

CV LINK

CONNECTING THE COACHELLA VALLEY

2WALKandCYCLE Conference

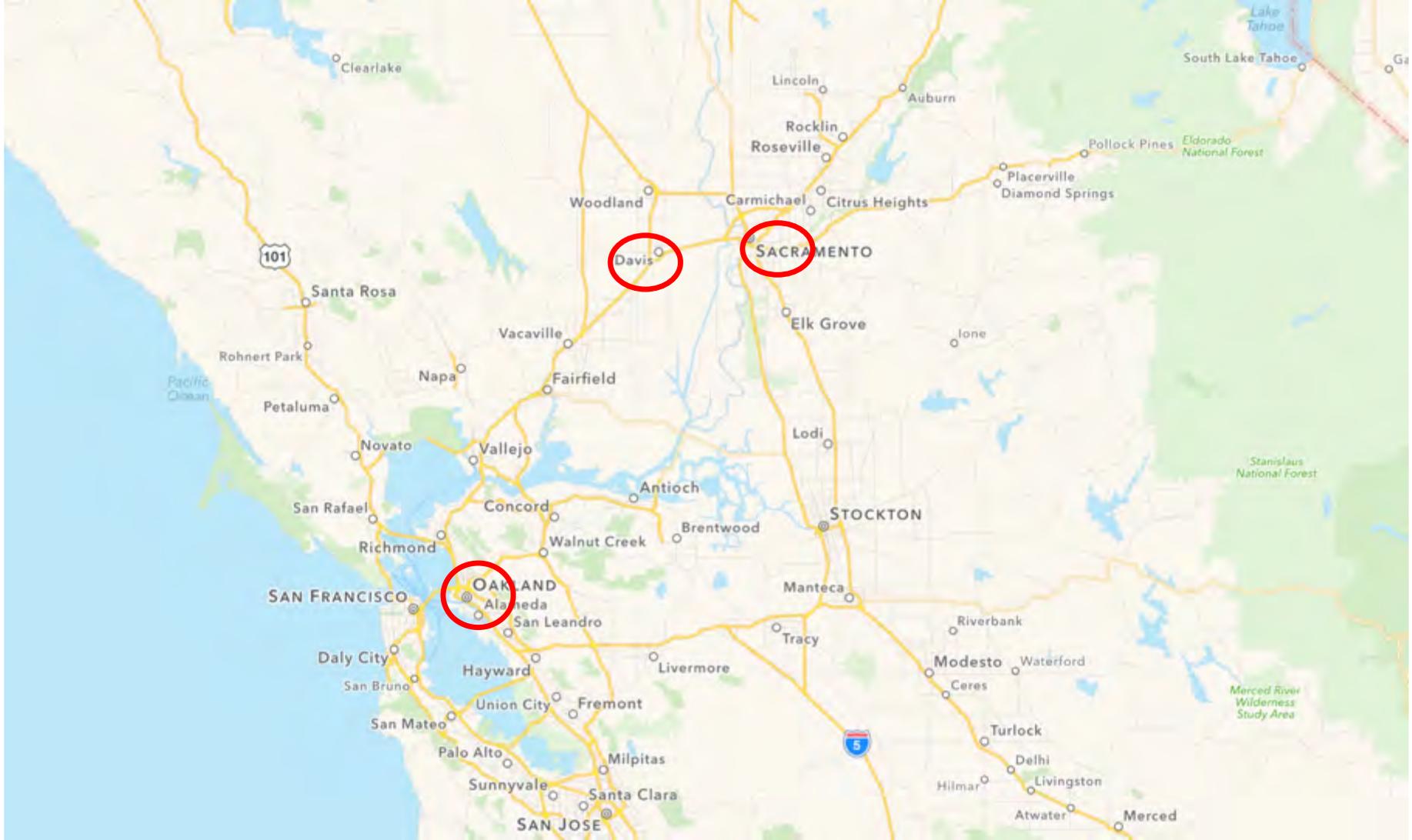
7 July 2016

John Lieswyn, MET, PTP

OUTLINE

- A move to California
- Contrast: Davis versus the Coachella Valley
- CV Link concept
- Local context
- Planning
- Design
- Challenges
- Outreach
- Lessons





Davis

SACRAMENTO

OAKLAND



CALIFORNIA: A PLACE OF CONTRASTS
DAVIS



STOP

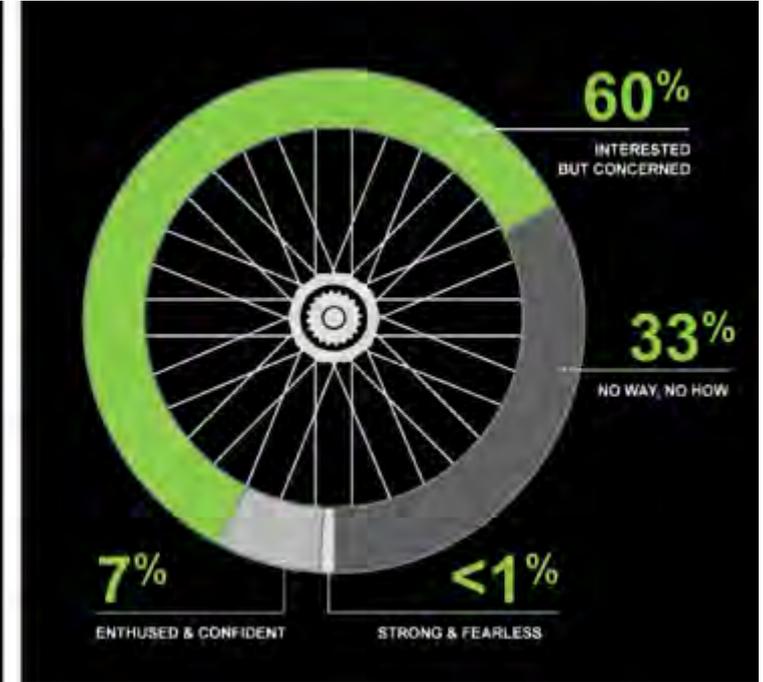








FOUR TYPES OF RIDERS



1st St

A 1000



THE DAVIS WEDNESDAY, NOVEMBER 26, 2014
enterpr
3-Time BEST
Ready, Set, SHOP!
this season

A new year on the mat starts this weekend

Give thanks for nature's beauty



Need a Handyman or
a Bike Repaired?
I come to you



530.302.5186 toby@mobileworkshop@gmail.com toby@mobileworkshop.com

Professional quality bicycle and handyman repair services from my pedal powered work station





CALIFORNIA: A PLACE OF CONTRASTS
COACHELLA VALLEY



Los Angeles

Pomona

Riverside

Palm Springs

Long Beach

Irvine

Temecula

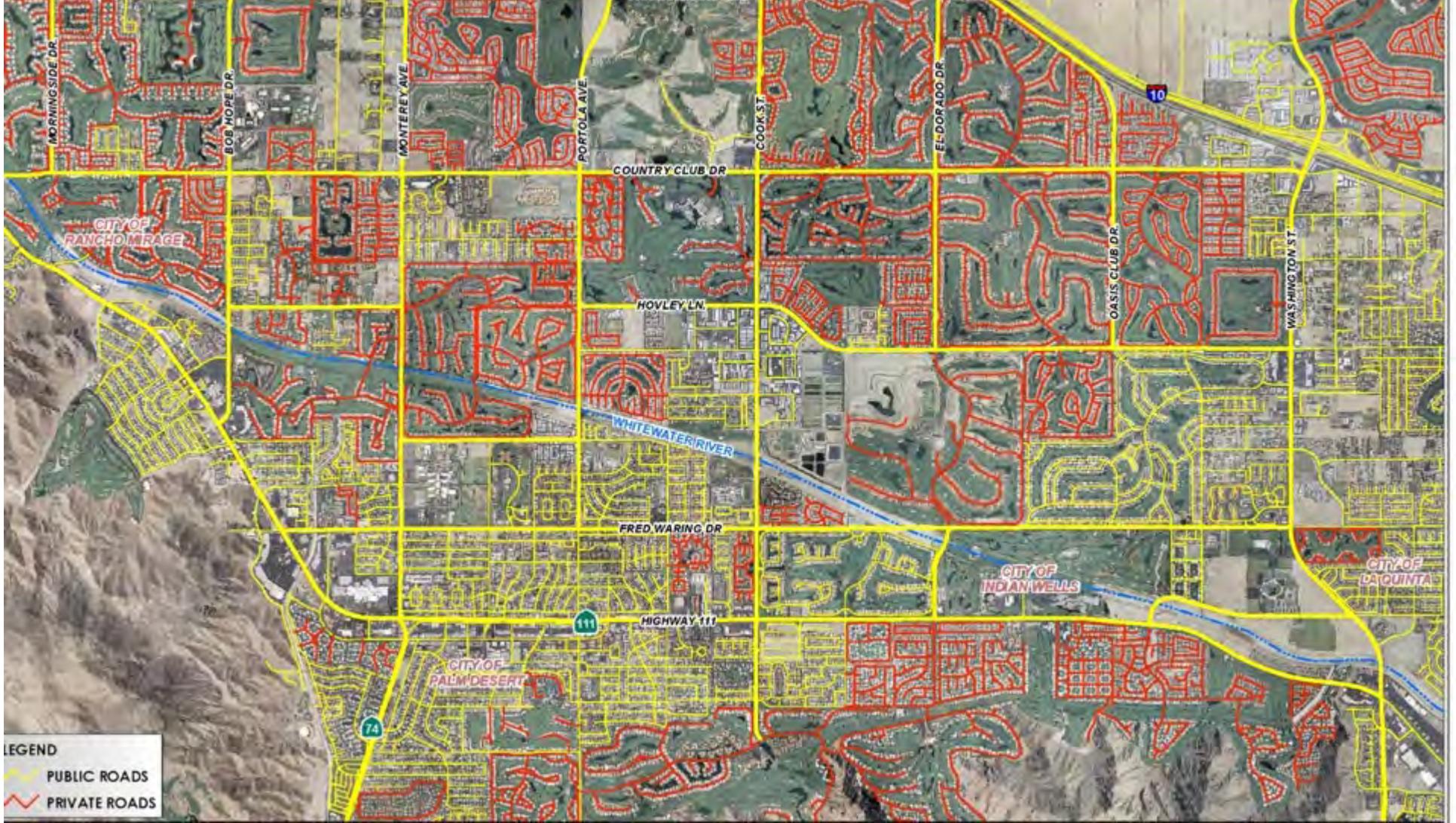
Escondido

San Diego

Mexicali







LEGEND
PUBLIC ROADS
PRIVATE ROADS





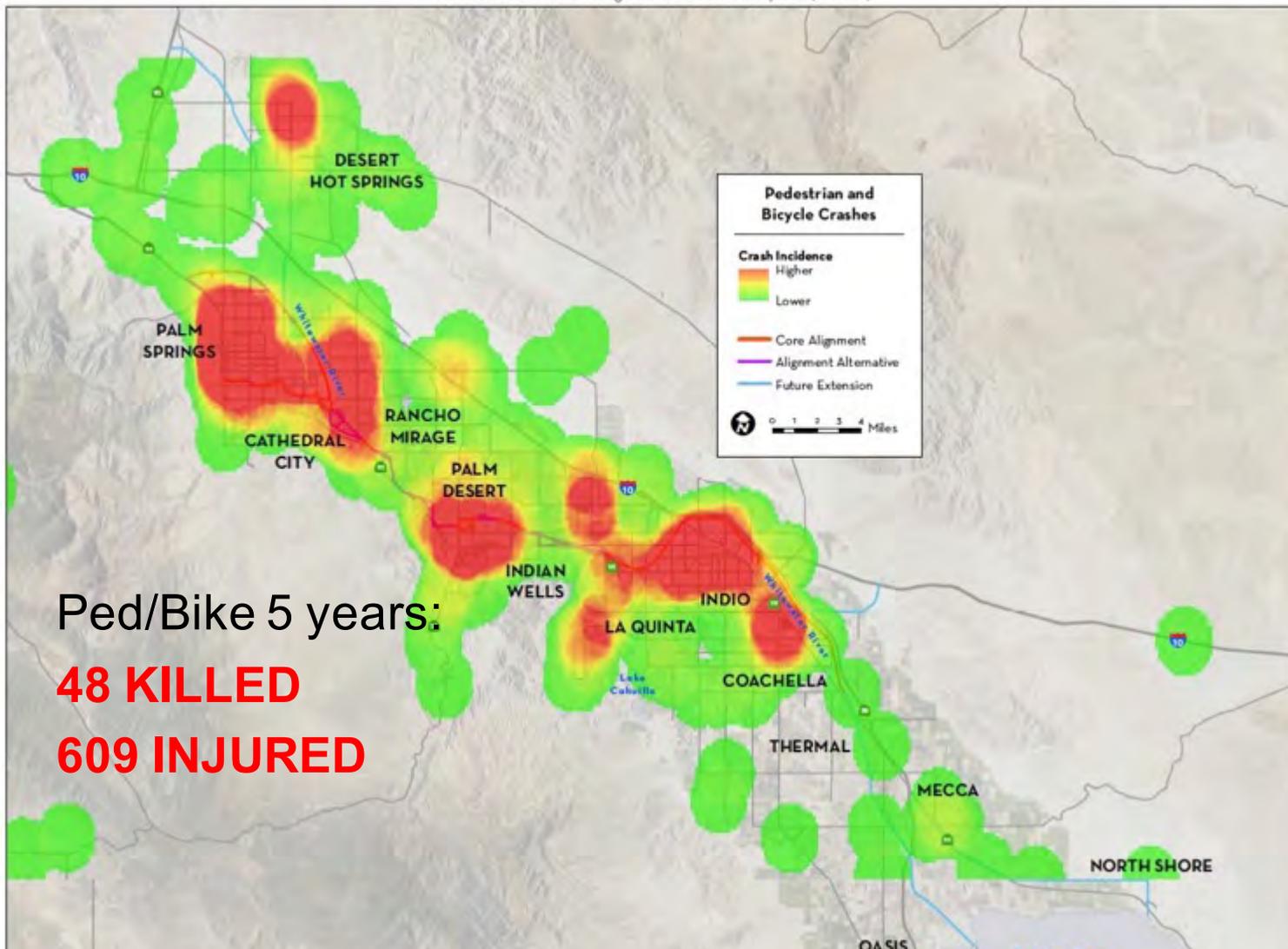


**Ride on the
sidewalk**



**Walk in the
road**





Ped/Bike 5 years:

