this sign.

This a single-sided sign. The back of the sign panel is unpainted aluminum with a protective clear coat applied.

Refer to page 2.24 for a modular system option for this sign type.



1 Elevations BIKE.1
scale: 1/2"=1'-0"

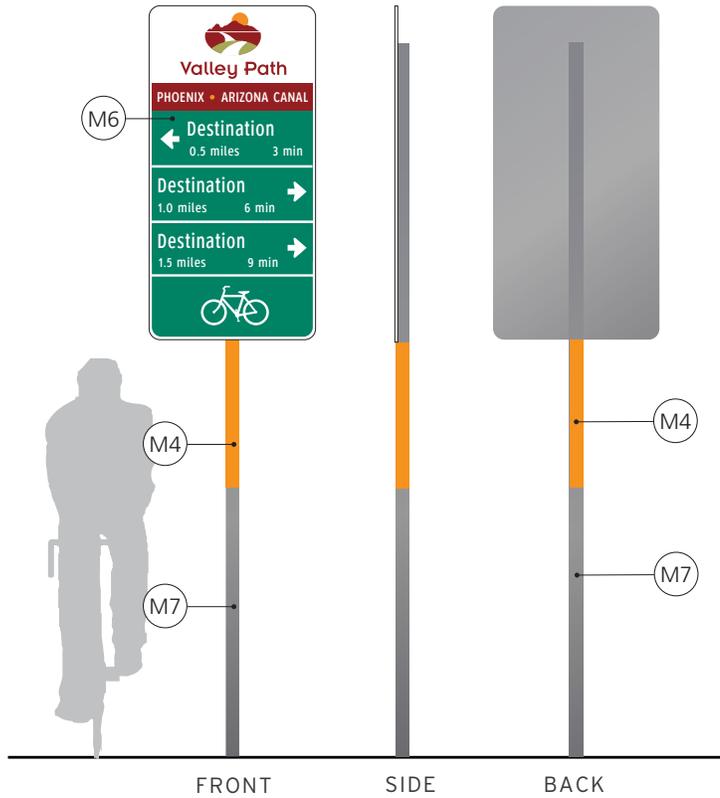
- 1 Unpainted aluminum 2" sq tube*
- 2 0.80 aluminum panel (or greater) with reflective vinyl graphics, mechanically fastened to 2" aluminum sq tube
- 3 2" wide reflective tape to best match standard MUTCD Yellow
- 4 Unpainted aluminum with protective clear coat applied

NOTES:
Locate sign at least 2 ft from edge of sign panel to trail edge.

See page 2.25 for ADOT post foundation guidelines for installing this sign.

* Or equal (2" sq aluminum tube)

These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.



**BIKE.2
DECISION SIGN IN PARK**

The BIKE.2 Sign type is a decision bike sign in an established park or trail area and should be located at decision points along the Valley Path.

The intent of this sign is to follow general MUTCD guidelines for bicycle signage, using MUTCD approved typefaces, arrows and standard colors. Signs are limited to three listings with time and distance to each destination.

The top of the sign is an enhancement marker with the Valley Path brand. There is a space allotted for a park or path name as well (see page 1.3 for established path names and graphic treatment). Layouts are shown below for the graphic panel of this sign.

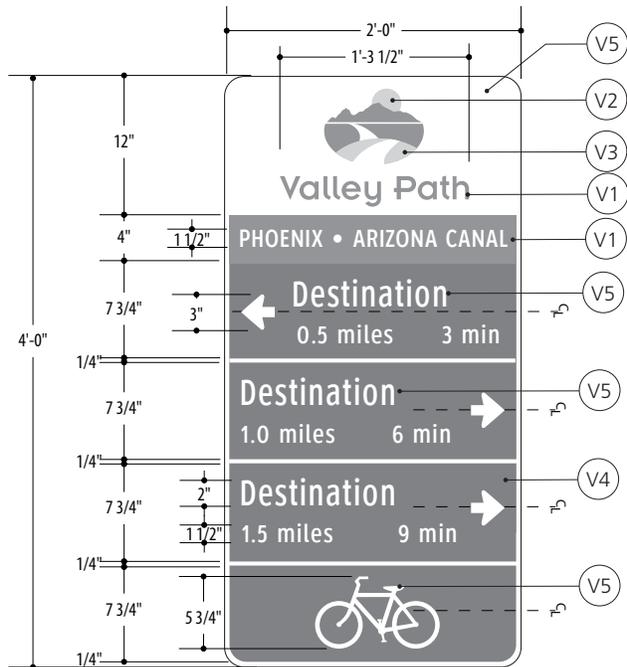
This a single-sided sign. The back of the sign panel is unpainted aluminum with a protective clear coat applied.

Refer to page 2.4 for the paint and material callouts on this drawing.

Refer to the following page for an elevation drawing of this sign type.

Refer to page 2.24 for a modular system option for this sign type.

1 Color Schedule - BIKE.2
Scale: 3/8"=1'



2 Typical Layout Guidelines - BIKE.2
Scale: 3/4"=1'

These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

BIKE.2
DECISION SIGN IN PARK

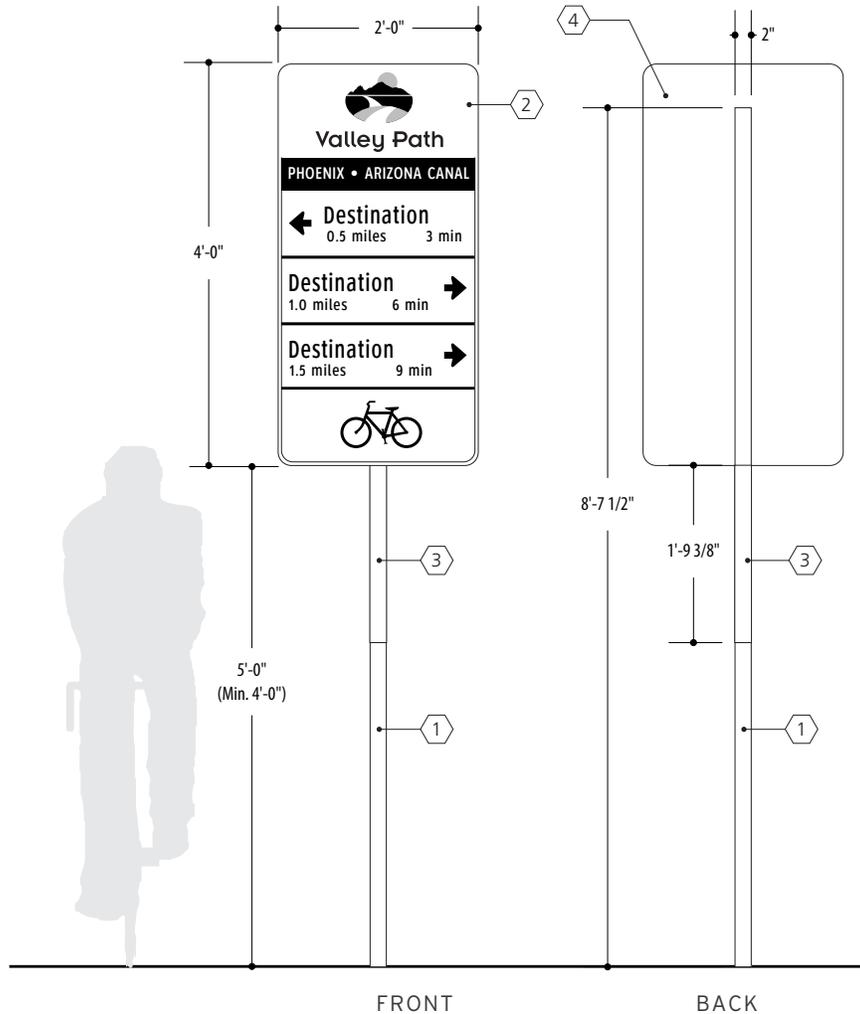
The BIKE.2 Sign type is a decision bike sign in an established park or trail area and should be located at decision points along the Valley Path.

The intent of this sign is to follow MUTCD guidelines for bicycle signage, using MUTCD approved typefaces, arrows and standard colors. Signs are limited to three listings with time and distance to each destination.

The top of the sign is an enhancement marker with the Valley Path brand. There is a space allotted for a park or path name as well (see page 1.3 for established path names and graphic treatment). Layouts are shown below for the graphic panel of this sign.

This a single-sided sign. The back of the sign panel is unpainted aluminum with a protective clear coat applied.

Refer to page 2.24 for a modular system option for this sign type.

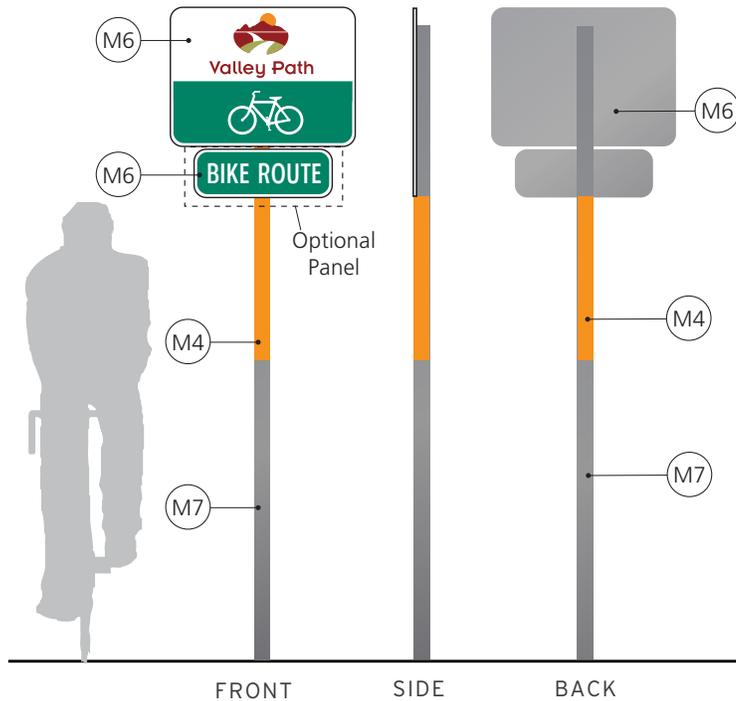


1 Elevations BIKE.2
scale: 1/2"=1'-0"

These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

- 1 Unpainted aluminum 2" sq tube*
- 2 0.80 aluminum panel (or greater) with reflective vinyl graphics, mechanically fastened to 2" aluminum sq tube
- 3 2" wide reflective tape to best match MUTCD standard yellow
- 4 Unpainted aluminum with protective clear coat applied

NOTES:
Locate sign at least 2 ft from edge of sign panel to trail edge.
See page 2.25 for ADOT post foundation guidelines for installing this sign.
* Or equal (2" sq aluminum tube)



BIKE.3
PATH CONFIRMATION SIGN

The BIKE.3 Sign type is a path confirmation sign and should be located at points along the Valley Path to assure cyclists they are on the Valley Path.

The intent of this sign is to follow general MUTCD guidelines for bicycle signage, using MUTCD approved typefaces, arrows and standard colors.

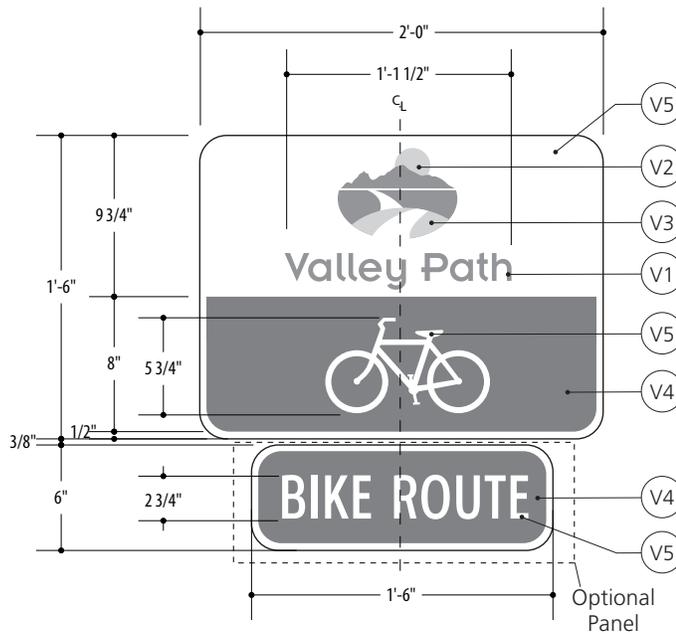
The top of the sign is a header panel with the Valley Path brand. The top sign panel is a standard size panel (size D-11 - reference for SIZE only). The bottom panel is standard (size D11-1bP), and may be left off if the sign is not located on a road. Layouts are shown below for the graphic panels of this sign.

This is a single-sided sign. The back of the sign panel is unpainted aluminum with a protective clear coat applied.

Refer to page 2.4 for the paint and material callouts on this drawing.

Refer to the following page for an elevation drawing of this sign type.

1 Color Schedule - BIKE.3
Scale: 3/8"=1'



2 Typical Layout Guidelines - BIKE.3
Scale: 1"=1'

These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

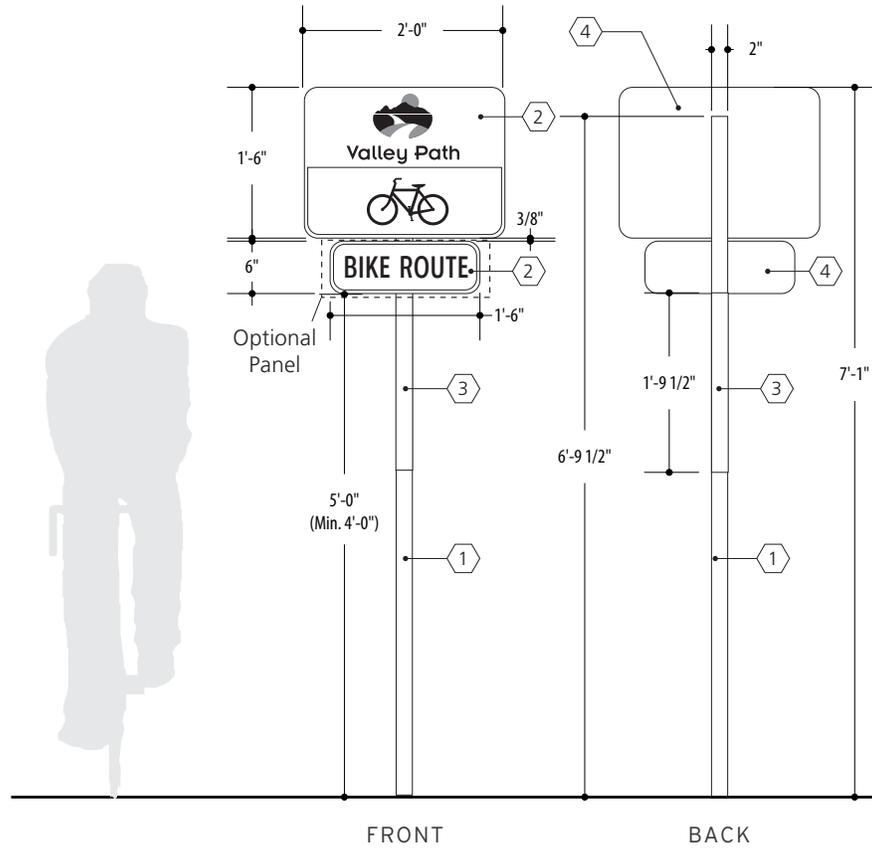
BIKE.3
PATH CONFIRMATION SIGN

The BIKE.3 Sign type is a path confirmation sign and should be located at points along the Valley Path to assure cyclists they are on the Valley Path.

The intent of this sign is to follow general MUTCD guidelines for bicycle signage, using MUTCD approved typefaces, arrows, icons and standard colors.

The top of the sign is an enhancement marker with the Valley Path brand. The top sign panel is a standard size panel (size D-11 - reference for SIZE only). The bottom panel is standard (size D11-1bP).

This a single-sided sign. The back of the sign panel is unpainted aluminum with a protective clear coat applied.



1 Elevations BIKE.3
scale: 1/2"=1'-0"

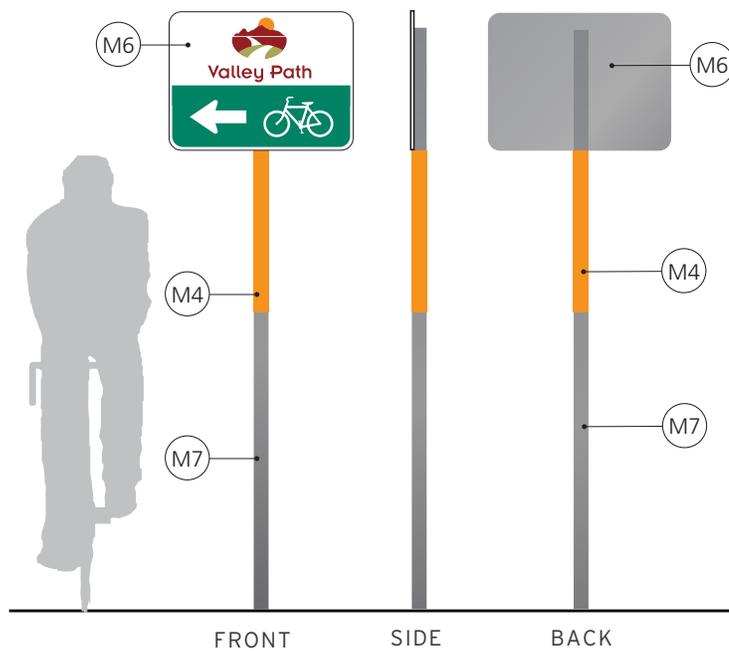
- ① Unpainted aluminum 2" sq tube*
- ② 0.80 aluminum panels (or greater) with reflective vinyl graphics, mechanically fastened to 2" aluminum sq tube
- ③ 2" wide reflective tape to best match MUTCD Standard yellow
- ④ Unpainted aluminum with protective clear coat applied

NOTES:
Locate sign at least 2 ft from edge of sign panel to trail edge.

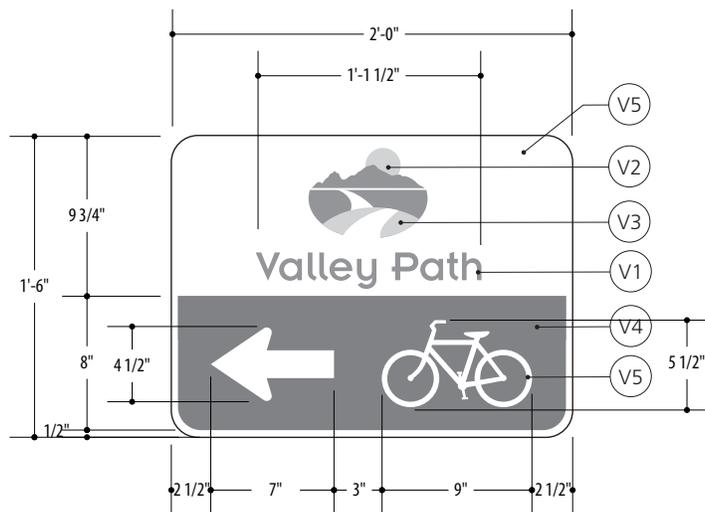
See page 2.25 for ADOT post foundation guidelines for installing this sign.

* Or equal (2" sq aluminum tube)

These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.



1 Color Schedule - BIKE.4
Scale: 3/8"=1'



2 Typical Layout Guidelines - BIKE.4
Scale: 1"=1'

BIKE.4 TURN SIGN

The BIKE.4 Sign type is a path turn sign and should be located at points along the Valley Path to inform cyclists they will need to turn to follow the Valley Path.

The intent of this sign is to follow general MUTCD guidelines for bicycle signage, using MUTCD approved typefaces, arrows, icons and standard colors.

The top of the sign is an enhancement marker with the Valley Path brand. The top sign panel is a standard size panel (size D-11 - reference for SIZE only). Layouts are shown below for the graphic panels of this sign.

This a single-sided sign. The back of the sign panel is unpainted aluminum with a protective clear coat applied.

Refer to page 2.4 for the paint and material callouts on this drawing.

Refer to the following page for an elevation drawing of this sign type.

These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

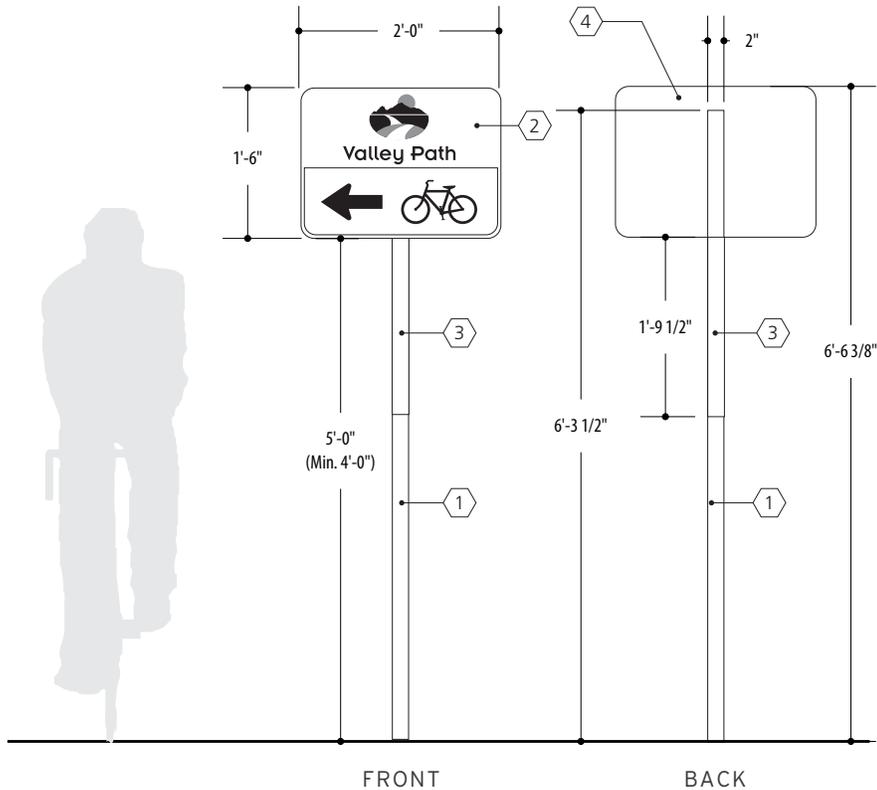
**BIKE.4
TURN SIGN**

The BIKE.4 Sign type is a path turn sign and should be located at points along the Valley Path to inform cyclists they will need to turn to follow the Valley Path.

The intent of this sign is to follow general MUTCD guidelines for bicycle signage, using MUTCD approved typefaces, arrows, icons and standard colors.

The top of the sign is an enhancement marker with the Valley Path brand. The top sign panel is a standard size panel (size D-11 - reference for SIZE only).

This a single-sided sign. The back of the sign panel is unpainted aluminum with a protective clear coat applied.



1 Elevations BIKE.4
scale: 1/2"=1'-0"

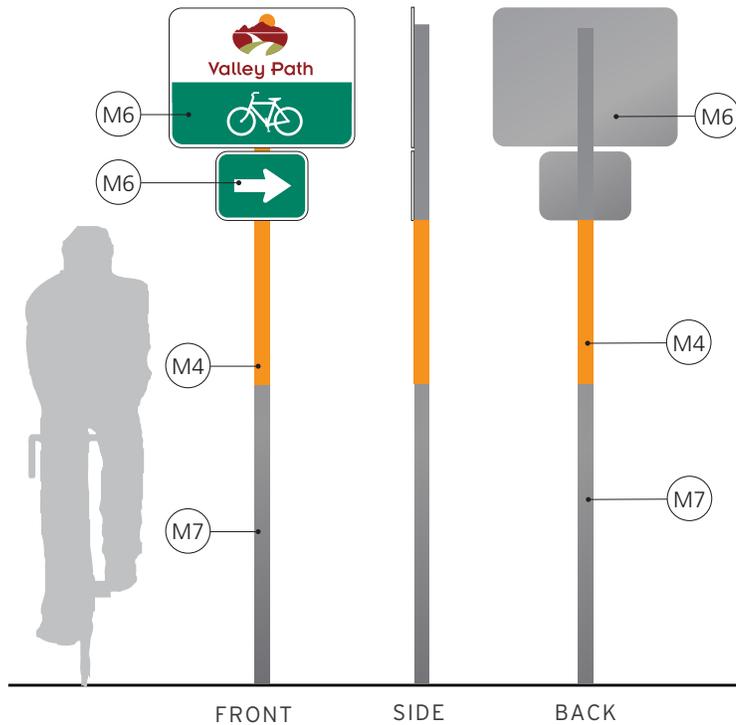
- 1 Unpainted aluminum 2" sq tube*
- 2 0.80 aluminum panel (or greater) with reflective vinyl graphics, mechanically fastened to 2" aluminum sq tube
- 3 2" wide reflective tape to best match MUTCD Standard yellow
- 4 Unpainted aluminum with protective clear coat applied

NOTES:
Locate sign at least 2 ft from edge of sign panel to trail edge.

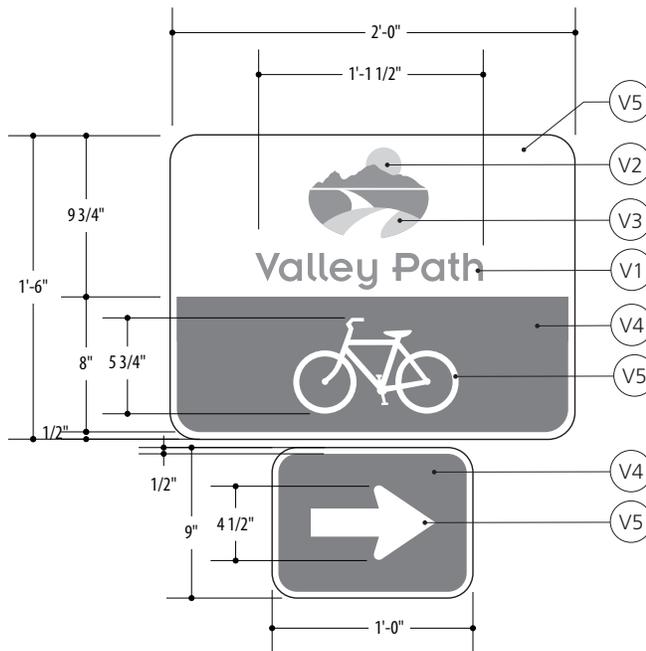
See page 2.25 for ADOT post foundation guidelines for installing this sign.

* Or equal (2" sq aluminum tube)

These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.



1 Color Schedule - BIKE.5
Scale: 3/8"=1'



2 Typical Layout Guidelines - BIKE.5
Scale: 1"=1'

BIKE.5
TURN SIGN - ALTERNATE

The BIKE.5 Sign type is a path turn sign and should be located at points along the Valley Path to inform cyclists they will need to turn to follow the Valley Path. This is an alternate design for sign type BIKE.4

The intent of this sign is to follow general MUTCD guidelines for bicycle signage, using MUTCD approved typefaces, arrows, icons and standard colors.

The top of the sign is an enhancement marker with the Valley Path brand. The top sign panel is a standard size panel (size D-11 - reference for SIZE only). The bottom panel is standard (M5 or M6). Layouts are shown below for the graphic panels of this sign.

This is a single-sided sign. The back of the sign panel is unpainted aluminum with a protective clear coat applied.

Refer to page 2.4 for the paint and material callouts on this drawing.

Refer to the following page for an elevation drawing of this sign type.

These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

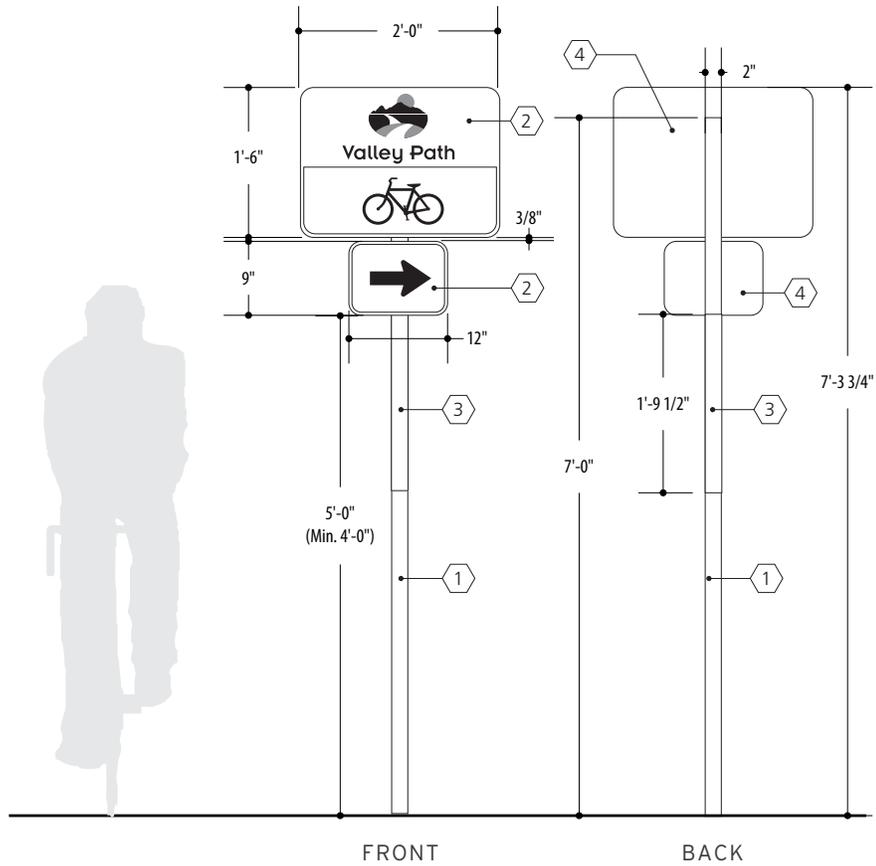
BIKE.5
TURN SIGN - ALTERNATE

The BIKE.5 Sign type is a path turn sign and should be located at points along the Valley Path to inform cyclists they will need to turn to follow the Valley Path. This is an alternate design for sign type BIKE.4

The intent of this sign is to follow general MUTCD guidelines for bicycle signage, using MUTCD approved typefaces, arrows, icons and standard colors.

The top of the sign is an enhancement marker with the Valley Path brand. The top sign panel is a standard size panel (size D-11 - reference for SIZE only). The bottom panel is also standard (M5 or M6).

This a single-sided sign. The back of the sign panel is unpainted aluminum with a protective clear coat applied.



1 Elevations BIKE.5
scale: 1/2"=1'-0"

- ① Unpainted aluminum 2" sq tube*
- ② 0.80 aluminum panels (or greater) with reflective vinyl graphics, mechanically fastened to 2" aluminum sq tube
- ③ 2" wide reflective tape to best match MUTCD Standard yellow
- ④ Unpainted aluminum with protective clear coat applied

NOTES:
Locate sign at least 2 ft from edge of sign panel to trail edge.

See page 2.25 for ADOT post foundation guidelines for installing this sign.

* Or equal (2" sq aluminum tube)

These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.



**BIKE.6
LOGO PANEL**

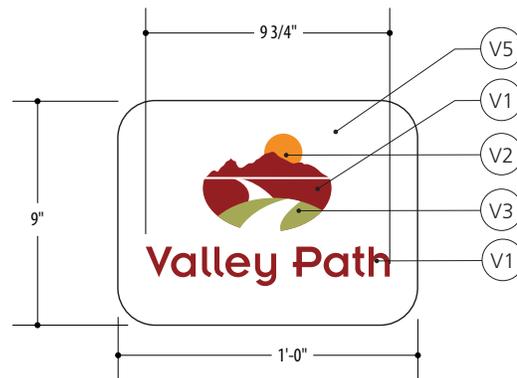
The BIKE.6 Sign type is a sign panel ONLY that can be used with an existing sign along the Valley Path. The panel may be attached to existing kiosk and map panels as well.

The sign panel is a standard size panel (size M6-1 - reference for SIZE only). It should be mechanically fastened to the post of an existing sign or wayfinding element already in place. It may also be mounted to a wall. A layout is shown below for the graphic sign panel.

This a single-sided sign. The back of the sign panel is unpainted aluminum with a protective clear coat applied.

Refer to page 2.4 for the paint and material callouts on this drawing.

