ACCESS

Addressing Climate Change, Emergencies, and Sandstorms (ACCESS)

Indian Canyon Drive

CVAG

Coachella Valley Association of Governments

Table of Contents

COACHELLA VALLEY ASSOCIATION OF GOVERNMENTS
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CVAG

July 27, 2023

Tanisha Taylor, Interim Executive Director
California Transportation Commission
1120 N Street
Sacramento, CA 95814

Re: CVAG's Addressing Climate Change, Emergencies and Sand Storms (ACCESS) - Indian Canyon Drive

Dear Ms. Taylor:

On behalf of the Coachella Valley Association of Governments, I am pleased to present CVAG's ACCESS – Indian Canyon Drive project to the California Transportation Commission. Funding from the Local Transportation Climate Adaption Program will address the all-too-frequent closing of Indian Canyon Drive, a critical arterial roadway for the western Coachella Valley that is rendered impassable during flooding and blowsand events.

Indian Canyon is one of only eight entry points in the City of Palm Springs, and it is the quickest route to reach the Coachella Valley's only Level 1 trauma center from Interstate 10. The road has a low-water crossing spanning the Whitewater River, which becomes unsafe in weather events due to low visibility and flooding. Climate data trends for the Palm Springs area indicate that unpredictable weather events such as extended droughts and major flood events are becoming even more frequent with climate change. To be clear: Closures along Indian Canyon cause far more damage than a traffic detour. Shuttering Indian Canyon paralyzes the region's transportation network, preventing access to work, school and other essential services and creating a ripple effect that essentially turn alternative routes into parking lots. This is especially problematic for the underserved and disadvantaged residents in western Coachella Valley, whose employment at hotels and restaurants are the backbone of the region's tourism industry and who rely on these jobs to sustain their own quality of life.

No other project better aligns with the CTC's vision for the LTCAP funding. The ACCESS – Indian Canyon project includes improvements that protect at-risk transportation infrastructure, increase the community's climate resiliency, enhance mobility, preserve the environment, and improve public health and safety for residents and visitors. CVAG is proposing two bridges at low-water crossings along the Whitewater River. It includes a solar shaded active transportation pathway that connects Desert Hot Springs to CV Link, a 40-mile bike, pedestrian and low-speed electric vehicle pathway that the CTC has previously supported to connect the Coachella Valley. ACCESS – Indian Canyon also includes a wildlife undercrossing that protects the ecosystem for threatened and endangered species in alignment with the Coachella Valley Multiple Species Habitat Conservation Plan.

Addressing the impacts of road closures on Indian Canyon Drive will benefit the entire region. CVAG is a joint powers authority comprised of 10 cities, four local Tribal Nations and the County of Riverside. CVAG programs Riverside County's Measure A sales tax dollars and regional developer mitigation fees for the Coachella Valley's regional arterial road network. It prioritizes projects through the Transportation Program Prioritization Study (TPPS), where fixing Indian Canyon has long been ranked in the top 10% of all regional projects.

As the nominating and implementing agency, CVAG looks forward to your favorable consideration of its ACCESS Indian Canyon Drive project. If you have any questions, feel free to contact Executive Director Tom Kirk directly at tkirk@cvag.org at 760-346-1147.

Sincerely,

Scott Matas
Chairman of CVAG and Mayor of the City of Desert Hot Springs

ACCESS
Addressing Climate Change, Emergencies, and Sandstorms

ACCESS Indian Canyon Drive

Indian Canyon Drive, a regional arterial in the City of Palm Springs, experiences frequent and significant flooding and blowsand events that result in lengthy closures. This roadway provides vital access to the most underserved neighborhoods of Palm Springs, Cathedral City, and Desert Hot Springs and ensures those residents can access employment centers and their homes.

The ACCESS Indian Canyon Drive project is designed to facilitate the flow of water and sand in areas of concentrated flow, decreasing the number of road closures. It will also improve mobility by increasing access to active transportation and rail service. The project promotes sustainability, which is critical as extended droughts and major flood events are becoming even more frequent with climate change. The project creates wildlife corridors that provide interconnectivity for threatened and endangered species. Solar energy generated from the shade structures will benefit the local community.

This multi-benefit project will ensure the most vulnerable groups have access to safe and resilient infrastructure to access essential goods and services critical to their well-being. In fact, 97% of respondents to a CVAG survey stated that they would support building bridges to reduce road closures. Of these, 66% said they use Indian Canyon Drive at least a few times per week.

Phase I is already underway and wholly funded with local funding. The project will reduce road closures and the risks of traveling through this arterial during flood and blowsand events. Disadvantaged communities will gain reliable access to jobs, essential goods and services, and reduce vehicle miles traveled and emissions, improving their quality of life.

The Problem at a Glance

Indian Canyon Drive was closed for **38 days** during the first six months of 2023.

A Facebook Group, *Indian Canyon Dr. & Surrounding Roads Status Group*, has **15.3K members**.

Extreme precipitation events are projected to occur up to **19 times per year** by the end of the century, up dramatically from the current average of 3 times per year.

ACCESS
Indian Canyon Drive

Project Cost

Total Project Cost:	$74.9M
LTCAP Request (Construction Phase):	$50M

Project Milestones

Environmental Documents	Jun 2024
Construction Ready	Aug 2025

ACCESS
Addressing Climate Change, Emergencies, and Sandstorms

Every Closure …

Disproportionately affects climate-vulnerable, disadvantaged communities, impeding their access to employment, education, medical care, and other services essential to their well-being.