48 KILLED

609 INJURED









CONCEPT



CV LINK

CONNECTING THE COACHELLA VALLEY

An architectural rendering of the CV Link multi-modal facility. The scene shows a wide, paved walkway with yellow rectangular tiles forming a path. A white, futuristic, four-wheeled vehicle is driving on the path. To the left, there is a landscaped area with green grass, palm trees, and a person walking. A large, modern canopy structure with a white top and blue accents is supported by white pillars. In the background, there are mountains and a wind farm with many wind turbines. The sky is clear and blue.

CV Link will be an innovative, multi-modal facility of national importance that connects communities in the Coachella Valley and provides significant environmental, health, wellness, and economic benefits



CV Link Alignment

- Proposed Route
- Alternative Route
- Future Route



PALM SPRINGS

CATHEDRAL CITY

RANCHO MIRAGE

PALM DESERT

INDIAN WELLS

INDIO

LA QUINTA

COACHELLA

THERMAL

Lake Cahuilla

White Water River



Concept: **CONTRAST**

Coachella Valley

- arid, dry
- brown, earthy, muted
- flat, horizontal
- rough, rocky, textured

CV Link

- lush, water
- vibrant, colorful
- dynamic, vertical
- smooth, sleek, modern

Hwy 111

- indirect, inefficient
- anonymous

CV Link

- direct, efficient
- fun, social

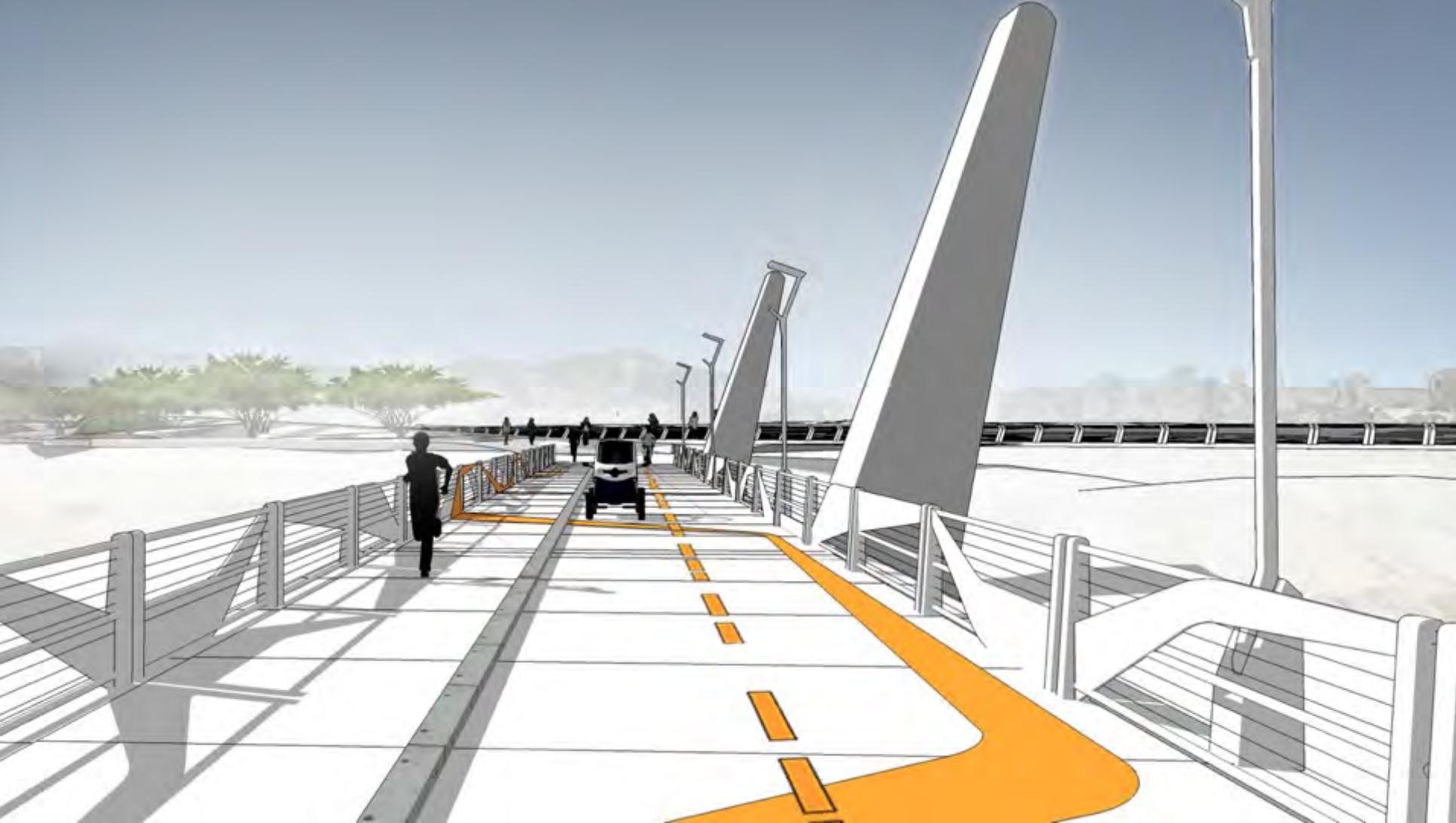
Whitewater River

- heavy, static
- angular

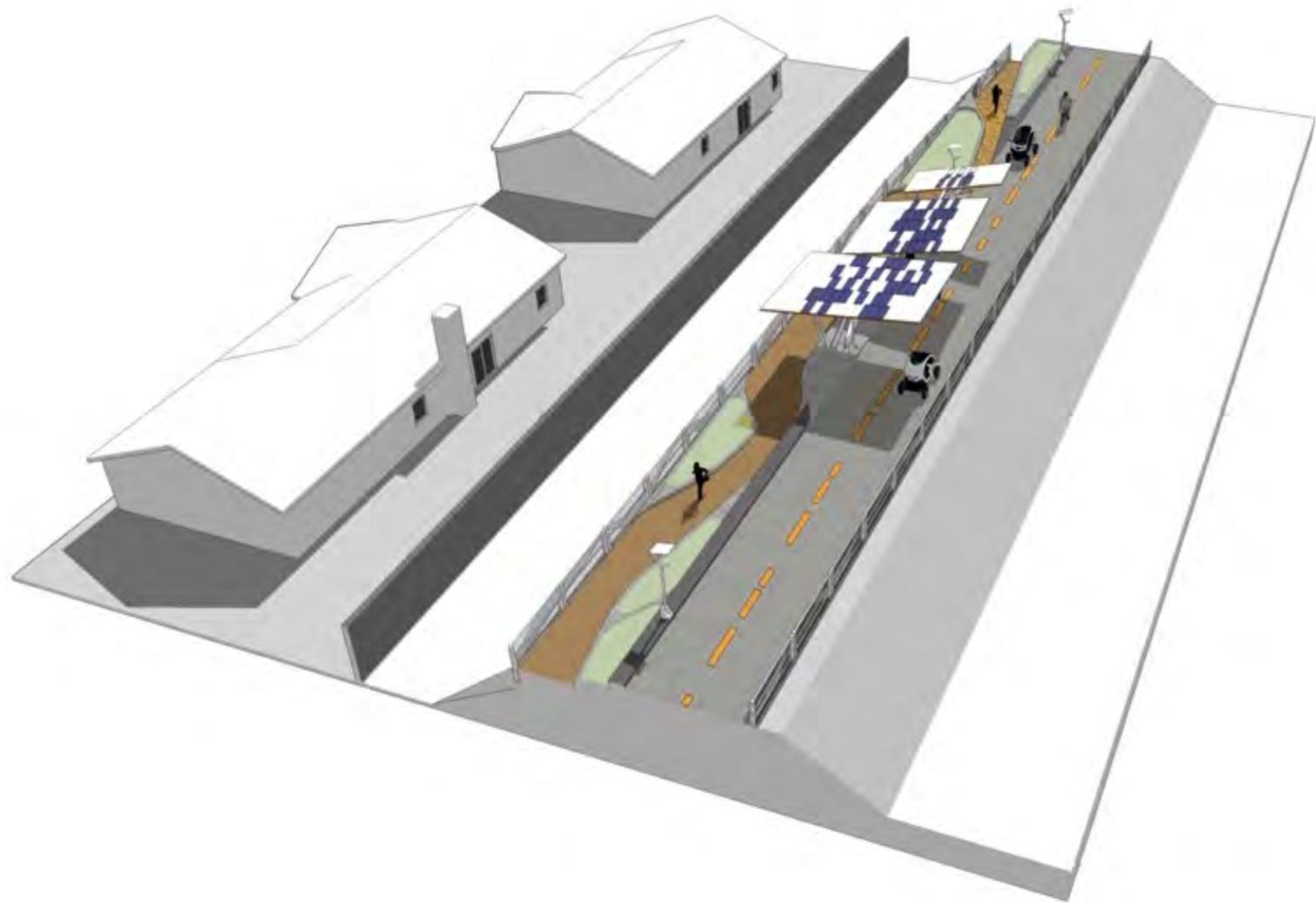
CV Link

- light, dynamic
- fluid











\$100M investment

3 million bike/ped trips/yr (2035)

\$11 social benefits for every \$1 invested

SUPER PATHWAYS WORLDWIDE



Germany: RS1

- **Width:** 4.0 m wide
- **Length:** 100 km long
- **Connectivity:** 10 cities & 4 universities
- **Mode shift:** 50,000 less cars
- **Environment:** 16,000 tonnes of CO₂ / yr

<https://www.theguardian.com/cities/2016/jun/30/intercity-cycle-highways-revolutionise-daily-commute>

Denmark: Albertslund - Copenhagen

- **Length (first route):** 22 km long
- **Vision:** 22 cities, 26 routes, total 300 km
- **Key features:**
 - orange stripe for wayfinding
 - traffic signal “green wave”

<http://denmark.dk/en/green-living/bicycle-culture/cycle-super-highway>

The Netherlands: F35 Bicycle Fast Way

- **Length:** 60 km long parallel to A35
- **Design:**
 - 4 m wide
 - Under 5,000 vpd: cycle street OK
 - Busy roads: grade separation
 - Maximum delay: 15 s/km
- **Response to:**
 - Urban sprawl
 - Health objectives

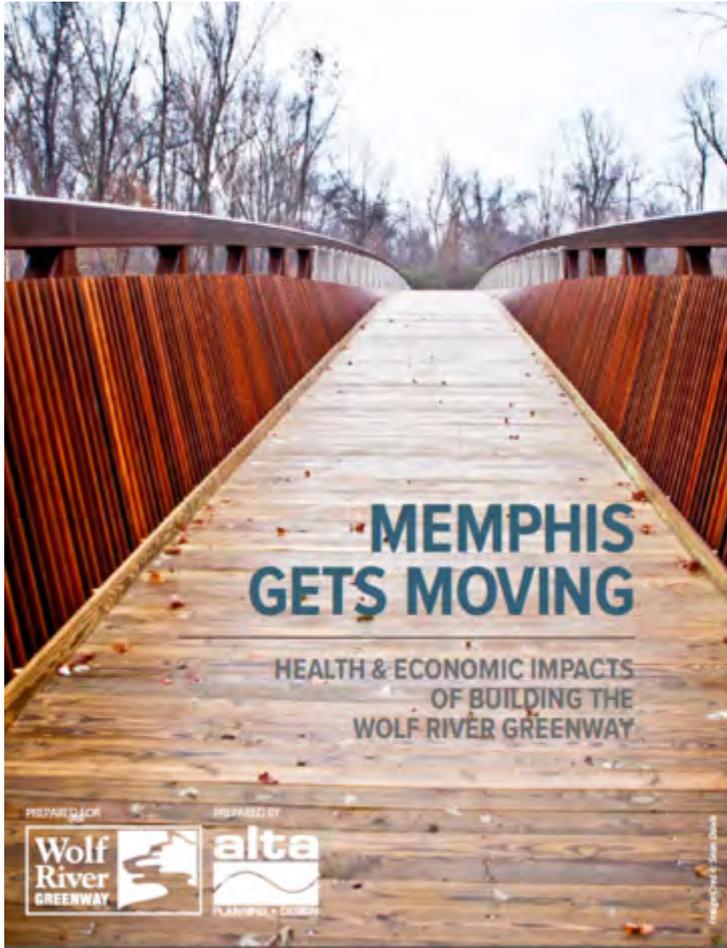
<https://bicycledutch.wordpress.com/tag/cycle-superhighways/>

South Korea: Daejeong to Sejong

- **Length:** 30 km
- **Design:**
 - Solar panel roof
 - Access from cross road underpasses

<http://www.treehugger.com/bikes/bike-lane-down-center-korean-highway-covered-solar-panels.html>

Wolf River Greenway Impact Analysis



When the WOLF RIVER GREENWAY IS COMPLETE,

The Wolf River Greenway will connect neighborhoods from Midtown and Downtown Memphis to Germantown and Collierville, providing residents and visitors a window into Tennessee's wilderness. Designed for active transportation and outdoor recreation, this path will exceed a total of 33 miles, linking residents and visitors to nature, rural farmlands, jobs, schools, shopping, restaurants, parks, and other attractions. With over 7 miles already built, the trail system is already becoming the quality of life of the Memphis region.