1 Color Schedule - BIKE.6
Scale: 3/8"=1'



2 Typical Layout Guidelines - BIKE.6
Scale: 1"=1'

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**MODULAR
OPTION**

SIGNS BIKE.1 & BIKE.2

Shown at the right are modular signage options for Sign Type BIKE.1 and BIKE.2

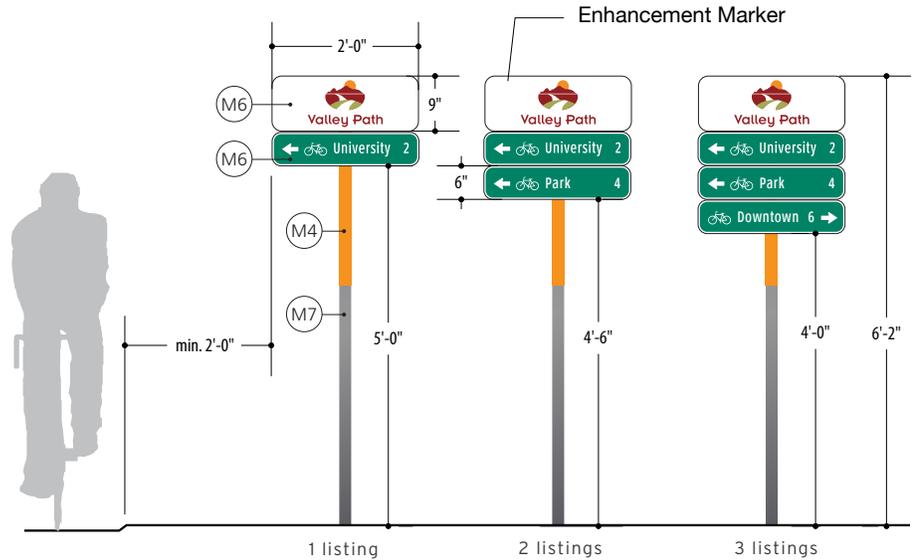
These signs incorporate an enhancement marker and up to three destination panels with mileage only. This panel size does not allow space for travel time.

The destination signs are standard D1 signs, utilizing MUTCD arrows, icons and typefaces.

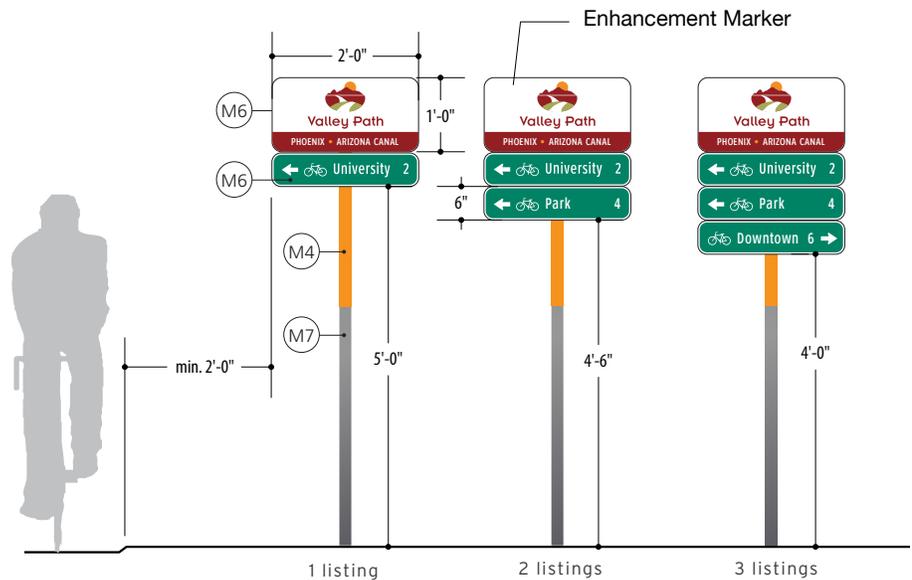
There are 2 sizes of custom enhancement markers. The BIKE.1 enhancement marker is 24" x 9". The BIKE.2 enhancement marker is 24" x 12".

The top panel of these signs should be installed at the same height, regardless of how many destination signs are mounted to the post underneath.

NOTE: Any destination more than one word or longer than 10 letters will need to use a 30" wide or longer panel to ensure legibility.

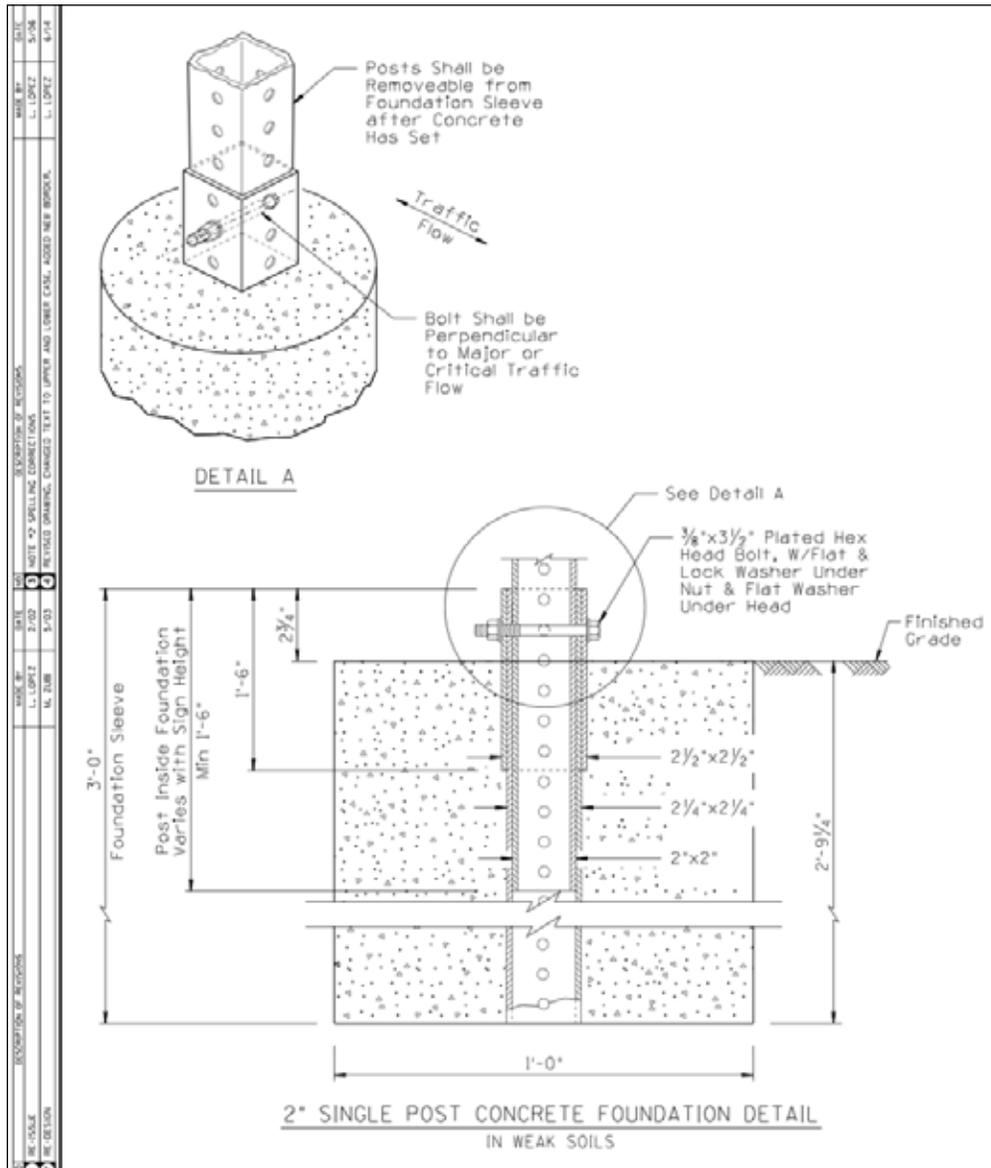


1 Modular Option - BIKE.1
Scale: 3/8"=1'



1 Modular Option - BIKE.2
Scale: 3/8"=1'

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POST FOUNDATION
2" single post concrete detail

Please refer to and use the ADOT Standard Drawing S-3 sheet 15, as shown here, for installing all bicycle signs along Valley Path.

| | | | |
|--------------|---|---|-----------------------|
| NOT TO SCALE | DESIGN APPROVED SIGNATURES | ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS SQUARE TUBE SIGN POST FOUNDATION | REVISION 6/14 |
| | APPROVED FOR DISTRIBUTION ON FILE | | DRAWING NO. S-3 |
| | | | SHEET NO. 15 of 16 |

These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

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**PATH.1
PRIMARY PATH ID**

The PATH.1 Sign type is a Primary Path ID sign and should be located at main entry points to the Valley Path, where there is public parking available. The municipality where the sign is located will be responsible for text on the graphic panels.

This sign is located at least 3 ft from the path and is intended for pedestrians, rather than cyclists in motion.

There is space for a municipality or city identity on the side of this sign element, and on the front under the yellow color block.

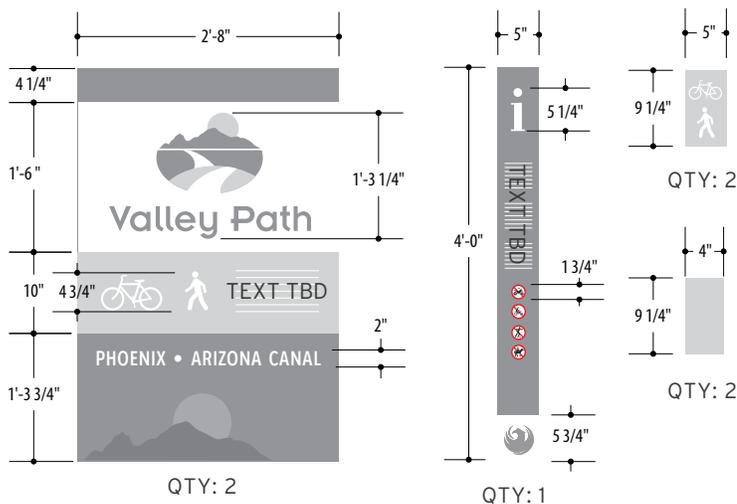
Layouts are shown below for the graphic panels on this sign.

This is a double-sided sign. The large Valley Path panel is the same on the back.

Refer to page 2.4 for the paint and material callouts on this drawing.

Refer to the following page for an elevation drawing of this sign type.

① **Color Schedule - PATH.1**
3/8"=1'



② **Typical Layout Guidelines - PATH.1**
1/2"=1'

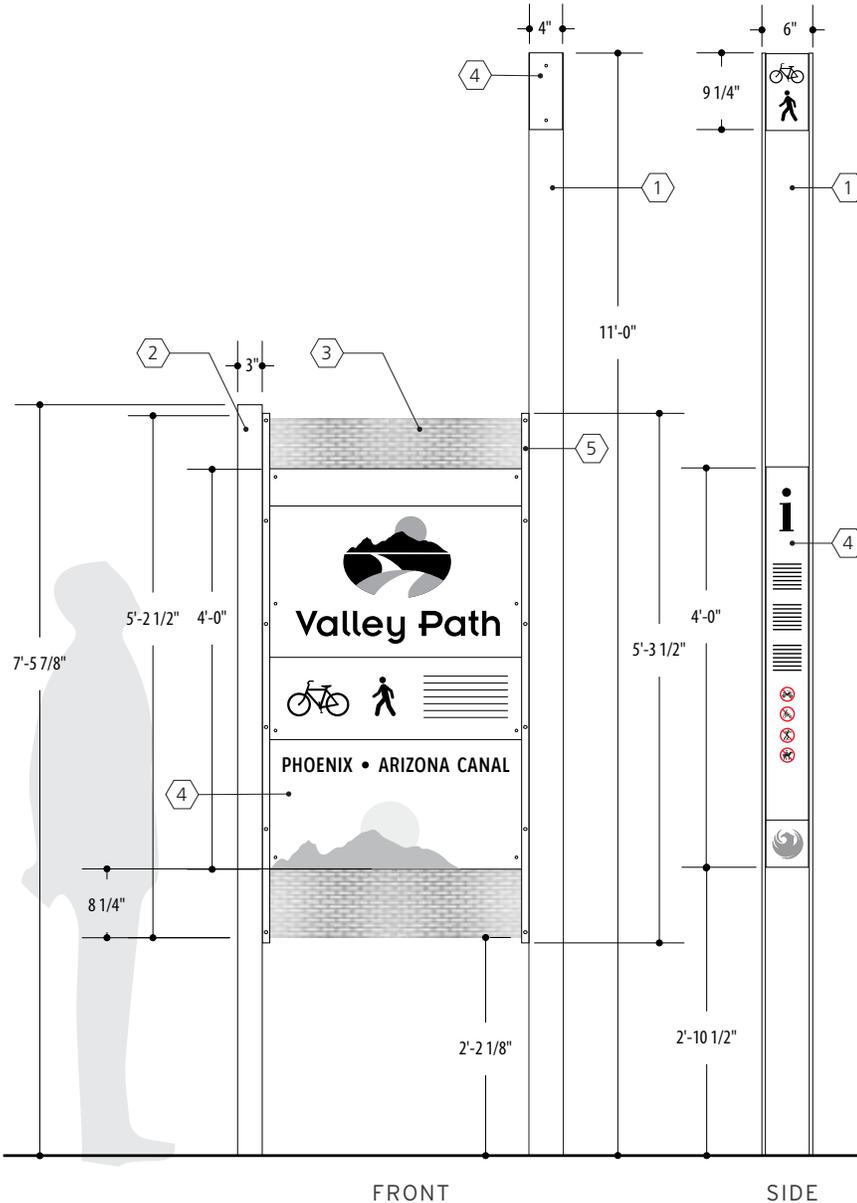
These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

PATH.1
PRIMARY PATH ID

The PATH.1 Sign type is a Primary Path ID sign and should be located at main entry points to the Valley Path, where there is public parking available. The municipality where the kiosk is located will be responsible for text on the graphic panels.

There is space for a municipality or city identity on the side of this sign element, and on the front under the yellow color block.

This a double-sided sign. The large Valley Path panel is the same on the back.



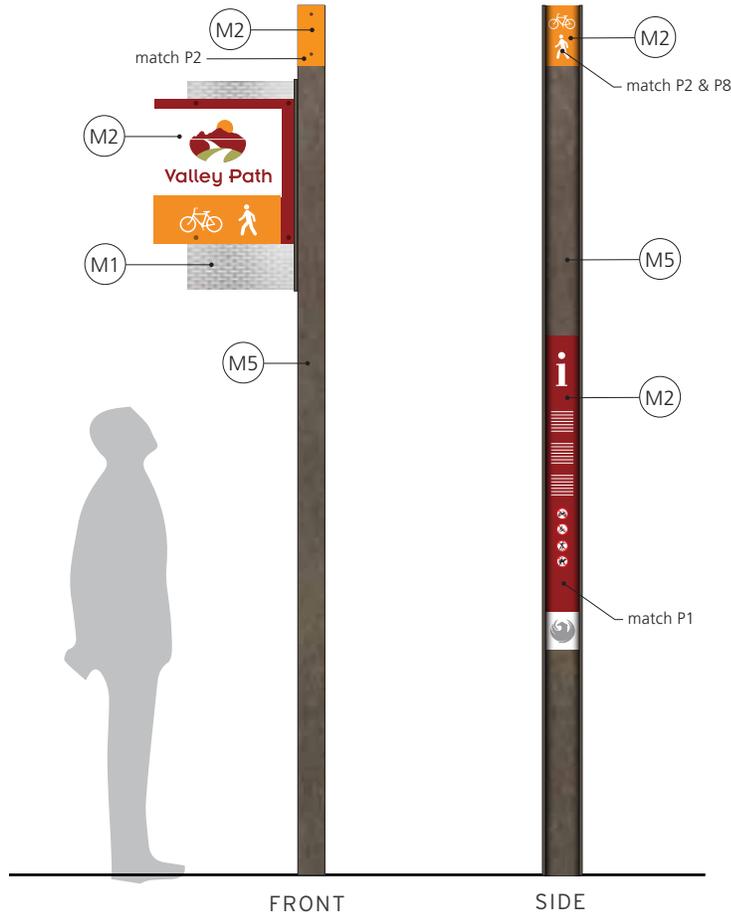
1 Elevations PATH.1
scale: 3/8"=1'-0"

- 1 Mill finish steel I-Beam - 6" x 4"
- 2 3" sq. mill finish steel tube, capped
- 3 Raw aluminum, 20 gauge, side staggered slotted hole screen, mechanically fastened between steel architectural angles.

- 5 Mill finish architectural angle mechanically fastened to either I-Beam or 3" sq. tube.

NOTES:
Locate sign at least 3ft off path

- 4 1/4" Graphic panels mechanically fastened through perforated screen with non-corrosive tamper-resistant hardware (panel on each side of screen)



PATH.2
SECONDARY PATH ID

The PATH.2 Sign type is a Secondary Path ID sign and should be located at smaller entry points to the Valley Path. Public parking does not need to be available at these entry points but may exist. The municipality where the sign is located will be responsible for text on the graphic panels.

This sign is located at least 3 ft from the path and is intended for pedestrians, rather than cyclists in motion.

There is space for a municipality or city identity on the side of this sign element.

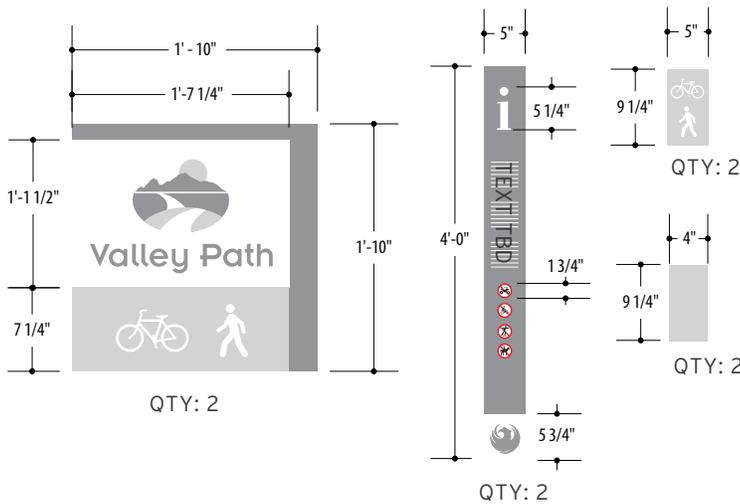
Layouts are shown below for the graphic panels on this sign.

This a double-sided sign. The square Valley Path panel is the same on the back.

Refer to page 2.4 for the paint and material callouts on this drawing.

Refer to the following page for an elevation drawing of this sign type.

1 Color Schedule - PATH.2
Scale: 3/8"=1'



2 Typical Layout Guidelines - PATH.2
Scale: 1 1/2"=1' Scale: 1/2"=1'

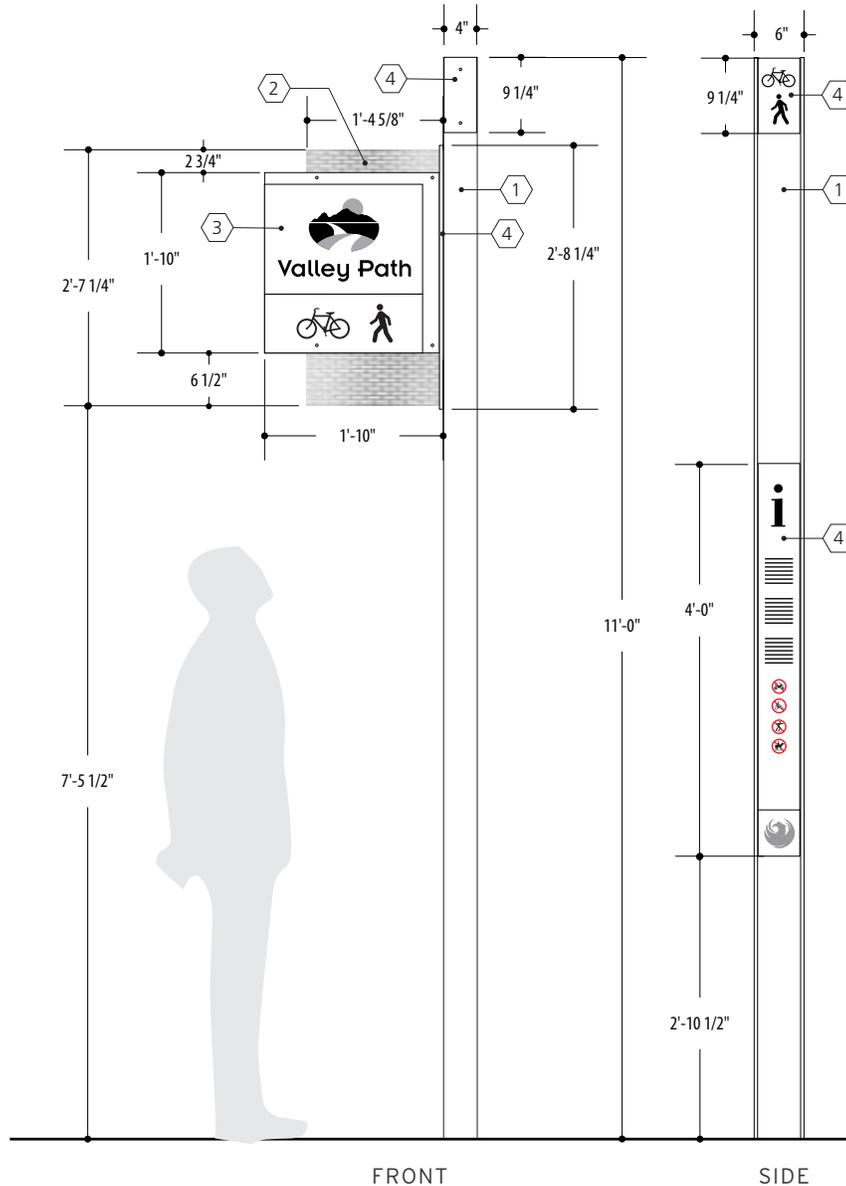
These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

PATH.2
SECONDARY PATH ID

The PATH.2 Sign type is a Secondary Path ID sign and should be located at smaller entry points to the Valley Path. Public parking does not need to be available at these entry points but may exist. The municipality where the sign is located will be responsible for text on the graphic panels.

There is space for a municipality or city identity on the side of this sign element.

This a double-sided sign. The square Valley Path panel is the same on the back.



Elevations PATH.2

1 scale: 3/8"=1'-0"

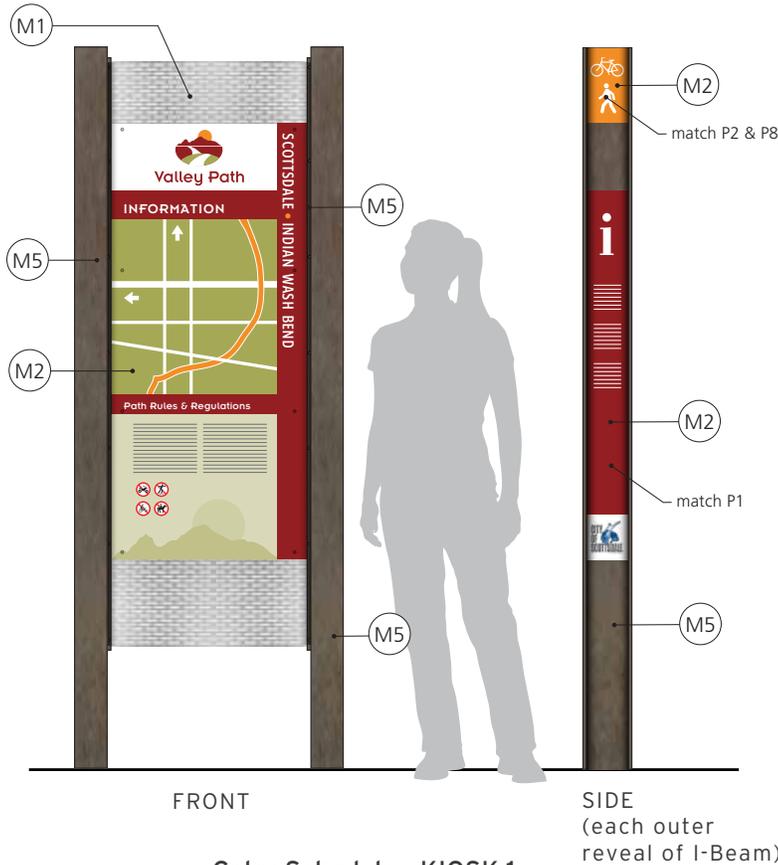
These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

- 1 Mill finish steel I-Beam - 6" x 4"
- 2 Raw aluminum, 20 gauge, side staggered slotted hole screen, mechanically fastened between steel architectural angles.
- 3 1/4" Graphic panels mechanically fastened through perforated screen with non-corrosive tamper-resistant hardware (panel on each side of screen)

- 4 Mill finish architectural angle mechanically fastened to I-Beam.

NOTES:
Double-sided, Valley Path graphic panel layout is same on each side of the I-Beam.

Locate sign at least 3ft from path.



**KIOSK.1
TRAIL KIOSK**

The KIOSK.1 Sign type is an informational sign for all path users and may be located at Entry points to the Valley Path, or in parks where the path crosses through. The municipality where the sign is located will be responsible for text on the graphic panels.

This sign is located at least 3 ft from the path and is intended for pedestrians, rather than cyclists in motion.

There is space for a municipality or city identity on the side of this sign element on the front and in the umbria red color bar on the side.

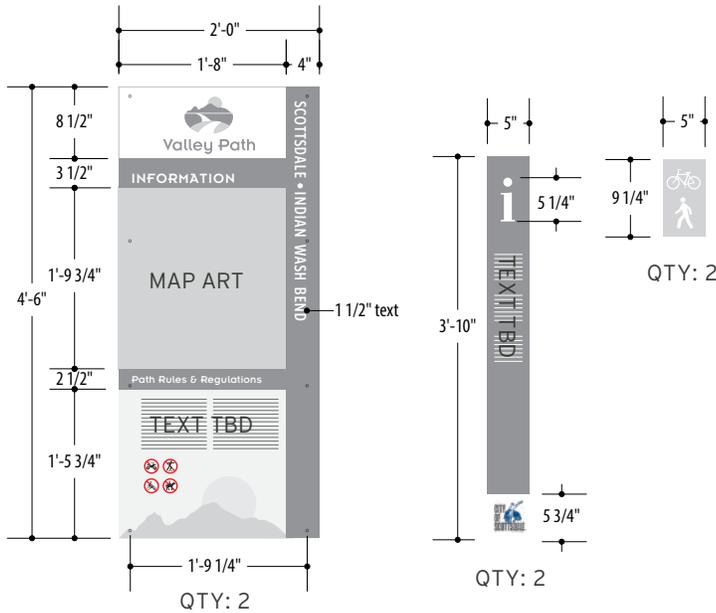
Layouts are shown below for the graphic panels on this sign.

This a double-sided sign. The rectangular Valley Path panel is the same on the back.

Refer to page 2.4 for the paint and material callouts on this drawing.

Refer to the following page for an elevation drawing of this sign type.

1 Color Schedule - KIOSK.1
Scale: 3/8"=1'



2 Typical Layout Guidelines - KIOSK.1
Scale: 1/2"=1'

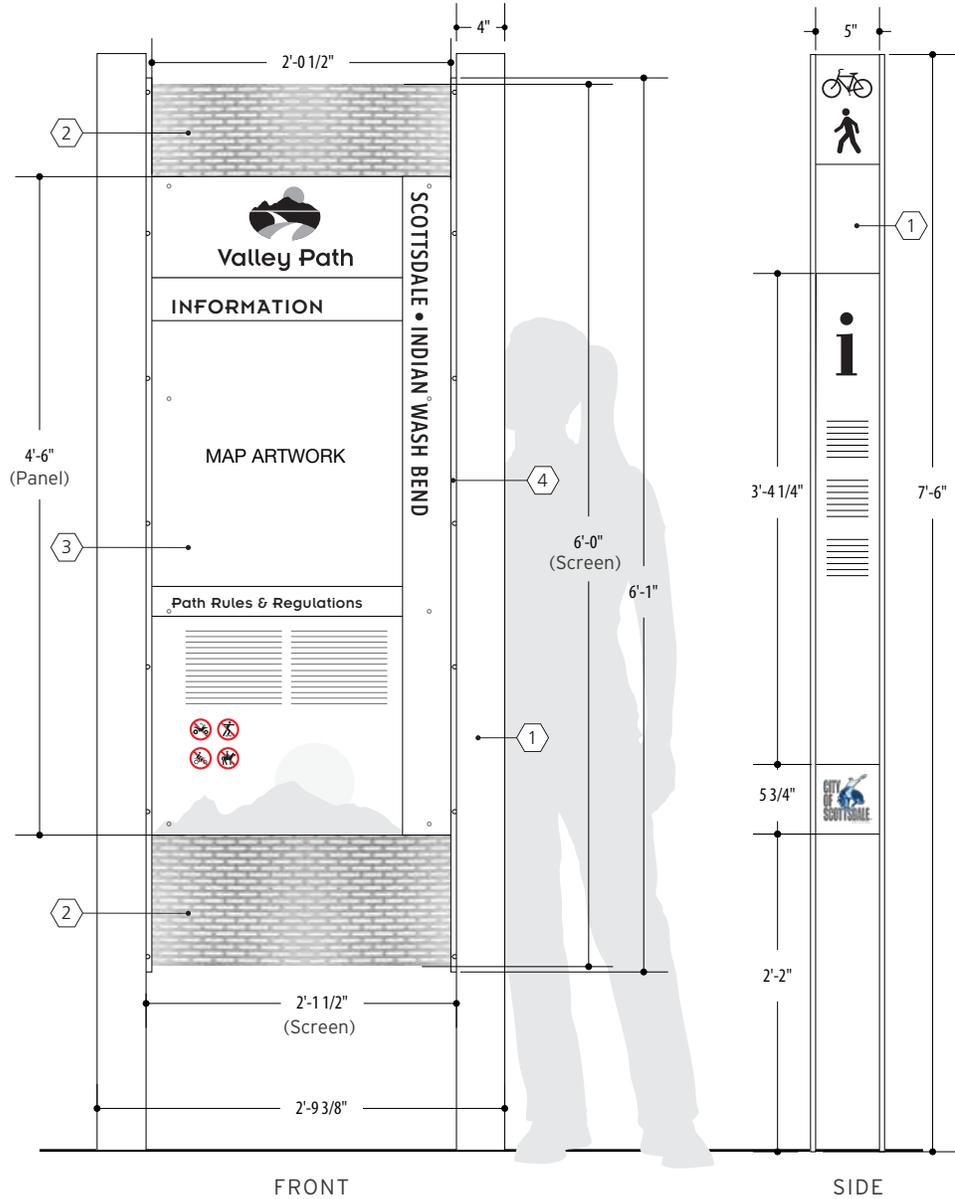
These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

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TRAIL KIOSK

The KIOSK.1 Sign type is an informational sign for all path users and may be located at Entry points to the Valley Path, or in parks where the path crosses through. The municipality where the sign is located will be responsible for text on the graphic panels.

There is space for a municipality or city identity on the side of this sign element on the front and in the umbria red color bar on the side.

This a double-sided sign. The rectangular Valley Path panel is the same on the back.



1 Elevations KIOSK.1
scale: 3/4"=1'-0"

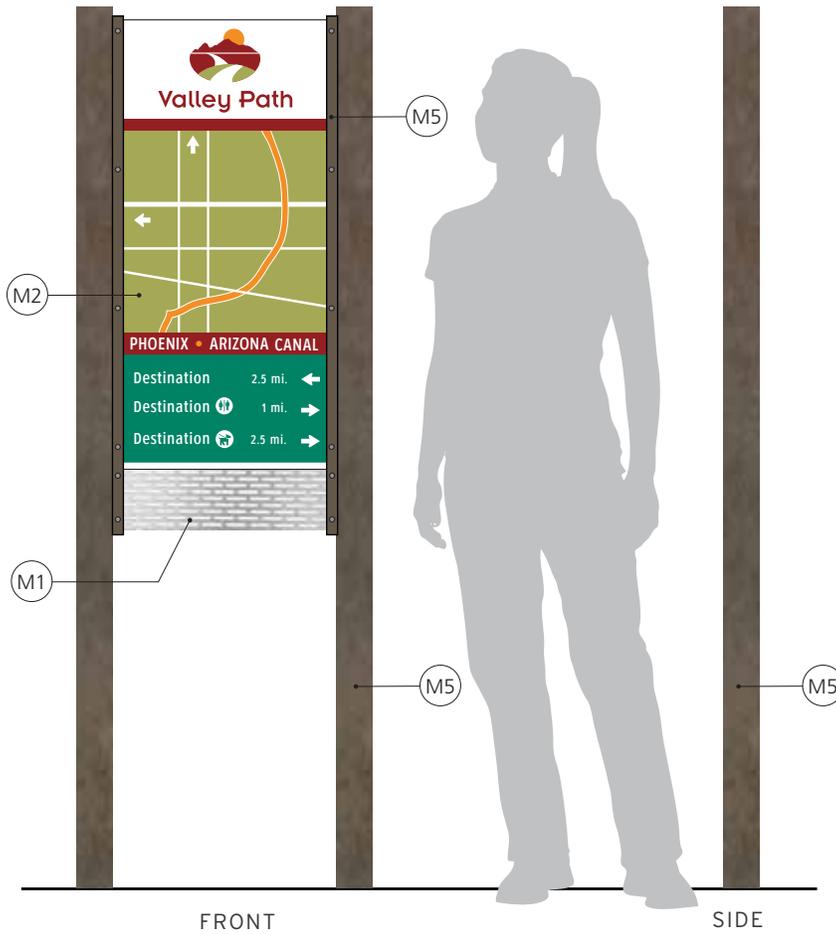
- 1 Mill finish steel I-Beam - 6" x 4"
- 2 Raw aluminum, 20 gauge, side staggered slotted hole screen, mechanically fastened between steel architectural angles.
- 3 1/4" Graphic panels mechanically fastened through perforated screen with non-corrosive tamper-resistant hardware (panel on each side of screen)
- 4 Mill finish architectural angle mechanically fastened to I-Beam.

NOTES:
Sign is double-sided. Panels are mechanically fastened to screen on each side.