Increases congestion and emissions

Constricts economic activity

Severs the direct lifeline between Interstate 10 and Desert Regional Medical Center, the region's only Level-1 Trauma Center.

Project Scope

Two all-weather bridge systems improve at-grade crossings.

Undercrossings to create a wildlife corridor and benefit the ecosystem for protected and endangered species such as the Coachella Valley fringe-toed lizard.

Two miles of sand fencing connecting to Amtrak's Palm Springs Station which frequently closes due to sand deposits on the roadway and railroad tracks.

Two-mile active transportation pathway with an overcrossing connecting to CV Link, a 40-mile regional multi-modal pathway.

Solar-shaded pathway generating 3 megawatts to advance California's climate goals.

C. General Information

Overview

In recent years, the western Coachella Valley has experienced significant flooding and blowsand events, most notably on February 14, 2019 when the Coachella Valley experienced record-setting rainfall. These events expose the vulnerability of regional roadway infrastructure and the adverse social and economic impacts of prolonged road closures attributed to flooding, especially for the disadvantaged and underserved communities that rely on roadways such as Indian Canyon Drive to get to work, home, or school. It creates a life-or-death situation as emergency vehicles have to find new ways to get to the region's only Level 1 trauma center. These natural phenomena cause significant damage to local roads crossing the Whitewater River and other at-grade crossings in the area. These events can result in weeks-long closures, creating lasting traffic impacts for the region that create longer travel times and increased emissions. The local economy is negatively impacted as goods and people movement comes to a standstill.

Project location experiences a climate event: Indian Canyon Drive flooding on record-setting rainfall of February 14, 2019

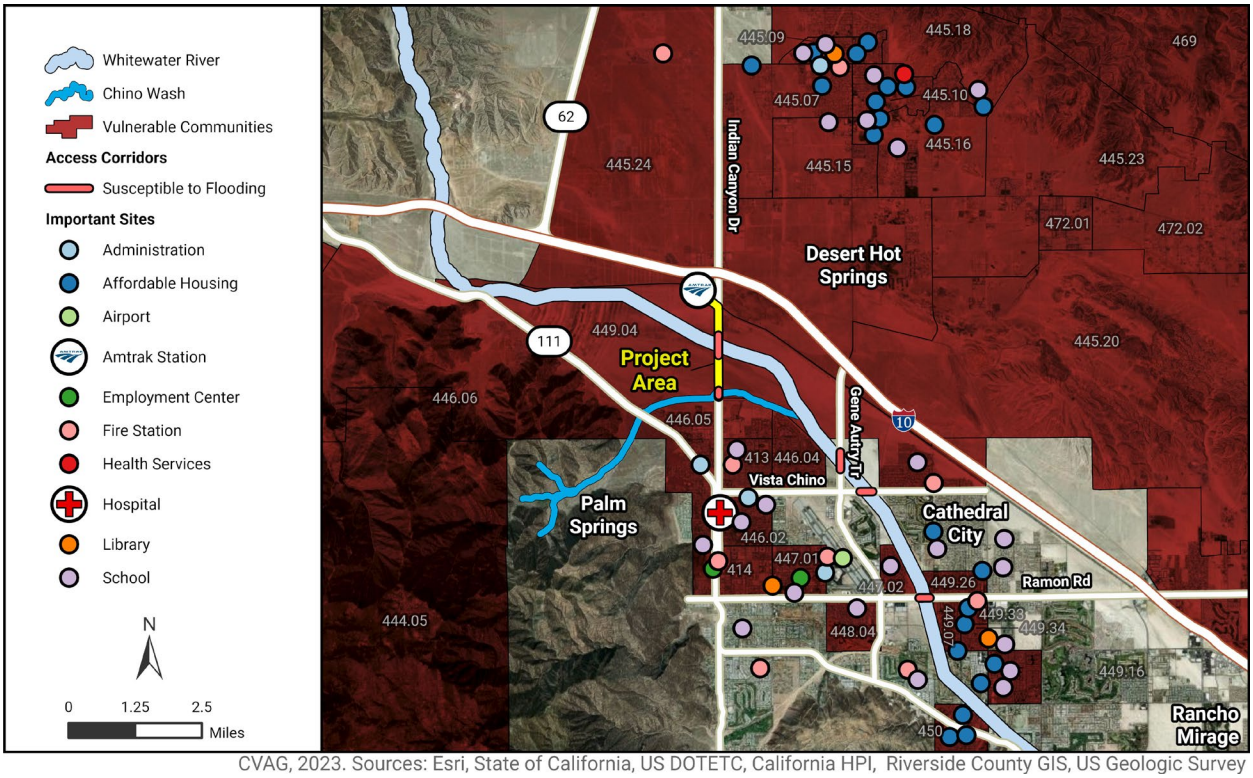
To increase the resiliency of the region's transportation network and disadvantaged communities, the Coachella Valley Association of Government (CVAG) is requesting $50 million from the Local Transportation Climate Adaptation Program for improvements that protect Indian Canyon Drive, a major regional arterial roadway in the western Coachella Valley, from the threats of climate change. The proposed improvements will enhance mobility, preserve the natural environment, increase public health and safety, and help the local economy by facilitating goods and people movement. To accomplish this, CVAG is proposing two all-weather bridges at at-grade crossings on the Whitewater River, sand mitigation fencing, a solar-shaded active transportation connecting to the regional active transportation pathway, CV Link, via a grade separated crossing; two miles of sand fencing; and wildlife under-crossings to protect the ecosystem for protected and endangered species in the project area. The total project cost is estimated at $70.4 million.