100,000
PEOPLE LIVE WITHIN A
10 MINUTE WALK
OF THE PROPOSED GREENWAY.



THE MEMPHIS REGION WILL GAIN

	1,126,000	MORE BIKE TRIPS PER YEAR
	4,650,000	MORE WALK TRIPS PER YEAR
	\$1,467,000	IN HEALTH BENEFITS PER YEAR
	\$2,842,000	IN TRANSPORTATION BENEFITS PER YEAR
	\$7,185,000	IN ENVIRONMENTAL BENEFITS PER YEAR
	\$26,972,000	IN O&M-TIME, UP-FRONT CONSTRUCTION BENEFITS
	\$2,920,000	IN ECONOMIC BENEFITS PER YEAR

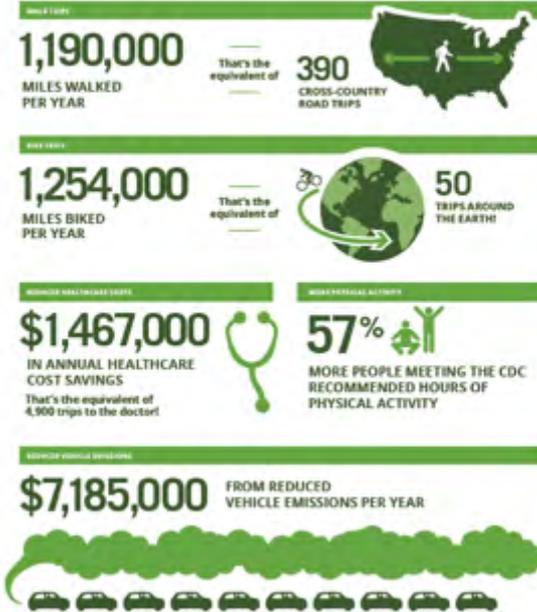
OR

\$14 MILLION
IN TOTAL BENEFITS PER YEAR

Wolf River – Health Emphasis



When the WOLF RIVER GREENWAY IS COMPLETE, THE MEMPHIS REGION WILL GAIN



Waikato – Te Awa River Ride

- **Length (first route):** 22 km complete
- **Vision:** 70 km
- **Budget:** NZ\$50M
- **Users:** 358,000 to date
- **Next up:** Ngaruawahia Bridge over Waikato River

<http://www.te-awa.org.nz/>



PLANNING



What worked, golf oriented development, doesn't today.

The Desert Sun
THURSDAY, NOVEMBER 11, 2011 WWW.MYDESERT.COM A GANNETT COMPANY
SERVING THE COACHELLA VALLEY SINCE 1927



The setting sun lights up a stand of palms along the lake at the 10th green on the Palmer Private course at PGA West in La Quinta. Experts say changing golf habits and uncertain economic times are threatening the future of Coachella Valley golf course communities and private clubs. MICHAEL SHYDER/THE DESERT SUN

Golf course communities facing uncertain futures

Change in golf habits, tough financial times threaten key local economic engine

By Mike Perrault
The Desert Sun



Perception of Coachella Valley in DC / SAC



So Do We Care What They Think?

Unfortunately, Yes



Will Nation's Largest Dedicated Public Electric/Bike Parkway Change Perceptions?



Ambitious Plan



Very Reasonable Incremental Steps Identified

Ambitious Plan



What if we could solve the funding gap?

What if it was more than a bike trail?



What if?

It was Mostly or Entirely Grade Separated?



Figure ES-6: Confirmed CV Link Funding



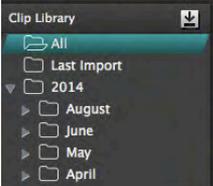
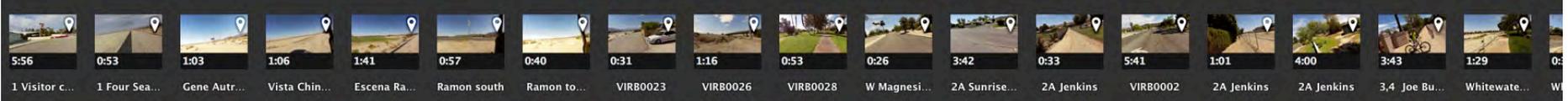
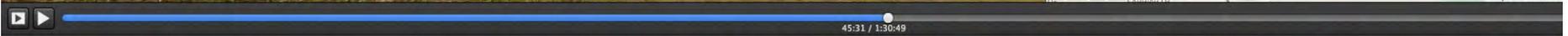
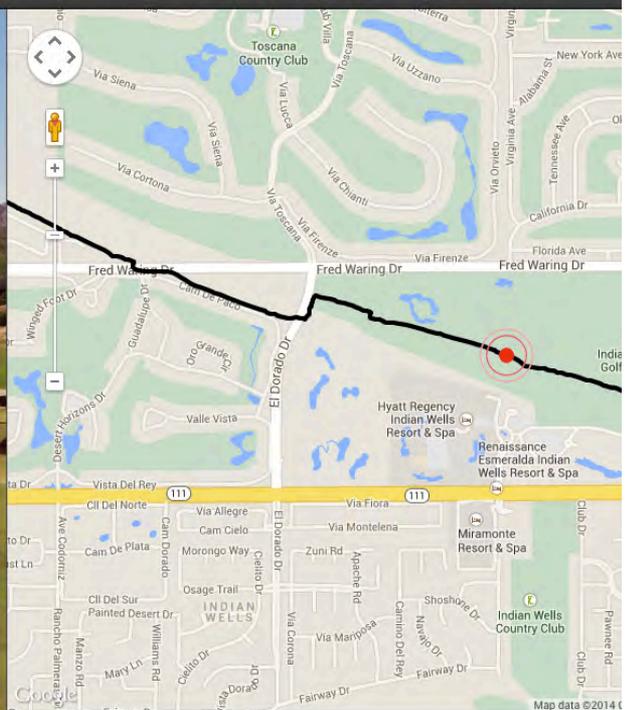
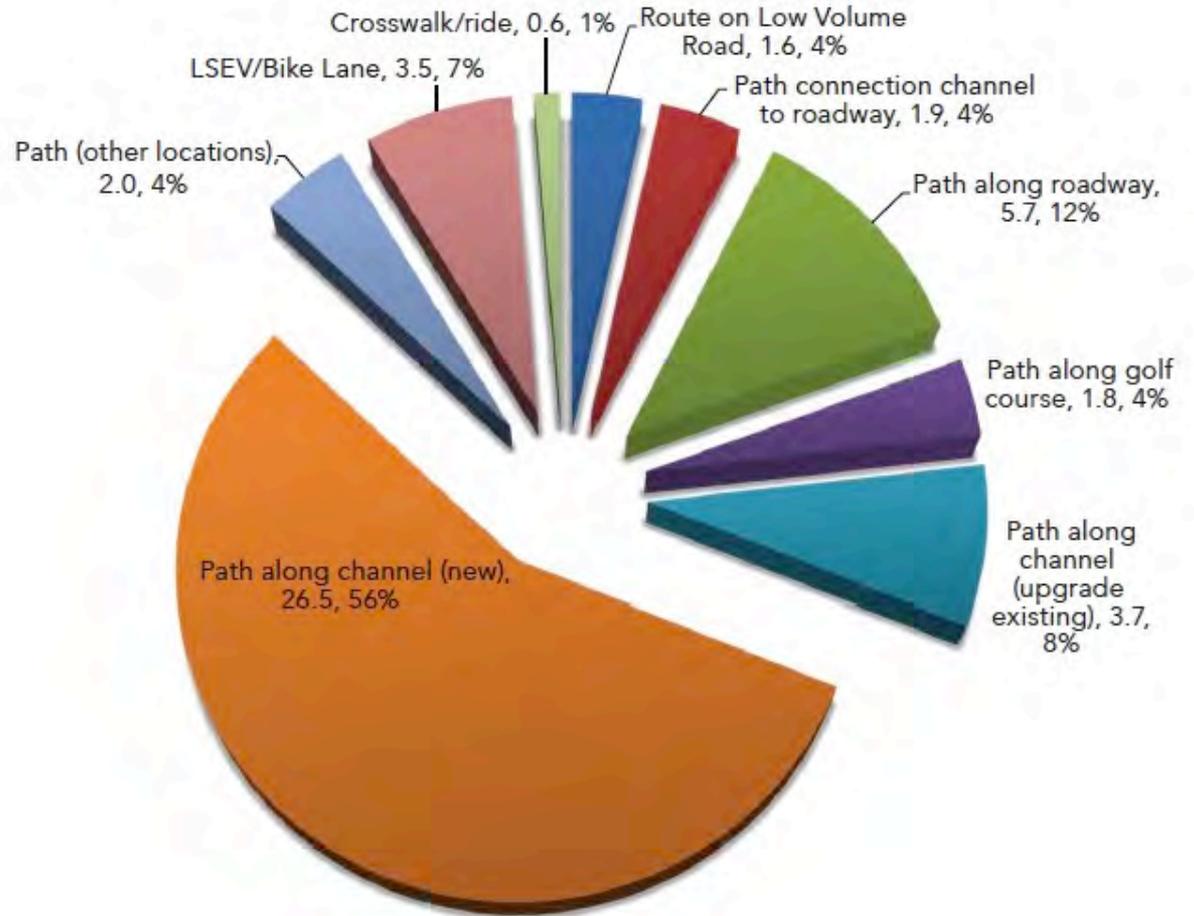
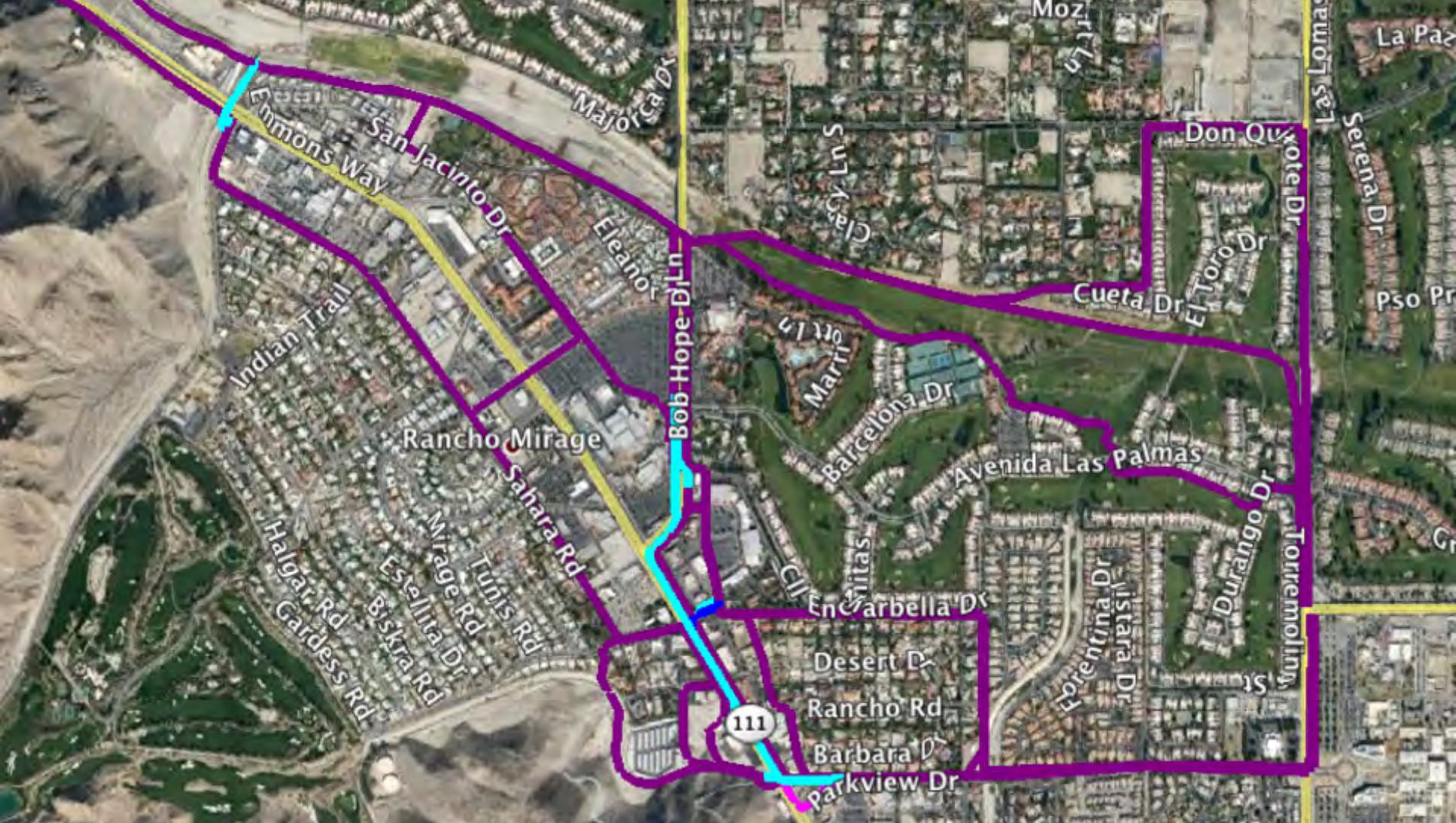