Map artwork and informational text to be provided by municipality or MAG.

Locate sign at least 3ft from path.

These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.



**PED.1
PEDESTRIAN DIRECTIONAL**

The PED.1 Sign type is an informational sign for all pedestrian path users and may be located at decision points along the Valley Path, or in parks where the path crosses through. The municipality where the sign is located will be responsible for the three destinations directed to on these signs.

This sign is located at least 3 ft from the path and is intended for pedestrians, rather than cyclists in motion.

There is space for a municipality or city identity on the front in the umbria red color bar.

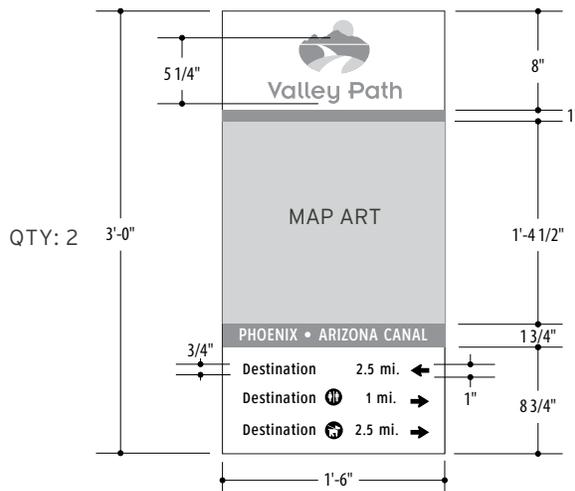
A Layout is shown below for the graphic panel on this sign.

This is a double-sided sign. The destination directions will change on the back of the panel.

Refer to page 2.4 for the paint and material callouts on this drawing.

Refer to the following page for an elevation drawing of this sign type.

1 Color Schedule - PED.1
Scale: 1/4"=1'



2 Typical Layout Guidelines - PED.1
Scale: 1/4"=1'

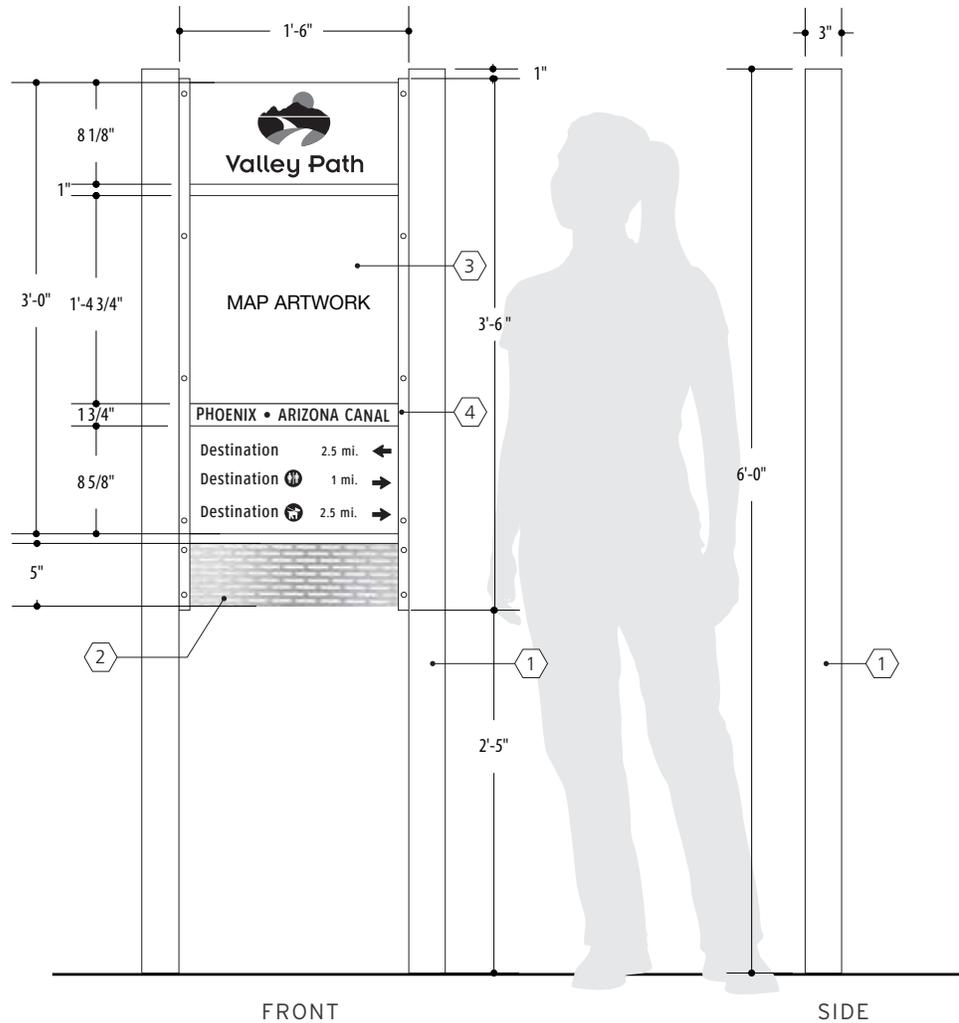
These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

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The PED.1 Sign type is an informational sign for all pedestrian path users and may be located at decision points along the Valley Path, or in parks where the path crosses through. The municipality where the sign is located will be responsible for the three destinations directed to on these signs.

There is space for a municipality or city identity on the front in the umbria red color bar.

This a double-sided sign. The destination directions will change on the back of the panel.

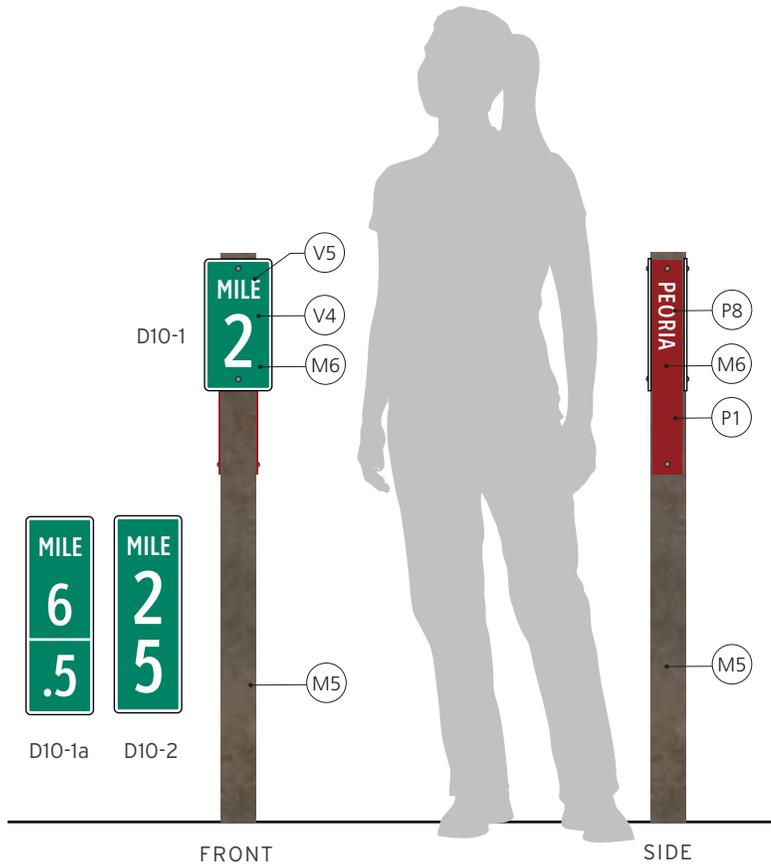


1 Elevations PED.1
scale: 3/4"=1'-0"

- ① Mill finish steel 3" sq. tube, capped
- ② Raw aluminum, 20 gauge, side staggered slotted hole screen, mechanically fastened between steel architectural angles.
- ③ Double-sided 1/4" graphic panel mechanically fastened between steel architectural angles.
- ④ Mill finish architectural angles mechanically fastened to steel 3" sq. tube

NOTES:
Sign is double-sided.
Map artwork and directional information to be provided by municipality or MAG.
Locate sign at least 3ft from path.

These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.



**MILE.1
MILE MARKER**

The MILE.1 Sign type is an informational sign for all pedestrian path users and may be located at 1/4-mile increments along the Valley Path.

The mile marker sign is a standard D10-1 sign. This panel could also be any of the D10 series. There is space for a municipality or city name on sides of the post in an umbria red color bar.

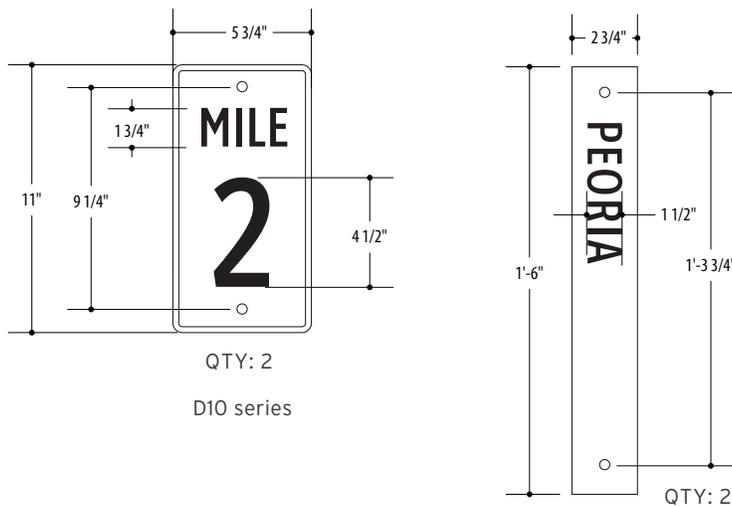
A Layout is shown below for the graphic panels on this sign.

This a double-sided sign.

Refer to page 2.4 for the paint and material callouts on this drawing.

Refer to the following page for an elevation drawing of this sign type.

① **Color Schedule - MILE.1**
Scale: 3/4"=1'



These drawings are meant for DESIGN INTENT ONLY and are not for construction. Contractor shall verify and be responsible for all dimensions and conditions of the job. Contractor shall be familiar with the site and conditions it presents. This office must be notified of any variations from the dimensions and conditions shown on this drawing. Shop drawings and details must be submitted to this office for approval prior to proceeding with fabrication. All copy shall be proofread by client and legal requirements checked by legal department.

② **Typical Layout Guidelines - MILE.1**
Scale: 3"=1'

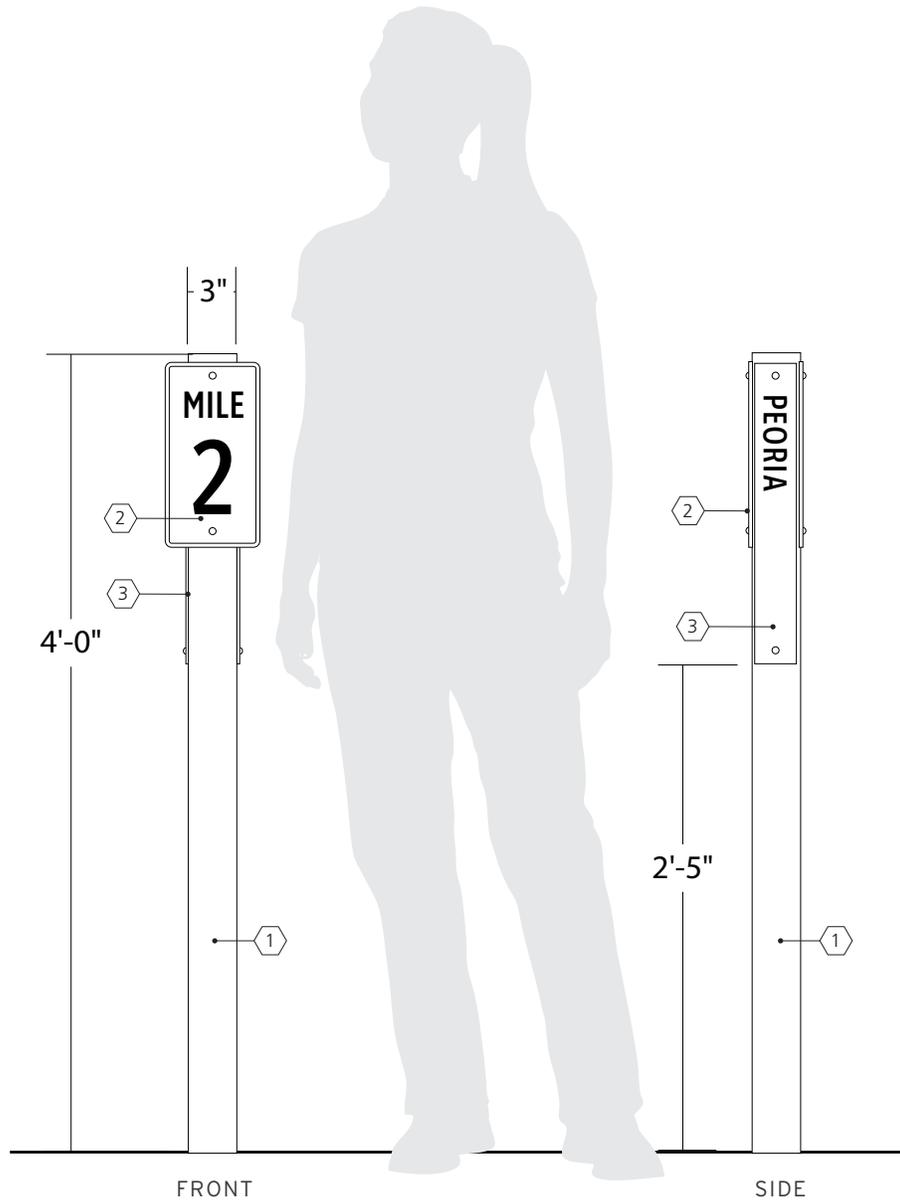
**MILE.1
MILE MARKER**

The MILE.1 Sign type is an informational sign for all pedestrian path users and may be located at 1/4-mile increments along the Valley Path.

The mile marker sign is a standard D10-1 sign. This panel could also be any of the D10 series. There is space for a municipality or city name on sides of the post in an umbria red color bar.

A Layout is shown below for the graphic panels on this sign.

This a double-sided sign.

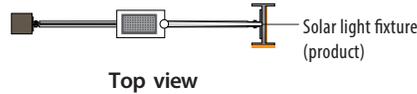


1 Elevations MILE.1
scale: 1"=1'-0"

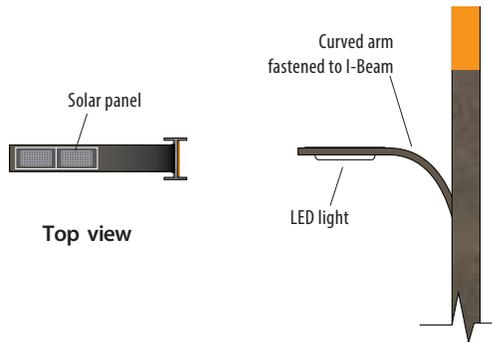
- 1 Mill finish steel 3" sq. tube, capped
- 2 0.08" or greater reflective standard D-10 series sign mechanically fastened to 3" sq. tube
- 3 0.08" or greater painted aluminum sign panel mechanically fastened to 3" sq. tube

NOTES:
Sign is double-sided.

Different mileage on either side of sign.
Name of municipality changes as you travel the along the path



1 Color Schedule - PATH.1A- Enhancements
NTS



2 Color Schedule - PATH.1A - Custom Lighting
NTS

**PATH.1A
PRIMARY PATH ID
WITH SIGN ENHANCEMENTS**

There are sign enhancements a municipality can choose to add to the PATH.1 sign type.

Available enhancements to sign PATH.1 are a gabion basket base (either one or two baskets), two options for solar lighting on the sign, and one option for solar lighting on the ground.

Municipalities can pick and choose which enhancements, if any, they would like to add to the PATH.1 sign type.

GABION BASKETS

Wire-framed rock-filled baskets can be used to enhance the base of the PATH.1 sign and provide a seat at the entry to the Path. One or two baskets may be used – an option for two baskets is shown at the left. If one basket were to be used, it would be basket the I-Beam goes into. The baskets provide a more substantial and solid feel to base. The base adds width to the sign, which needs to be placed 3ft from the path.

SOLAR LIGHTING

There are two options for lighting to be added to the sign structure. Option One is a solar light product on an arm that would attach to the reveal of the I-Beam. There are two options available at <http://www.solarilluminations.com> (see pg. 2.36)

A second option is a custom arched arm attached to the reveal of the I-Beam with an LED light fixture mounted underneath the arch, and a solar panel mounted to the top of the arch.

There are also ground solar pillars that could be used at the Path Entry points available at <http://www.solarilluminations.com>.

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PRODUCT LINKS

• **Welded Wire Gabions**

There are many options for gabion basket materials. Local warm colored stone can be used to fill the baskets. The below link is a national retailer for gabion baskets, but cities may use another supplier.

http://www.gabionbaskets.net/midwest_welded_wire_gabions.php



Gabion Basket

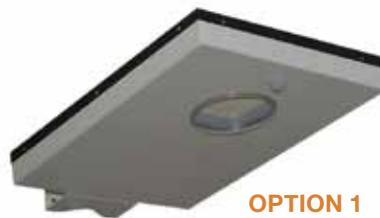
• **Overhead Solar Light**

These two lights would be mechanically fastened to the reveal of the steel I-Beam. A 'bump out' base may be need for Option 1 to clear the sides of the I-Beam.

OPTION 1: Recommended

<http://www.solarilluminations.com/solar-street-parking-lot-lights/SL28-Solar-Street-Parking-Lot-Area-Light>

Small size - mount at 9 feet from ground.



OPTION 1



OPTION 2

Overhead Solar Light

OPTION 2:

<http://www.solarilluminations.com/solar-sign-lights/WL04-Compact-Sign-Light>

• **Freestanding Solar Light**

<http://www.solarilluminations.com/solar-outdoor-accent-lights/SS03-Solar-Stainless-Light>



Freestanding Solar Light

Solar Lighting Disclaimer

These products are recommendations only. Because conditions vary at locations where lighting elements may be placed, contacting a lighting specialist to discuss lighting options is strongly suggested.

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section 3

Wayfinding Guidelines

- 3.2 Destination Selection and Prioritization
- 3.7 Function and Placement of Wayfinding Elements
- 3.10 Placement Strategies

3.1 Destination Selection and Prioritization

Following the first principle, “connect places,” these guidelines describe an approach for selecting and prioritizing the potential destinations to which cyclists may want to travel. Bicycle signs only allow for three slots of information or destinations per sign. Thus, a consistent approach to selecting destinations to be included on wayfinding elements is necessary, given the multitude of potential destinations possible. Signs should follow the same approach throughout the region so that the system is clear and predictable. Destinations and their names should be referred to consistently until they are reached. Potential destinations to be included on wayfinding elements were generated from the Maricopa Association of Governments March, 2014 Landmark Inventory and the August, 2014 wayfinding public input survey, with input from MAG Bicycle and Pedestrian Committee members.

Potential destinations for inclusion on signs were categorized within a range of four levels. Level 1 destinations should receive first priority on wayfinding signs on regional pathways, followed by Level 2 and then Level 3. Level 4 destinations should only be included when other destinations are not present to fill available slots on a sign. For the purpose of the MAG Off-Street Bicycle Network Wayfinding Guide, these levels have been broadly organized as follows:

- Level 1 – Cities, Communities**
- Level 2 – Districts and Neighborhoods**
- Level 3 – Landmarks**
- Level 4 – Local Destinations**

Community and local pathways typically serve shorter trips within their immediate community. Signs on such facilities may prioritize Level 2 through Level 4 destinations, recognizing that longer, regional trips are more likely to occur via the regional pathway network. Also, destinations that are smaller in scale and regional significance are less likely to have direct connections from the off-street bicycle network than higher-level destinations. The off-street bicycle wayfinding system will typically need to work in conjunction with the on-street bicycle navigational information to provide direction over the last mile of one’s journey in order to reach the front door of destinations.

The table at right categorizes destinations within the Phoenix metro area.

| |
|--|
| LEVEL 1 - Cities and Communities |
| Level 1 destinations include cities, major communities, and Native American Communities found within the Phoenix metro area. Highlighting cities and communities provides large-scale geographic orientation for regional cycling. Level 1 destinations provide “pull through” destinations for cyclists who are travelling significant distances, as well as a full range of attractions and services. Pathway facilities that extend beyond the boundaries of the MAG region may include prominent destination cities outside of the Phoenix metro region. If a town does not include an activity center and services, it may be excluded from signs. Level 1 destinations should be included on directional signs and orientation maps. |
| LEVEL 2 – Districts and Neighborhoods |
| Level 2 destinations provide a finer grain of navigational information than Level 1 destinations by directing users to recognizable districts and neighborhoods. These may be city centers, historic, commercial, cultural, or post secondary educational districts, or neighborhoods with a distinct name and character. Emphasis should be placed on districts providing a mix of services. Neighborhoods not offering services or attractions need not be included. |
| LEVEL 3 - Landmarks |
| Level 3 destinations are specific landmarks or major attractions which generate a high amount of bicycle travel. Landmarks include transit stations, major tourist venues, and regional parks. |
| LEVEL 4 – Local Destinations |
| Level 4 destinations are local destinations such as local parks, high schools, shopping centers, and healthcare facilities. They typically occur on signs in low density areas where few other destinations are present or along pathways not connecting higher priority Level 1-3 destinations. |

Signing Distances

Signing distances suggest the maximum distance that destinations should appear on directional signs. This process ensures that information is spread along the journey in manageable amounts according to a cyclist’s immediate needs.

Level 1 destinations provide navigational guidance to the widest spectrum of system users and thus should be prioritized on signs. As a priority, Level 1 destinations should appear on signs up to three miles away. Level 2 destinations appeal to a broad spectrum of users and should be included on signs up to two miles away. Level 3 and 4 destinations are places of either regional or local interest and should be signed up to one mile away. Cities farther from a principal city with important civic, commercial, or cultural resources may elect to sign that city even though it may be located at a distance farther than 3 miles.

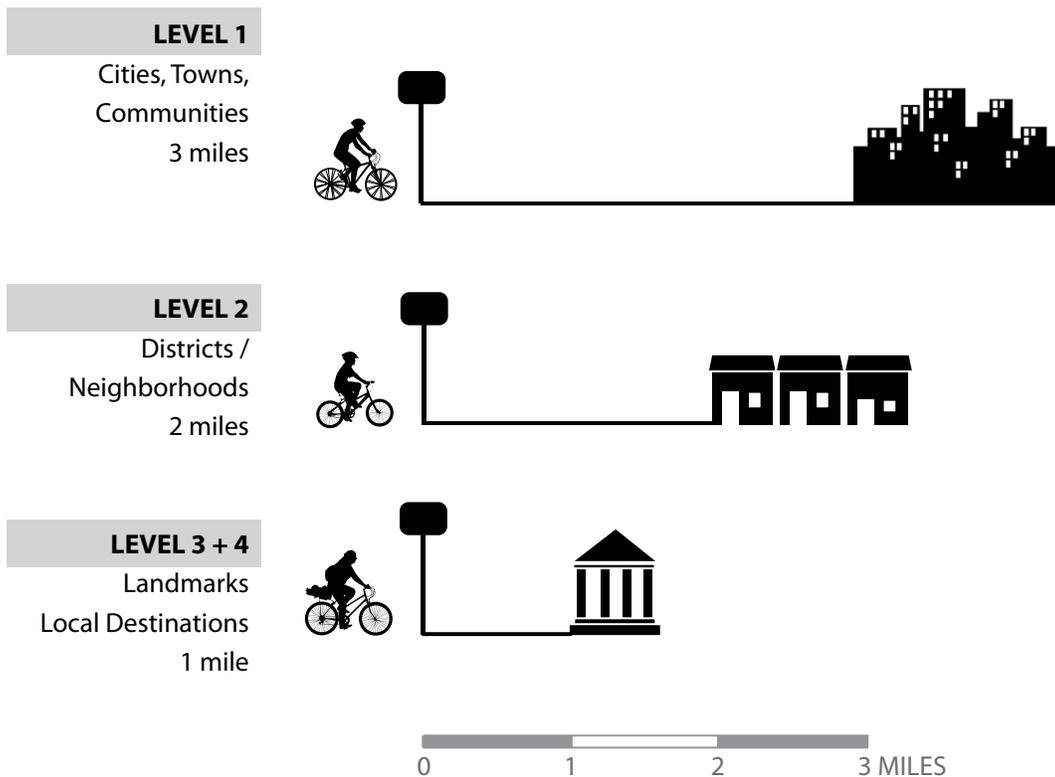
Distances may be measured either to a destination boundary or center, as long as the approach is consistent throughout the region. Cities (Level 1 destinations) typically have a well-defined edge and thus should be measured to boundary lines.

Districts (Level 2 destinations) are less defined in terms of their boundaries and thus should be measured to their centers. Level 3 and 4 destinations are typically specific addresses and thus distances should be measured to the main entrance of their specific location. If a Level 3 or 4 destination is large or has several access points, distance should be measured to the point at which the cyclist will arrive at the destination.

Destination Order

The closest destination lying straight ahead should be at the top of the sign or assembly, and below it the closest destinations to the left and to the right, in that order. If more than one destination is displayed in the same direction, the name of a nearer destination shall be displayed above the name of a destination that is further away.

In situations where two destinations of equal significance and distance may be properly designated and the two destinations cannot appear on the same sign, the two names may be alternated on successive signs.



Destination Selection Criteria

Listed below are the inclusion criteria for determining where a specific destination may fall in the destination hierarchy and whether the destination will be considered for inclusion on wayfinding elements within the Phoenix metro area. Destinations to be signed should be places that are open and accessible to the public.

LEVEL 1 – CITIES AND COMMUNITIES

Cities and communities which are members of the Maricopa Association of Governments shall be included as Level 1 priority destinations. Prominent communities are also included. Currently, this includes:

Apache Junction
 Avondale
 Buckeye
 Carefree
 Cave Creek
 Chandler
 El Mirage
 Florence
 Fort McDowell Yavapai Nation
 Fountain Hills
 Gila Bend
 Gila River Indian Community
 Gilbert
 Glendale
 Goodyear
 Guadalupe
 Litchfield Park
 Maricopa
 Mesa
 Paradise Valley
 Peoria
 Phoenix
 Queen Creek
 Salt River Pima-Maricopa Indian Community
 Scottsdale
 Sun City
 Sun City West
 Sun Lakes
 Surprise
 Tempe
 Tolleson
 Wickenburg
 Youngtown

Significant pathways that extend beyond the MAG region should include prominent destination cities such as Prescott, Flagstaff, and Tucson. These destinations should be included on signs at the boundaries of the MAG region, despite being more than three miles away. See page 3.6 for abbreviations guidance.

LEVEL 2 – DISTRICTS AND NEIGHBORHOODS

Districts and neighborhoods may be included on signs if the area has been formally established by resolution or ordinance of the appropriate local agency or if the district has developed and implemented its own internal wayfinding sign plan. Examples of districts include city centers, university districts, or arts districts. Neighborhoods having historic character or otherwise significantly contributing to the culture and vibrancy of a city may also be signed.

LEVEL 3 - LANDMARKS

Through the Maricopa Association of Governments March, 2014 Landmark Inventory project, each MAG-associated city has outlined specific and important landmarks. Landmarks included within the inventory have been sorted according to priority. Level 3 landmarks have regional importance and can reasonably be expected to be in operation for years to come. Level 3 destinations include:

Businesses and Services

Medical facility - Hospitals, veterans' services providers, and clinics may be considered if the facilities meet all of the following criteria:

- Service is provided 24 hours a day, seven days a week
- Emergency department facilities and services are provided
- The facility is licensed or approved for definitive medical care by an appropriate state authority

Shopping Center - A group of thirty or more shops, retail stores, and/or restaurants with at least one major department store functioning as an anchor.

Visitor Center - A facility having the primary purpose of providing information and tourist support services. Must be approved by the State Department of Community and Economic Development.

Education

2-Year College - An educational institution that is nationally accredited and grants degrees. nationally accredited universities and colleges are included under level 2.

Entertainment and Culture

Historic Site - A structure or place of historical, archaeological, or architectural significance listed on the National Register of Historic Places.

Museum – A facility of national or regional significance exhibiting works of artistic, historic, or scientific value.

Performing Arts Venue – A facility focused on the enjoyment of the performing arts and providing a minimum capacity of two hundred seats.

Botanical Garden or Zoo – Accredited institution, where plants and/or animals are kept and cared for, while also offering public education.

Public Facilities

Airport – A facility licensed for landing and takeoff of aircraft.

Civic Building - City hall, court house, fire or police station.

Recreation or Community Center – Publicly-owned buildings offering places to recreate, learn, or gather.

Library - A repository for literary and multi-media materials, such as books, periodicals, newspapers, recordings, films, and electronic media, kept and systematically arranged for use and reference.

Park – Publicly-owned national, state, and regional parks.

Pathway – Named regional facilities built for transportation and recreation purposes and used by both cyclists and pedestrians.

Transit Center – Passenger terminals facilitating access to light rail, passenger train, or multiple bus lines. Park and Ride facilities also qualify.

Sports Facilities

Golf Course - Golf facilities hosting major national events and offering at least eighteen holes of play. Miniature golf courses and driving ranges are not considered a Level 3 landmark.

Stadium or Arena – A permanent facility used for the primary purpose of presenting organized sporting events. Includes county and state fairgrounds.

LEVEL 4 - LOCAL DESTINATIONS

A city may wish to extend its wayfinding system to include local destinations. This may be useful in lower density areas or on more rural routes where Level 1 to 3 destinations are not present. Each city is unique, but generally larger civic institutions such as libraries, museums, or community centers will take precedence over specific local services and visitor accommodations.

Businesses and Services

Medical Facility - Licensed facilities that provide emergency or urgent care services. Need not be open 24 hours per day, seven days per week.

Shopping Center - A group of at least five, but less than thirty shops, retail stores, or restaurants.

Visitor Accommodation – Resorts or hotels having a satisfactory or three star rating or better and having a minimum of seventy-five guest rooms.

Community Facilities

Cemetery - A large public park or ground laid out expressly for the interment of the dead.

Education

Secondary School – Public schools providing high school-level education to students generally aged eleven through eighteen.

Entertainment and Culture

Movie Theater - A permanent indoor entertainment facility with capacity for at least two hundred seats which is focused on entertainment through film for visitors of all ages.

Museum – A facility of local recognition exhibiting works of artistic, historic, or scientific value to the general public.

Performing Arts Venue - A facility focused on the public's enjoyment of the performing arts and having a capacity of less than two hundred seats.

Amusement Park - A permanent facility having multiple devices for entertainment, including rides, booths for the conduct of games, or sale of items, buildings for shows and entertainment, and restaurants and souvenir sales.

Public Facility

Local Park - Publicly-owned local parks.

Post Office – Official federal postal service center.

Sports Facility

Golf Course - A facility open to the public and offering fewer than eighteen holes of play. Miniature golf courses and driving ranges may be considered.

Sports Field – A permanent facility used for the primary purpose of presenting and practicing local organized sports.

Naming Advice

The names of the destinations above are not necessarily the same terms which should be included on wayfinding signs. During the master plan process, specific places to be signed should be identified and prioritized. At the same time, stakeholders should establish specific terms to be used. Generally 14-15 characters (including spaces) is the ideal length of location words to be included as location information on wayfinding signs. Nineteen characters is the longest length expected to fit on bicycle wayfinding signs.

The shortest necessary term to identify a place should be used. For example, the phrase “White Tank Mountain Regional Park” will not fit in the space provided. While either “White Tank Mountain” or “Regional Park” would fit, “Regional Park” is more likely to be understood by visitors as a destination with services. Mercy Gilbert Medical Center would have more effective glance recognition simply as “hospital.” Using symbols on bike signs is not recommended by this guidelines document.

Commonly understood acronyms such as ASU and PIR may be used respectively for Arizona State University and Phoenix International Raceway.

Abbreviations

In general, when placing destination names on signs, the use of abbreviations should be kept to a minimum whenever possible. When insufficient space is available for full wording, abbreviations may be used. A list of accepted abbreviations per the MUTCD is included in the table at the right. Unless necessary to avoid confusion, periods, commas, apostrophes, question marks, ampersands, and other punctuation marks or characters that are not letters or numerals should not be used in any abbreviation.

| WORD MESSAGE | ABBREVIATION |
|----------------------------------|--------------|
| Alternate | ALT |
| Avenue | AVE |
| Bicycle | BIKE |
| Boulevard | BLVD |
| Bridge | BR |
| Center (as part of a place name) | CTR |
| Circle | CIR |
| Court | CT |
| Crossing (other than highway) | X-ING |
| Drive | DR |
| East | E |
| Hospital | HOSP |
| Information | INFO |
| International | INTL |
| Junction/Intersection | JCT |
| Mile(s) | MI |
| Miles Per Hour | MPH |
| Minute(s) | MIN |
| Mount | MT |
| Mountain | MTN |
| National | NATL |
| North | N |
| Parkway | PKWY |
| Pedestrian | PED |
| Place | PL |
| Road | RD |
| Saint | ST |
| South | S |
| Street | ST |
| Telephone | PHONE |
| Terrace | TER |
| Trail | TR |
| West | W |

3.2 Function and Placement of Wayfinding Elements

Based on field reconnaissance, best practices review, public input, and discussions with committee members regarding wayfinding needs in the Phoenix Metro area, the following sign typologies are recommended for the MAG off-street bicycle network family. All wayfinding elements are oriented and scaled towards the bicycle user unless noted otherwise.