As the population of the Coachella Valley continues to grow, so do the traffic volumes and the daily commutes on Indian Canyon Drive. The increased traffic and projected increase of severe flood and blowsand events will exacerbate the social and economic impacts have on the local communities and the region, especially on the most vulnerable. As a result, disparities for disadvantaged communities in the Cities of Desert Hot Springs, Cathedral City and Palm Springs will worsen and the public health and safety for residents and visitors of the Coachella Valley will negatively be affected. CVAG's Addressing Climate Change, Emergencies and Sandstorms

(ACCESS) project will provide critical access to Indian Canyon Drive, helping to create more resilient, healthier, and prosperous communities.

Background

Prolonged road closures from flooding and blowsand events are not just a minor traffic headache. They paralyze traffic circulation across the region. Indian Canyon Drive is one of eight ways to enter or exit the City of Palm Springs and, like clockwork, is one of the first to close during weather events. Road damage and accumulated blowsand can require significant and time-consuming traffic detours and have sometimes taken weeks to repair. In the first six months of 2023 alone, Indian Canyon Drive closed for 38 days. CVAG's ACCESS Indian Canyon Drive project will provide the final design, environmental documentation, and construction improvements for Indian Canyon Drive – ultimately keeping the roadway open.



CVAG, 2023. Sources: Esri, State of California, US DOTETC, California HPI, Riverside County GIS, US Geologic Survey

Figure 1: Access points and disadvantaged and vulnerable communities.

CVAG programs Riverside County's Measure A dollars and regional developer mitigation fees for the Coachella Valley's regional arterial road network. CVAG prioritizes projects by ranking them in its Transportation Program Prioritization Study (TPPS). For decades, a 1.5-mile-long bridge connecting Interstate 10 to urbanized areas on the south side of the Whitewater River floodplain has been a top 10% ranked project for the entire region, given the importance of this segment to vulnerable populations, access to the region's trauma center and propensity for road closures. However, its $250 million cost estimate (2016 dollars) has been prohibitive, considering it would nearly exhaust California's Highway Bridge Program funding for a year or drain CVAG's regional transportation funding revenues for many years.

To identify more practical solutions, CVAG in 2018 commissioned the Flood & Blowsand Risk Assessment and Improvement Plan for Western Coachella Valley (herein referred to as the "Plan"), to identify, develop and evaluate alternative design concepts of flood crossings throughout western Coachella Valley at 10-year and 100-year storm events. The Plan's analysis was used to identify cost-effective preliminary design alternatives that are compatible with the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) and address the socioeconomic impacts of road closures. The Plan evaluated 12 areas of concern within the western Coachella Valley, and Indian Canyon Drive was identified as the highest priority due to the flood and blowsand impacts and

its connection to Interstate 10, disadvantaged communities north of I-10, Desert Regional Medical Center (trauma center), Amtrak's Palm Springs Station, Palm Springs International Airport, and employment centers used by residents across the Coachella Valley.