Figure ES-2: Typical Conditions of Proposed CV Link Alignment

- 5 schools adjacent
- 19 schools within 1 km
- Route tailored around gated golf courses and serving major retail / employment centers





Emmons Way

San Jacinto Dr

Major Ca Dr

Eleano Dr

Classy Ln S

Mozart Ln

Don Qu

El Toro Dr

Cueta Dr

Indian Trail

Rancho Mirage

Martini Ln

Barcelona Dr

Avenida Las Palmas

Halgar Rd

Estrellita Dr

Mirage Rd

Sahara Rd

Tunís Rd

Cilinitas

Encarbella Dr

Desert Dr

Rancho Rd

Barbara Dr

parkview Dr

Brentina Dr

Wistara Dr

Durango Dr

Torremolino

111

Las Lomas

La Paz

Serenita Dr

pso Pr

G



Country Club Dr

Bob Hope Dr

Monterey Ave

111

Mages

Parkview Dr

Fred Waring Dr

Diverging Values on Steering Group

1. Criterion A is equal to criterion B
2. Criterion A is slightly more important than Criterion B
3. Criterion A is definitely more important than Criterion B

Inverse is taken if B is more important than A.

*** 1. How do you feel about Economic Efficiency (BCR) versus Trip Demand (although benefits are correlated to demand, BCR includes costs)**

- Economic Efficiency is much more important Economic Efficiency is slightly more important Equally important Trip Demand is slightly more important Trip Demand is much more important

Please write in any comments about your interpretation of this question and/or opinions on these criteria;



3



2



1



0.5



0.33

Variations requiring evaluation (other variations are design or phasing decisions)

		Evaluation (1 to 3, higher numbers are better)								Score			
		Public Opinion	Environmental Factors	Cost	Demand	Leverages Network	Right of Way	Amenity	Safety	Directness	WEIGHTED SCORE	RANK	
		WEIGHT	22%	4%	13%	17%	3%	8%	13%	13%	6%	100%	
North Palm Springs													
1	Overbridge at Chino Wash		3	1	2	2	1	2	3	3	3	82%	1
2	Gateway Dr signals		2	3	3	2	2	2	2	1	2	68%	2
3	Tramway Rd / W San Rafael Dr signals		2	2	1	3	3	1	2	1	1	60%	3
Cathedral Canyon													
1	Whitewater right bank		1	1	2	2	3	1	3	3	3	67%	1
2	Whitewater left bank								3	3	2	65%	2
3	Jenkins Trail								1	1	1	54%	3
Rancho Mirage: Whitew													
1	San Jacinto / Rancho Las								2	2	2	68%	2
2	Whitewater River Channel / Bob Hope (east frontage)		3	2	2	1	2	3	3	3	2	80%	1
Rancho Mirage: Bob Hope to Monterey Ave													

**MAIN BENEFIT:
CONSENSUS BUILDING ON CRITERIA VALUE
JUDGEMENTS**

Master Plan Report

- Challenge 1: scope...664 pages in 4 volumes
- Challenge 2: sync edits in Adobe InDesign
- Challenge 3: public perceptions

SIX: ROUTE

6.2 Segment Descriptions

ACCESS POINTS

In addition to access from adjacent private properties (as may be provided by property owners) and every intersection along the route, CV Link access point facilities are proposed at the following locations:

- Visitor Center, enhance existing facilities
- Desert Highland Park, enhance existing facilities and construct new pathways connection to the main route
- Sunrise Way, install a new level path as proposed by the city
- Four Seasons Way, create gated private access point for use by the Four Seasons community
- Whitewater Park Drive, a new regional park is proposed by the city
- Gene Autry, a regional access point serving as a junction with the future Desert Hill Springs CV Link extension, including the bridge part of between Gene Autry Trail, Vialto Falls, and the Whitewater River Channel. This site would be an ideal location for a major transit world or visitors or staging area for world-famous.

DESTINATIONS

- Palm Springs, Visitor Center / Rental Train
- Desert Highland Park
- Future neighbor hood part of Whitewater Park Drive

A large recent parcel along the CV Link alignment between Indian Canyon Drive and Sunrise Way, proposed to be the new College of the Desert West Campus site. Research plans to redevelop the Palm Springs Mall for the college suggest that the project may be re-imagined.



An alternate connector crossing against traffic in the gap between Tronway Road and Gateway Drive, view north.



Top of 12' 0" wide independent fence with modular slope protection (left) and gentle road slope (right), view looking from Indian Canyon Drive.



Access with a concrete slope protection (left) and Sunrise Parkway divided roadway (right), view east.

SEGMENT 1: NORTH PALM SPRINGS

3.00 mi. | Highway 111 to East Vista China | Palm Springs | Plan Sheets 1-9

ROUTE DESCRIPTION

Segment 1 starts the Palm Springs urban area, with major, mountain and wind farm views, mostly along the Palm Springs Canyon Road (CV Link Non-Modular Transportation Plan (NMTD)) travel route.

Tronway Road to China Wash new path, filling in the gaps on one or both sides of Highway 111.

China Wash to Sunrise Way pathway along the top of the 12' wide levee.

Service Way to Gene Autry Trail along the Four Seasons development the path would be on top of the levee, on the development side of the levee, or on the channel side of the levee. This latter would mitigate privacy impacts and may be a major asphalt path, with a new ramp on the west end, a low wall or crossing of the tributary channel and existing ramp on the east end.

CONSIDERATIONS

China Wash (1.2 mi.) levee path between Tronway Road and the main Whitewater River channel alignment requires an overcrossing of Highway 111 as the dip in the northbound lane limit a right-of-way.

Tronway Road (0.7 mi.) upgrade and extend the existing two-way path, optimized to those areas existing a steep gradient challenge and turning around the local train.

Tronway Road (0.7 mi.) path on top of levee or on a slope depending on community preferences, connecting residences and Highland Park.

Via Courts (1.2 mi.) hillside along the NMTD designated east-west route.

CROSSINGS

Highway 111 Alternatives listed from north to south:

1. Gateway Drive (1.2 mi.) new signal phase and crossing facility at existing signal, with new path on east side between Tronway Road and Gateway Drive. This would include an upgrade of the existing existing yellow warning base on the southbound approach to the intersection. This alternative provides the best view and most direct and unobstructed bridge to the proposed Visitor Center Access Point.
2. Base bridge (0.4 mi.) Highway 111 overcrossing at the China Wash, with new path along the full length of the west side of the Tronway Road to the China Wash. This alternative will require a costly bridge structure, while creating a spectacular gateway into the city. While the grade separation eliminates traffic conflict and delays, the required ramps would increase the level of effort for pedestrians and bicyclists relative to an at-grade crossing. Signature bridge up to 1.4 mi. would function as the base bridge, but of an iconic, sculptural arching design.
3. Tronway Road (0.7 mi.) enhance existing signal with CV Link approach and such ramps, install a new path on the east side between W. San Gabriel Drive and Gateway Drive. Requires grading and retaining walls at an existing signal phase.

Indian Canyon Drive the future Sunrise Way bridge intersection will include full traffic signals. A pedestrian hybrid beacon could be an interim option. Gene Autry in Phase 1, CV Link users would direct to the existing Via Courts traffic signal (not defined). In the long term, an access crossing could be installed here to reduce the travel distance to approximately 1 mi. and eliminate the signal delay.



O&M Plan

Oversight	Management	Maintenance	Promotion	Enforcement
Lead Agencies and Organizations				
CVAG	CVAG	CVAG	CVAG	CVAG
CV Link Joint Powers Authority	CV Link Joint Powers Authority	CV Link Joint Powers Authority	CV Link Joint Powers Authority	CV Link Joint Powers Authority
Riverside County Parks	Riverside County Parks	Riverside County Parks	Riverside County Parks	
		Desert Recreation District	Desert Recreation District	
Cities / County			Cities / County	Cities / County
	Private Contractors	Private Contractors	Private Contractors	Private Contractors
Supporting Agencies and Organizations				
			Volunteers	Volunteers
			Friends of CV Link	
			Tourism Agencies	

Note: more than one agency may share responsibilities within an activity area

CVAG is a Joint Powers Authority (JPA) and the regional planning agency coordinating government services in the Coachella Valley. It is leading the CV Link implementation but also manages road sweeping contracts and programs.

A JPA is an entity whereby two or more public authorities may jointly exercise any power common to all of them. A CV Link dedicated JPA would provide an opportunity to select members who are directly affected by CV Link.

Riverside County Parks develops and manages parks, historic sites, and trails. There is precedent for a role with CV Link: the National Park Service manages the 525 mile Blue Ridge Parkway – a key commuter route where it traverses cities.

The Desert Recreation District (DRD), formerly the Coachella Valley Recreation and Parkway District, was created to administer facilities and provide recreation program services.

CV Link will eventually extend through nine cities, three tribes, and unincorporated county land. These jurisdictions may have members on a JPA oversight committee and will lead policing and the development of connecting routes and art.

A lead agency may hire private contractors to perform services such as landscaping, sweeping, enforcement, and events programming.

Volunteers may include: CV Link guides, community watch patrols, educational institutions, and Annual Work Day participants who assist with events and enforcement.

The Friends of CV Link (FCVL) is a 501c(3) non-profit organization that encourages a healthy lifestyle and environment by promoting and enhancing the CV Link Project.

Agencies such as the Palm Springs Bureau of Tourism, the Greater Palm Springs Convention & Visitors Bureau, and the Riverside Convention & Visitors Bureau can help communities prosper through increased visitation.

O&M Benchmarking

RELATIVE AREA



RELATIVE COST PER MILE PER YEAR



DESIGN

The background is a gradient of dark blue to purple, overlaid with a field of small, light blue star-like particles. On the right side, there are several technical diagrams in a lighter blue color. These include a large circular gauge with a scale from 0 to 220, a smaller circular gauge with a scale from 0 to 100, and various concentric circles and dashed lines. Some of these diagrams have arrows indicating direction or flow.

Design vehicle

PED: 60 cm
WIDTH: 90 cm
SURFACE: soft
preferred
SPEED: 1.5 m/s



PEDESTRIAN

CYCLIST: 75 cm
WIDTH: 1.5 m
SURFACE: hard
preferred
SPEED: 6.0 m/s



CYCLIST

LSEV: 137 cm
WIDTH: 2.2 m
SURFACE: soft or
hard
SPEED: 10 m/s



LSEV

Not
in NZ
law





IMG_2/68 S Riverside Dr / S Camino Real, Palm Springs

NEV's Yield to Pedestrians and Bicycles on bridge



IMG_2/58 Sunrise Way, Palm Springs

High visibility neon yellow bicycle / pedestrian crossing warning sign



IMG_2/46 Near Desert Chapel, Palm Springs

Warning: You are entering a golf course area. Beware of stray golf balls. The bikeway user assumes all risks associated with personal injury and property damage. Alternate routes have been provided. Thank you, City of Palm Springs. Supplementary plates: Bicycle symbol, Recycled Water - Do not drink from irrigation fixtures.