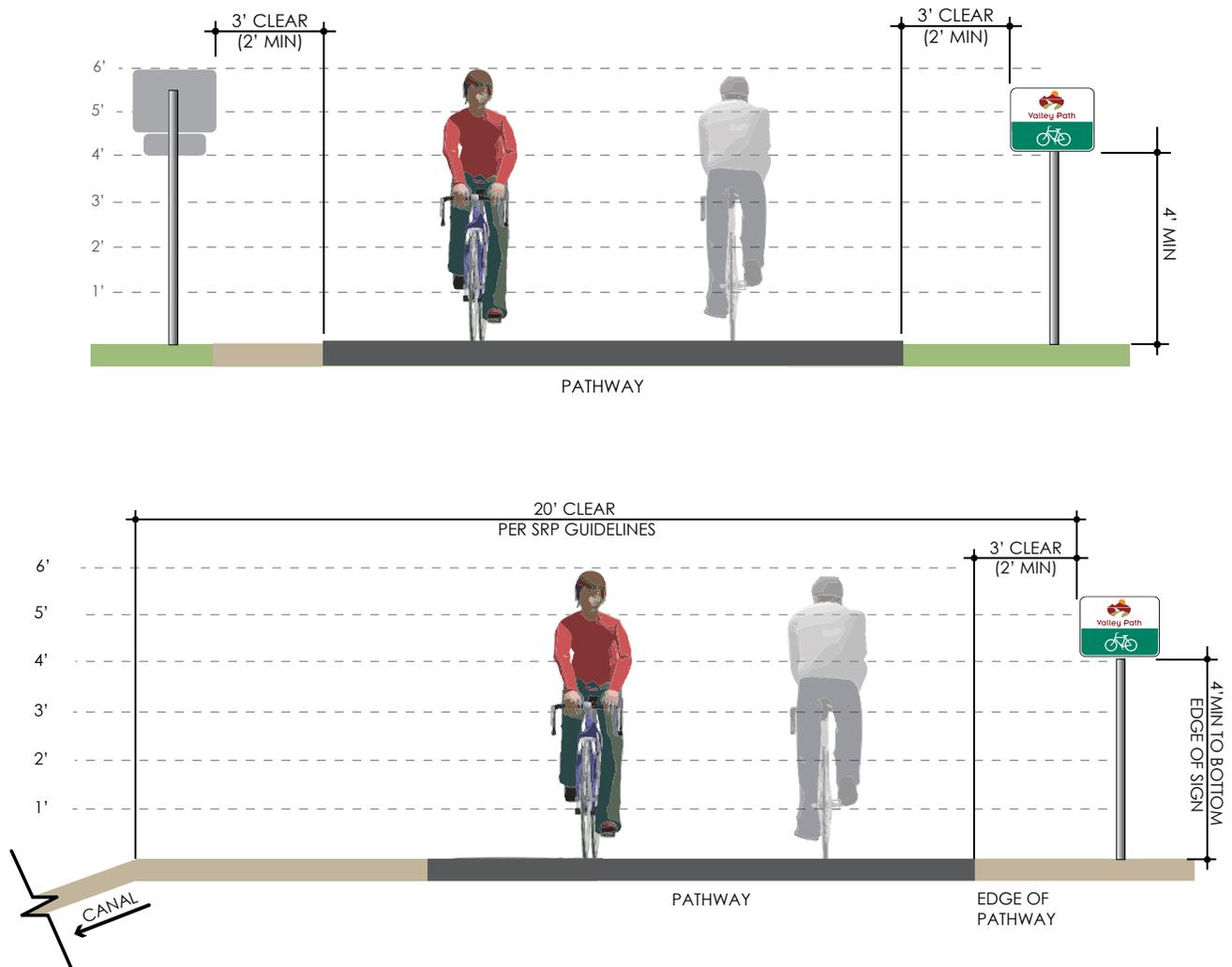
Fundamental Bicycle Elements

Bicycle oriented wayfinding elements include decision, confirmation, and turn signs as well as mile markers. Each element is designed to be legible by the cyclist while in motion. The design of off-street bicycle facilities or shared use paths is typically based on a cyclist speed of 18 mph. The design speed of a path should not be confused with the assumed travel speed used to project distance based on travel time on wayfinding

signs. When adding travel time to signs, a “no-sweat” pace of 10 mph or six minutes per mile should be used.

Per both the MUTCD and AASHTO, the nearest edge of any potential obstruction including signs and mile markers should be a minimum of two feet from the edge of the pathway. The lowest edge of post-mounted signs should be four to five feet above finish grade. The lowest sign edge of on-street bicycle signs should be seven feet.

In general, regulatory and warning signs are a higher priority than wayfinding signs. Care should be taken to not obscure priority information. This includes providing a typical spacing of no less than 75 feet between signs along off-street pathways. This distance is based on travel speeds and thus is generally greater for on-street systems.





Decision Sign

Function and Content: Decision signs clarify route options when more than one potential route is available. System brand mark, space for up to three destinations, distance in miles and time (based on 10 mph or 6 minute per mile travel speed). May include specific path name or roadway name as appropriate.

Placement: Placed prior to decision-making points or intersections with routes having bicycle facilities. Sufficient distance prior to the intersection should be provided to allow for safe recognition and response to information provided. Care should be taken so that the turn or options the sign refers to are obvious. Decision signs should not be placed near side or access paths that could be confused with the primary route.

Confirmation Sign

Function and Content: Placed after a turn movement or intersection to reassure cyclists that they are on the correct route. System brand mark, pathway name.

Placement: Signs should be placed 50 to 100 feet after turns. Confirmation signs need not occur after every intersection. They should be prioritized at locations where a designated route is not linear, as well as after complex intersections. Complex intersections include those having more than four approaches, non-right angle turns, roundabouts, or indirect routing.

Turn Sign

Function and Content: Used to clarify a specific route at changes in direction when only one route option is available. System brand mark, pathway name, directional arrow.

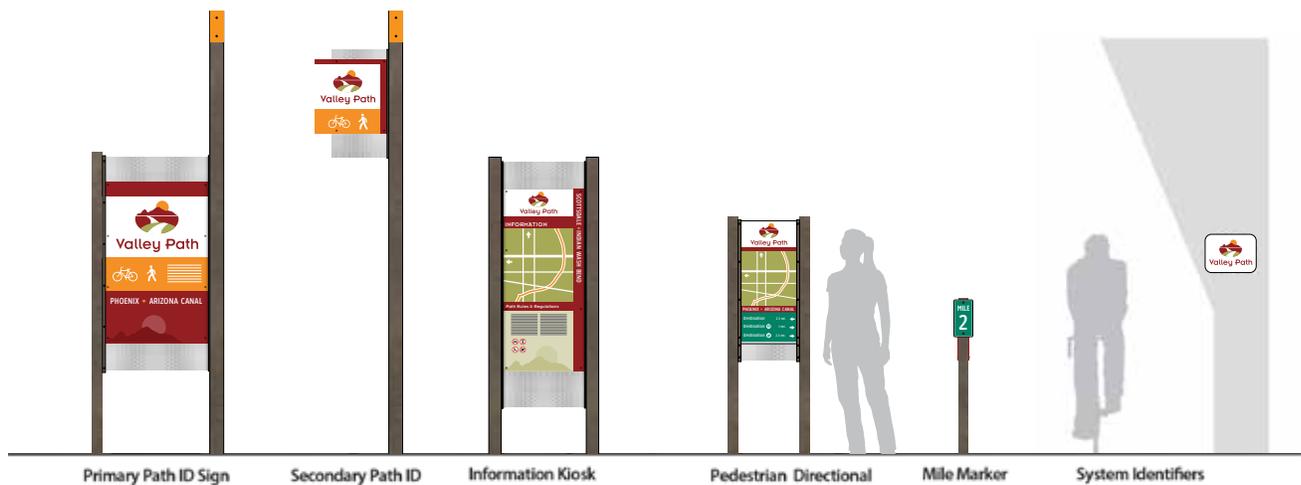
Placement: Placed at turns prior to the turning action to provide cyclists advance notice of a change in direction. Also may be used in conjunction with a decision sign at complex intersections warranting additional information.

Mile Markers

Function and Content: Aids pathway users with measuring distance travelled. Also provides pathway managers and emergency response personnel points of reference to identify field issues such as maintenance needs or locations of emergency events. System brand mark, distance in whole number miles or decimal miles. Path name and jurisdiction may be included.

Placement: To be placed every $\frac{1}{4}$ to $\frac{1}{2}$ mile along the pathway network. Point zero should begin at the southern and western-most terminus points of a pathway. Mile numbering should be reset at zero as a pathway crosses a jurisdictional boundary.

Distances along on-street routes should be included within mile measurements. Mile markers may be installed on one side of a pathway, back-to-back.



Supplemental Elements

Primary Pathway Identity Sign

Function and Content: Serves as the initial welcome and identification of primary pathway access points for vehicle drivers. System brand mark, pathway name, and local jurisdiction identity/logo.

Placement: Vehicle-oriented and -scaled identity signs should be located at trailheads or regional pathway access points. Care should be taken to maintain site triangles so as to not obstruct site lines between roadways and entries at trailhead locations.

Secondary Pathway Identity Sign

Function and Content: Serves as the initial welcome and identification of secondary pathway access points. Oriented and scaled towards pedestrian and bicycle network users. System brand mark, pathway name, local jurisdiction identity/logo.

Placement: Pedestrian- and bicycle-oriented and scaled monument sign located at pathway access points. Should be visible from adjacent bicycle facilities.

Information Kiosk

Function and Content: A clearing house of information for pathway users at a more detailed level than other elements. Includes space for orientation map graphics indicating the off-street route, on-street connections, major geographic features, and area destinations. Space shall be available for network rules and responsibilities, as well as emergency and pathway manager contact information and jurisdiction logo.

Placement: Located at trailheads and major pathway system access points. Should be set back from the edge of the path travel way in order to provide areas to dwell and consider the information. Not locating the signs within the first three feet of a pathway edge removes a potential physical obstacle from the bicycle travel way, as well as providing a clear circulation area per accessibility guidelines.

System Identifiers

Function and Content: System identifiers include opportunities to add the system brand mark or logo to existing features to expand visibility at an affordable rate. Identifiers may include vinyl wraps, adhesive graphics, sign toppers, and pavement markings with system name or brand mark.

Placement: May be placed at each jurisdiction's discretion based on need for augmented system visibility.

On-street Support Elements

Function and Content: Support elements to facilitate connections via the on-street bicycle network. Includes brand toppers or directional plaques.

Placement: May be mounted to existing or new on-street wayfinding sign posts.

3.3 Placement Strategies

Elements of the wayfinding family should be located in a consistent and logical manner across all participating MAG member agency jurisdictions.

The following typical placement scenarios were identified by project stakeholders as navigational issues that most need clarification in relation to the off-street bicycle network:

- Pathway access points
- Path-path intersections
- Pathway bifurcations
- Gaps in path network
- Off-street and on-street transitions
- Path-roadway intersections

Overall, it is SRP's desire to minimize the number of signs placed on canal right-of-way, not just to minimize conflict with required equipment, but also from an aesthetic perspective. Specific

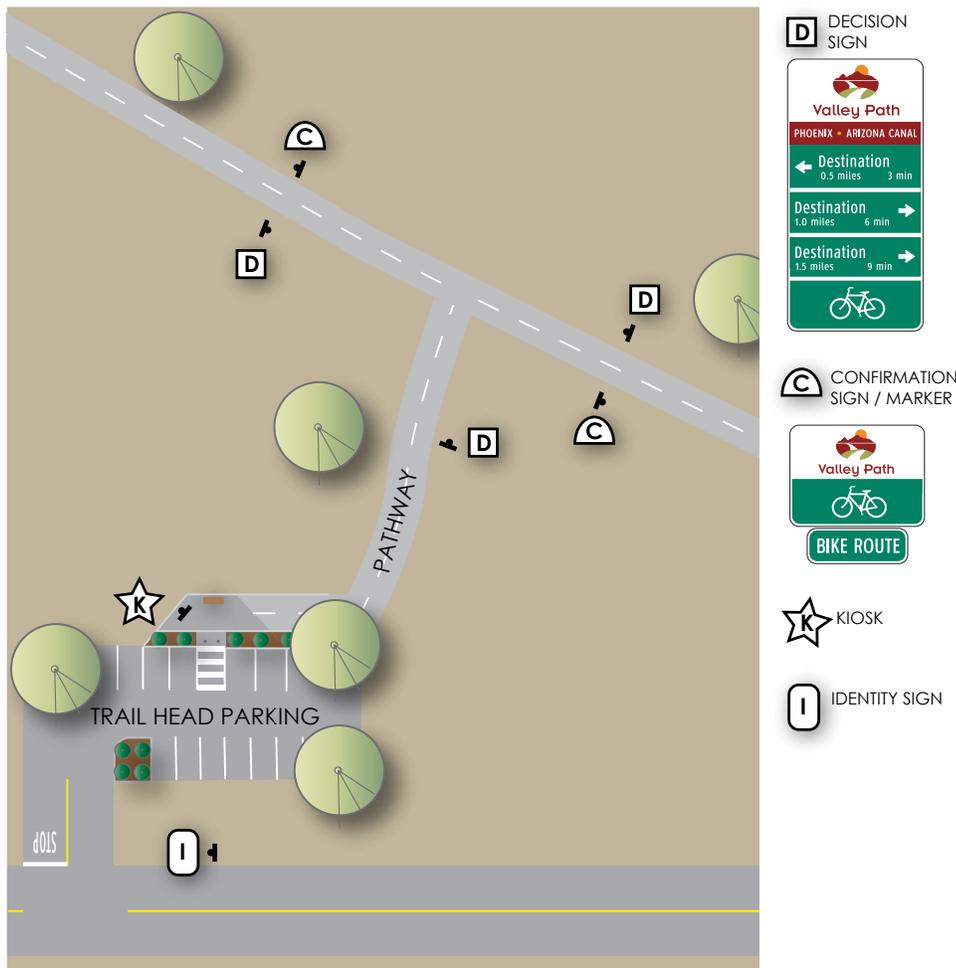
guidance for the application of wayfinding elements along SRP facilities may be found on page A.37 of the appendix.

Pathway Access Points

Major pathway access points or trailheads should be identified via primary identity signs. Primary identity signs should be oriented towards the approaching vehicle. Care should be taken to not obstruct site lines between the roadway and entry points or driveways.

Pathway system access points that do not provide vehicle parking should utilize the secondary bicycle- and pedestrian-scaled identity sign.

As an option, kiosk signs with orientation maps may be placed at developed trailheads or access points.



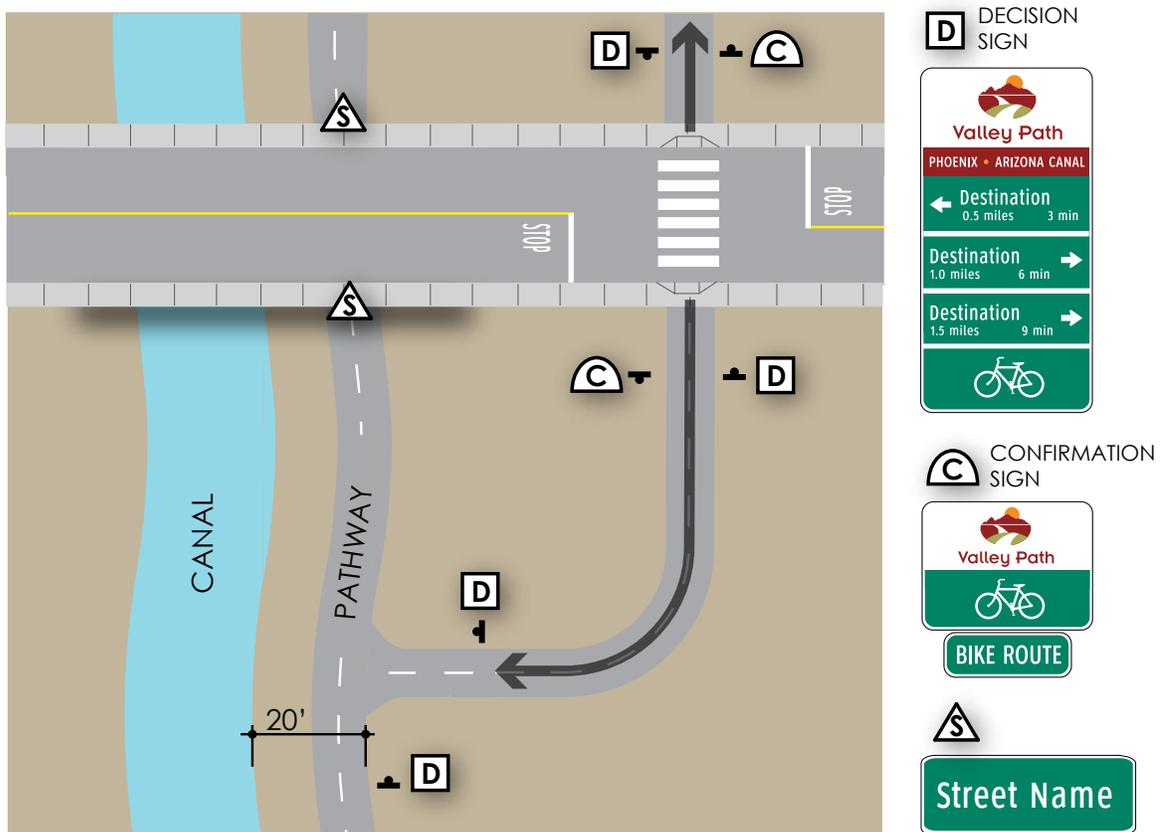
Path-Path Intersections

When pathways intersect each other, multiple destinations are likely. Thus, decision signs should be placed prior to the intersection. As an option, confirmation signs may be placed after intersections to confirm that the user did indeed make the correct movement. The practice of using decision signs followed by confirmation sign introduces redundancy into the system. Redundancy assures that if one sign is damaged or vandalized, the navigational system doesn't break down.

Pathway Bifurcations

Connections and access points between the off-street and on-street network may result in path bifurcations. At such junctions, it is important to inform cyclists of where the alternative route option goes. This may be done via decision signs located at junctions. Salt River Project (SRP) and other flood control facilities may limit the opportunity to place signs on both sides of the pathway, due to the required 20-foot clear area adjacent to SRP facilities. Although not ideal, decision signs may be placed on the opposite side of the pathway than the direction of travel.

Grade-separated roadway crossings would benefit from applying street name sign blades above pathways on crossing improvements such as bridge infrastructure. Similarly, street names should be added to signs when paths meet roadways at grade. If a stop sign is located at these facility intersections, a standard street name sign blade may be added to the top.



Gap in Path Network

Where gaps in the off-street bicycle network exist, pathway users are often routed to on-street bicycle facilities to provide improved connectivity. The typical pattern for wayfinding signs includes a decision sign prior to the intersection of route options, followed by an optional confirmation sign. Turn signs should be placed to reinforce the route in locations where only one route option exists, as well as at complicated intersections where additional guidance is necessary.

Cyclists should be directed along on-street routes only when sufficient infrastructure is in place to provide for a safe travel experience as based on engineering judgement.



Off-street / On-street Transition

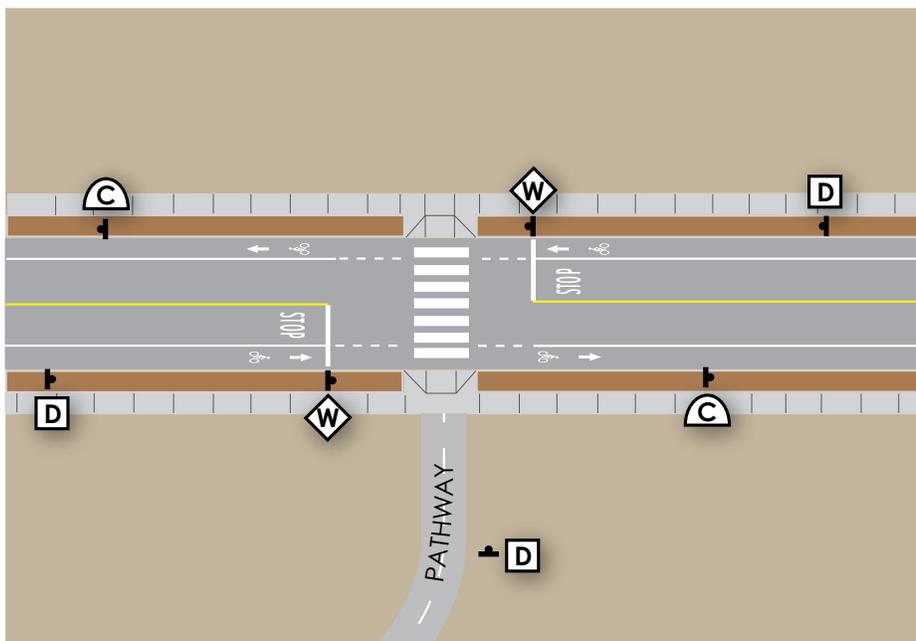
When transitioning between an off-street facility and an on-street facility, it is important to advise travelers of their route options. In this scenario, decision signs direct cyclists to their destination choices while confirmation signs reinforce that the user is on a designated facility after they have left the pathway network.

Decision signs should also be placed prior to the entry to the off-street bicycle network. Once on the off-street bicycle network, confirmation signs provide a welcome to the pathway user.

Vehicle-oriented bicycle and pedestrian crossing warning signs should be placed in advance of crossings. In urban areas, signs should not be placed within four feet of a crosswalk in order to maintain visibility of those intending to cross the roadway.

Advance warning signs are optional per the MUTCD. If they are used, their placement should provide needed time for detection, recognition, decision, and reaction. Table 2C-4 within the MUTCD provides guidance for advance warning sign placement based on vehicle speeds.

On-street directional signs leading to the pathway network should not obscure other roadway signs, including warning signs. They should be spaced according to roadway travel speeds, with faster roadways warranting wider spacing. Guidelines for the placement of advance warning signs based on perception-response time may be found within Table 2C-4 of the MUTCD.



D DECISION SIGN



W WARNING SIGN



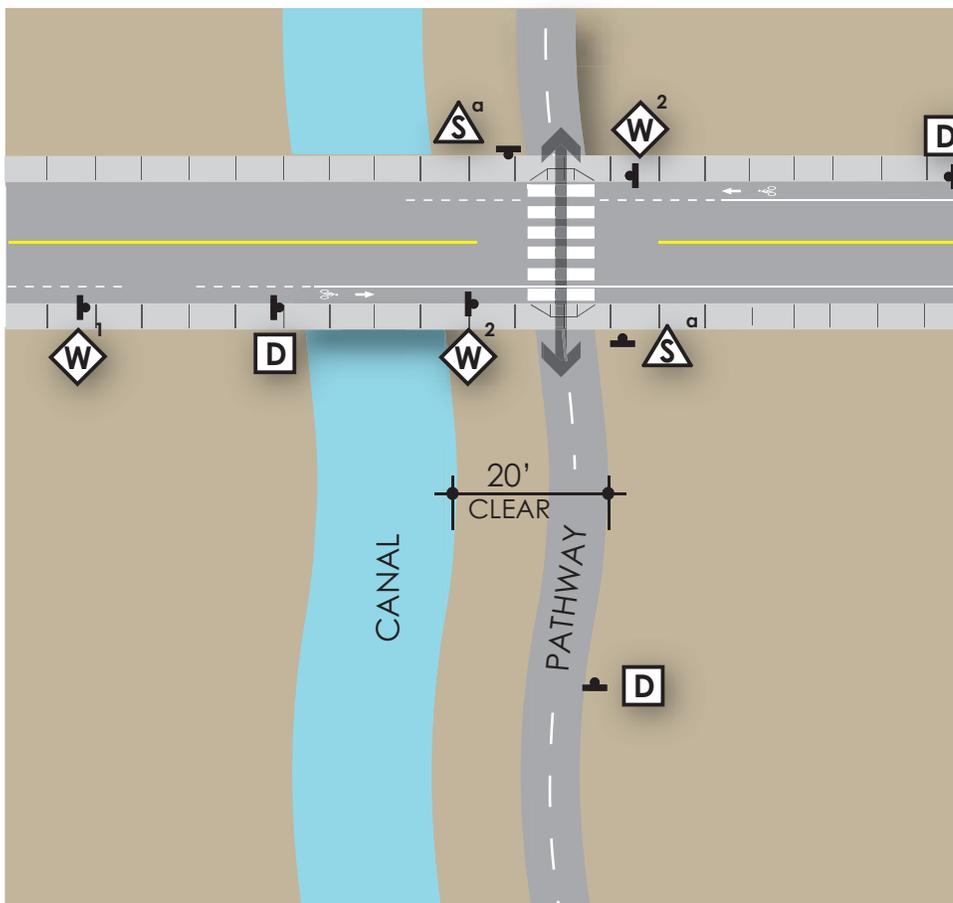
C CONFIRMATION SIGN



Path-Roadway Intersection

Pathway users should be directed to cross roadways only where infrastructure improvements provide a safe environment. If the cross street has bicycle facilities such as bike lanes, a bicycle boulevard, or cycletrack, a decision sign should be placed prior to the intersection to inform cyclists of their route options. If a cyclist-oriented stop sign is present, it should not be obscured by the wayfinding sign. Decision or stop signs may be topped with street name sign blades to enhance the user’s awareness of their location. The name of the street may also be integrated into the decision sign. As an option, confirmation signs may be placed at pathway entries to assure cyclists that they are on a bicycle facility.

Along Salt River Project (SRP) facilities, a twenty-foot-wide clear area should be maintained from the top of canals. Signs should not be placed in this area. Canal/roadway intersections are difficult areas for SRP to accommodate signs. SRP prefers that only necessary regulatory signs be placed in this areas. Signs may be placed on existing posts, poles, or other supports as practical, if such supports allow mounting in accordance with the MUTCD.



D DECISION SIGN



T TURN SIGN



S



W



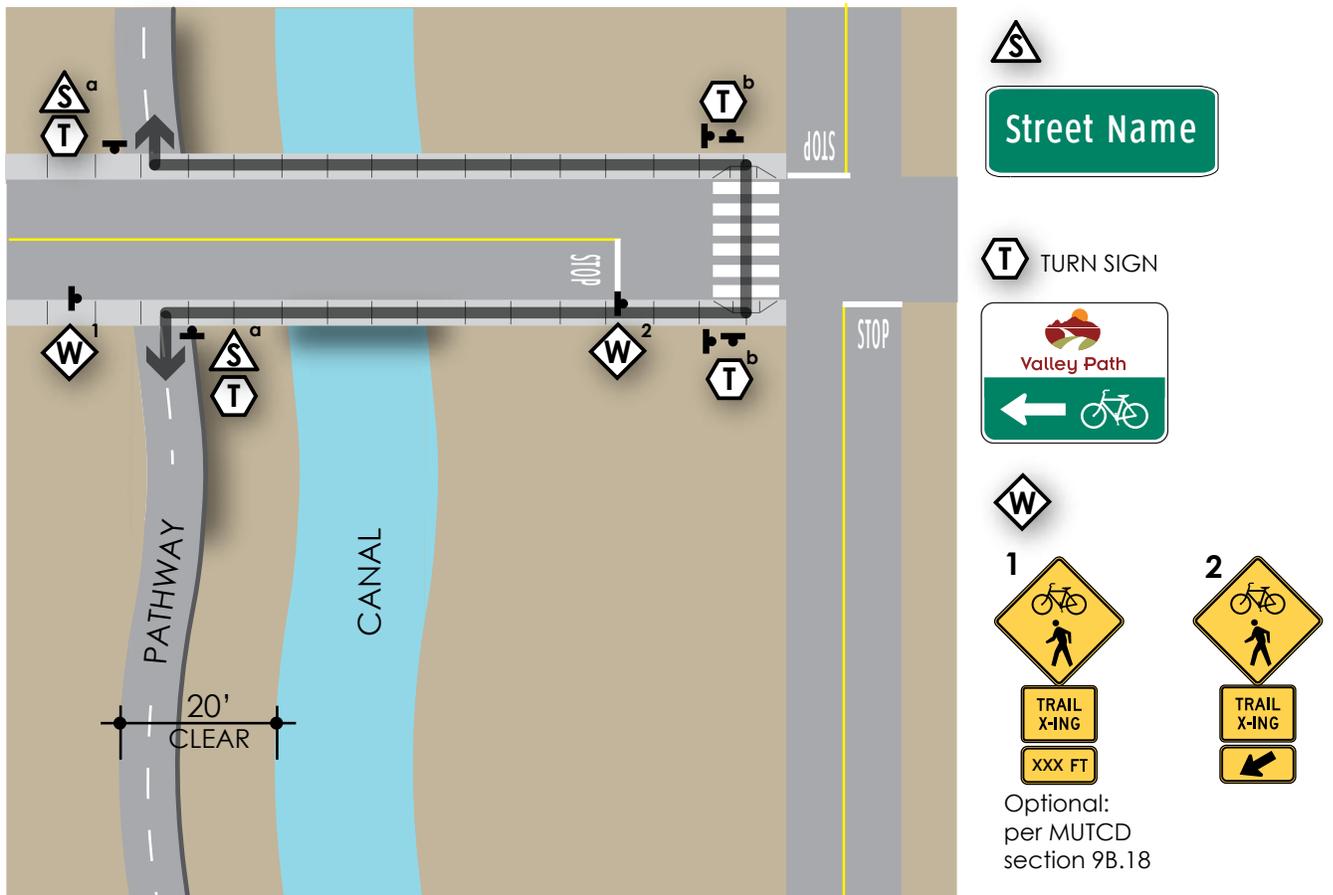
Optional:
per MUTCD
section 9B.18



NOTES:

- a. SEEK OPPORTUNITIES TO MOUNT SIGNS TO EXISTING INFRASTRUCTURE WHEREVER POSSIBLE.
- b. OK TO MOUNT TWO SIGNS PER POLE. SIGNS TO BE PLACED PERPENDICULAR TO DIRECTION OF TRAVEL.

Oftentimes, direct travel via mid-block roadway crossings is not provided for. Instead pathway users are expected to divert to the nearest improved or signalized intersection. In this scenario, turn signs should be used to direct cyclists to the intersection. Again, street name blades may be included on decision signs to reinforce location.



section 4

Implementation Approach

- 4.2 Next Steps
- 4.3 Estimate of Unit Costs
- 4.4 Funding Opportunities
- 4.8 Acknowledgements

Next Steps

While a variety of bicycling facilities are found throughout the valley, this document focuses on the off-street bicycle network. The off-street network includes both paved and unpaved shared-use paths which extend through a variety of settings. Wayfinding improvements following these guidelines should be installed as routine accommodation when pathway facilities are initially built. Wayfinding elements should also be integrated into existing segments of the off-street bicycle network. Wayfinding master plans should be completed at the jurisdictional level to assess and prioritize existing routes for wayfinding readiness. Master plans may also be done at the pathway level.

Master Plan

Wayfinding master plans completed at the jurisdictional level are an effective means of achieving cohesive wayfinding networks. Master planning should consider both on- and off-street bicycle facilities in order to achieve a seamless network for cyclists. Master plans should include the following steps:

- Inventory of non-motorized transportation network
- Opportunities and constraints analysis
- List of destinations – with agreed name and priority ranking
- Placement recommendations
- Opinion of probable costs
- Phasing plan

Criteria to be considered when prioritizing pathways for wayfinding improvements should include:

- Does the existing infrastructure safely support bicycle travel?
- Do navigational challenges commonly occur on the route?
- Does the segment connect high priority destinations?
- Are wayfinding improvements being distributed equitably, with consideration of social justice goals?

MAG member agencies should share their plans, including lists of agreed-to destination names and abbreviations, with other agencies so that naming conventions are consistent across boundaries.

Final Design and Fabrication

Based on the content of the wayfinding master plan, wayfinding sign designs within this document may be used as templates for in-house fabrication or for bidding the work to independent contractors.

A sign schedule describing each wayfinding element in relation to placement, orientation, messaging, directional arrows, and distance measurements to be placed on each individual sign should be produced for the first phase of implementation as described within the master plan. Note that placement recommendations generated through the master plan process should be refined during final design. Final sign placement should be field verified to ensure that conflicts are not present and that each location is in compliance with applicable laws and authorities. Verification of placement within the public right-of-way or negotiated easement need also occur.

For more complicated elements, such as branded path identity signs and kiosks, fabricators may be required to produce shop drawings indicating methods of assembly, as well as electrical and structural engineering (if needed). Shop drawings should be routed through the appropriate agency departments for approvals. The production of full-scale mock-ups of sign elements may be required as part of the fabrication contract.

As part of the contractor selection process, requirements may be outlined to assure a quality product. For more complex elements, fabricators should have at least five years of experience in the field completing projects of similar scope. References should be contacted to verify quality of products during the fabrication and installation phase, as well as in regard to ongoing maintenance support.

Pilot Projects

If cities are lacking funds to implement wayfinding, temporary installations may be conducted to generate public and political support. Directional signs may be economically printed on corrugated plastic board and readily adhered to existing posts within the public right-of-way using zip ties.