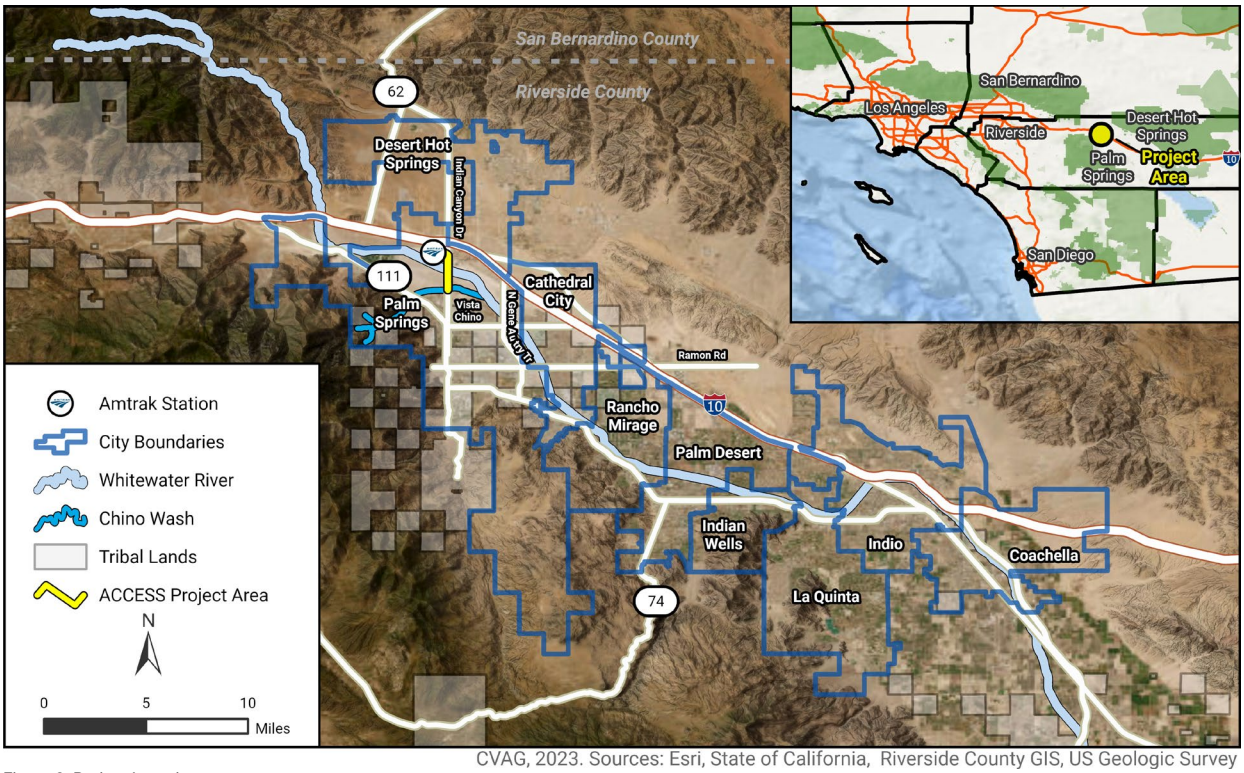
As a cost-effective alternative to a 1.5-mile bridge, the Plan identified Contech CON/SPAN O-Series Bridge Systems over two areas on Indian Canyon Drive that experience high concentrations of flood events. These solutions provide significant cost savings in comparison to the original bridge concept. To increase mobility and promote sustainability, CVAG is proposing active transportation improvements that connect to CV Link, a 40-plus mile active transportation pathway now under construction, and to Amtrak's Palm Springs Station. CVAG is also proposing a solar shade structure over the pathway to provide shade and generate clean, renewable energy that will help the region meet the state's climate goals. CVAG will partner with Desert Community Energy, a local community choice aggregator, to ensure the energy generated from the solar panels goes back into the community. Sand mitigation fencing will also be installed along the project route, further minimizing road closures and increasing access to rail service.

Purpose & Need

The purpose of the CVAG ACCESS project is to increase the resiliency, safety, and mobility of the Coachella Valley's transportation infrastructure and that of surrounding vulnerable communities. Frequent and prolonged road closures on Indian Canyon Drive due to floods and blowsand strains the region's transportation system, causing congestion, increased travel times, and emissions, which impacts the local economy by constraining people and goods movement. It hinders residents' ability to reach critical destinations such as work, educational institutions, public services and, in case of emergencies, Desert Regional Medical Center. For underserved and disadvantaged neighborhoods in the project area and adjacent areas, ensuring access to employment and essential services is critical to their subsistence.

Scope

Indian Canyon Drive is in the northern area of the City of Palm Springs, as shown in Figure 2, and directly connects to the City of Desert Hot Springs and communities north of the I-10. As it exists today, Indian Canyon



CVAG, 2023. Sources: Esri, State of California, Riverside County GIS, US Geologic Survey

Figure 2: Project Location

drive is a four-lane road at the locations of the proposed improvements. This project is not a capacity enhancement project. It will maintain the existing lane configurations and proposed improvements will be within the existing right-of-way. Indian Canyon Drive is a four-lane divided Major Thoroughfare Road per the City of Palm Springs General Plan. It has an ultimate right-of-way of 100' and does not have curb improvements. It is improved with asphalt pavement for the four lanes, striped median, and 8-foot asphalt pavement shoulders. It has power poles adjacent to the east shoulder with the right-of-way. The segment of Indian Canyon Drive that crosses the Whitewater River is approximately 1.5 miles in length. In addition, Indian Canyon is identified as a Truck Route per Palm Springs General Plan and carries a Class II bike lane along part of it. There are no plans to add additional lanes to the roadway.

On September 26, 2022, CVAG's Executive Committee approved a Professional Service Agreement with Michael Baker International in the amount of $4,464,631.58 for design, engineering, and environmental services for the Western Coachella Valley Flood and Blowsand Projects – Phase One. Out of the amount approved, nearly $2.7 million is specifically allocated to complete the design, engineering, and environmental for Indian Canyon Drive.

Engineering and environmental work is well underway. CVAG anticipates completing environmental documents by June 2024 and being construction ready by August 2025.

As part of the work done for the Plan, existing information was reviewed, including but not limited to, Riverside County Flood Control and Water Conservation data, Transportation Project Prioritization Study (TPPS), Coachella Valley Multiple Species Habitat Conservation Plan, and reports from South Coast Air Quality Management District and General Plans for the Cities of Palm Springs, Desert Hot Springs, Cathedral City as well as for the County of Riverside. Also, specific hydrology studies were conducted to determine anticipated flow rates for design purposes. As part of the evaluation of alternative concepts, because of the unique characteristics of the project area and its constraints, CON/SPAN O-Series Bridge systems will be used. This product is a precast buried bridge system that provides the level of protection of a standard bridge at a fraction of the cost.

CVAG's ACCESS project will maximize use of the right-of-way of the existing road to a modified section with a 150-foot right-of-way with a 68-foot curb-to-curb cross-section as identified in the plan (Figure 3). Raising the road will involve adjacent grading and protection of existing utilities. All design elements (vertically and horizontally) will be in accordance with Caltrans Highway Design Manual (HDM). Clearances to the existing electric utility lines east of the roadway will be reviewed and verified in compliance with PUC requirements. Should these lines not meet minimum clearance, coordination with Southern California Edison will be necessary to properly relocate the existing transmission lines.