IMG_2/35 Compadre Rd, Palm Springs

Private Property Trespassing/Littering Forbidden by Law No Dogs Allowed. The proposed CV Link should have segregated dog parks at frequent intervals, as dog owners are likely to visit daily and contribute to the "eyes on the street".



IMG_2680 Washington St / Hwy 111, La Quinta



IMG_2522 Cook Street, Palm Desert



IMG_2445 Portola Rd, Palm Desert

No parking Bike Lane Golf Cart Lane Begin



IMG_2270 Tahquitz path, Palm Springs

(Golf carts) Park off Bike Path



IMG_0554 Jenkins Trail, Cathedral City

Entrance to Bike And Equestrian Path Caution Horses Have Right Of Way Proceed With Care



IMG_4189 Civic Center, Palm Desert

Golf Cart Parking Only



IMG_4793 Dinah Shore

Two Way Bike/Ped Route Shared



IMG_0655 Joe Butler Trail, Rancho Mirage



IMG_1963 Bear Creek Path, Avenida Montezuma, La Quinta

Field confirmation



4.5 m

On-street

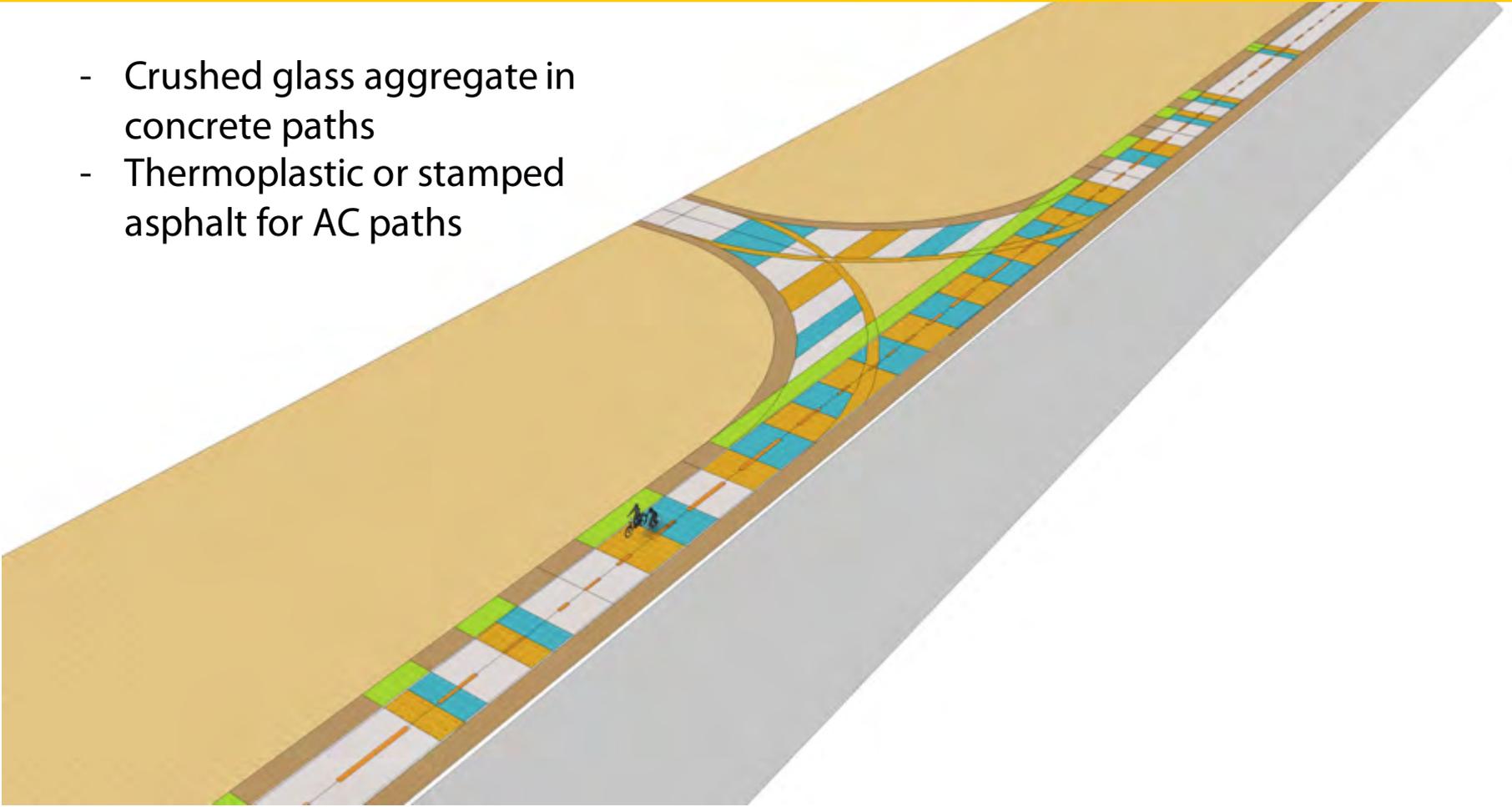


Design Standards: *Modal Compatibility*



Mixing Zone Paving

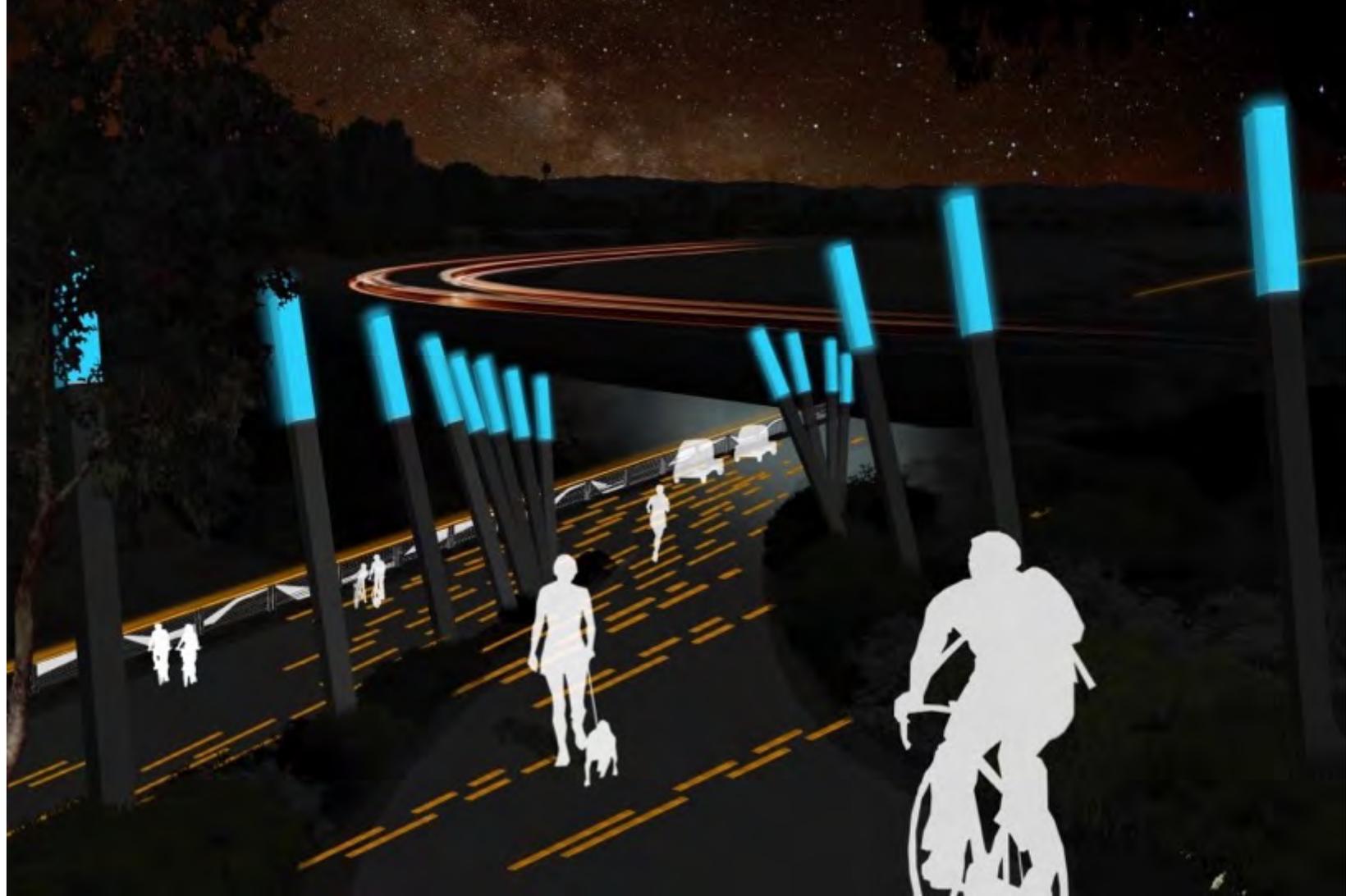
- Crushed glass aggregate in concrete paths
- Thermoplastic or stamped asphalt for AC paths





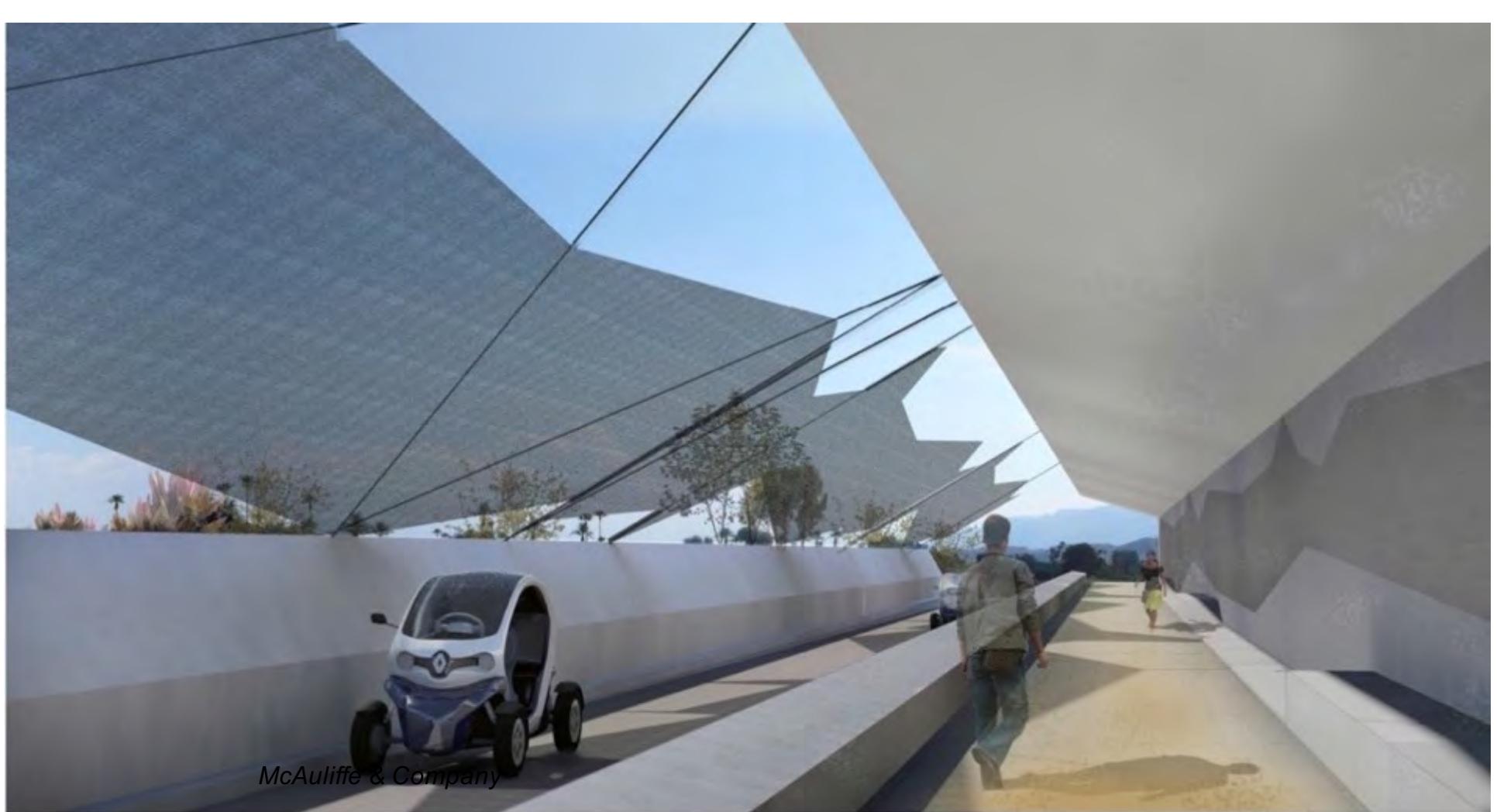








McAuliffe & Company



McAuliffe & Company

WEST Valley

- Low independent levee(s)