Temporary pilot projects are an effective way to ground truth the recommendations within these guidelines. Ideally, pathway projects representing a wide range of scenarios from different regions of the valley should be selected for the implementation trials. Locally



Two miles of a temporary wayfinding system were installed along a bicycle boulevard in New York in one day. Total project cost including materials and labor: \$2,500.

important bikeways may be considered for pilot installations, as well as regional facilities which extend across jurisdictions. Representatives of the pilot projects should report back findings from the installations, including public response, placement challenges, destination selection issues, and fabrication lessons learned.

VALLEY PATH - ESTIMATE OF UNIT COSTS

MUTCD BIKE SIGNS

| Sign Type | Unit Cost Range (includes installation) |
|-------------------------------------|---|
| BIKE.1 - Bike Decision Sign | \$800.00 - \$1,200.00 |
| BIKE.2 - Bike Decision Sign in Park | \$1,200.00 - \$1,400.00 |
| BIKE.3 - Path Confirmation Sign | \$800.00 - \$1,200.00 |
| BIKE.4 - Turn Sign | \$850.00 - \$1,150.00 |
| BIKE.5 - Turn Sign Alternate | \$800.00 - \$1,200.00 |
| BIKE.6 - Logo Panel | \$200.00 - \$400.00 |

BRAND PATH SIGNS

| Sign Type | Unit Cost Range (includes installation) |
|--|---|
| PATH.1 - Primary Path ID (no enhancements) | \$7,500.00 - \$9,500.00 |
| PATH.2 - Secondary Path ID | \$2,000.00 - \$3,500.00 |
| KIOSK.1 - Trail Kiosk | \$4,000.00 - \$6,000.00 |
| PDIR.1 - Pedestrian Directional | \$3,750.00 - \$5,500.00 |
| MILE.1 - Mile Marker | \$900.00 - \$1,100.00 |

If sign fabrication is to occur via independent fabricators, MAG member agencies may consider coordinating efforts in order to realize cost savings inherent with economies in scale.

Funding Opportunities

Funding for bicycle projects may come from a variety of sources including matching grants, sales tax or other taxes, bond measures, or public/private partnerships. This section identifies sources of funding for planning, design, implementation, and maintenance of bicycle projects, including wayfinding improvements in Arizona. The descriptions are intended to provide an overview of available options and do not represent a comprehensive list. It should be noted that this section reflects the funding available at the time of writing. The funding amounts, fund cycles, and even the programs themselves are susceptible to change without notice.

Federal Funding

Federal transportation funding is typically directed through state agencies to local governments either in the form of grants or direct appropriations, independent from state budgets. Federal funding typically requires a local match of 20 percent, although there are sometimes exceptions, such as the 2009 American Recovery and Reinvestment Act stimulus funds, which did not require a match.

The Arizona Department of Transportation (ADOT) and Maricopa Association of Governments (MAG) administer most federal monies. Federal funding is intended for capital improvements, and projects must relate to the surface transportation system. Most, but not all, of these programs are oriented toward transportation, (as opposed to recreation), with an emphasis on reducing auto trips and providing inter-modal connections. In the MAG region, funding from the Federal Highway Administration (FHWA) Federal only requires a 5.6% local match, while Federal Transit Administration (FTA) requires a local match that ranges between 0 – 20%. Otherwise, Federal funding typically requires a local match of 20 percent.

The following is a list of federal funding sources that could be used to support the implementation of pathway wayfinding improvements. Most of these are competitive, and involve the completion of extensive applications with clear documentation of the project need, costs, and benefits. However, it should be noted that, in addition to stand alone projects, the Federal Highway Administration (FHWA) encourages the construction of bicycle improvements as an incidental element of larger ongoing projects, consistent with its 2010 policy statement on bicycle and pedestrian accommodation.¹ It is important to be

¹ http://www.fhwa.dot.gov/environment/bicycle_pedestrian/overview/policy_accom.cfm

in substantial conformance with the MUTCD standards in order to retain eligibility for federally available transportation funding resources.

DOT encourages transportation agencies to go beyond the minimum requirements, and proactively provide convenient, safe, and context-sensitive facilities that foster increased use by bicyclists and pedestrians of all ages and abilities, and utilize universal design characteristics when appropriate.

Federal Aid Highway Program: MAP-21

The largest source of federal funding for bicycle projects is the United States Department of Transportation's (US DOT) Federal-Aid Highway Program, which Congress has reauthorized roughly every six years since the passage of the Federal-Aid Road Act of 1916. The latest act, Moving Ahead for Progress in the Twenty-First Century (MAP-21) was enacted in July 2012 as Public Law 112-141. The Act replaces the Safe, Accountable, Flexible, Efficient Transportation Equity Act – a Legacy for Users (SAFETEA-LU), which was valid from August 2005 through June 2012. In October 2014, congress approved a short-term extension of MAP-21 through May 31, 2015.

MAP-21 authorizes funding for federal surface transportation programs including highways and transit. There are a number of programs identified within MAP-21 that are applicable to bicycle projects. MAG member agencies should track the next reauthorization of this program and seek to allocate future funds to bicycle projects. For more information see:

<http://www.fhwa.dot.gov/map21/> and <http://www.fhwa.dot.gov/map21/summaryinfo.cfm>

Transportation Alternatives (TAP)

Transportation Alternatives (TAP) is a funding source under MAP-21 that consolidates three former SAFETEA-LU programs: Transportation Enhancements (TE), Safe Routes to School (SRTS), and the Recreational Trails Program (RTP). These funds may be used for a variety of projects including sidewalks, multi-use paths, school safety, and rail-trails. The MAG region receives about \$4.4 million per year for this program.

Transportation Alternatives as defined by Section 1103 (a) (29). This category includes the construction, planning,

and design of a bicycle infrastructure including “on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation, including sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting and other safety-related infrastructure, and transportation projects to achieve compliance with the Americans with Disabilities Act of 1990.” Infrastructure projects and systems that provide “Safe Routes for Non-Drivers” is a new eligible activity. For the complete list of eligible activities, visit:

http://www.fhwa.dot.gov/environment/transportation_enhancements/legislation/map21.cfm

Unless the Governor of a given state chooses to opt out of Recreational Trails Program funds, \$85 million in dedicated funds for recreational trails continues to be provided nationally as a subset of TAP. The types of projects that are eligible for TAP funding include:

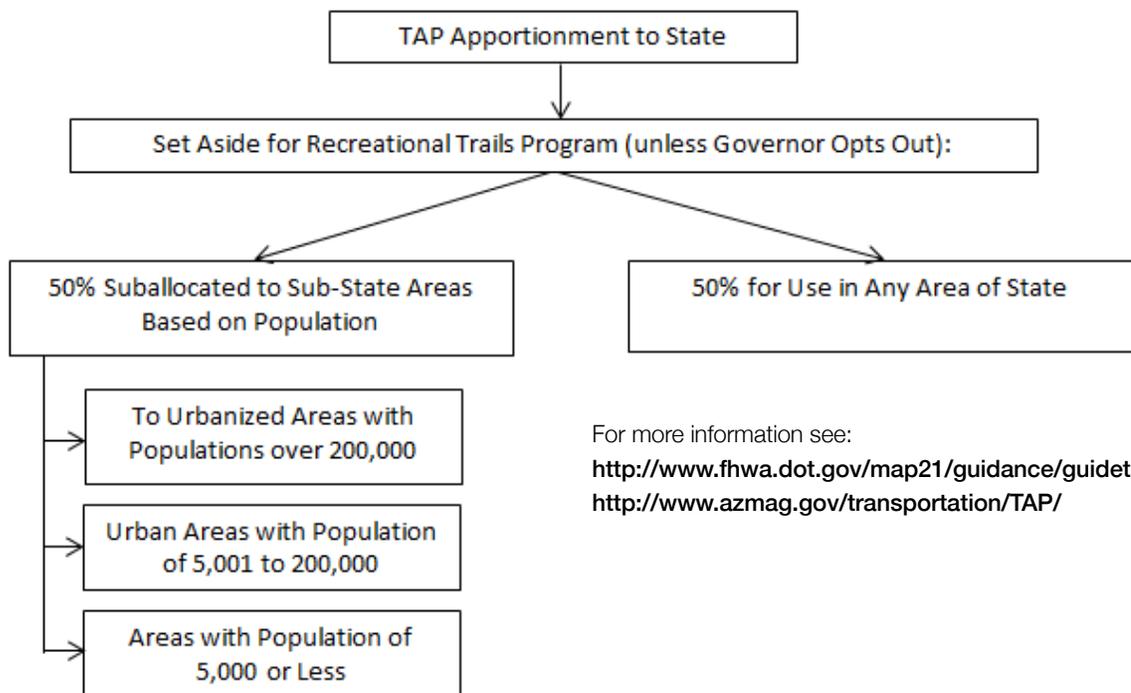
- Recreational Trails. TAP funds may be used to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Examples of trail uses include hiking, bicycling, in-line skating, equestrian use, and other non-motorized and motorized uses. These funds are available for both paved and unpaved trails, but may not be used

to improve roads for general passenger vehicle use or to provide shoulders or sidewalks along roads.

- Safe Routes to School. Safe Routes to School activities are eligible for the Transportation Alternatives Program. Both infrastructure and non-infrastructure projects are eligible, and the program elements described in SAFETEA-LU are still in effect. The purpose of the Safe Routes to Schools eligibility is to promote safe, healthy alternatives to riding the bus or being driven to school. All projects must be within two miles of primary or middle schools (K-8).
- Planning, designing, or constructing roadways within the right-of-way of former interstate routes or divided highways.

Funds available through TAP are based on a two percent set-aside of total MAP-21 authorizations. However, because MAP-21 allows state DOTs to transfer up to fifty percent of a given highway program’s funds to other highway programs, the final amount of TAP funding available in Arizona may be more or less than the projected apportionments developed by FHWA.

The diagram below, based on information from FHWA’s Final TAP Guidance document, provides an overview of how TAP funds flow from the federal government to states and local communities.



For more information see:
<http://www.fhwa.dot.gov/map21/guidance/guidetap.cfm>
<http://www.azmag.gov/transportation/TAP/>

Surface Transportation Program (STP)

The Surface Transportation Program (STP) provides flexible funds to states which may be used for a variety of highway, road, bridge, and transit projects. Bicycle improvements are eligible, including off-street trails, sidewalks, crosswalks, and pedestrian signals and beacons. Fifty percent of each state's STP funds are sub-allocated geographically by population; the remaining fifty percent may be spent in any area of the state.

Highway Safety Improvement Program (HSIP)

HSIP provides \$2.4 billion nationally for projects and programs that help communities achieve significant reductions in traffic fatalities and serious injuries on all public roads, bikeways, and walkways. MAP-21 requires each state to formulate a state safety plan, produced in consultation with non-motorized transportation representatives, in order to receive HSIP funds. Eligible projects will be evaluated on anticipated cost-effectiveness of reducing serious injuries and fatalities.

Bicycle and pedestrian safety improvements, enforcement activities, traffic calming projects, and crossing treatments for non-motorized users are eligible for these funds.

Federal Transit Administration Urbanized Area Formula Grants (5307)

Bicycling and walking projects and programs are eligible under this MAP-21 program as "associated transit improvements" (ATIs). Recipients must spend at least one percent of received funds on ATIs. According to the statute, ATIs are projects "designed to enhance public transportation service or use and that are physically or functionally related to transit facilities." Projects eligible as ATIs include:

- Bus shelters
- Landscaping and streetscaping
- Pedestrian access and walkways
- Signage
- Enhanced access for persons with disabilities

Wayfinding projects that support access to transit and bus shelter locations are potential candidates for such funding.

Congestion Mitigation and Air Quality Improvement (CMAQ) Program

The CMAQ program, at an average annual funding level of \$3.3 billion, provides a flexible funding source to state and local governments for transportation projects and programs

to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (non-attainment areas) as well as former non-attainment areas that are now in compliance (maintenance areas). States with no non-attainment or maintenance areas may use their CMAQ funds for any CMAQ- or STP-eligible project.

States with no non-attainment or maintenance areas may use their CMAQ funds for any CMAQ or STP-eligible project, including design or construction. In the MAG region, programming of CMAQ funds is outlined in the MAG Federal Fund Programming Guidelines, approved October 26, 2011. Approximately \$8 million per year is currently set aside for construction of bicycle and pedestrian facilities in the MAG region under CMAQ.

MAG additionally provides Congestion Mitigation and Air Quality (CMAQ) funds for the preliminary design of bicycle and/or pedestrian facilities under the MAG Design Assistance Program. The MAG Bicycle and Pedestrian Committee makes its recommendation based on applications submitted by MAG member agencies. The committee has previously indicated that they will give preference to those applicants that may have resources available for construction of the project. The projects to receive preliminary design assistance will be approved by the Regional Council. For more information see:

http://bikeleague.org/sites/default/files/lab_cmaq.pdf

Federal Lands and Tribal Transportation Program

MAP-21 acknowledges the importance of access to federal and tribal lands. Recognizing the need for all public federal and tribal transportation facilities to be treated under uniform policies similar to the policies that apply to federal-aid highways and other public transportation facilities, MAP-21 creates a unified program for federal lands transportation facilities, federal lands access transportation facilities, and tribal transportation facilities.

The Tribal Transportation Program provides \$450 million annually for projects that improve access to and within tribal lands. This program generally continues the existing Indian Reservation Roads program, while adding new set asides for tribal bridge projects (in lieu of the existing Indian Reservation Road Bridge program) and tribal safety projects. It continues to provide set asides for program management and oversight and tribal transportation planning. A new statutory formula for

distributing funds among tribes, based on tribal population, road mileage, and average funding under SAFETEA-LU, plus an equity provision, is to be phased in over a four-year period.

MAP-21 also authorizes the Tribal High Priority Projects Program, a discretionary program modeled on an earlier program that was funded by set aside from the Indian Reservation Roads Program. MAP-21 provides \$30 million per year from the General fund (subject to appropriation) for this new program.

Partnership for Sustainable Communities

Founded in 2009, the Partnership for Sustainable Communities is a joint project of the EPA, U.S. Department of Housing and Urban Development (HUD), and USDOT. The partnership aims to “improve access to affordable housing, more transportation options, and lower transportation costs while protecting the environment in communities nationwide.” The Partnership is based on five Livability Principles, one of which explicitly addresses the need for bicycle and pedestrian infrastructure:

“Provide more transportation choices: Develop safe, reliable, and economical transportation choices to decrease household transportation costs, reduce our nation’s dependence on foreign oil, improve air quality, reduce greenhouse gas emissions, and promote public health.”

The Partnership is not a formal agency with a regular annual grant program. MAG member agencies should track Partnership communications and be prepared to respond proactively to announcements of new grant programs. Initiatives that speak to multiple livability goals are more likely to score well than initiatives that are narrowly limited in scope to cycling goals. For more information see:

<http://www.sustainablecommunities.gov/partnership-resources>

Community Transformation Grants

Community Transformation Grants administered through the Centers for Disease Control and Prevention support community-level efforts to reduce chronic diseases such as heart disease, cancer, stroke, and diabetes. Active transportation infrastructure projects and programs that promote healthy lifestyles are a good fit for this program, particularly if the benefits of such improvements accrue to population groups experiencing the greatest burden of chronic disease. For more information see:

<http://www.cdc.gov/communitytransformation/>

Land and Water Conservation Fund

The Land and Water Conservation Fund (LWCF) provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. Funds may be used for right-of-way acquisition and construction. Any projects located in future parks could benefit from planning and land acquisition funding through the LWCF. For more information see:

<http://www.nps.gov/lwcf/>

<http://azstateparks.com/grants/index.html>

Additional Federal Funding

The landscape of federal funding opportunities for bicycling programs and projects is always changing. A number of federal agencies, including the Bureau of Land Management, the Department of Health and Human Services, the Department of Energy, and the Environmental Protection Agency have offered grant programs amenable to bicycle planning and implementation, and may do so again in the future. For up-to-date information about grant programs through all federal agencies, see <http://www.grants.gov/>.

Local Funding

Salt River Project Municipal Aesthetics Program

The Salt River Project (SRP) Municipal Aesthetics Program provides funding from SRP to offer municipalities the opportunity to have aesthetic improvements made to new or existing SRP water and power distribution, transmission, and substation facilities.

Funding is based on 0.8% of annual gross revenues or \$12 million (whichever is less). Qualifying uses include:

- Undergrounding 12KV/69KV
- Replacing wood poles with steel poles
- Installing walls, landscaping, sidewalk, and driveway improvements to substations
- Upgrading SRP water canals and well sites

SRP Aesthetic Funds have also been used by valley cities to implement pathways.

Private Foundations

Private foundations are an increasingly important source of funds for bicycle and pedestrian planning and implementation.

For more information on private foundations, including an extensive list of national foundations visit:

<http://www.foundationcenter.org/>

Acknowledgements

The team would like to thank a number of people and organizations that have contributed to the creation of this document, including:

MAG Bicycle and Pedestrian Committee:

| | | |
|----------------------|--|---|
| Katherine J. Coles | Chair, Village Planner | City of Phoenix |
| Jim Hash | Vice Chair, Senior Planner | City of Mesa |
| Purab Adabala | Sr. Transportation Analyst | City of Glendale |
| Grant Anderson PE | Town of Youngtown Engineer | Town of Youngtown |
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| Robert Carmona | Parks, Recreation & Facilities Director | Town of Wickenburg |
| Stephen Chang AICP | Senior Transportation Planner | City of Surprise |
| Susan Conklu | Transportation Planner | City of Scottsdale |
| Ian Cordwell | Director of Planning | Town of Cave Creek |
| Jason Crampton | Transit Services Coordinator | City of Chandler |
| Brandon Forrey | Transportation Planning Engineer | City of Peoria |
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| Kristin Myers | Transportation Coordinator | Town of Gilbert |
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| Joe Schmitz | Long Range Planner | City of Goodyear |
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We also thank the members of the community for their interest in making the valley a better place for bicycling!

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appendix

- A.3 Best Practices
- A.29 Policies and Standards
- A.40 Online Survey Report - 1
- A.48 Online Survey Report - 2

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WAYFINDING BEST PRACTICES

Off-Street Bicycle Network Wayfinding Guide

Maricopa Association of Governments



August 27, 2014

Alta Planning + Design
MERJE | Environments & Experiences
Gunn Communications

A.4

Wayfinding consists of four questions: 'where am I?', 'what direction should I take?', 'where can I go?', and 'what can I remember?'

Overview

This best practice review is provided to assist in the development of a wayfinding strategy for the Phoenix Metro area's off-street bicycle network.

This review aims to explain what is involved in effective wayfinding by using well-researched and proven practices. Best practices are described with respect to wayfinding principles, wayfinding family elements, placement recommendations, and destination prioritization.

Wayfinding Design

The legibility of a place describes how easy it is to understand. Places that are arranged intuitively so that we can see obvious destinations from a distance, determine pathways, and recognize areas of different character are more legible.

Working at the regional scale, a simple and cohesive set of core principles should be outlined and applied to the wayfinding network. In addition, an effective system includes a consistent approach to placement working within local, state, and federal guidelines. The choices of sign materials, dimensions, colors, and forms should be cohesive to enhance legibility and community identity. Similarly, maps should employ consistent symbology, fonts, colors, and style.

Best Practices are outlined in the following sections:

- Core Principles
- Case Studies
- Precedents
- Technology



CORE PRINCIPLES

1. Connect Places

Wayfinding information should help people travel between destinations and develop an increased sense of how traveling through the region is easy and fun.

2. Maintain Motion

Cycling requires physical effort. Frequent stopping and starting to check directions may lead to frustration. Wayfinding information that can be quickly comprehended contributes to cycling enjoyment. Consistent, clear, and visible wayfinding elements allow cyclists to navigate while maintaining movement.

3. Be Predictable

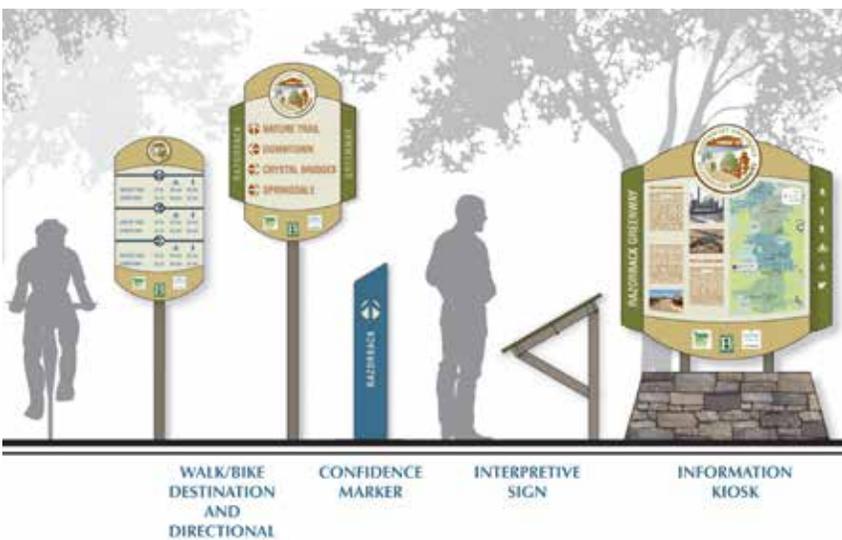
When information is predictable it can be quickly recognized, understood, and used. Predictability can relate to all aspects of wayfinding information, from the placement of a sign element or marker to the design of its contents. Predictability also means that new situations are quickly understood. Once riders trust that they will encounter consistent and predictable information, new journeys become easier to attempt.

4. Progressive Disclosure

It is important to provide information in manageable amounts. Too much information can be difficult to understand; too little and decision-making becomes impossible. Information should be provided in advance of major changes in direction, repeated as necessary, and confirmed when the maneuver is complete.

5. Keep Information Simple

Information should be presented to the rider in as clear and logical form as possible. Too much information requires extra time to understand and may overwhelm the user. Poorly designed, structured, or located information forces users to spend more time wayfinding. The longer it takes someone to understand information, the less likely it will be used.



CASE STUDY

Trail Signage Guidelines, City of San Jose, 2014

Overview

The City of San Jose Trail Signage Guidelines recommend a city-wide signage network encompassing 100 miles of trails, including 35 unique pathways. Trail signs include:

Guidance Signs

To convey trail identity, orientation, direction, and welcome information.

Regulatory Signs

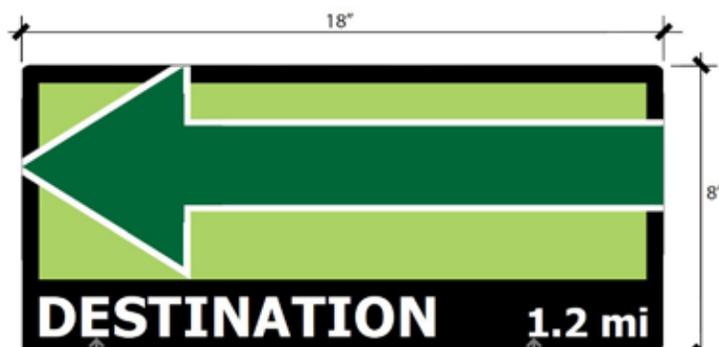
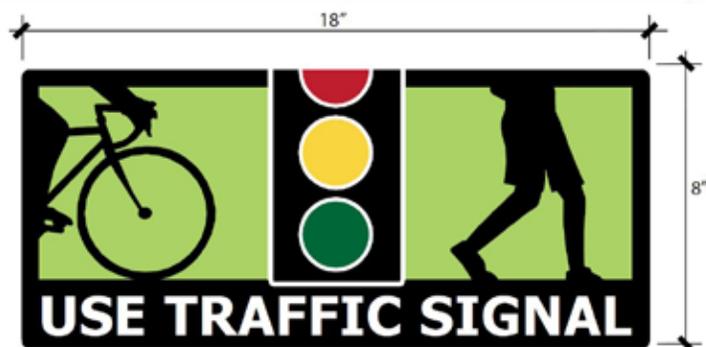
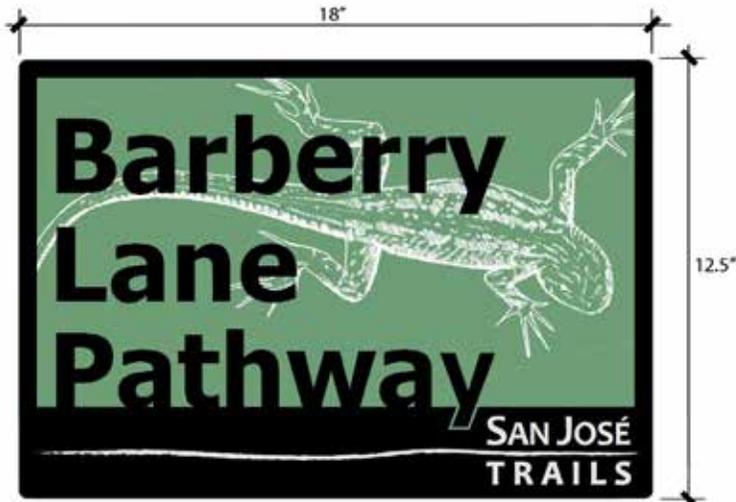
To convey information about trail rules.

Warning Signs

To indicate a potential hazard on the trail.

All signs were “influenced” by the Manual on Uniform Traffic Control Devices. The family of signs “offer a related and unified graphic appearance.” A framework for customization of signs is included. Signs intended to identify unique trails include trail name, graphic icon, and colored background.





Destination:
Font: Tahoma Bold
Size: 190 pt
Tracking: 25
All Caps

Distance to Destination:
Font: Tahoma Bold
Size: 80 pt
Lower Case

Images from the City of San Jose Trail Signage Guidelines

A.10

Sign Standards

Shape

Sign shapes are limited to rectangles/squares. Symbols or logos with other shapes (such as a stop sign or a circular trail identity badge) are set on a background color within a rectangular sign. Corner radii are large enough to avoid sharp corners.

Size

Common 18-inch width for signs that would typically be grouped together, allowing uniform vertical stacking on a pole sized for pedestrian and bicycle viewing speeds and distances, smaller than standard roadway signage.

Color Palette

Influenced by Manual on Uniform Traffic Control Devices (MUTCD) standards for background colors:

Yellow = warning

Red = regulatory, prohibitive

White = regulatory, permissive

Green = direction/guidance

Brown = recreation/amenity/parks

Text

Sized appropriately for pedestrian/bicyclist viewing distance and speed, single consistent font for all rules and regulations, directional, and traffic signs. Fonts for trail identification signs may vary to accommodate trail-specific design concepts.

Fabrication

Aluminum sign plaques with printed vinyl graphics and graffiti-resistant coating. Mounted on galvanized tube steel posts.

Unique Identification

Individual trails were each given unique names to aid in identification and sense of place. Trail name signs are installed at trail heads. Names and icons were selected and assigned to correspond to each trail's unique history, characteristics, or location.

Milestone Markers

Placement

Markers are installed at all trail heads and at quarter-mile increments along each trail, measured from point 'zero' for each trail.

Point "Zero"

The "zero" or beginning point for each trail is located at the northernmost or westernmost point of each trail. Mileage counts restart at jurisdictional boundaries. Routes that include on-street segments include those portions within the mileage total; however, they are not signed with markers. Parallel routes, such as along a river or canal, include a geographic reference in addition to the same mileage number on each side, for example "1.5E" and "1.5W."

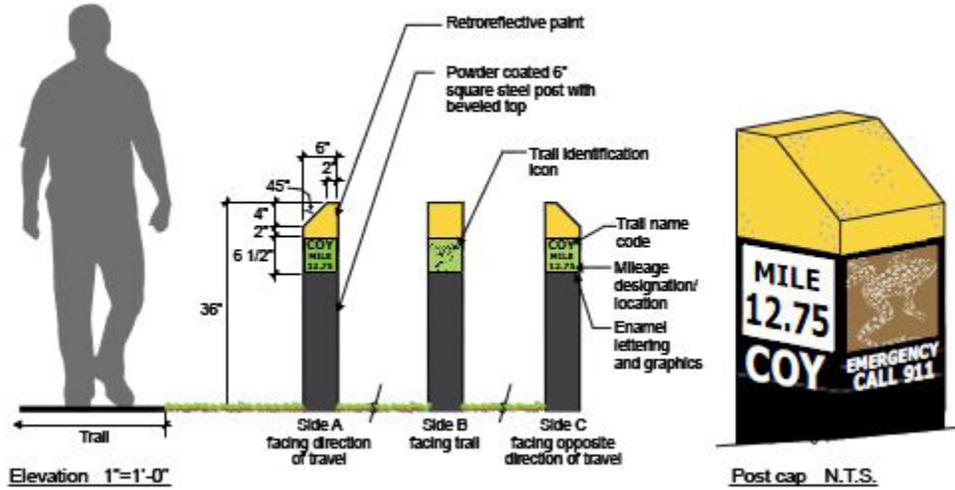
Format

Mileage is shown in decimal miles with hundredth-mile accuracy (13.00, 13.25, 13.50, etc.).

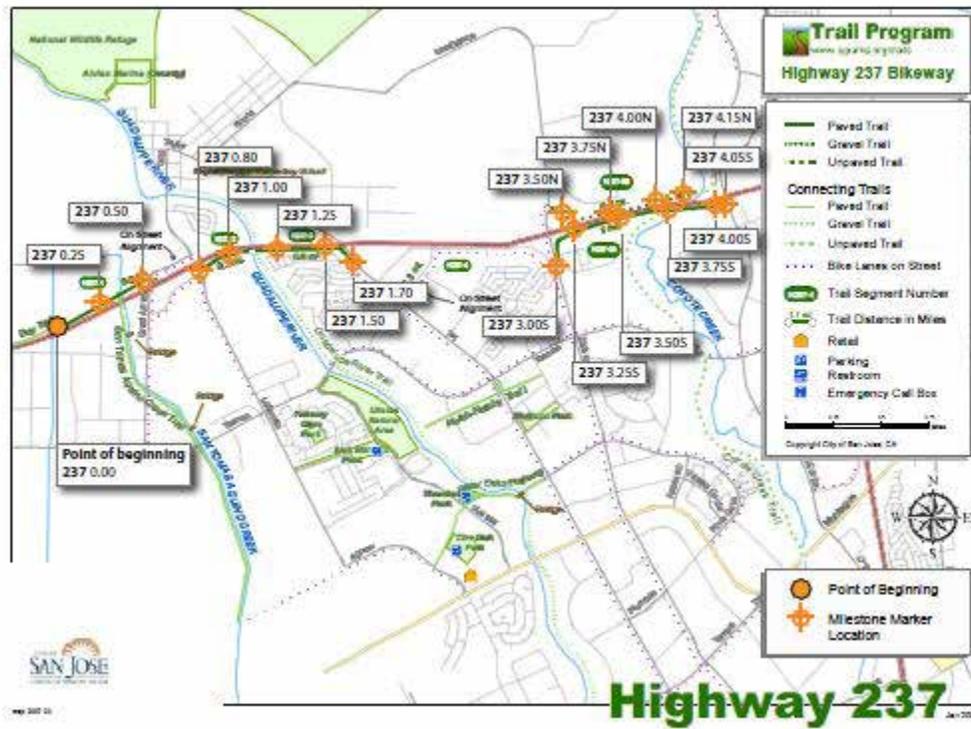
Emergency Response

Once installed, each marker's location and access point information will be recorded and transmitted for entry into the City of San José emergency dispatch system.

Images: City of San Jose



Milestone Marker



San Jose Milestone Map

CASE STUDY

Louisville Loop, Wayfinding Master Plan, 2012

Overview

The goal for wayfinding along the Louisville Loop trail system:

All signs are to be informative, functional, and to capture the identity of the Louisville Loop. There is also a need to identify the unique segments of the Loop with a color-coding system.

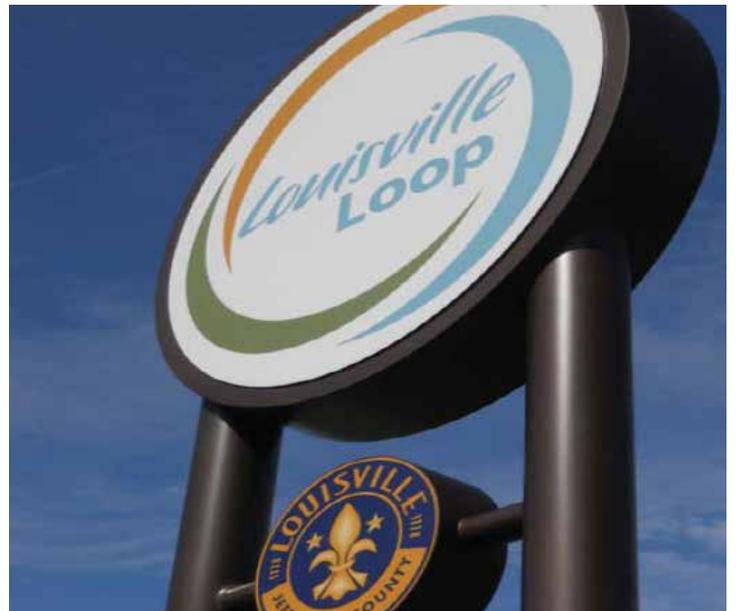
Uniformity in design layout, materials, and style are key components of ensuring that this wayfinding system delivers the intended results.