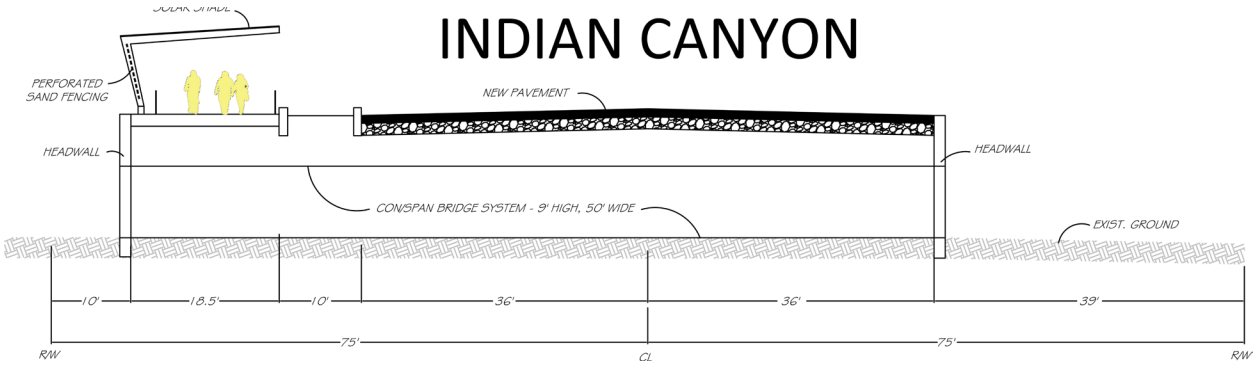


Figure 3: Indian Canyon cross-section of proposed improvements

In April 2021, the CVAG Executive Committee unanimously voted to advance Indian Canyon Drive as a priority project due to widespread impacts that road closures have for the region. In addition to the critical linkages already described, including the trauma center at Desert Regional Medical Center and the Palm Springs International Airport, this project is in a disadvantaged community and is a key route used by residents in underserved neighborhoods in Palm Springs, Desert Hot Springs and Cathedral City. All three cities are supporting this project. The long list of organizations and individuals supporting the project also include the Agua Caliente Band of Cahuilla Indians; the Cities of Coachella, Indio, La Quinta, Palm Desert, Rancho Mirage and

Twentynine Palms; Assemblymembers Eduardo Garcia and Greg Wallis; the Coachella Valley Economic Partnership; the Riverside County Transportation Commission; the Desert Healthcare District/ Foundation; Desert Regional Medical Center and Hi-Desert Medical Center; the American Medical Response ambulance service; the College of the Desert; the Desert Aids Project; the Palm Springs Police Department; and the Palm Springs Unified School District.

OUTCOMES AND OUTPUTS

The proposed improvements mitigate flood and blowsand events, improve mobility and protect the health and safety of people and the environment surrounding Indian Canyon Drive. Proposed outputs of the project include: 1. two bridges over at-grade crossings; 2. two-mile elevated, Class IV, all-weather bike, pedestrian, and low-speed electric vehicle path that connects to CV Link, a regional multi-modal pathway; 3. a grade-separated crossing to avoid conflicts between CV Link users and traffic along Indian Canyon; 4. two miles of sand fencing that runs along the project segment, including to Amtrak's Palm Springs Station; 5. solar shade over pathway that brings 3 megawatts of renewable energy into the community; and 6. a wildlife undercrossing to accommodate protected species.

When Indian Canyon closes, a devastating ripple effect spans across the region's transportation network. Climate data trends for the Palm Springs area indicate that unpredictable weather events such as extended droughts and major flood events are becoming even more frequent with climate change. This is why the positive outcomes to CVAG's ACCESS project are so widespread. No one benefits more than the residents in the Cities of Palm Springs, Cathedral City and Desert Hot Springs, particularly those in underserved and disadvantaged neighborhoods who rely on Indian Canyon to access their homes and workplaces.

This project will limit, if not eliminate, the need to close Indian Canyon Drive during weather events. The ACCESS project's active transportation pathway will be a draw for cyclists and pedestrians. It will promote multi-modal trips, with both the active transportation pathway accessing the train station and with sand fencing keeping the station operational. The project's wildlife corridors provide interconnectivity for threatened and endangered species such as the Coachella Valley fringe-toed lizard and Palm Springs round-tailed ground squirrel. The local community will benefit from the solar energy generated from the shade structures. The community will also save money from reducing maintenance costs, as removing sediment and debris costs an estimated $2.5 million annually. Finally, keeping Indian Canyon open will lead to reduced PM10, VMT and GHG emissions, as travelers will no longer face miles-long delays and detours. Additional details on these GHG and VMT reductions are described as part of Section F and the additional evaluation criteria.

SCOPE: BIG PICTURE

CVAG is using local funding to complete the pre-construction phases of the project. This work is already underway. It includes finalizing the design and completing the required environmental reviews. Additionally, CVAG will complete the Flood Road Improvement Design in Phase One. CVAG will be responsible for all civil design needed to supply a final construction set of Plans, Specifications, and Estimates for the mitigation improvements for Indian Canyon Drive. CVAG is working closely with the City of Palm Springs on this work, as the entire project is in the public right of way. When 100% PSE is reached, CVAG will have bid-ready construction documents.