WEST Valley

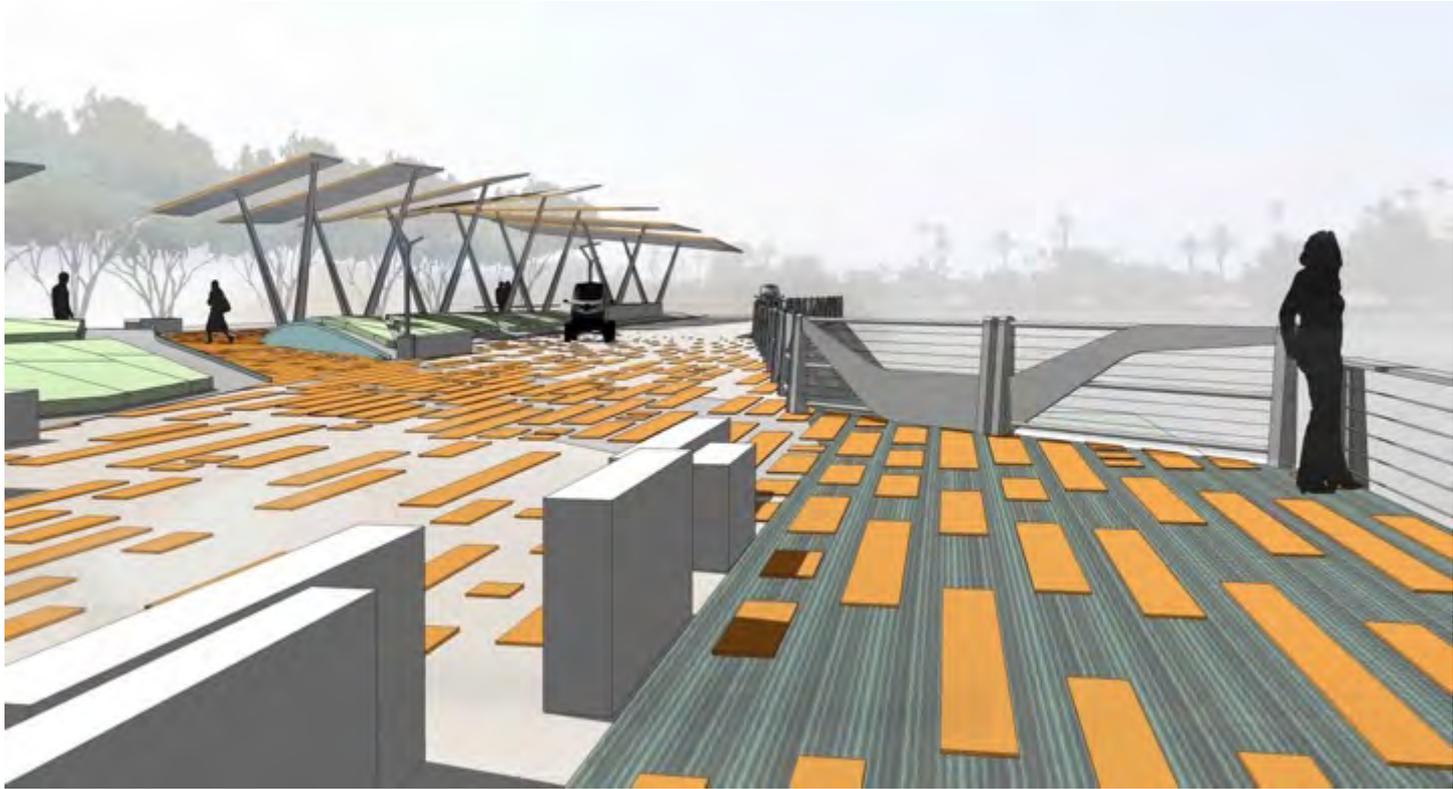


CENTRAL Valley

- Channel bench or slope



CENTRAL Valley



McAuliffe & Company

EAST Valley

- High independent levee



EAST Valley



Hermann Design Group





Path Etiquette Sign
Keep Right



Path Etiquette Sign
Bicycle Slow Zone



CV/LINK

CONNECTING THE COACHELLA VALLEY

UPCOMING EVENTS

DATE	EVENT	LOCATION
2/7/2014	TOUR DE PALM SPRINGS	PALM SPRINGS
2/11/2014	INDIO SENIOR HEALTH FAIR	INDIO
2/15/2014	PALM SPRINGS MODERNISM WEEK	PALM SPRINGS
2/15/2014	COLOR IN MOTION	INDIO

Interpretation + Education

Valley Innovations

- Wind farms
- Solar
- Aerial Tramway
- PEV readiness
- Air quality monitoring
- Pathway user counts



Art

- Alternative energy sources
- Interactive and inviting
- Light and digital projection
- Motion activated
- Wind, water, and solar themes

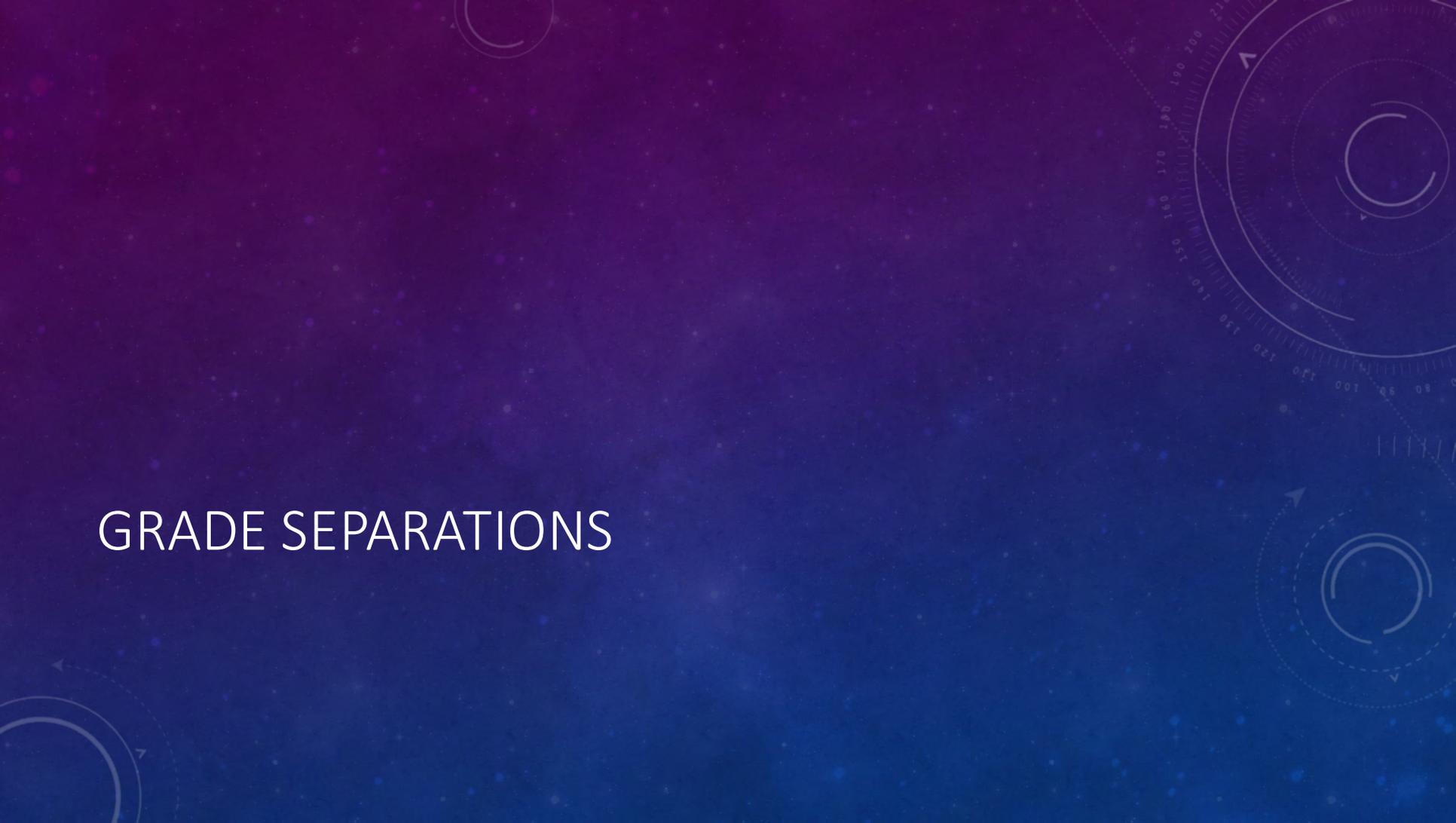


Digital Art, Santa Clara



Energy Generating Art, Singapore

GRADE SEPARATIONS

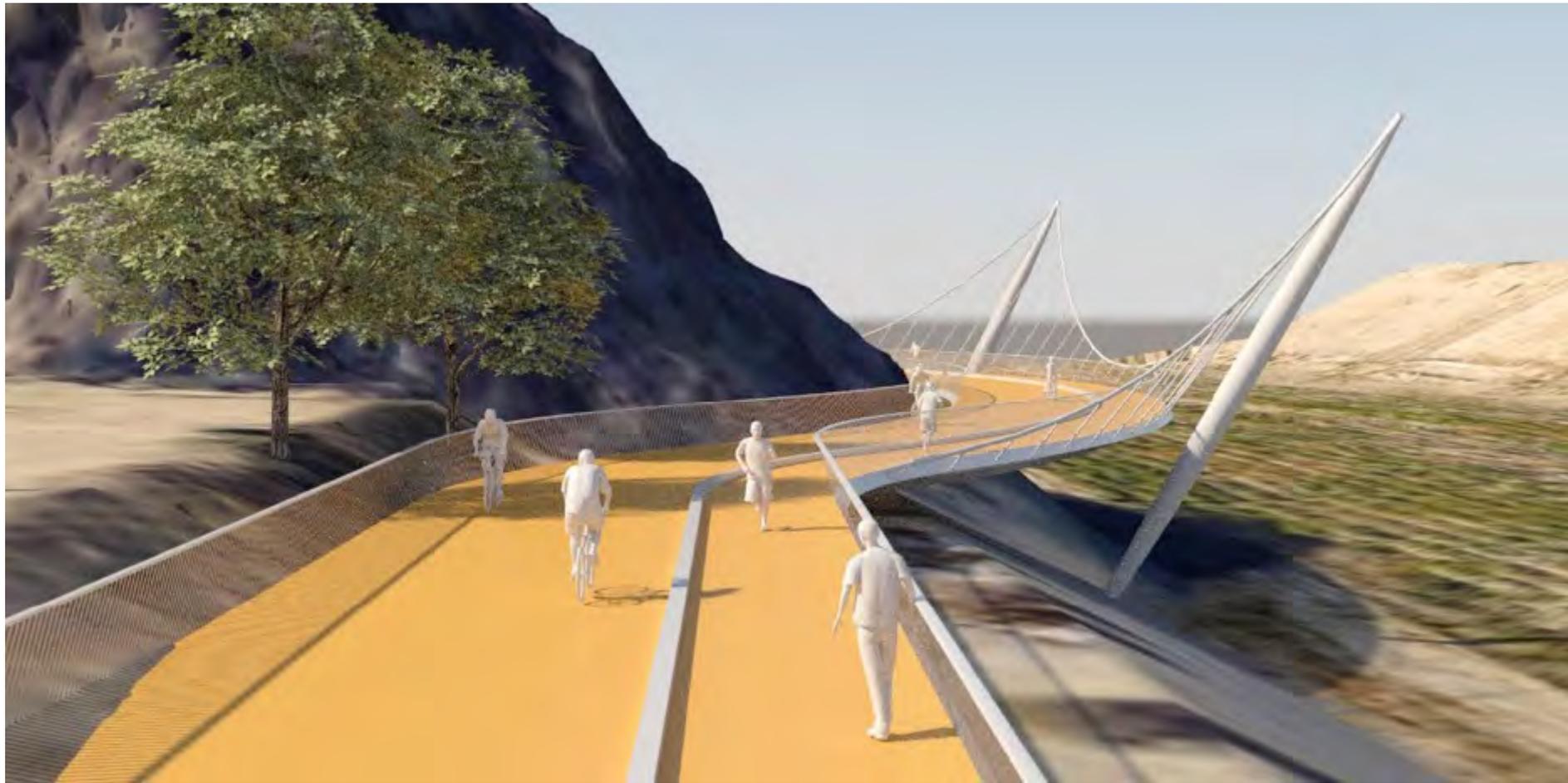
The background features a gradient from dark purple to blue, overlaid with a field of small white stars. On the right side, there are several technical diagrams: a large circular scale with numerical markings (0, 50, 100, 150, 200, 250) and arrows, and other smaller circular diagrams with concentric lines and arrows, suggesting a technical or scientific theme.