Design Principles

- The wayfinding sign program will serve to compliment and reinforce the OVERALL AIMS of the Louisville Loop.
- The wayfinding sign program will promote HEALTH and WELLNESS in Louisville.
- The wayfinding sign program will provide ORIENTATION and promote EASE OF USE.
- The wayfinding sign program shall highlight and promote CONNECTIONS along the Loop.
- The wayfinding sign components shall reinforce the IDENTITY of the Louisville Loop, providing a unified character for the system, even in disparate or disconnected segments.



Louisville Loop



Images from the Louisville Loop Wayfinding Master Plan.

A.14

Sign Standards

Family of Elements

The Wayfinding Master Plan is comprised of a family of sign types including:

Directional Signs

Directional signs are used at key decision or access points where the Signature Marker is not used.

Mile Markers

Mile markers allow users of the Louisville Loop to identify their location and segment and aid in emergency response.

Trailhead Signs

Trailhead signs shall be included at all trailheads for the Louisville Loop. Signs shall include trail route segment, map of full trail system, and trail rules.

Trail Identity Signs

The purpose of the identification signage is to identify the Loop to vehicles where the Loop and existing streets come together or cross.

Signature Markers

Signature Markers create a unique and recognizable symbol that identifies the Louisville Loop.

Color

Sign panel color corresponds to the designated color assigned to the physiographic region in which the sign is located. All destinations on the panel, regardless of the region in which the destination exists, shall be the same color. Individual destinations will not be color coded to the physiographic region in which they exist.

Milestone Markers

Placement

Vertical mile markers should be placed on the side of the shared-use path that is not adjacent to any street, a minimum of 2' from the edge of pavement.

Point "Zero"

Mileage calculations shall originate in downtown with the zero point of the Loop at the base of the Big Four Bridge (Critical Landmark). Mileage shall be calculated counter-clockwise. Vertical mile markers shall be used at every quarter mile designation with the exception of the Loop adjacent to Waterfront Park where the markers shall be in pavement plaques.

Format

Mileage is shown in decimal miles with hundredth-mile accuracy (13.00, 13.25, 13.50, etc.).

Emergency response

Regardless of section or time of construction, the entire Loop shall have sequential calculations and consistent mile markers to aid in emergency response on the trail per safety standards from Metro Safe.



Signature Brand Mark



Directional Sign



Trailhead Map



Mile Marker Sign



Trail System Identity Sign

Images: LouisvilleLoop.org

CASE STUDY

Get There by Bike, Wayfinding Guidelines for Utility Cycling in Metro Vancouver, BC 2013

Overview

The goals of the Translink Wayfinding Guidelines is to increase cycling as a choice for journeys where it is already competitive i.e. those journeys of 8 km or less. If successful, thousands more people will be starting to cycle to work, to school, and for other normal journeys over the next three decades.

Knowing your Audience

It is critical to identify the types of cyclists you are interested in attracting in order to better organize information around this user group. Below are three groups of cyclists and the needs associated with these groups.

Utility Cycling

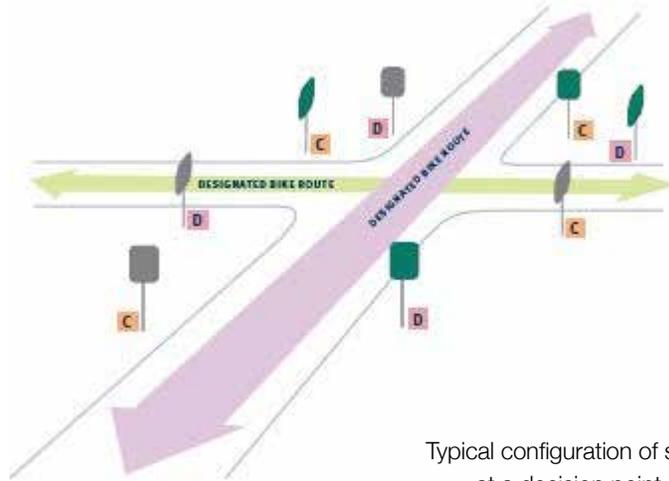
Some people use the network to get to work or other specific purposes. They need consistent, reliable information for their whole journey.

Recreational Cycling

Some people use the network for fun or exercise and with no specific destination. They may look for contextual information and directions to services.

Cycle Tourism

An increasing number of people travel by bike for vacations. They will have a route plan, but may look for places to explore before returning to their journey.



Typical configuration of signs at a decision point.



Decision Sign



Confirmation Sign



Turn Fingerboard



Off-Network Waymarker

A.18

Sign Standards

Family of Elements

Decision Signs

On the approach to a decision point, decision signs point the direction to control destinations.

Confirmation Signs

After decision points, confirmation signs reassure cyclists of their direction and confirm additional destinations reached along that route.

Turn Fingerboard

Optional fingerboard signs can be placed after the decision sign, at the point of the turn, to highlight unusual or easily missed turns.

Off-Network Waymarker

Waymarkers can be used on non-designated routes to guide cyclists to the designated cycling network.

Bike Route Sign

Standard TAC signage* can be used as repeaters to confirm that cyclists are on a designated route where full confirmation signs are not practical. At route jogs, an arrow tab can be added.

Wayfinding Logic

Preparing a wayfinding plan requires a consistent logic to be applied to the directional information. Once included on a sign it is important that a destination is signed continuously until it is reached. This can be challenging as signs have a limited text capacity and there may be many possible destinations that could be included.

With “progressive disclosure,” information is spread along the journey. This manages the demand on cyclists’ attention to just what is required at that point in the journey, and also decreases the amount of information on any individual sign and therefore avoids unnecessarily large signs.

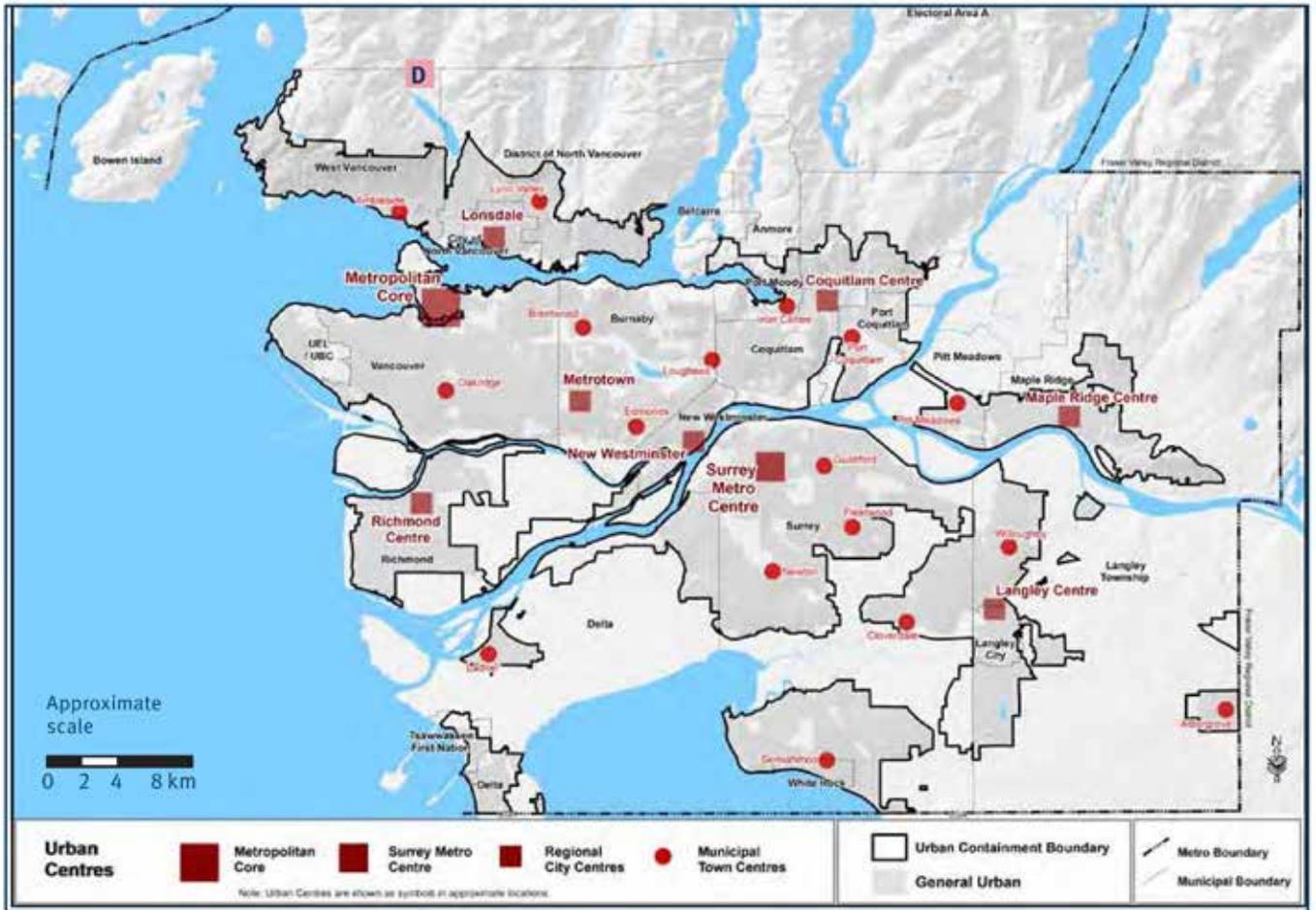
Signing distances suggest the maximum distance that different destinations should appear on directional signage. This simple process ensures that directions to the most important places take priority on signs.

Signing Distances

| Type of Destination | Typical Max. Distance |
|-----------------------------|-----------------------|
| Level 1 Urban Centres | 8 km |
| Level 2 Local Neighborhoods | 4 km |
| Level 3 Major Attractions | 2 km |

Destination Hierarchy

- Level 1 – Urban Centres
- Level 2 – Local Neighborhoods
- Level 3 – Major Attractions – Parks
- Level 3 – Major Attractions – Trails
- Level 3 – Transit Stations and Exchanges
- Level 3 – Gateways
- Level 3 – Centres outside Metro Vancouver
- Level 3 – Post-Secondary Education
- Level 3 – Major Tourism



Map: Translink

Urban Centres as Identified in Metro Vancouver's Regional Growth Plan are Level 1 Destinations. Level 1 destinations are included on signs up to 8 km away.

CASE STUDY

Intertwine Regional Trail Signage Guidelines,
2012

Overview

The Portland, Oregon Metro Area's Intertwine Regional Trail Signage Guidelines serve as a resource to guide parks and transportation agencies as they plan, design, and fabricate wayfinding signage along regional trails. The Metro Regional Government and its partners developed the manual in response to requests from the public for better uniformity and consistency of signage along regional trails.

Family of Elements

Off-Street Trail Signs

Located along off-street regional trails to provide directional information.

On-Street Connection Signs

Located in the street right-of-way to connect bicyclists and pedestrians between the off-street trail segments.

Intertwine Logo Components

Used in combination with other off-street regional trail and on-street connection signs. Examples illustrate how to add The Intertwine logo to various types of existing and new signs.



Network brand mark, directional sign, and trail access sign

A.22

Family of Elements



Trail head

Located at major trail access points which are distinguished by vehicle parking, restrooms, staging areas or other features. This sign type includes a map of the entire trail as well as nearby amenities.

Trail Access

Trail Access signs are located at access points where the trail typically meets the street right-of-way. This sign type identifies the trail and mode of travel and may include a trail map, directions or other information.

Off-Street Multi-Use Directional

This sign type is located along off-street multi-use regional trails to provide directional information.



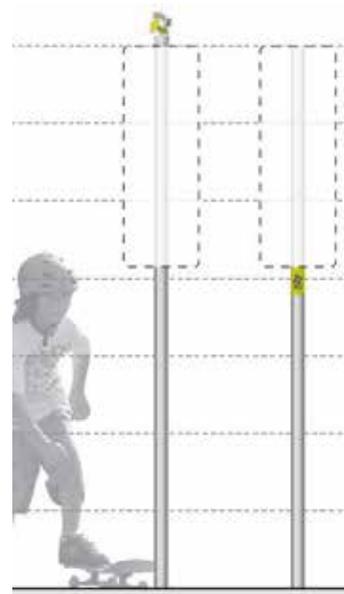
Mile Marker

Marker indicating distance. Half mile increments are shown.



On-Street Bicycle Directional

Located in the street right-of-way to connect bicyclists between the off-street and on-street trail segments.



The Intertwine Logo

The Intertwine logo may be used in combination with other off-street regional trail and on-street connection signs. Examples illustrate how to add The Intertwine logo to various types of existing and new signs.

Precedents



Temporary signs allow members of the public to provide cycling encouragement and wayfinding in Memphis, Tennessee.

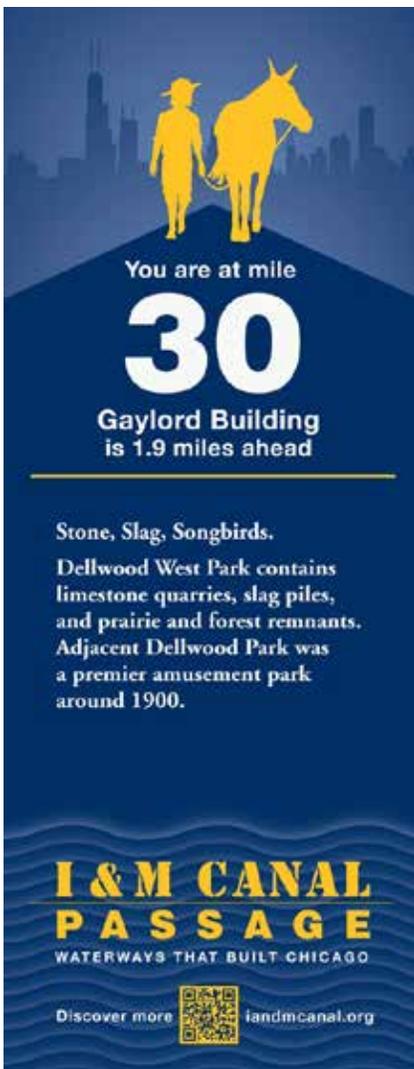


Mile markers integrated into paving, Los Angeles River Trail.



Pavement color, path name, and markings create continuity between on and off-street cycling facilities on London's Cycle Super Highway

TECHNOLOGY



Images: Cardosi Kiper Design Group, Inc.



I&M Canal State Trail

The Illinois & Michigan wayfinding program includes 61 miles of multi-use trails along the original 96-mile I&M Canal. A quality visitor experience was built around the combination of technology and accessible design. Three hundred sign panels along the network each include a unique QR code that links visitors to information relevant to their specific location. Information associated with the QR codes includes:

- What's Nearby: surrounding amenities
- Audio Tour: An auditory narration of the history along the corridor
- Identify It: Allows users to ask questions and identify local flora and fauna
- Check-In: Links to social media outlets such as Twitter and Facebook
- Send a Postcard: Historic photos that can be sent to friends with a personalized message
- Contact: Encourages users to check in with agency staff regarding safety issues along the trail

Cyclodeo

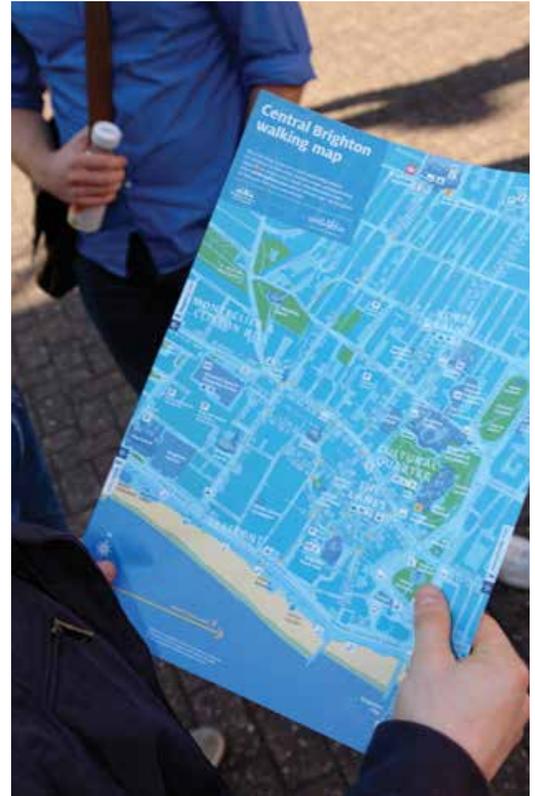
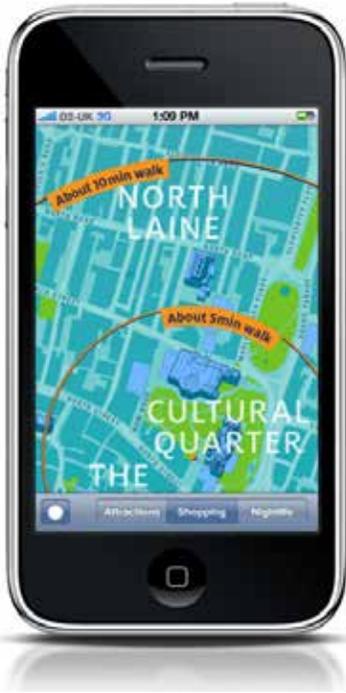
Dutch start-up Cyclodeo has created an online collection of geo-tagged bike route videos. The video clips cover several bikeable cities, including Amsterdam, Copenhagen, London, New York, and San Francisco. The clips are linked to online maps which allow internet users to select a route and watch an associated ride. The virtual bike rides allow potential riders to preview a route they may be interested in riding. Statistics on distance, ride time, elevation, and travel time are included for reference.

The screenshot shows the Cyclodeo website interface. At the top left is the Cyclodeo logo, a bicycle icon inside a green circle. To its right is a search bar and an 'Explore' button. Further right are social media icons for Twitter, Facebook, and Email, and a green 'Join!' button. The main content area is split into two parts: on the left, a Google Map showing a red bike route through Golden Gate Park and surrounding streets in San Francisco; on the right, a YouTube video player showing a first-person perspective of a bike ride on a paved road with trees and a clear sky. Below the map and video, the route title is 'EDIT Golden Gate Park _ John F Kennedy Dr _ martin Luther King Jr Dr'. Underneath the title are buttons for 'Like', 'Share' (with social media icons), and 'Report'. The owner information is 'Owner sam@uk Distance 3,314 Time 10m 3s' with a view count of '81'. Below this is a 'Leave Your Comment' section. To the right of the title and owner info is a 'Statistics' box containing the following data:

| | |
|----------------------------|-----------------------|
| Location | San Francisco,US |
| Duration | 10m 3s |
| Speed avg/max (KPH) | 19.78 / 77.34 |
| Elevation start/finish (M) | 21/ -26 |
| Distance (m) | 3,314 |
| Recording time | 25/05/2013 - 04:04 AM |
| Upload time | 26/05/2013 - 07:58 AM |

Image: cyclodeo.com

TECHNOLOGY



Brighton and Hove

The Brighton and Hove wayfinding scheme includes signage, printed maps, downloadable maps, and a smart phone application. The wayfinding components are designed to work together, using a consistent brand, visual language, and mapping aesthetic across all media.

The free application includes walking circles—loops that show how long it takes to walk to various points of interest from the user's current location.

The colorful map included in the application displays 3D icons of major landmarks. There are options to display attractions, shopping, and nightlife destinations.

Images: Applied Information Group

POLICIES AND STANDARDS

MAG Off Street Bicycle Network

Maricopa Association of Governments

MUTCD

- The Manual on Uniform Traffic Control Devices, or MUTCD, is the national standard for all traffic control devices installed on any street, highway, bikeway, or private road open to public travel. While the MUTCD provides standards and guidelines for the design, size, and content of bikeway wayfinding signs, many jurisdictions have implemented unique signs to enhance visibility or reinforce local identity.

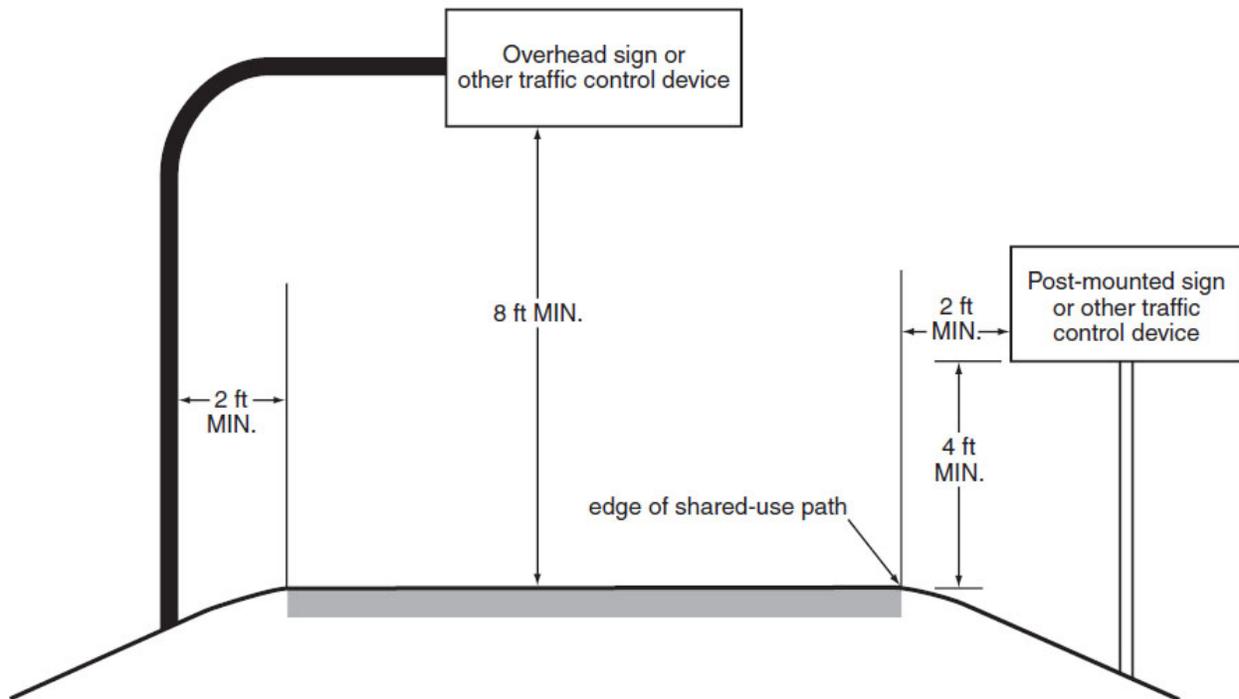
Devices should be designed so that:

- Size, shape, color, composition, lighting or retroreflection, and contrast are combined to draw attention to the devices.
- Size, shape, color, and simplicity of message combine to produce a clear meaning.
- Legibility and size combine with placement to permit adequate time for response.
- Uniformity, size, legibility, and reasonableness of the message combine to command respect.

While many jurisdictions deviate from the MUTCD for pathway directional signage, the use of federal funds is more likely to be approved when the MUTCD is closely followed. Options for customizing signs while adhering to the MUTCD include adding unique mounting structures, colors, and/or an identifying enhancement marker. Section 2D.50 of the MUTCD describes standards for Community Wayfinding which allow unique colors and enhancement markers.

Refer to chapter 9 of the MUTCD for more information on guide sign standards for bicycle facilities.

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Minimum Sign Clearance on Shared Use Paths MUTCD 9B-1

MUTCD Spectrum

Rigid



- MUTCD compliant signs
- Information is clear and consistent.
- Regional context or local identity not present.
- Variation in sign sizes and shapes.
- Encouragement information not present.



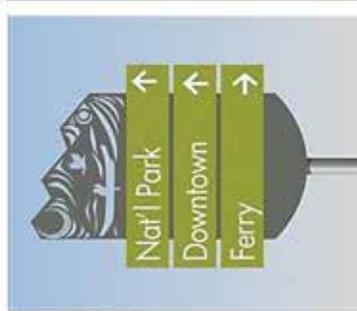
- D1-series signs consolidated into a single sign reduces the number of signs required, overall sign clutter, and sign dimensional variation.
- MUTCD does not provide for travel times however numerous cities and states (Portland OR, Eugene OR, Nampa ID, Columbus, OH and Jackson WY) incorporate this additional information.



- Community signs may be augmented by unique system or municipally identifiers or enhancement markers as per Section 2D-50.
- MUTCD allows for custom color variations for community wayfinding signs.

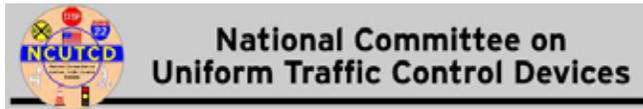


- Directional sign with clear directional information and arrows, high contrasting text, custom sign post, and decorative elements.



- Custom framing and support structures. Unique sign shapes. High contrast graphic content, non-standard colors and layout.



**NCUTCD**

The National Committee on Uniform Traffic Control Devices (NCUTCD) is an organization whose purpose is to assist in the development of standards, guides, and warrants for traffic control devices and practices used to regulate, warn, and guide traffic on streets and highways.

The NCUTCD currently has a proposal into the FHWA which will allow community wayfinding standards to apply to shared-use pathways.

ADA Guidance

The Architectural and Transportation Barriers Compliance Board provides guidance for accessible design for the built environment including Shared Use Paths. Guidance which should be considered when designing and placing wayfinding signs includes the following:

- **Vertical Clearance:** Vertical clearance, including protruding objects such as signs, shall be 80 inches high minimum.
- **Protruding Objects:** Objects with leading edges more than 27 inches and not more than 80 inches above the finish floor or ground shall protrude 4 inches maximum horizontally into the circulation path.
- **Post-Mounted Objects:** Free-standing objects mounted on posts or pylons shall overhang circulation paths 12 inches maximum when located 27 inches minimum and 80 inches maximum above the finish floor or ground. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches, the lowest edge of such sign or obstruction shall be 27 inches maximum or 80 inches minimum above the finish floor or ground.
- **Required Clear Width:** Protruding objects shall not reduce the clear width required for accessible routes.
- **Reach:** Where a forward reach is unobstructed, the high forward reach shall be 48 inches maximum and the low forward reach shall be 15 inches minimum above the finish floor or ground. Note that different standards exist for exhibits designed specifically for the primary use by children.
- **Intersection Treatments:** The width of curb ramps runs and blended transitions shall be equal to the width of the shared use path.
- **Detectable Warning Surfaces:** shall extend 2.0' minimum in the direction of pedestrian travel. At curb ramps and blended transitions, detectable warning surfaces shall extend the full width of the ramp run (excluding any flared sides).
- **Horizontal Surface Openings:** Shall not permit passage of a sphere more than 0.5" in diameter. Elongated openings in gratings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

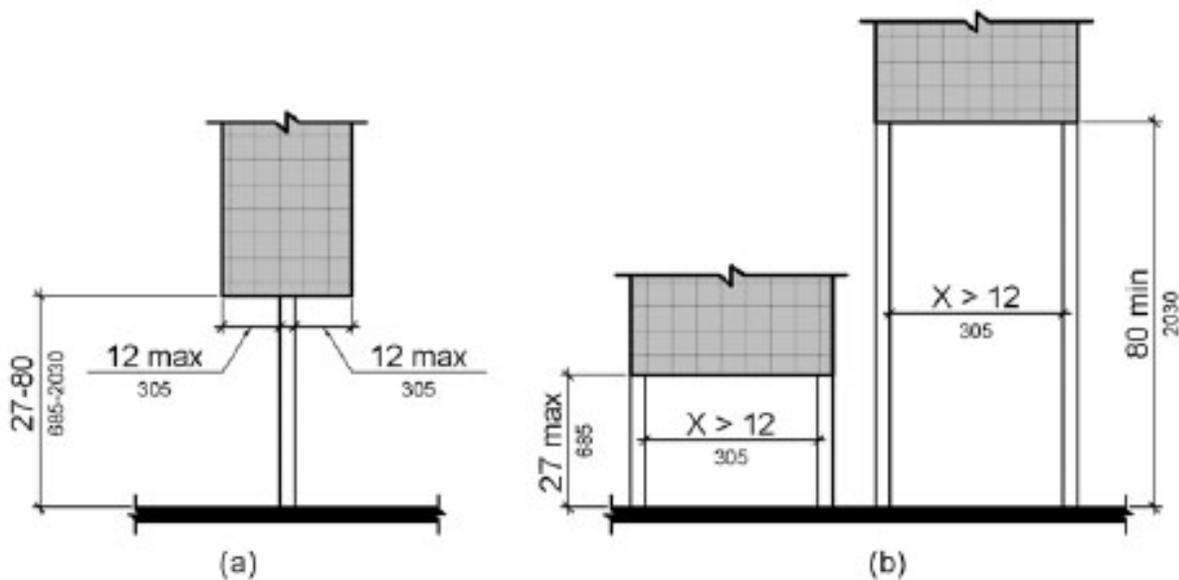


Figure 307.3 Post-Mounted Protruding Objects



AASHTO Guide for the Development of Bicycle Facilities

The AASHTO Guide for the Development of Bicycle Facilities provides information on the physical infrastructure needed to support bicycling facilities. The AASHTO guide defers to Part 9 of the Manual on Uniform Traffic Control Devices (summarized above) for basic guidelines related to the design of wayfinding systems for bikeways. Additional information provided by AASHTO on locating wayfinding signs in the landscape is listed below.

- Many communities find that a wayfinding system for bicycles is a component of a bicycle network that enhances other encouragement efforts, because it provides a visible invitation to new bicyclists, while also encouraging current bicyclists to explore new destinations.
- Routes should be named with either a term that describes the corridor (for example, a route that generally follows a waterway or valley, or a route that follows or parallels a well-known street), or destination, using a relatively well-known place reference that is at the end of that specific route.
- The M1-8 signs are appropriate for local and regional networks of numbered or lettered routes. They are generally more appropriate for longer distance routes. With numbered or lettered routes, it is important to establish an organized approach. For example, a numbered system could be set up to use even numbers for east-west routes and odd numbers for north-south routes.
- Bicycle wayfinding signs should supplement other infrastructure improvements so that conditions are favorable for cycling, as signs alone do not improve safety.
- Guide signs may be used to designate continuous routes that may be composed of a variety of facility types and settings.
- Wayfinding guidance may be used to provide connectivity between two or more major bicycle facilities, such as a street with bike lanes and a shared use path.
- Wayfinding may be used to provide guidance and continuity in a gap between existing sections of a bikeway, such as a bike lane or shared use path.
- Road name/path name signs should be placed at all path-roadway crossings to help users track their locations.
- Reference location signs (mile markers) assist path users in estimating their progress, provide a means for identifying the location of emergency incidents, and are beneficial during maintenance activities.
- On a Shared-Use Path, obstacles, including signs, shall be placed no closer than 2' from the near edge of the travelway and no more than 6' away. For pole mounted signs, the lowest edge of the sign shall be between 4 – 5' above the existing ground plane.



USBRS: United States Bicycle Route System

Established in 1978, the purpose of the U.S. Bicycle Route numbering and marking system is to facilitate travel between the states over routes which have been identified as being more suitable than others for cycling.

- **Route Numbering:** Like United States Numbered Highways and many national routing systems, the U.S. Bicycle Route system is designed to roughly follow a grid. Mainline routes are the major cross-country routes and are represented with one- or two-digit numbers. Even-numbered routes are planned to primarily run east-west, with low-numbered routes in the north and high-numbered routes in the south. Odd-numbered routes will primarily run north-south, with low-numbered routes starting in the east and ascending in number toward the west. Three-digit numbers are assigned to auxiliary routes, with the last two digits denoting the parent that the auxiliary connects to.
- In order for a route to qualify as a U.S. Bicycle Route, it needs to connect two or more states, connect multiple U.S. Bicycle Routes, or connect a U.S. Bicycle Route with a national border.

Currently, Arizona does not have any designated cross-state routes, but possible routes have been identified. The Arizona Department of Transportation is working towards the development of these route locations.



NACTO:

National Association of City Transportation Officials

NACTO facilitates the exchange of transportation ideas, insights and best practices among large cities, while fostering a cooperative approach to key issues facing cities and metropolitan areas. Elements of a successful wayfinding signage system are outlined by NACTO as Required features, Recommended features, and Optional features.

Required: Follow MUTCD guidelines for signage placement.

Recommended:

1. Decision signs should be placed in advance of all turns (near side intersection) or decision points along a bicycle route.
2. Decision signs should include destinations, directional arrows, distance, and travel time (based on a 10 mph bicycle speed)
3. Place the closest destination to each sign in the top spot. For longer routes, show intermediate destinations rather than including all destinations on a single sign.
4. Distance may be indicated in time as well as length as an encouragement tool.
5. Turn signs should be placed on the near-side of the intersection to indicate where the bike route turns.
6. Confirmation signs should be placed every ¼ to ½ mile along off-street bicycle routes or every 2 to 3 blocks along on-street routes, as well as on the far side of major intersections.
7. Clearview Highway Font is recommended as it is a commonly used font for guide signs in the US per MUTCD.
8. Green is the color identified by MUTCD for directional guidance signage and is the most common color used for bicycle wayfinding.

Optional:

9. Signs may be placed on feeder streets between bicycle routes and nearby destinations.
10. Route maps may be placed periodically along routes.
11. Conventional street name signs may be re-designed to incorporate the street's identity as a bicycle route.
12. Pavement markings may be used to help reinforce routes.
13. Numbered bicycle route systems may not be intuitive – include maps and directories as often as possible where these systems are in place.

**Salt River Project Design Guidelines**

SRP is the oldest multipurpose federal reclamation project in the United States. Today the SRP power district is one of the nation's largest public power utilities. With a 375-square-mile service area, the watershed includes an extensive system of reservoirs, wells, canals and irrigation laterals.