CVAG will be responsible for competitive bidding on the project, including managing the entire RFI process and awarding a contract. CVAG shall provide a Project Manager to coordinate pre-bid bid and pre-construction activities with the City of Palm Springs. The Project Manager shall be licensed as a Professional Civil Engineer in the State of California at the time of proposal submittal and through the duration of the contract. The Project Manager shall be responsible for all matters related to performing these services. Additionally, construction support services will be provided.

SCOPE: BUILDING BRIDGES TO KEEP TRAFFIC MOVING

With state funding, CVAG will build two bridges along Indian Canyon over at-grade crossings, to provide crossings across the Whitewater River and the Chino Canyon Creek.

Bridge rendering at Whitewater River crossing

Proposed improvements for the Chino Creek bridge will be approximately 100 feet long 3-span CON/SPAN O-series bridge system and approximately 1,440 feet long roadway improvements. This will necessitate 2-4 borings approximately 20-70 feet in depth. The bridge will include three arch culverts, which are 5 feet high and 25 feet wide prefabricated arch structures supported on a spread footing or concrete pile cap on drilled piles. They will convey the 100-year flow of 7,000 cfs. The foundation elevation will be controlled and protected by scour countermeasures such as concrete lining, rip-rap, or other protection measures.

Headwalls have been placed to ensure a 100-foot width clearance is provided to accommodate the 100' wide section per the General Plan. Headwall widths are assumed to be one foot. Rip-rap energy dissipator to be placed on the downstream end.

Bridge rendering at Chino Canyon Creek crossing

Further north along Indian Canyon, the proposed improvements for the Whitewater River bridge will include approximately 473 feet long 9-span CON/SPAN O-series bridge system and approximately 2,440 feet long

roadway improvements. This will necessitate 4 to 10 borings approximately 30-70 feet in depth. The bridge will include nine (9) arch culverts, 8'-7" feet high and 49-feet wide prefabricated arch structures supported on a spread footing or concrete pile cap on drilled piles. They can convey 100-year flow of 47,000 cfs. The foundation will also be protected by scour measures indicated for this bridge.

Headwalls have been placed to ensure a 68-foot clearance is provided to match the proposed improvements per the City of Palm Springs Project 01-11. Headwall widths are assumed to be one foot. Rip-rap energy dissipator to be placed on the downstream end.

Proposed Chino Canyon Levee ATP overcrossing facing south on Indian Canyon Drive

SCOPE: PRESERVING NATURAL HABITAT FOR ENDANGERED SPECIES

For both bridge structures, the culverts will be placed perpendicular to Indian Canyon Drive to replicate the alignment of the existing crossings. Also, the project is in a conservation area that is home to protected species, such as the fringe-toed lizard and Coachella Valley Milkvetch, that rely on the sand transport ecosystem for critical habitat. For this reason, the culverts are designed to facilitate natural ecosystem processes such as sand transport. This will help strengthen the climate resilience of the project area's natural systems.

These wildlife undercrossings are designed in alignment with the Coachella Valley Multiple Species Habitat Conservation Plan.

Proposed sand mitigation fence

SCOPE: INSTALLING SAND FENCING TO IMPROVE MULTIMODAL ACCESS

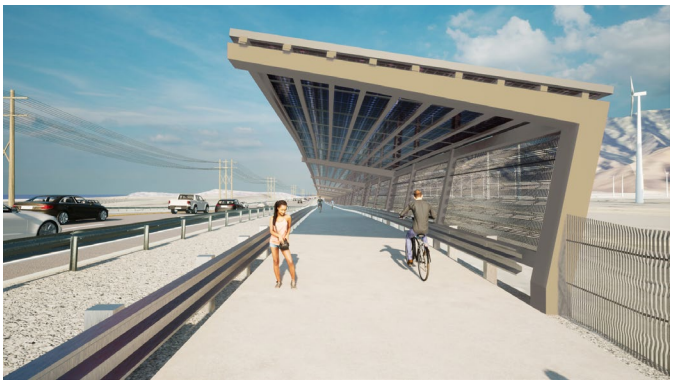
Additional improvements will improve mobility and decrease vehicle miles traveled and the associated emissions. These improvements include installing sand mitigation fencing along the project route, including the full length of Palm Springs Station Road to the northwest end of Amtrak's Palm Springs Station.

By extending sand fencing to the train station, residents and visitors will have increased access to rail service. The current conditions often lead to weather-related closures at Amtrak's Palm Springs Station, which has been closed since June 2023. These improvements will limit sand impacts for rail users.

Increasing access to the rail service at the Palm Springs Station is critical to increasing mobility options. Currently, the Riverside County Transportation Commission is seeking funding for CV Rail's Tier 2 project-level environmental studies to establish daily intercity passenger rail service between Los Angeles and the Coachella Valley. Rail service to the Coachella Valley will

Existing condition: Blowsand at Amtrak's Palm Springs Station

Sand mitigation fence to Amtrak's Palm Springs Station



Proposed Active Transportation Path looking south

Proposed Active Transportation Path looking north

increase connectivity, promote sustainability, create access and equity, expand economic investment and tourism, and offer more travel choices across the nation for residents and tourists.