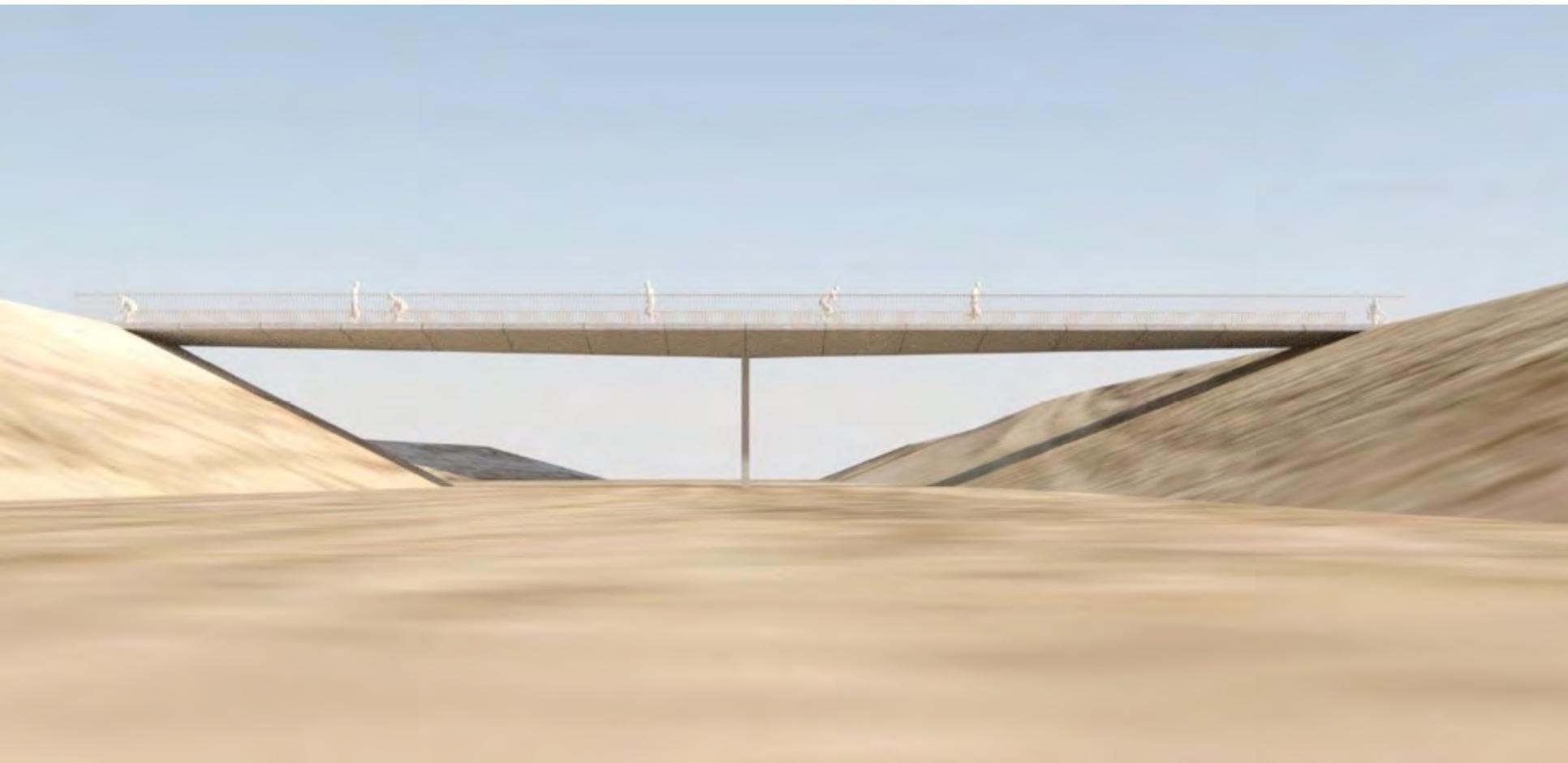




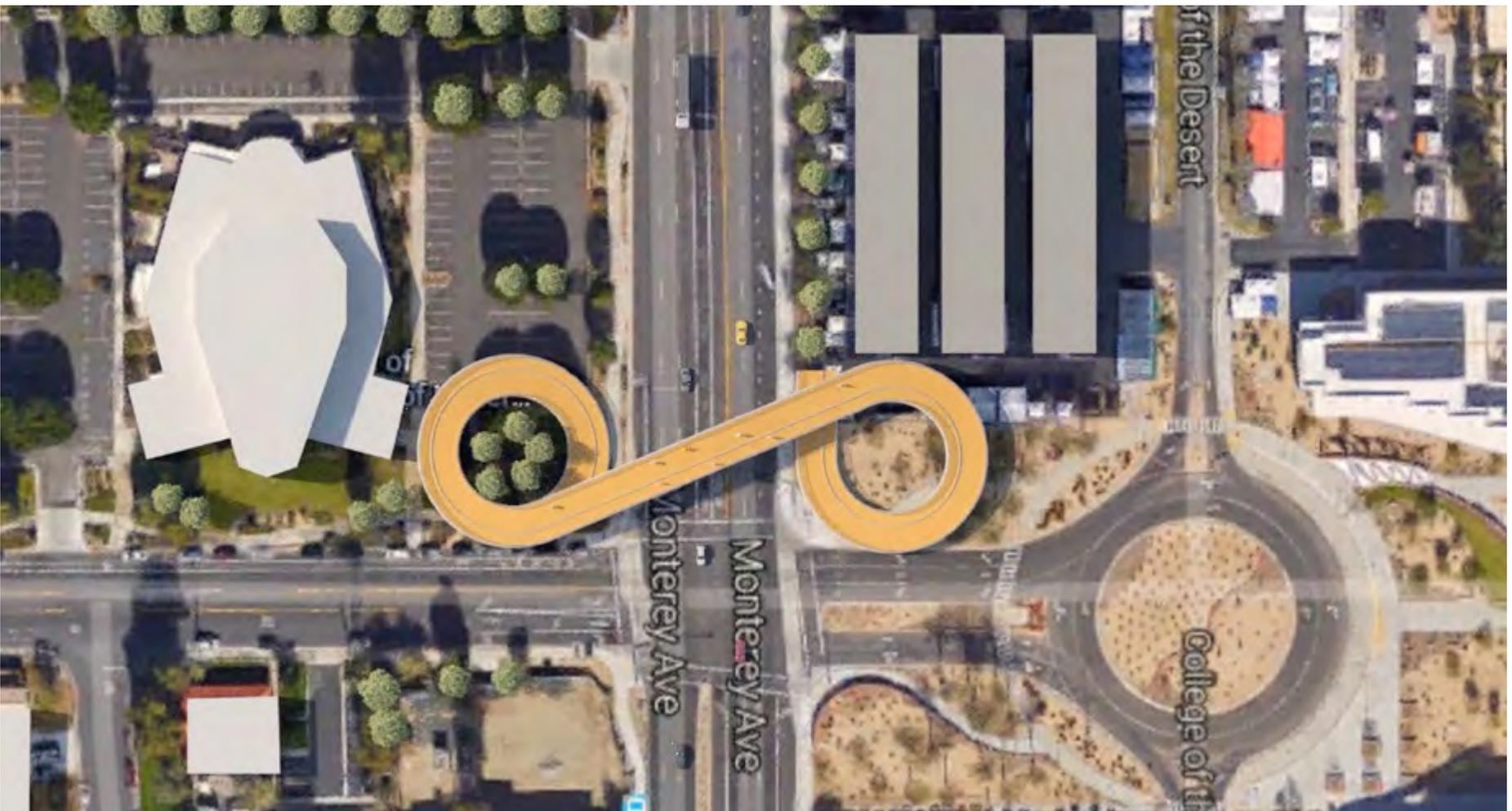












of the Desert

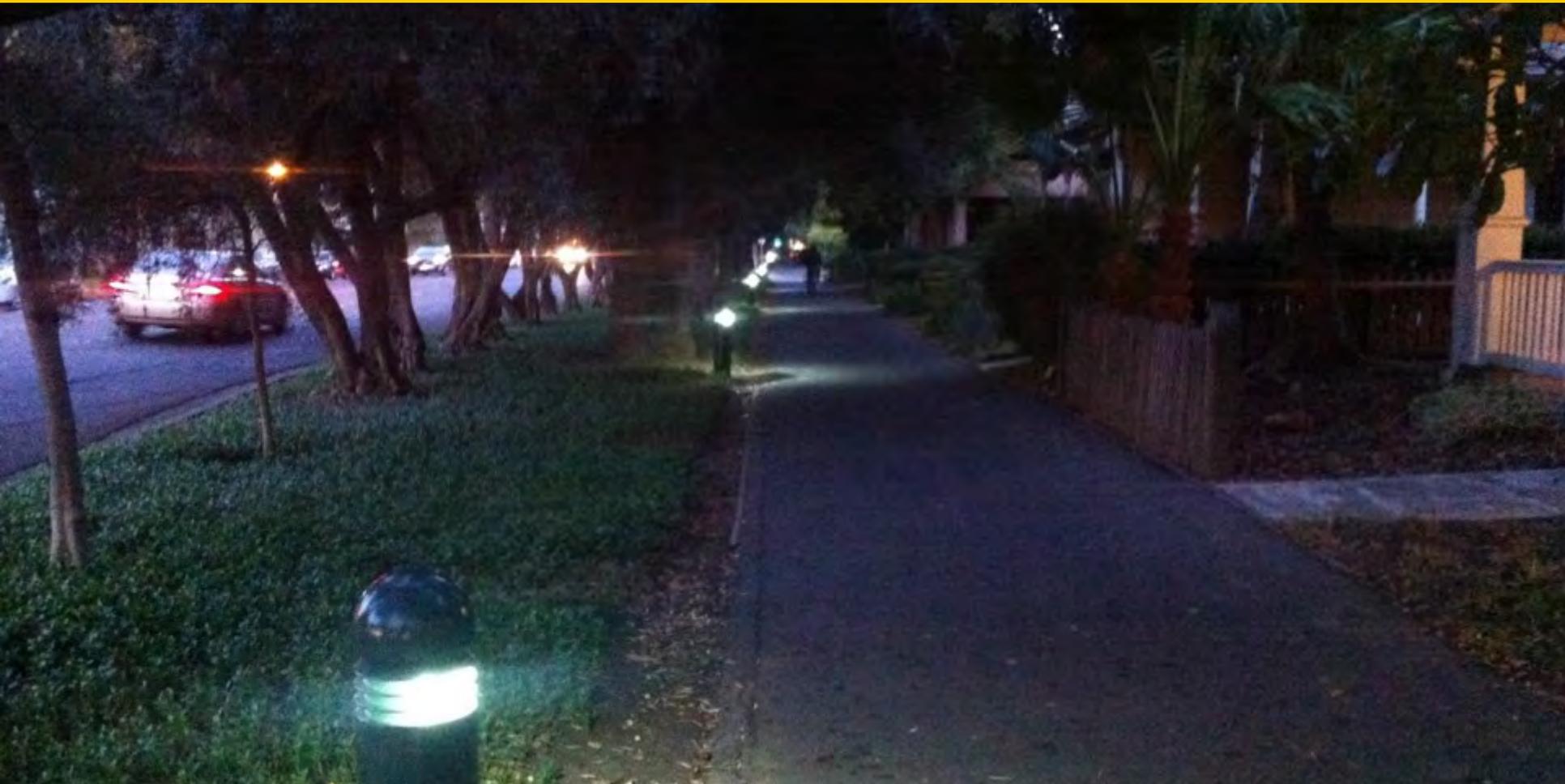
College of th

Monterey Ave
Monterey Ave

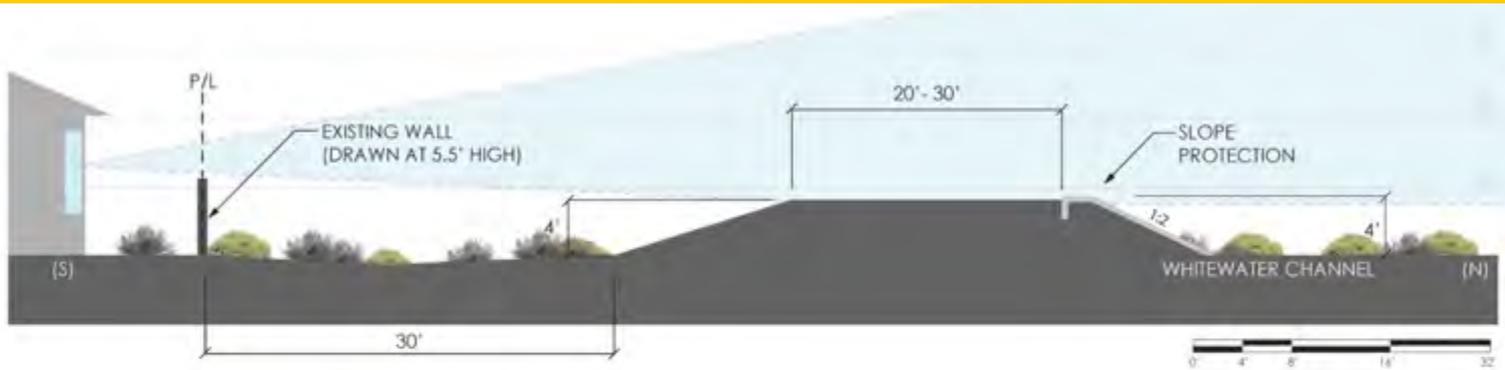
CHALLENGES



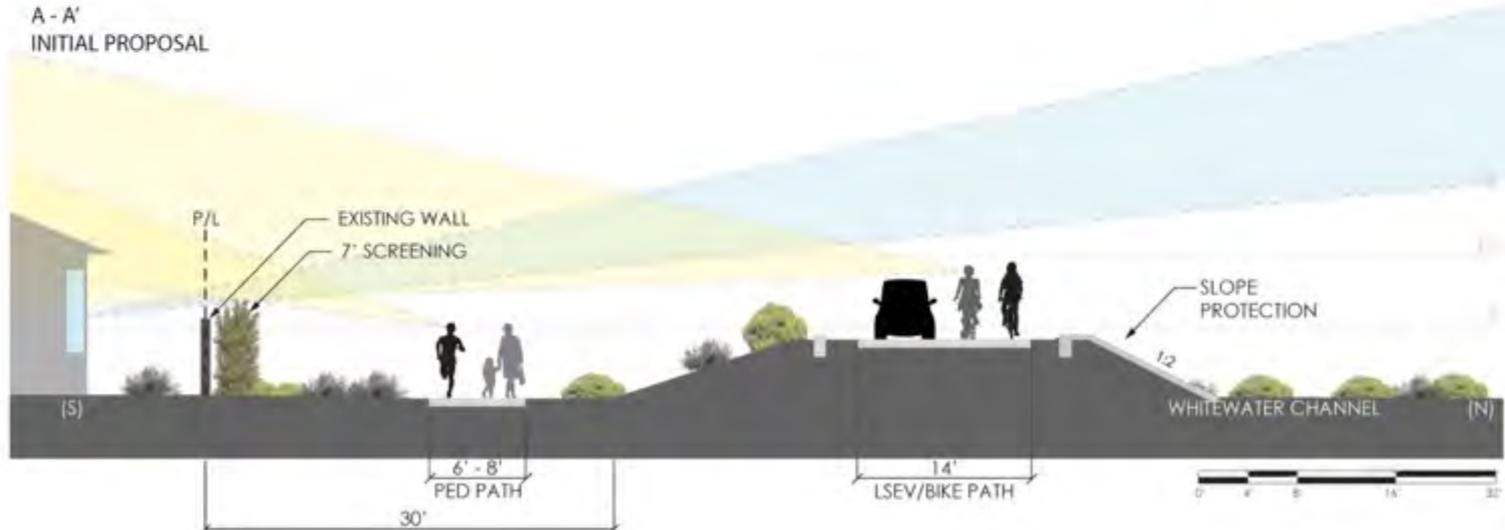
Light Spillover / Dark Skies Ordinances



Impact on Mountain Views



A - A'
INITIAL PROPOSAL



Vandalism and Litter

- Existing Condition – Flood Control Channel
- More eyes on the corridor, replacing illegitimate use with legitimate use
- High level design, vandal resistant
- Managing agency, prompt responses to issues



Crime

- Crime Prevention Through Environmental Design (CPTED)
- Programmed activities/ events – activate the space
- Ranger patrols, community trail watch
- Infrastructure - call boxes, CCTV cameras



- Litter & crime (survey of 372 trails):
 - Litter non-existent on developed trails; major problem on un-developed trails
 - 97% had no major crime issues over a two-year period
- Vandalism and crime (MN):
 - Proposed trails: 75% had concern
 - Established trails: <6% had concern
- Crime along the Burke-Gilman Trail, WA
 - 1.25 break-ins per year, less than neighborhood average
- Quality of life along the Brushy Creek Trail, Santa Rosa, CA:
 - 65% of adjacent residents say trail enhanced quality of life

Noise From Motorcycles & ATVs

- Vigorous enforcement and penalties
- Paved trail less attractive to off-roaders
- Community effort

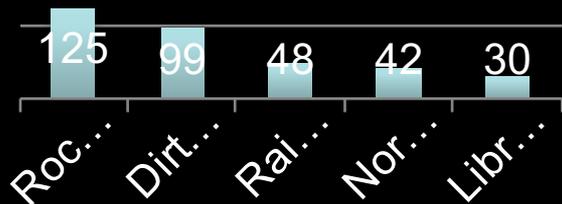


Bear Creek Trail, La Quinta

Noise From Legitimate Users

- Courtesy signage
- Elevation / soundwall
- White noise

**Decibels at 20 feet
away**



Harsh Conditions

- LSEVs, e-bikes less affected
- Provide water, shade
- Use will be highest in-season and mornings
- Doesn't stop CV from building golf courses!

A 40 degree day with 70 km/h winds

Property Values