Many of the shared use paths integrated into the MAG off-street bicycle program occur with right-of-way along these canals owned and operated by SRP. SRP allows for the construction of public recreational amenities by municipalities within SRP canal right-of-way if the improvements are in conformance with the SRP Canal Multiple Use Principles. While SRP does not outline specific signage design guidelines, all permit drawings and interventions in the canal right of way must reference the design approval process listed in the following link: http://azmag.gov/Documents/RFP_2013-08-19_OffStreet-Bicycle-Network-Wayfinding-Guide_SRP-CMU-Design-and-Approval-Requirements.pdf

- SRP strongly encourages the use of pavement markings as a way of signing in place of vertical signs.
- The use of trailheads and refuge/rest areas is strongly encouraged where there is more room to install major signs.

- SRP requires a minimum twenty (20) feet wide drivable service road on the canal bank adjacent to the top of canal lining
- On roadways having curb and gutter, fully depressed curbs thirty (30) feet wide (minimum) are required at entrances to canal roads.
- On divided roadways having a concrete curb median, an opening of sixteen (16) feet wide minimum is required through the median and shall be aligned with the depressed curbs of the canal roads.
- SRP prefers that other than necessary regulatory signs, signs should not be placed within canal/street intersection locations.
- Existing canal road gates may be eliminated with SRP approval or replaced by SRP with a recreational friendly canal road gate.
- Landscaping, fencing, walls, signs or any other objects shall not restrict the safe site distance necessary for safe transition of vehicles from canal roadway to public roadway.
- SRP prefers that sign elements be mounted to existing infrastructure including posts, poles, and railings.
- The installation of any pathway amenities requires the review and approval of SRP prior to installation.
- The right to install improvements on the SRP canal banks will be granted via a Land Use License issued by SRP.
- The right to install improvements within an SRP power easement will be granted via a Consent to Use of Easement issued by SRP.

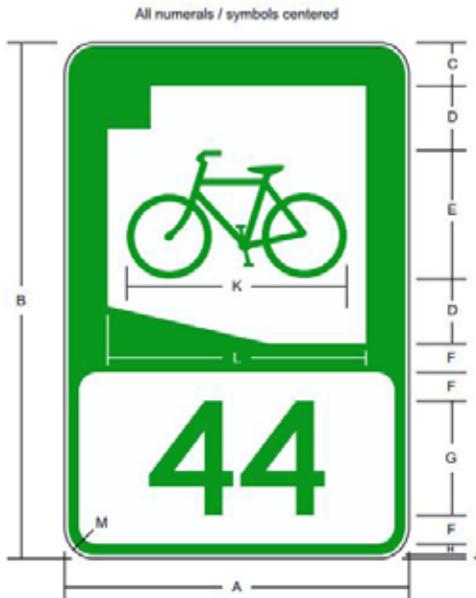
**Arizona Manual of Approved Signs**

The Arizona Manual of Approved Signs (MOAS) is the official list of road, highway, and traffic signs for use on state highways in the State of Arizona, and establishes standard codes and designations for Arizona-specific signs.

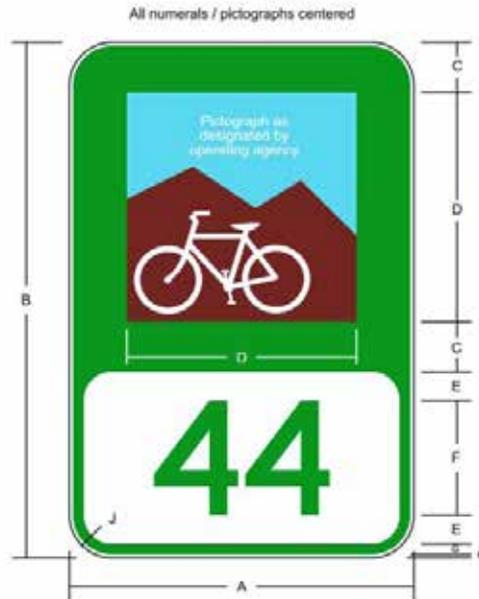
Bicycle signs approved by ADOT are shown on following page.

CODE: M1-8
STATE-LEVEL
ROUTE

CODE: M1-8a
PICTOGRAPH
OPTION



Numbered Bicycle Route
(State, Regional, or Local)



Numbered Bicycle Route
(Pictograph or Word Legend)

Bicycle symbol
minimum height:
0.20 A



M1-9 (Alternate)
US Bicycle Route

M1-9 (Alternate)
Issued 4/1/2012



M49a
BIKE / PEDESTRIAN DETOUR

*Series 2000 Standard Alphabets.
**See page 6-10 for symbol design.
***See page 6-7 for symbol design.
****See issue 6-2 for arrow design.

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MAG Off-Street Bicycle Network

Online Survey Report #1 – Network Identity

5 May 2014

Introduction

An online survey was conducted to involve the public and users of the off-street bicycle network in the development of a system identity for the network to ensure the branding reflects the unique character of the off-street paths and the Maricopa Associations of Governments (MAG) region. The survey consisted of eight questions designed to capture how residents feel about the existing network, as well as preferences for local and global brands and potential names for the system. Three demographic questions were included to gain an understanding of how the survey responders currently use the network and where they live.

Members of the MAG Bicycle and Pedestrian Committee, local jurisdictions, MAG staff, and bicycle activists forwarded an email invitation and survey link to their constituents encouraging them to participate in the survey. A total of 163 responses were collected between April 17, 2014 and May 3, 2014.

1. Summary of Findings

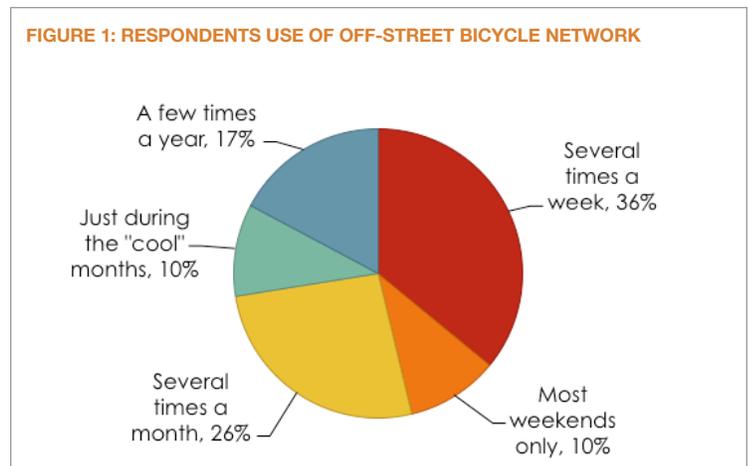
Following are the general findings based on the survey results presented in this report.

- People who took the survey are frequent users of the off-street bicycle network and live in all parts of the Valley.
- Participants seemed to have a difficult time in naming the path they use, often using geographic locations to identify the path.
- The network is “disconnected” but functional.
- Users enjoy the outdoor experience.
- Participants are split on whether or not they can connect to the places they want to go.
- Only about one-third of participants are using the network to reach a specific destination.
- Words most commonly suggested as part of the network name include: Arizona, canal, bike (or variation), bikeway or cycleway, sun, greater or grand, Maricopa, words related to the desert, and valley.
- People chose the “upcycled” and “generic” chairs to represent the network.
- The “relaxed” and “free spirited” people images were chosen to represent the attitude of the network.

- Common elements among the most preferred Arizona brands include Sedona red and Arizona colors, simplicity of design, use of desert elements, and use of the word Phoenix.
- Most of the favorite global brands are simple in design and have a strong visual element using iconic images.

2. Participants

The people who responded to the survey are **frequent users of the off-street bicycle network**. Almost half (46%) use the network several times a week or on most weekends. Seventy-two percent (72%) of the people who responded to the survey use the network at least several times a month. *(Figure 1)*



| | |
|------------------|----|
| Northwest Valley | 29 |
| Southeast Valley | 29 |
| Eastside | 24 |
| Central | 18 |
| North Central | 14 |
| Westside | 11 |
| Southwest Valley | 9 |
| Northeast Valley | 9 |
| South Central | 2 |

Survey respondents also include a cross section of the region with 49 responses (34%) from the West Valley, 34 (23%) from the Central part of the valley, and 62 (43%) from the East Valley. **People seemed to find it difficult to name the path they use most frequently.** Some referred to a path by a lesser-known name and others referred to the location of the path. Six reported they used canals but did not indicate which one. The paths receiving multiple responses are listed below. The number indicates the total number of responses for each name.

- Western Canal - 12
- Arizona Canal - 10
- Grand Canal - 9
- New River/Rio Vista - 7
- Canals (not specified) - 6
- Skunk Creek - 6
- Paseo Trail - 5
- AC/DC - 4
- Indian Bend Wash - 4
- Consolidated Canal - 3
- Cross Cut Canal - 3
- Scottsdale Greenbelt - 3
- Trail 100 - 3
- Central Canal - 2
- Tempe Town Lake - 2
- Tempe Western Canal - 2
- Dreamy Draw - 2

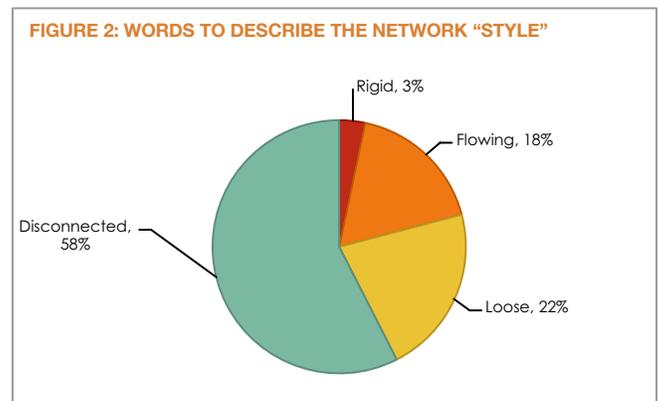
The following paths received one mention each as the path currently used by the responder. Some of the paths may be known by other path names, but the responses were left as written to show the many ways people refer to the paths.

- 107th Ave.
- Bullard Wash
- Bush Highway
- Canal path (paved part by Piestewa Park)
- Canal path along Guadalupe
- Canal path by Freestone Park
- Canal Path from Kiwanis out to Gilbert
- Canal path south of Guadalupe
- Canal path that goes by Biltmore
- Canal paths (Papago/ Kiwanis)
- Canal: South of Camelback between 7th Ave and 7th Street
- Desert Classic (South Mountain)
- Fairway Drive
- Garden Lakes HOA paths
- Hayden Greenbelt

- Highline Canal
- Just left of 95th way. N. sweet water up to 100th. Would be nice to have names.
- Kyrene Canal Path
- Litchfield Park city pathway
- Palm Valley Blvd.
- Route 51
- Scottsdale Multi-Use Paths
- Sidewalk
- South Mountain
- Southeast valley
- SRP canal
- Canal from Indian School and 16th to Tempe
- The canal system - from Agua Fria both directions
- Tempe bike path
- Thunderbird mountain
- Unnamed in Ahwatukee
- Vistancia Discovery Trail

3. Describing the Off-Street Network

More than half of the respondents (58%) described the network as disconnected and 22% say it is loose. (Figure 2)



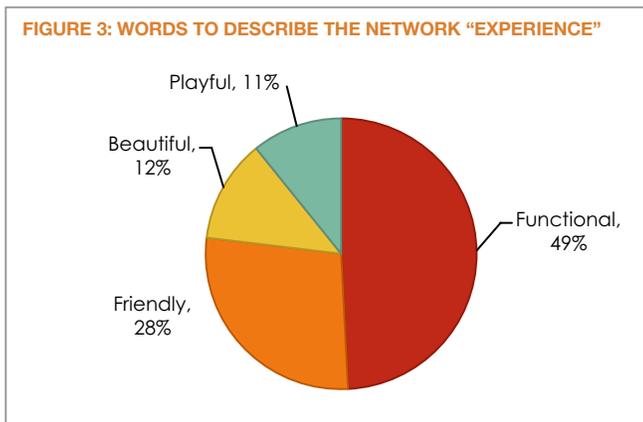
Other words:

Respondents were able to provide additional words to describe the off-street bicycle network style. These included the following:

- Free
- Bumpy - bikes need asphalt
- Low traffic cycling
- Random
- Faraway (2)
- Still lots of gaps, like the Happy Valley connection still dirt and not bikeable in some areas but getting better

- As it crosses jurisdictions, comes to intersections and crosses streets there is no line of sight means to stay connected or to orient a user where they are or where they can go
- Bricolage, accidental
- Getting better, too many gaps

Functional was the word used by almost half of the respondents (49%) to describe the network experience, followed by friendly (28%). (Figure 3)



Other words:

Other words respondents used to describe the experience of the off-street bicycle network included:

- Choppy
- Confusing
- Corridors of opportunity
- Dysfunctional (2)
- Easy-quiet-cycling
- Emerging
- Enjoyable but bewildering
- Frustrating
- Hot and Sweaty
- In certain places the network is beautiful
- Inadequate
- Incomplete
- Inconsistent
- Insufficient
- Meh
- Not connected or disjointed without safe crossings
- Often dysfunctional, especially in Phoenix
- OK
- Only beautiful is connected
- Partial

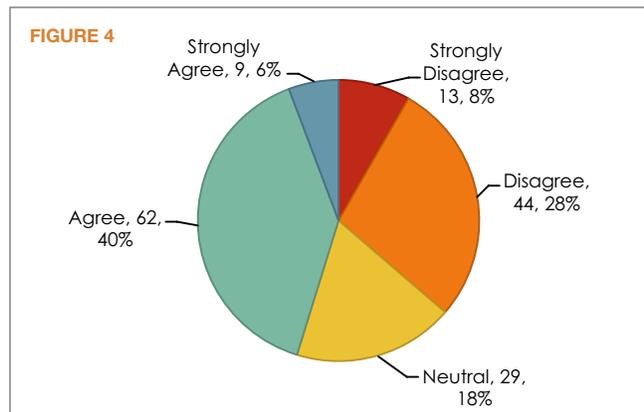
- Peaceful
- Pleasant, relaxing
- Questionable
- Really??
- Relaxing (2)
- Rough
- Safe
- Territorial
- Too short
- Unreliable and nonexistent
- Unusable
- With disconnects
- Serendipitous. It's mostly hidden. People don't know where they go, and none of them start or end at major attractors. If you can use a canal path and you know about it, you're lucky.

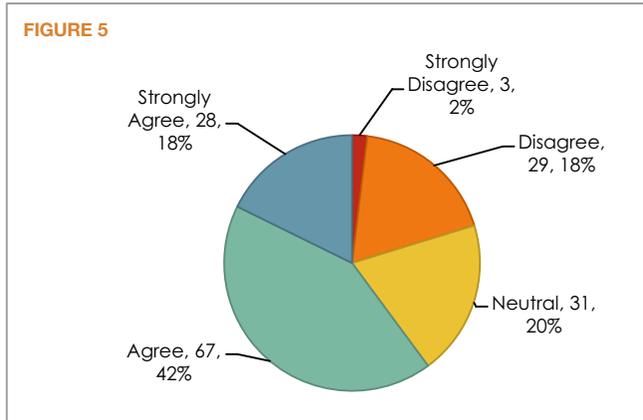
4. Rating the Off-Street Bicycle Network

Participants were asked to rate how strongly they disagreed with the following four statements.

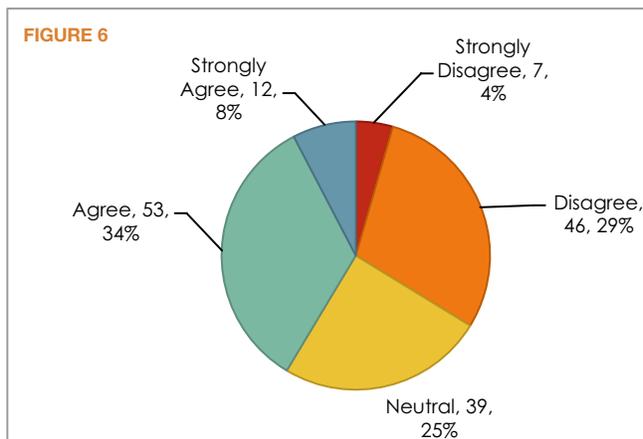
The network connects me to places I want to visit. (Figure 4)

Although just under half (46%) agreed or strongly agreed the network connected them to the places they wanted to go, 36% disagreed or strongly disagreed with this statement.

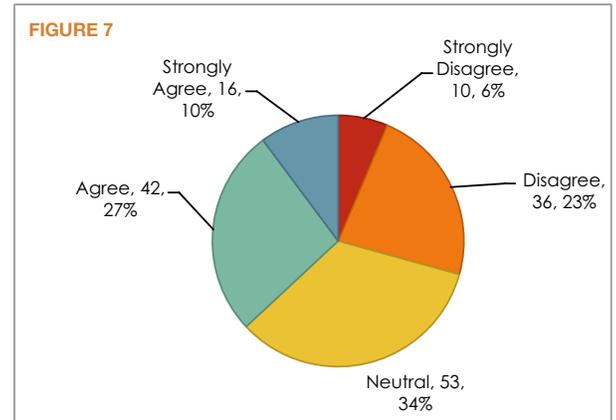




The network is a glorious outdoor Arizona experience. (Figure 5)
 More than half agreed or strongly agreed with this statement, with 18% strongly agreeing and 42% agreeing. Only 21% either strongly disagreed or disagreed the network is a glorious outdoor experience.



When I am on the network I have no worries. (Figure 6)
 Although 42% agree or strongly agree with this statement, 33% disagree or strongly disagree and 25% were neutral. With this large number of neutral ratings, the participants seem to be somewhat divided on whether or not the network is worry-free.



When I use the network I need to get to a specific destination. (Figure 7)
 Again responses to this question are split with just over one-third agreeing or strongly agreeing (37%), one-third rating the statement as neutral (34%) and just under one-third (29%) disagreeing or strongly disagreeing. This indicates participants are using the off-street bicycle network for multiple purposes, such as recreation and transportation, or that they are not able to use the network to reach their desired destination.

5. Naming the Network

Participants were asked to provide a name for the off-street bicycle network. A wide variety of names were suggested but many of the names include these common key words: Arizona, canal, bike (or variation), bikeway or cycleway, sun, greater or grand, Maricopa, words related to the desert, and valley.

- “City? What city?”
- Adventure Bike Network
- Arizona Canal Trail (2)
- Arizona Healthy
- BAM - Biking Around Maricopa
- BAT - Bike Arizona Trailways
- Best bike paths EVER
- Bicycle SunBelt
- Bikeazona
- BikeFragNet
- BikeIT; The Regional Ride; Here to There
- Bikeway
- BOMB--beautiful outdoor Maricopa on Bikes
- Chain Link
- Connector
- Cycle City
- Cycling JAM (Journey Around Maricopa)

- East Valley Bikeway
 - Gilbert Oasis
 - Greater Phoenix Bikeway
 - Greater Phoenix Grand Cycleways
 - Grand Cycleways of Greater Phoenix
 - Phoenix Trail System
 - Maricopa Trail System
 - Phoenix Trail Network
 - Maricopa Trail Network
 - High-Desert Bike-Ways or Bike-Bahn
 - Hohokam Bike Pedestrian Route
 - HUB - Half-Mile Urban Biking (since primary lanes on half mile streets)
 - Incorporate it into the “Phoenix Sonoran Bikeway” system, aka “The PSB”.
 - Junk trail
 - Line Wire
 - Lizard tracks
 - MAGnet
 - Maricopa Bike Map
 - Maricopa Cycleway
 - Maricopa Multi-use System
 - Motor Free Lane (MFL)
 - Mountain Dreams
 - Off da chain
 - Off the grid
 - Off-Road County Cycling Network
 - P.A.T.H. (People using Active Transportation for Health)
 - Paseo de Sol
 - Pathway (2)
 - Pedal Freeways
 - Pedal Pathways
 - Bike Expressway
 - Pedal Powered Network
 - Phoenix Bicycle Routes
 - Phoenix Bicycle something
 - Phoenix Metro Bikeways
 - Phoenix Off the Beaten Path
 - Playground of the Valley
 - Rock ‘n’ Roll Phoenix!
 - Rock Rabbit Off Road Routes
 - Scenic Cycling Route
 - Saguaro Cycleway (2)
 - Sonoran Stream
 - Spokes and Folks
 - The Bataan Death March
 - The Flow
 - The Hidden Pathway (2)
 - The Hohokam
 - The Hub
 - The Maricopa Regional Trail or Valley of the Sun Regional Trail
 - The NCA.... no cars allowed.
 - The P.U.M.P (Phoenix Urban Multi-use Paths)
 - The People Path
 - The Phoenix Metropolitan Pathway
 - The Suburban Urban Neighborhood (SUN) System
 - The Urban Desert Flow
 - The Valley Network
 - The Valley Way
 - Tour Phoenix
 - Treck
 - Two Wheel Arizona Network (TWAN)
 - UCAP(urban canal access path(s))
 - Valley Bicycle Network of the Sun
 - Valley Bicycle Route Network
 - Valley of the Sun Bicycle Pathways
 - Valley of the Sun bike network
 - Valley of the sun bike path system
 - Valley of the Sun Bikeways
 - V--B--Way (Valley Bike Way)
 - Zona OSBN
- Other comments on the network name:
- Create it and I'll let you know.
 - Please try to avoid using “bike” or “bicycle” in the name because we need to demonstrate that these trails can be used for commuting by foot, skateboard, rollerblades, jogging, etc.
 - Grand ties it to the Grand Canyon State, Phoenix ties it to this location and not others, and Cycleways (to borrow a European term) ties it to bicycles and not bikes/motorcycles.
 - <http://nacto.org/cities-for-cycling/design-guide/bike-lanes/>
 - Needs to emphasize transportation since many miles of shared use path have been funded through CMAQ. Also, network not just a bicycle transportation facility: used by pedestrians, skaters, wheelchair users, joggers, and other non-motorized users, too.

6. Visual Preferences

Survey participants were asked to review a series of photographs of chairs representing various styles to select the one they felt best reflected the style of the off-street bicycle network. Most of the respondents picked either the “upcycled” chair or the “generic” chair.

The chart below shows the percentage and (actual number) of respondents who picked each of the chair options.



Upcycled



Generic



Modern



Retro



Traditional

- Upcycled - 45% (71)
- Generic - 33% (52)
- Modern - 8% (13)
- Retro - 8% (13)
- Traditional - 5% (8)

Participants were also shown photographs of people and asked to select which images best reflected the attitude of the off-street network. Most respondents agreed the network is “relaxed” or “free spirited.”



Relaxed



Free Spirited



Family



Reserved



Corporate

- Relaxed - 45% (68)
- Free Spirited - 22% (33)
- Family - 15% (23)
- Reserved - 11% (16)
- Corporate - 7% (10)

7. Preferred Local and National Brands

Participants were asked to list the Arizona and global brands they like the most. A wide variety of brands were named. The following is a complete list and images of the brands most often mentioned. The numbers in the parenthesis indicate the number of time the brand was mentioned.

Arizona Brands:

There are several common elements among the Arizona brands mentioned most often by the participants, including color, simplicity of design, use of desert elements, and use of the Phoenix.

- Diamondbacks (7)
- Arizona State Flag (7)
- Arizona Centennial Logo (5)
- Four Peaks (5)
- Coyotes 4)
- ASU (2)
- City of Phoenix (2)
- Intel (2)
- Pivot Cycles (2)
- Desert Botanical Garden (2)
- Sun Devil - Sparky (2)
- Suns (2)
- San Tan Brewery (2)
- University of Arizona (2)
- CycloMesa Arizona flag, as used on Phoenix Metro Bicycle Club jerseys
- Arizona Materials
- Arizona Rattlers
- Arizona state emblem red/gold beams with blue bottom half and heart in center. Pic available.
- Arizona State University
- Ash Ave Comics
- ASU Pitchfork
- Arizona Highways Magazine
- Banner Health
- Be a Roll Model
- Cardinals
- Cartel
- Downtown Phoenix Partnership (Purple, Orange, Lime Green)
- Grand Canyon
- Grand Canyon State
- Greyhound
- Grid
- Grooming Humans
- Hazel & Violet
- Hula's Modern Tiki
- Local First
- Logo of the Rusty Spoke Bike Collective prior to 2014
- Look at multi-use path W of Jackrabbit Trail @ Thomas.
- National Bank of Arizona <https://www.nbarizona.com>
- Northern Arizona University (blue background with the mountains rendered in reverse)
- Phoenix Sonoran Bikeway
- Pima Indian maze circle
- Pita Jungle
- Postino
- RedRock
- Road Runner
- Sedona Fire
- Southwest Gas
- Sun City
- TBAG
- TCR Tempe Camera Repair
- The heavy pedal
- The mountain morphing into the camel- from the Camelback mountain anti-tobacco ad
- Tres Rios Nature Festival
- Valley of the Sun

Arizona Bicycle Related Brands

(Mentioned by respondents at least once)

- Phoenix Metro Bicycle Club
- Phoenix Sonoran Bikeway
- Mesa Cycles

Global Brands:

Participants tended to favor the same global brands. Most of the favorite global brands are simple in design and have a strong visual element using iconic images.

- Apple (13)
- Nike (7)
- Google (4)
- British Petroleum (3)
- Starbucks (3)
- Patagonia (2)
- Recycling symbol (2)
- Twitter (2)
- Under Armour (2)
- Adidas
- Amazon smile

- Astrazeneca
- AT&T's Death Star
- Atari
- BMW
- British Airways
- Cloud 9 eSports
- Coca-cola
- Diet Coke- Simple, crisp, upbeat, young/vivid
- Dodge Ram
- Earth image / green/ recycle based
- ebay
- FedEx
- Ford
- Get Active
- Giant Bicycles (circle with swoosh - looks like a sunset)
- Goodwill
- Gyro Bicycle
- Honda
- Ikea
- John Deere - leaping deer
- Mazda
- Mercedes-Benzes
- New England Patriots
- Newcastle United
- Nikon
- Oakley
- RATP (Paris, France) <http://ratp.fr>
- REI
- Sanuk shoes
- Specialized
- Steal Your Face, Grateful Dead
- Tom/s shoes
- Trek
- Untappd
- USA Cycling
- Virgin Atlantic
- Yacht

Other branding comments:

- Anything clean and easily recognizable, nothing fussy or busy.
- No need to get costly or too elaborate. The current system is fine. It just needs gaps filled.

8. General Comments

There were a few comments throughout the survey that did not directly apply to the question. These general responses are listed below.

- Unused - it is very hot in Arizona and too hot to use bicycles often.
- What we have is good, but there are not enough, and they are not connected. Also, if the speed limit on the street is more than 45 mph, the bike lane should be separated.
- Whoever came up with this survey is on Crack
- It is asphalt - doesn't have concrete slabs

Prepared by Gunn Communications, Inc.

MAG Off-Street Bicycle Network

Online Survey #2 Report - Wayfinding Needs

7 August 2014

Introduction

A second online survey was conducted in July 2014 to determine the type of directional information people need before and during their ride on the off-street bicycle network. The survey consisted of eight questions designed to capture how people used the network (frequency, distance and destination), identify their wayfinding challenges and gain their interest in potential solutions. Three demographic questions were included to help determine if age, gender or place of residency affects how a person utilizes network.

Members of the MAG Bicycle and Pedestrian Committee, local jurisdictions, MAG staff and bicycle activists forwarded an email invitation and survey link to their constituents encouraging them to participate in the survey. A total of 274 responses were collected between June 30, 2014 and July 31, 2014.

1. Summary of Findings

Following are the general findings based on the survey results presented in this report.

- The typical respondent to this survey was a male who lives in Southeast Valley/Eastside or Central/North Central and uses the network one or more times a week.
- Age of participants was spread from age 26 to over age 55.
- The average length of trip (one way) is 6 to 20 miles.
- The older respondents and those living on the Westside are more likely to make the longer trips.
- Residents in Central Phoenix make the shortest trips.
- Respondents ages 36 to 45 and Westside/Southwest Valley residents are more likely to ride every day.
- People are using the network to go both to work and for recreational purposes.
- A secondary use of the network is to connect to other trails and the regional transportation system.
- Most of the recreational use is for exercise and bicycle training.
- All of the top four wayfinding challenges are related to the lack of connectivity of the system, including gaps in the system and inability to find entrances and connections on the network.

- The majority would like to have a map which indicates the destinations which can be reach by the network. Mile markers are also important to the riders.
- Trip planning information available online and via Smartphone was agreed as important in helping navigate the network.
- People find it difficult to locate the network and available parking near entrances.