SCOPE: EXTENDING THE ACTIVE TRANSPORTATION NETWORK

The proposed project will build 2-miles of active transportation improvements along the project route, from Sunrise Parkway to Palm Springs Station Road, which includes a solar-shaded structure. The multi-modal path will be elevated along the segment of Indian Canyon, connecting the two bridges. To bolster regional connectivity, the pathway will connect to CV Link and further develop the valley's active transportation network, consistent with CVAG's CV Link Master Plan (p. 4).

At the south end of the project location, CVAG will build a grade-separated CV Link-overcrossing connection at the Chino Canyon Levee. Currently, this intersection has an average daily traffic count of more than 15,000. This grade separation will address safety and further encourage use of the active transportation pathway.

SCOPE: HARNESSING SOLAR POWER FOR THE REGION

The solar-shaded pathway will provide much-needed shade for users and support the renewable energy and greenhouse gas goals of the state. To minimize blowsand disruptions on the travel lanes, the solar shade structure will be uniquely designed to withstand strong winds and to influence airflow to travel up and over the path and road. The solar shade structure will include sand mitigation fencing on the west side. CVAG is coordinating with Desert Community Energy – a community choice aggregation program that is the default electricity provider in the City of Palm Springs – and with Southern California Edison on this component and has confirmed that sufficient capacity exists at the nearest interconnection point to support the proposed solar energy generation.

Proposed Solar shade

CVAG intends to fund this component of the project with local funding. For the solar component of the project, CVAG will issue a Request for Qualifications, to identify workforce training opportunities in solar for residents and identify mechanisms that may allocate the solar generation cost savings to low-income electric customers in the area. The goal is to lower energy costs for low-income residents and increase their disposable income so that they have additional resources for other essentials important to build their resiliency.

Also, the solar panels will help generate approximately three megawatts of clean renewable energy for the grid, decreasing reliance on fossil fuel generation resources and other generation resources that emit greenhouse gas emissions. This will align with the aggressive renewable energy and greenhouse gas reduction goals of the state.

SCOPE: TIMING

After completion of design, engineering, and environmental documents, CVAG's proposed ACCESS Indian Canyon Drive project will be construction-ready by August 2025.

D. Screening Criteria

Climate Trends and Threats for the Whitewater Floodplain Preserve Area

The Coachella Valley encompasses about 1.2 million acres in the Inland Desert Region of Southern California, where the mountains of the Transverse Ranges, the Peninsular Ranges, and the Colorado portion of the Sonoran Desert meet. The project area encompasses portions of the Whitewater River floodplain in Palm Springs, south of I-10, as part of the existing Whitewater Floodplain Preserve, established under the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP). The climate tends to vary considerably by elevation. In the Whitewater River floodplain, climate trends are hot, dry summers and warm, dry winters (Figure 4).

Figure 4 shows an estimate of the mean annual temperature for the larger region of Palm Springs. The dashed blue line is the linear climate change trend. If the trend line is going up from left to right, the temperature trend is positive, and it is getting warmer in Palm Springs due to climate change. If it is going down, conditions in Palm Springs are becoming colder over time. In the lower part, the graph shows the so-called warming stripes. Each colored stripe represents the average temperature for a year - blue for colder and red for warmer years.

Due to the elevational gradient of the mountains and Valley, rapid runoff is channeled through streams and creeks and transported to the base of the mountains into the San Gorgonio and Whitewater Rivers (Wasklewicz and Meek, 2013). The Whitewater River, after it joins the San Gorgonio River, provides fluvial (water-borne) sand transport to the existing Whitewater Floodplain Preserve. Precipitation averages about 5 inches per year. The bulk of the precipitation events happen from October to April, with occasional monsoon storms from the eastern Sonoran Desert adding to the annual totals during summer months. Historically, winds coming through the San Gorgonio Pass would pick up sand deposited by these flood events and distribute it across the Valley, creating a vast continuous dune field (Barrows et al. 2008).