\$510 higher median home values for every $\frac{1}{4}$ mile closer to a trail in Minneapolis-St. Paul

11% higher values for homes within $\frac{1}{2}$ mi. of Monon Trail (IN)

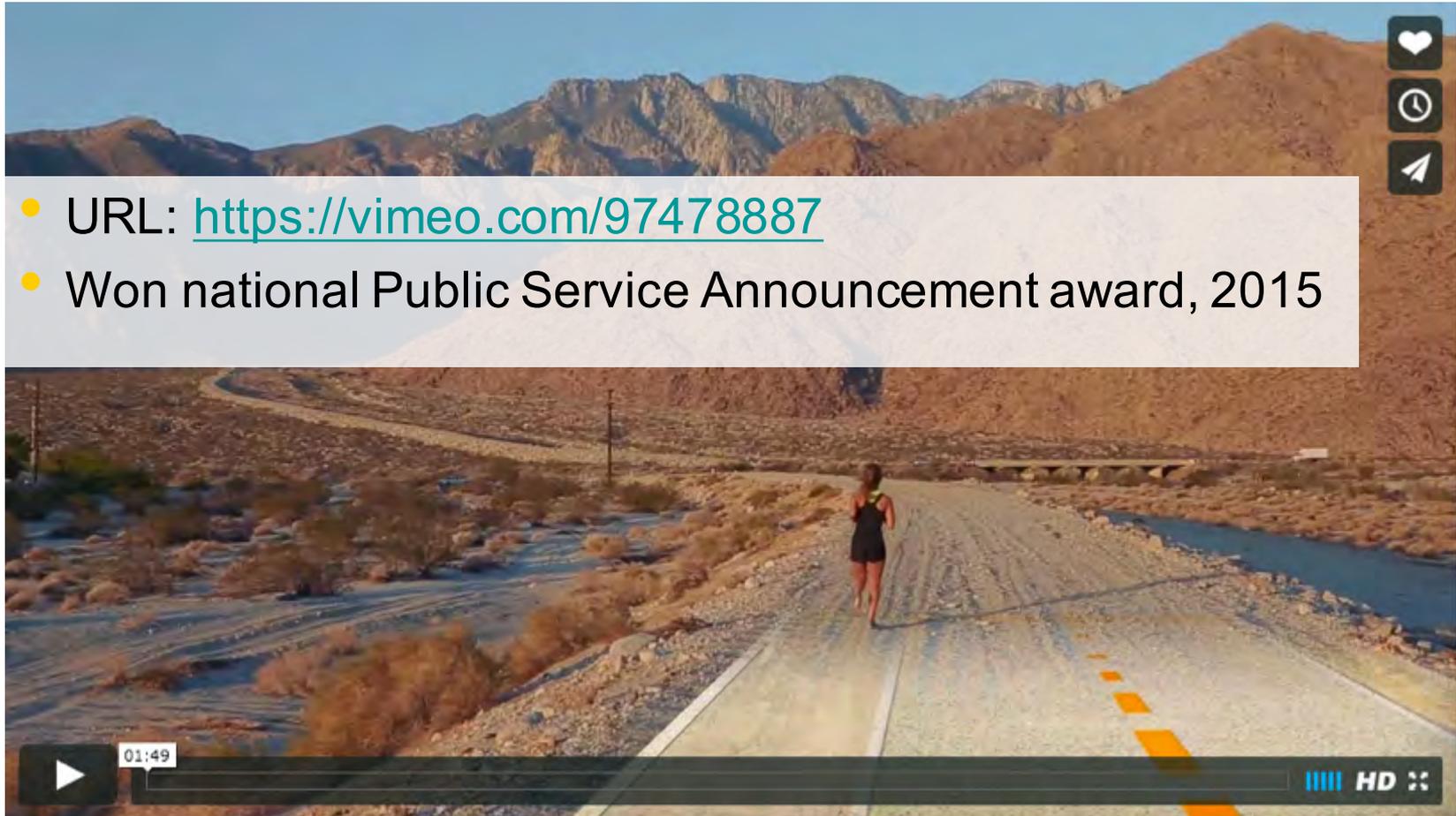
6% higher values *near* trail; **0%** difference *adjacent* to Burke-Gilman Trail (WA) – compared to similar homes not near

87% of owners adjacent to Luce Line Trail (MN) believed the trail increased or had no effect on their property value

OUTREACH



- URL: <https://vimeo.com/97478887>
- Won national Public Service Announcement award, 2015



Select Language



Sign-up for email

Email Address

Send

Search



HOME

ABOUT

THE VISION

MEETINGS

GET INVOLVED

PRESS

CONTACT



Welcome to the CV Link project information page.

Welcome to the CV Link, a revolutionary new concept in transportation. Led by the Coachella Valley Association of Governments, the CV Link is the first of its kind to incorporate pedestrians, bicyclists, and low speed electric vehicles in one project. CV Link will connect eight Coachella Valley cities and the lands of two federally recognized tribes with an alternate transportation route to the busiest corridor in the Coachella Valley.

As part of the CV Link project, the Coachella Valley Association of Governments (CVAG) is issuing the Draft Master Plan and appendices.

[View Draft Master Plan](#)

[View Draft Master Plan Appendices](#)

[View NEV Draft Plan](#)

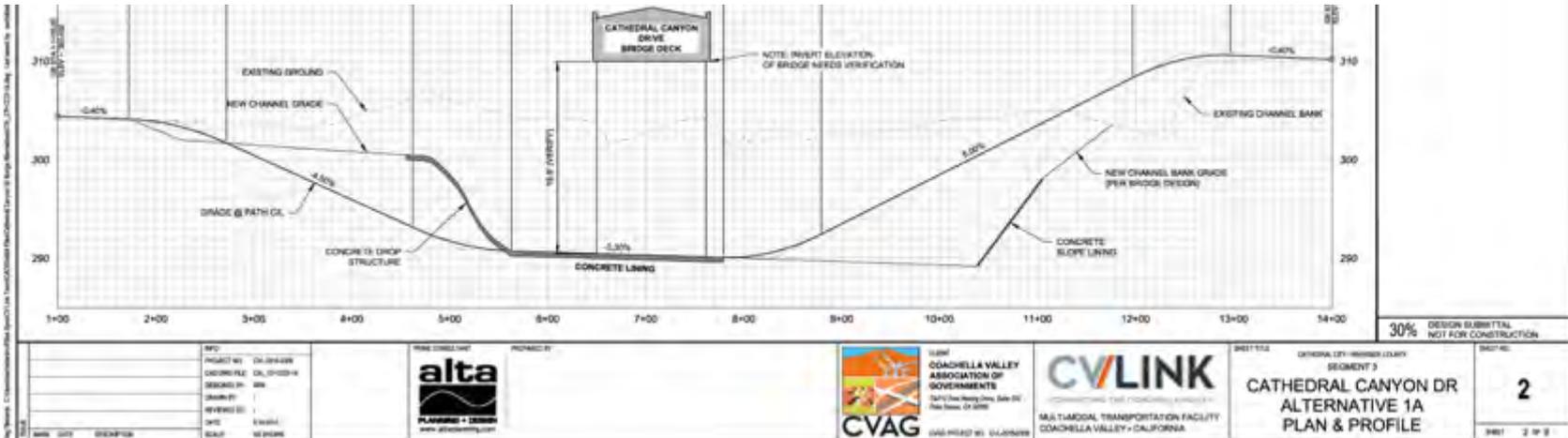
[View Preliminary Plans](#)

SUMMARY





- Currently in detailed design and environmental approvals stage
- First segment in Cathedral City to open in 2017
- Substantial completion of about 50km by 2019



CV Link summary

- Momentum achieved through near term implementation vision
- Striking but affordable design elements work to build enthusiasm
- Set desirable dimensions rather than minimums



Thank you!

john@viastrada.nz