2. Participants

The geographic spread of respondents was not as diverse as the first survey. A majority of the responses (78%) were submitted by people who live in Central/North Central (39%) and Eastside/Southeast Valley (395). (Figure 1)

The age of the respondents were fairly evenly distributed over four age ranges: twenty-five percent (25%) are age 26-35; twenty-five percent (25%) are 36-45; twenty-two percent (22%) are age 46-55; and nineteen percent (19%) are over age 55. (Figure 2)

A majority of the respondents are male (68%) compared to thirty-eight percent (38%) female. (Figure 3)

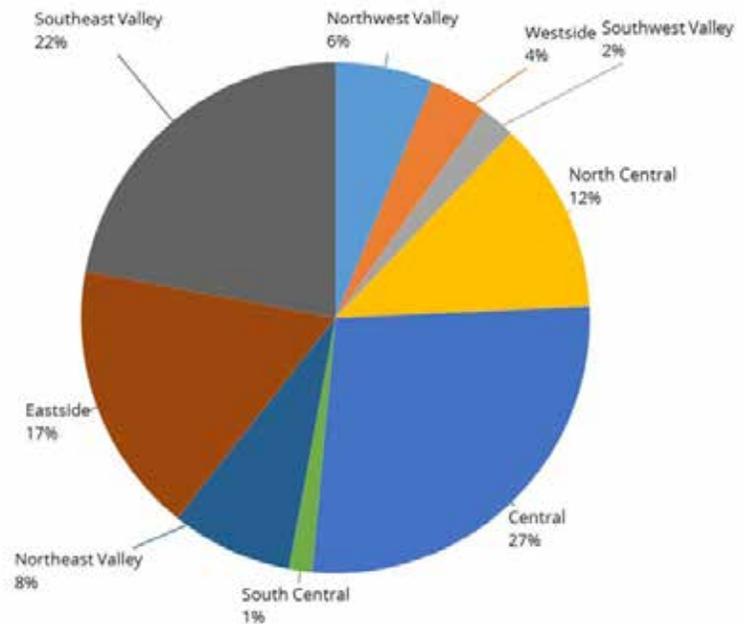


FIGURE 2

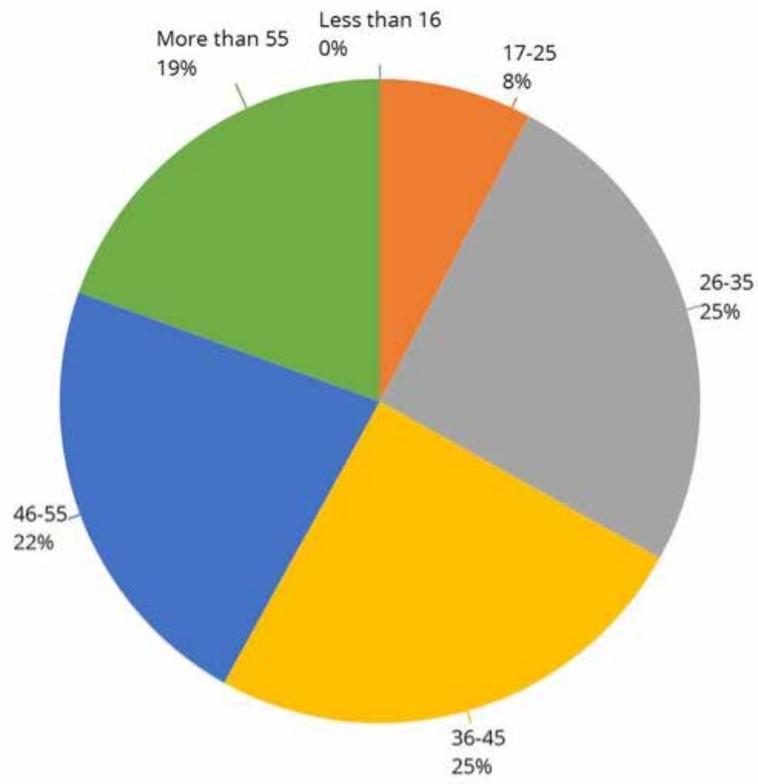
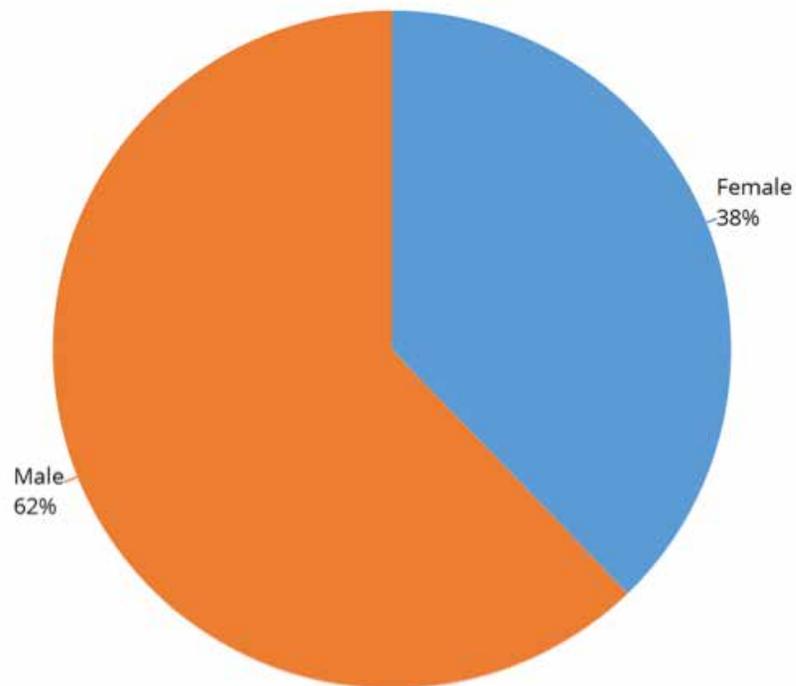


FIGURE 3



3. Distance Traveled and Frequency of Use

More than half of the respondents (51%) reported traveling 6-20 miles (one way) when riding on the off-street bicycle network. (Figure 4)

To better understand who is riding the longer distances, the responses were cross-tabulated by age, gender and location. According to these survey results:

- Residents traveling the furthest distances tend to be the older residents, while younger residents reported the shorter distances traveled. (Figure 5)
- Men are more likely to travel 10-20 miles than women. (Figure 6)
- Most Southwest Valley and South Central residents travel 10-20 miles. (Figure 7)
- 30% of Westside residents ride more than 20 miles one way. (Figure 7)
- Central residents ride the shortest distances. (Figure 7)

FIGURE 4

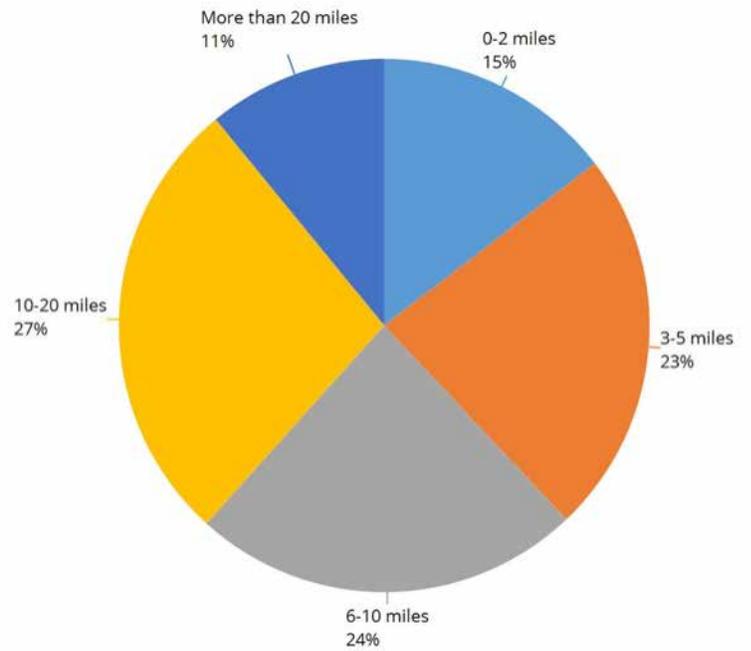


FIGURE 5

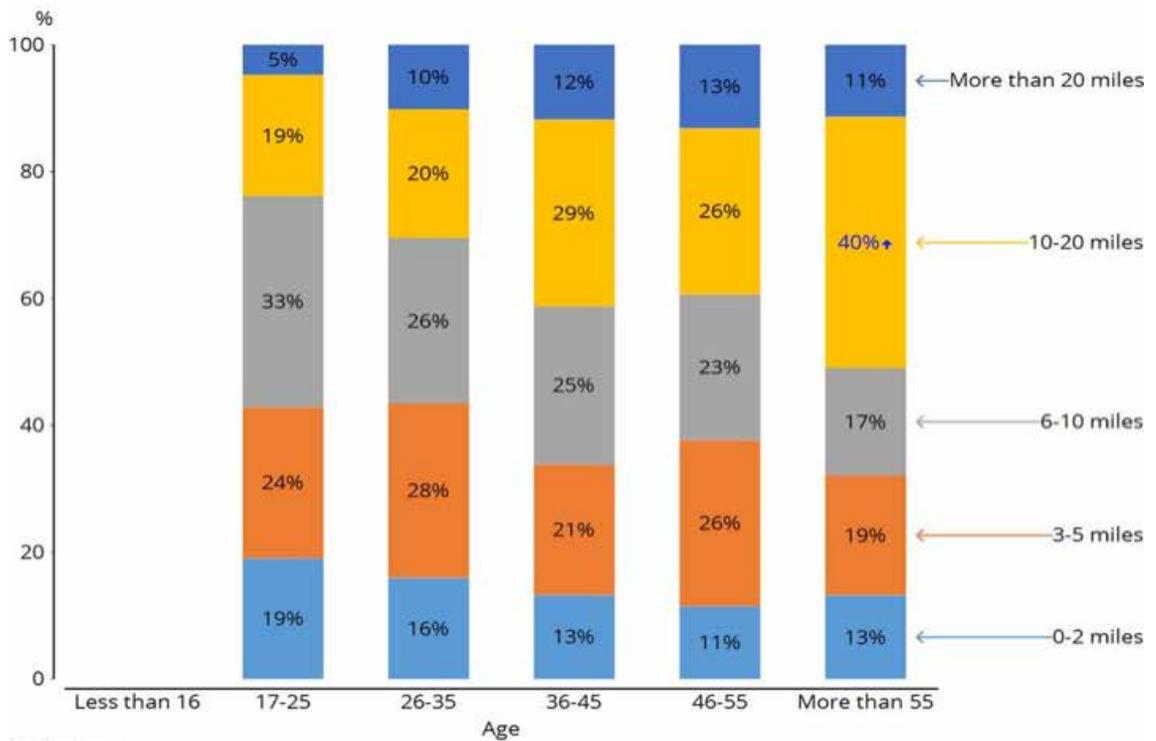


FIGURE 6

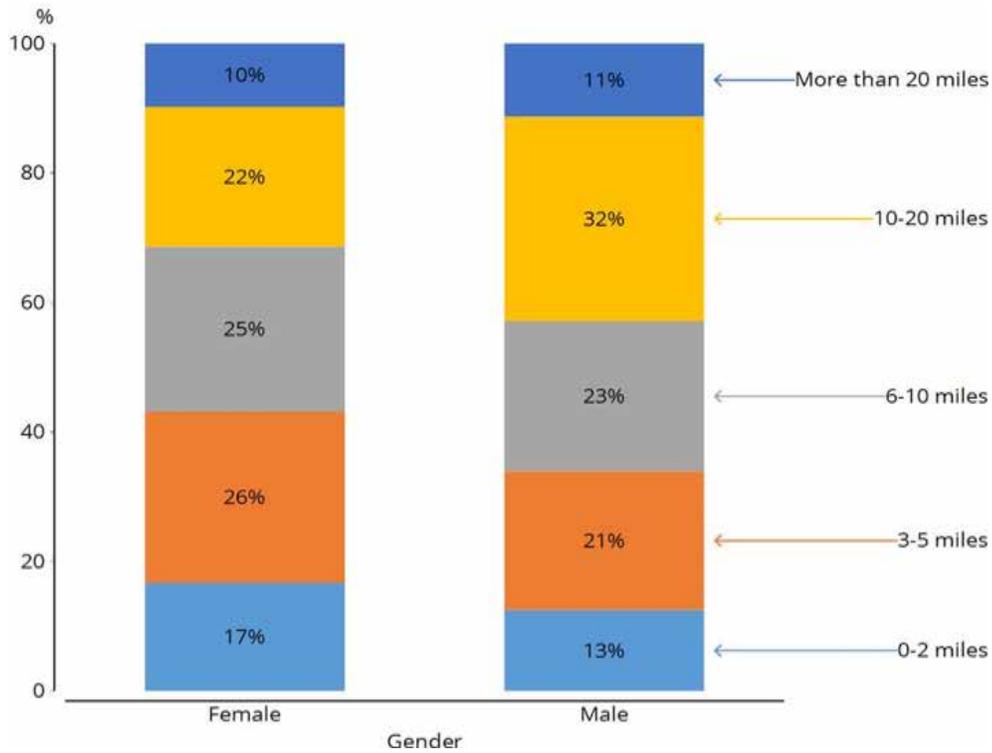
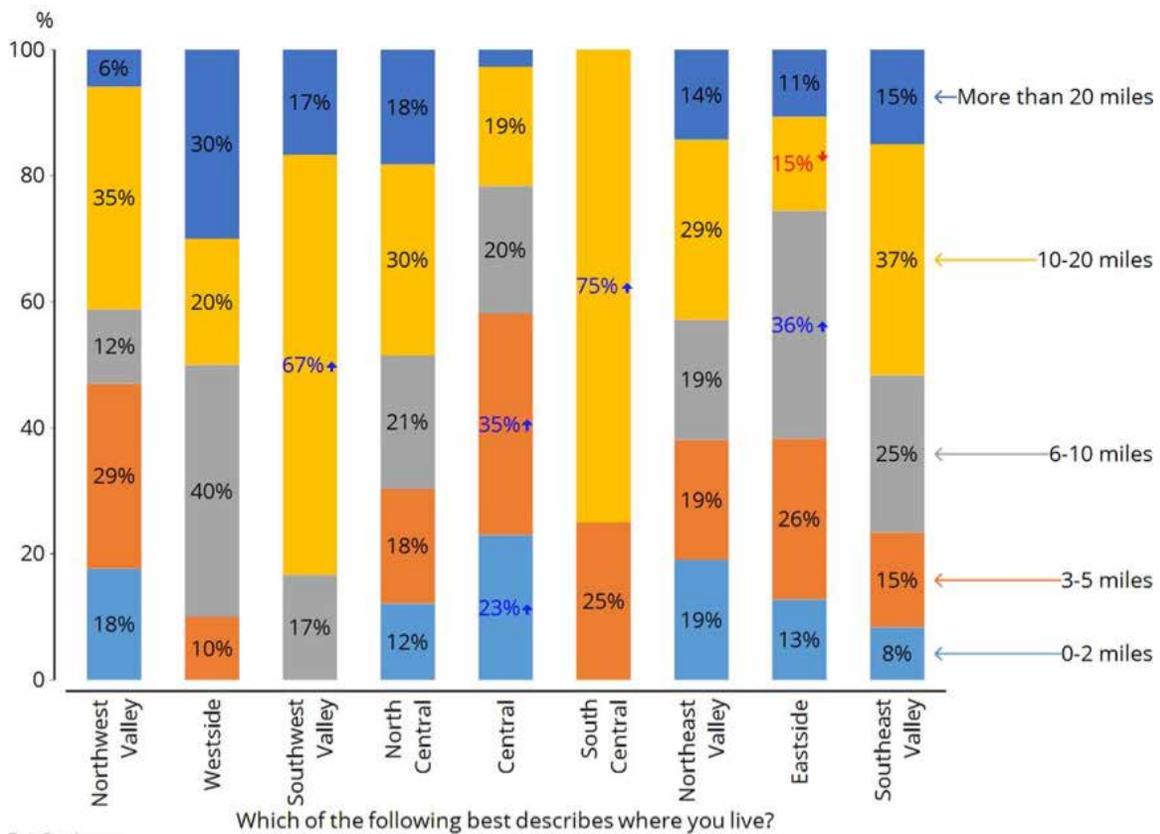


FIGURE 7



The people who responded to the survey are frequent users of the off-street bicycle network. Forty (40%) use the network one time a week and twenty-three percent (23%) use the network every day. (Figure 8)

To better understand who is using the network, the responses were cross-tabulated by age, gender and location. According to these survey results:

- People age 36-45 are slightly more likely to ride at least once a week or more (Figure 9)
- There are no significant differences by gender. (Figure 10)
- Westside and Southwest Valley residents are more likely to ride every day. (Figure 11)

FIGURE 8

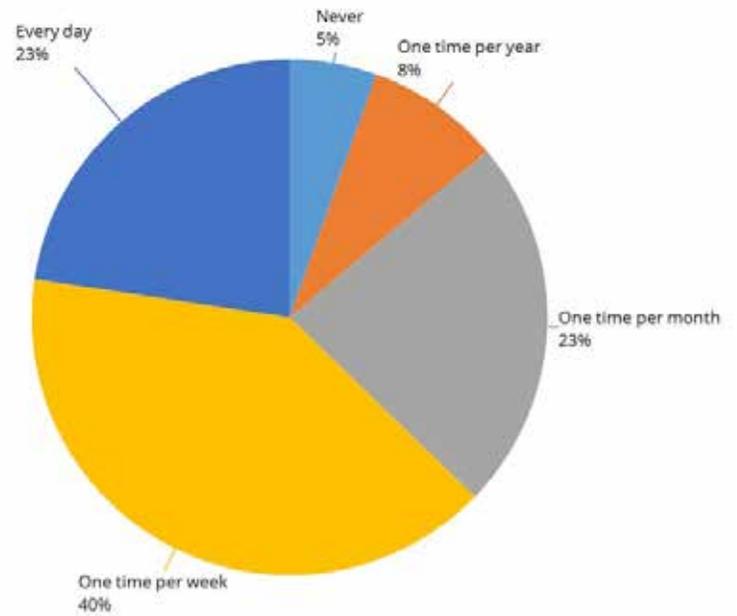


FIGURE 9

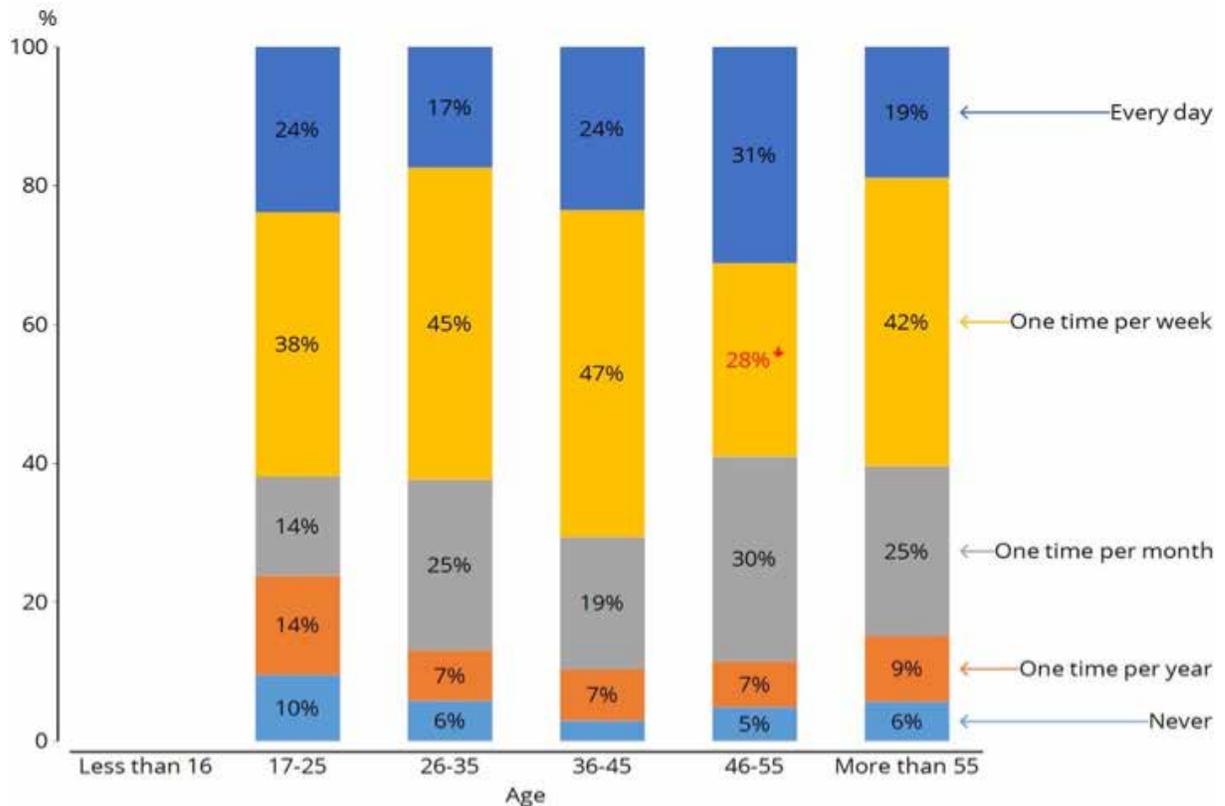


FIGURE 10

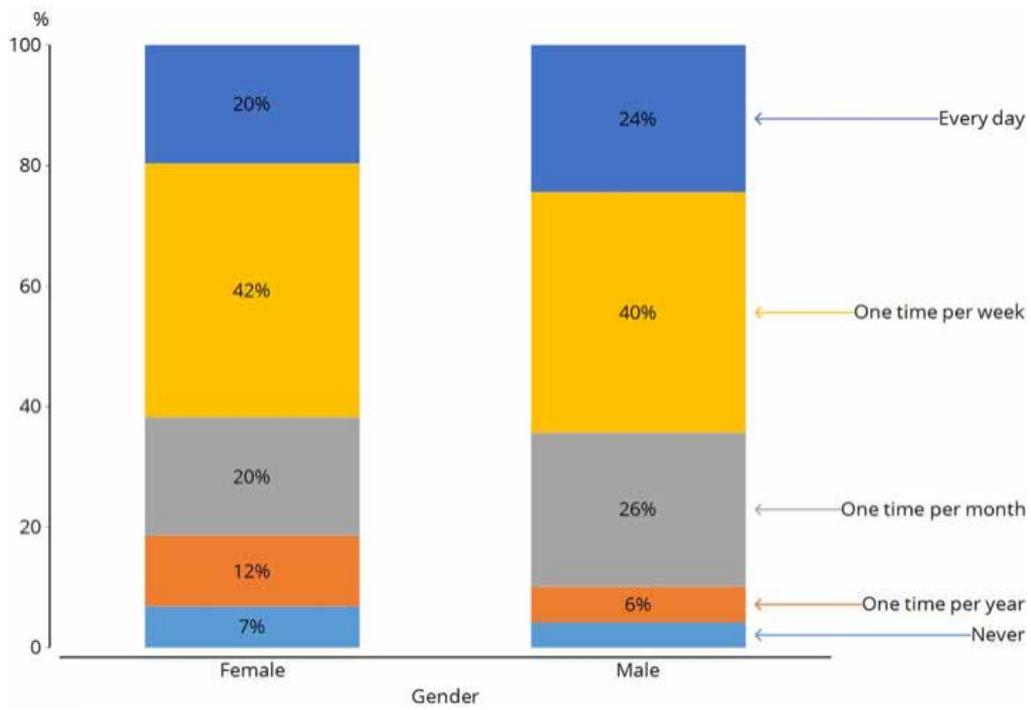
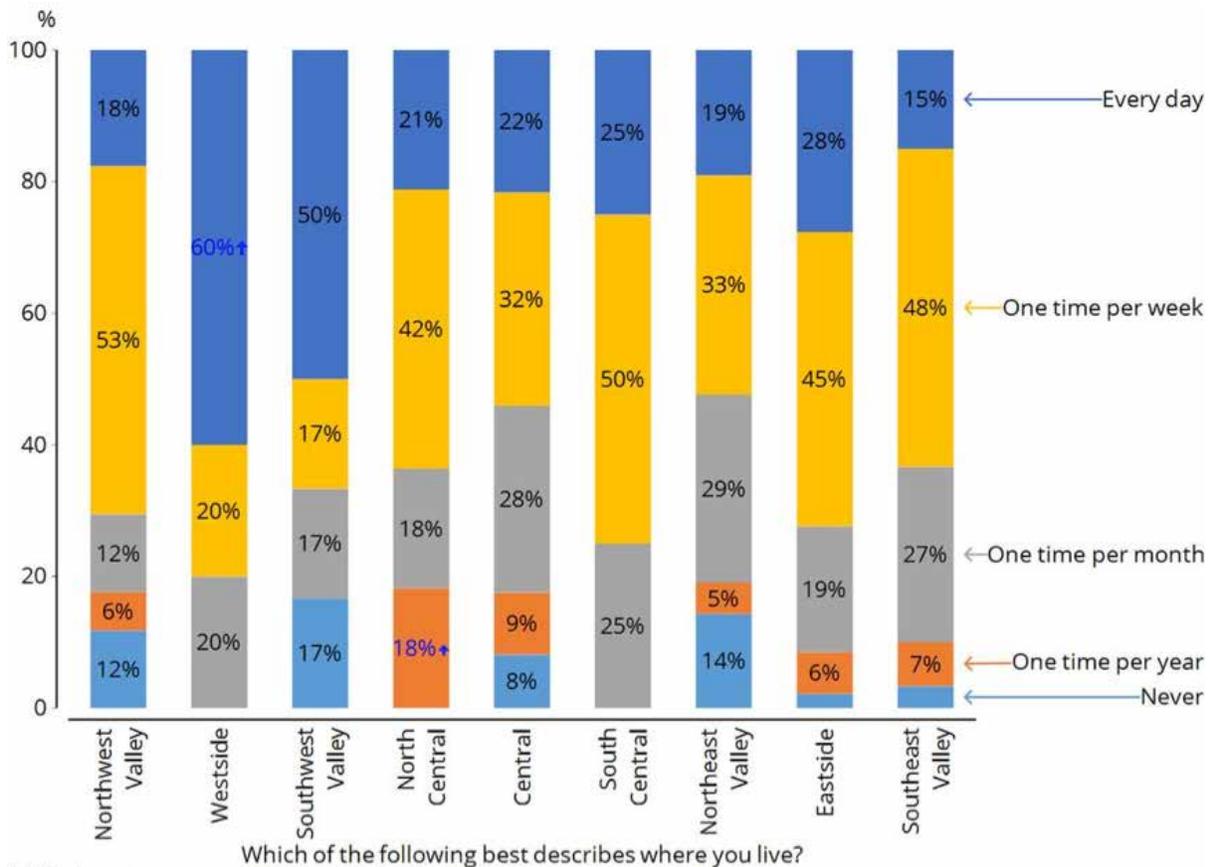


FIGURE 11



4. Trip Purpose

Participants were asked where they most often go when using the off-street bicycle network. According to these results, the network is BOTH an important part of people’s commute to work (28%) and a popular recreational activity (35%). The network also provides residents with connections to other bicycle and transportation facilities. (Figure 12)

Other destinations (reasons) identified by respondents included the following.

Exercise

- Exercise/triathlon training
- Just exercising, or meeting friends to go eat, or run errands
- I cycle for fitness
- Exercise (3)
- I ride for exercise - I can’t believe the lack of bike trails in the NE valley. I am from Iowa and the Des Moines and surrounding area are COVERED with amazing bike paths and trails.
- To run errands, just to get out and exercise
- I ride for exercise on Cave Creek road
- I ride for health, but often pick a restaurant as a destination.
- Just ride the path for exercise.

Training

- Training rides
- Shopping and training rides
- Routes for training rides - I am a competitive cyclist
- For fitness & training
- Training in north Scottsdale

School and Work

- School, family/friends, rec. activities
- Places to work - I’m a freelancer
- I ride to and from work, to run errands and recreational rides.

Restaurants

- Restaurants
- Restaurants
- Food and drink
- Bars
- Coffee shops, bars, restaurants

Recreation

- Trails (e.g. New River); Streets (leisure ride); Parks; School (planning to)
- Movies
- Recreational loop rides w/o a particular destination

Other Destinations

- Boulders on Broadway
- Streets close to home. Some desert trails at times
- Desert trails
- Circle route back home
- Random areas - SAFE no/low traffic rides for event training.
- Out-and-back from home, using the pathways as the route
- Downtown Phoenix
- Airport

Other Comments

- Would use it for all of these if available
- All over the place for all kinds of things
- EVERYWHERE!!!
- ALL OF THE ABOVE (My bike is my main form of transport)
- Everywhere. I am car-free.
- I would ride more if I had a good wayfinding map of bike routes (on and off street)
- Just to ride

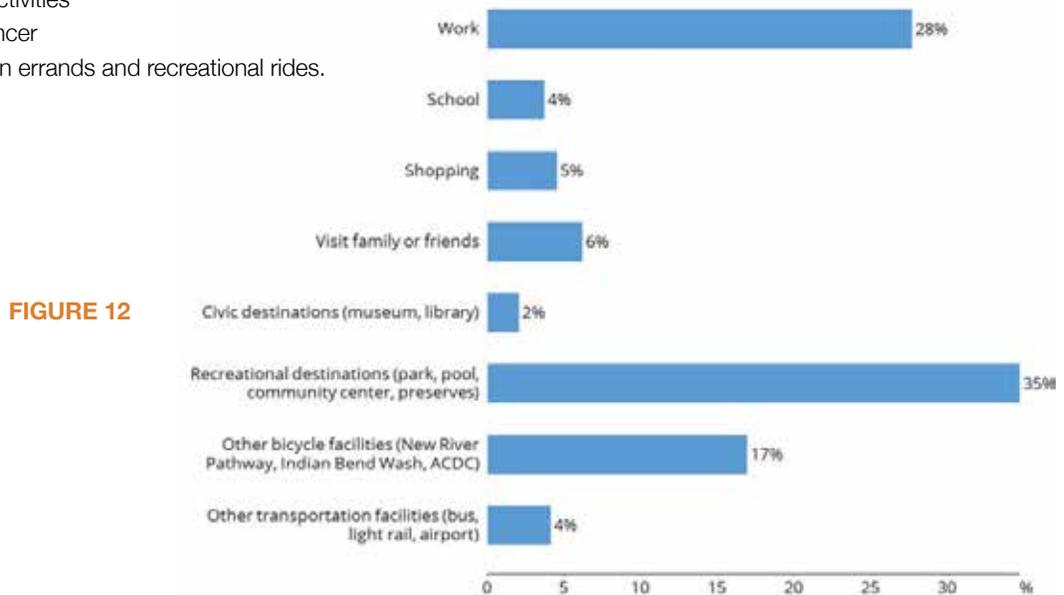


FIGURE 12

5. Wayfinding Challenges

Participants were asked to select the wayfinding challenges they had experienced while using the off-street bicycle network. A list of challenges was provided for the participants to select from. All of the top four challenges are related to the lack of connectivity of the system with riders reporting they lost their way when there was a gap in the network or a pathway terminated. They also have difficulties finding the entrance to the network and connections to another path. *(Figure 13 - see next page)*

Other comments by respondents included the following. For the first time, respondents identified several safety concerns about using the network which are not related to wayfinding.

Lack of complete network

- I wish the pathways were better connected, especially if you want to ride N-S.
- There are limited pathways on the routes I take and the routes terminate unexpectedly.
- There is not a solid bicycle network in neighborhoods like mine where people ride bicycles more out of necessity (money)
- Gaps in connections
- Disconnect
- Lack of underground tunnel beneath street
- I had to find another route due to there being no sidewalk or bike lane along a road (e.g. Grand Avenue)
- Simply: need more bike lanes on main roads!
- Paved path ended or had a gap in pavement
- Quality of pathway. Road bikes are not good on unpaved surfaces. Some of the canal areas are not paved or have gaps.
- The path/road not smooth, too rocky

Signage and map needs

- Street that crossed the pathway were not labeled
- Just finding an off-street bicycle network is a challenge in the west side of town.
- Many of the pathways don't mark the streets I am passing under. I like to know where I am in the pathway system, relative to the streets I am crossing or near.
- Not knowing what roadways I was crossing
- I am unable to tell if there are nearby business to eat, shop, or rest from most pathways.
- Some canal routes (Tempe is where I ride) don't have street name markers, sometimes can be confusing where I am
- Areas where over/underpasses to roadways switch sides of the pathway are not always clearly marked.

- Not enough signage (2)
- Street crossing signals do not trigger consistently. Some are immediate and others take several minutes.
- Love it would love to see maps on the way to see what's around

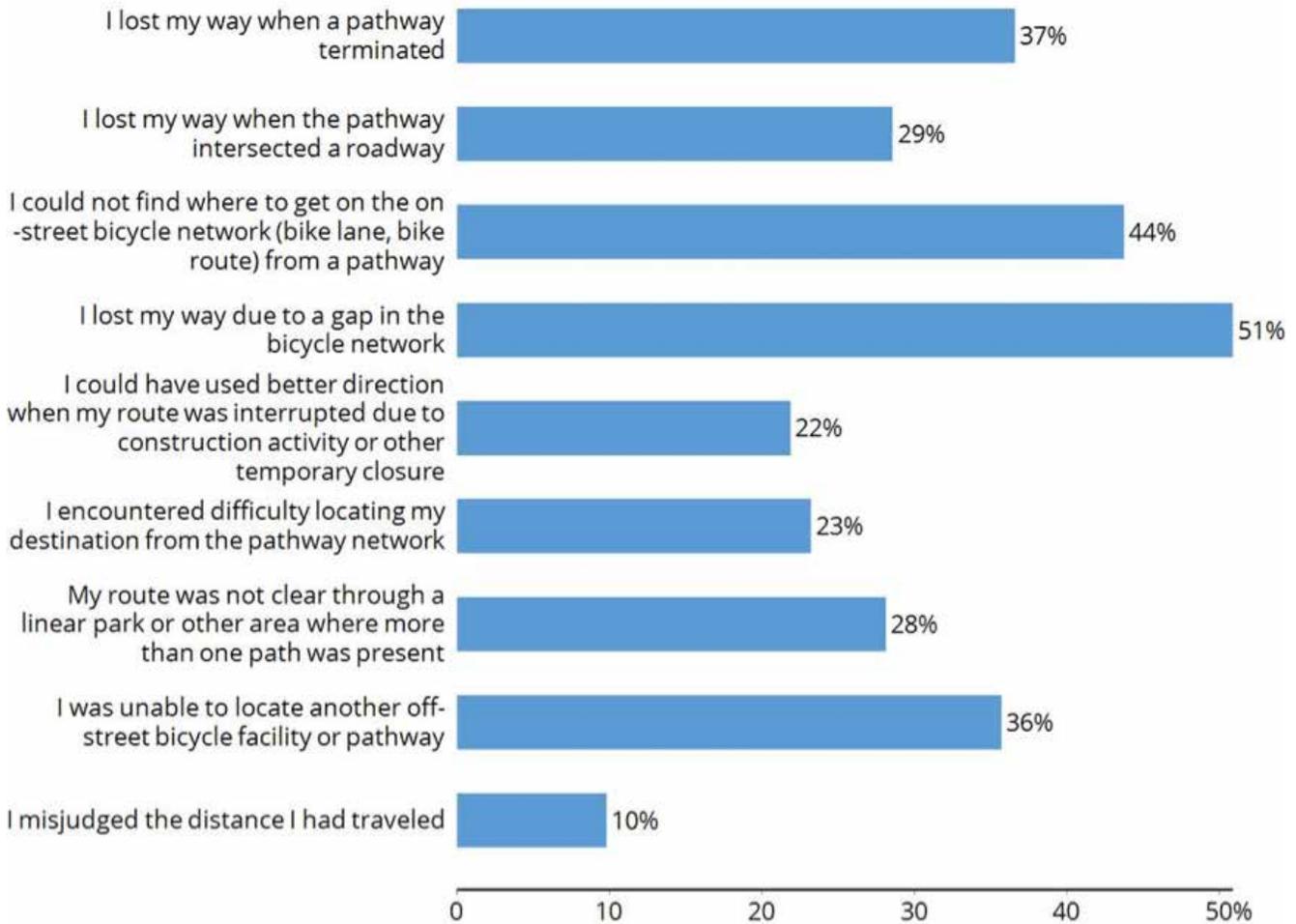
Safety

- There are too few amenities for non-auto transportation (bicycling/pedestrians) and it does not feel safe, so my trip is not as enjoyable or efficient
- Bike way intersects with busy road, example 3rd Ave and Bethany Home
- Homeless people sleeping in the underpasses beneath the roads. (major safety hazard)
- My journey is dramatically increased due to attempts to avoid areas I know are less safe and more difficult to bike through. (High traffic areas with poor bike lanes, etc.)
- Cars never see you - think you should put rubber florescent tubes for visual protection for the bicyclist
- The challenge is to find good streets to travel on that don't have heavy traffic where bike lanes don't end at intersections that make you vulnerable to automobile vs. bicycle problems. The next challenge is that the network although large does have gaps and the signage isn't always clear about where you need to go.
- Crossings are dangerous!
- Running out of water and not finding any accessible

Other

- The often-diagonal canal paths can cause confusion with directions
- I do not ride a bicycle anywhere in town
- 900 miles!!! WHERE????
- My pathway was blocked off by gates that didn't used to be there.
- Generally, I find them counter-productive as pathways to my destinations
- Multiple paths
- I am not yet plugged in to the network and therefore haven't had any challenges while riding the network.

FIGURE 13



6. Information Needs

Survey participants were asked to rate their level of agreement with a series of statements related to the type of information they feel is important. (Figure 14)

- More than two-thirds (67% strongly agree) would like to have a map indicating the destinations they can access from the network.
- A large majority (69%) plan their route online.
- More than thirty percent find it difficult to access the network and find parking.
- Although fifty-two percent (52%) prefer using their Smartphone for information, 34% stated they were neutral.
- 62% agree/strongly agree mile markers are needed.

Prepared by Gunn Communications, Inc.