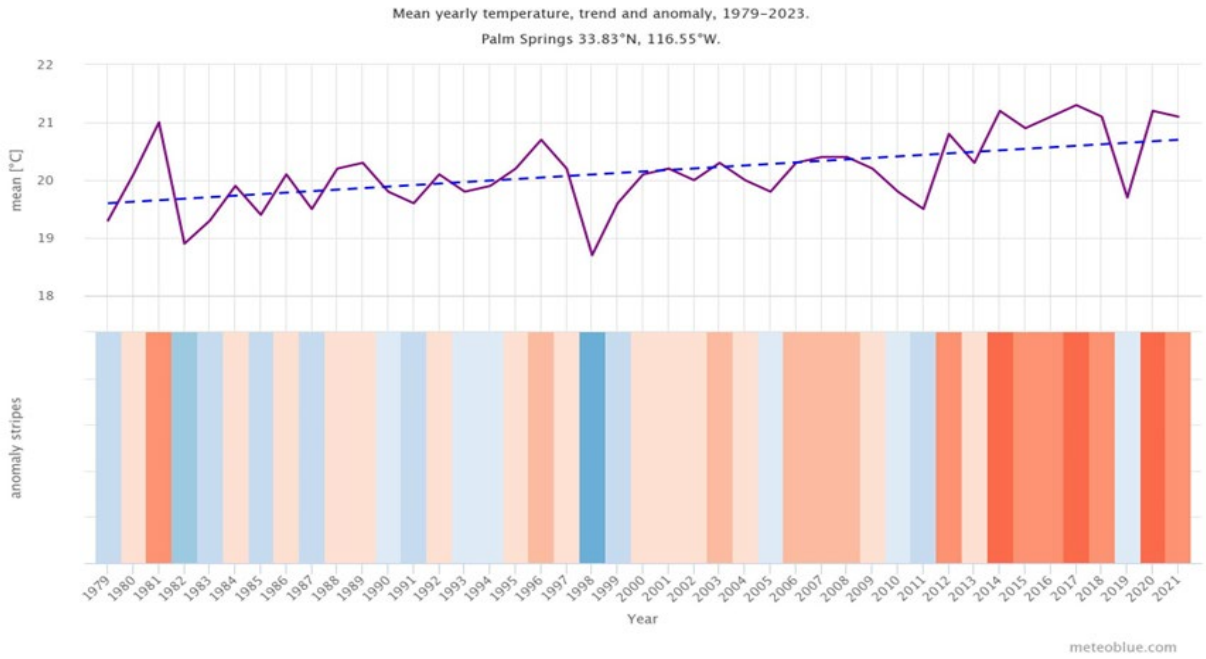


Figure 4: Climate change in Palm Springs, CA. Source: www.meteoblue.com/en/climate-change/palm-springs_united-states_5380668?month=2

Climate data trends for the Palm Springs area indicate that unpredictable weather events including extended droughts and major flood events, as well as extreme heat events are becoming more frequent with climate change. According to Cal-Adapt, extreme wind and precipitation events are predicted to be more stochastic and less predictable by the end of the 21st Century under RCP 8.5, with extreme precipitation events increasing from an average of 3 events per year with a range of 0 to 11 events per year, to an average of 4 events per year, with a range of 0 to 19 events per year (Figure 5).

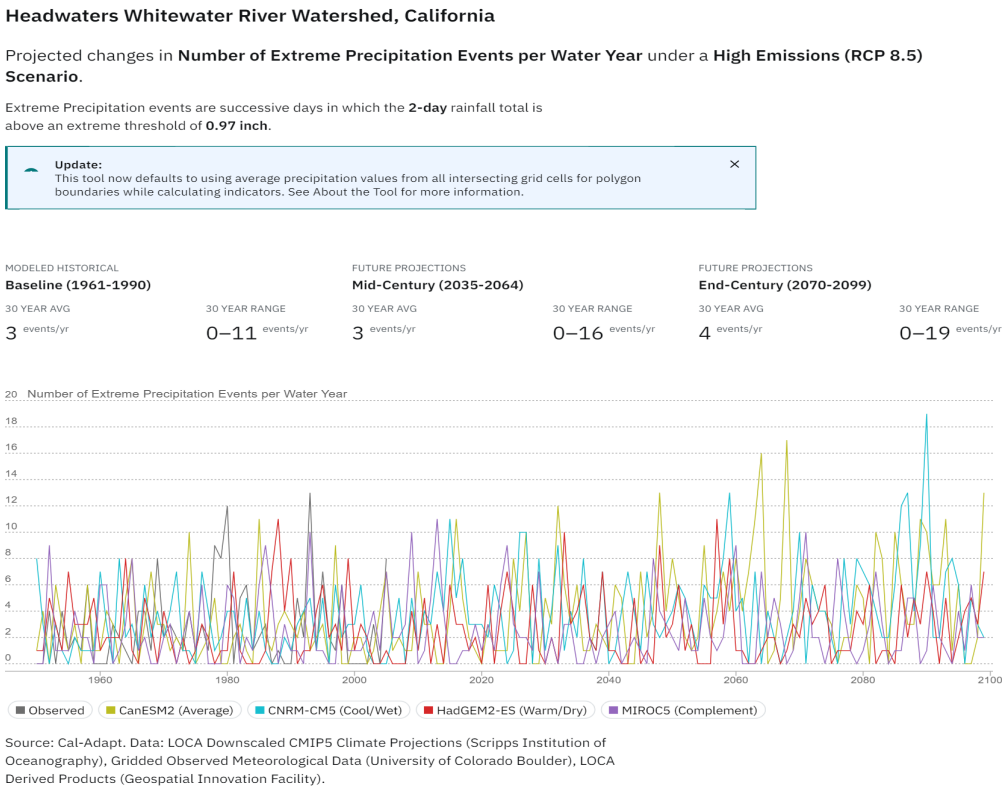


Figure 5: Headwaters Whitewater River Watershed, California Source: Cal-Adapt

Resiliency measures to mitigate the effects of extreme weather events on the region must take into consideration the projected extremes in precipitation that pose a threat to energy and transportation infrastructure (Hopkins 2018). Although Palm Springs is known for its warm weather, extreme heat events are considered dangerously high when temperatures rise significantly above normal levels. For Palm Springs, daily average high temperatures are projected to increase by up to 14 degrees Fahrenheit, and extreme heat days occur when temperatures reach above 107.1 degrees Fahrenheit. The number of extreme heat days in Palm Springs is projected to increase from a historic annual average of 4 extreme heat days per year to 28 extreme heat days per year by midcentury and an average of 50 extreme heat days per year by the end of the century (Nowak 2022).

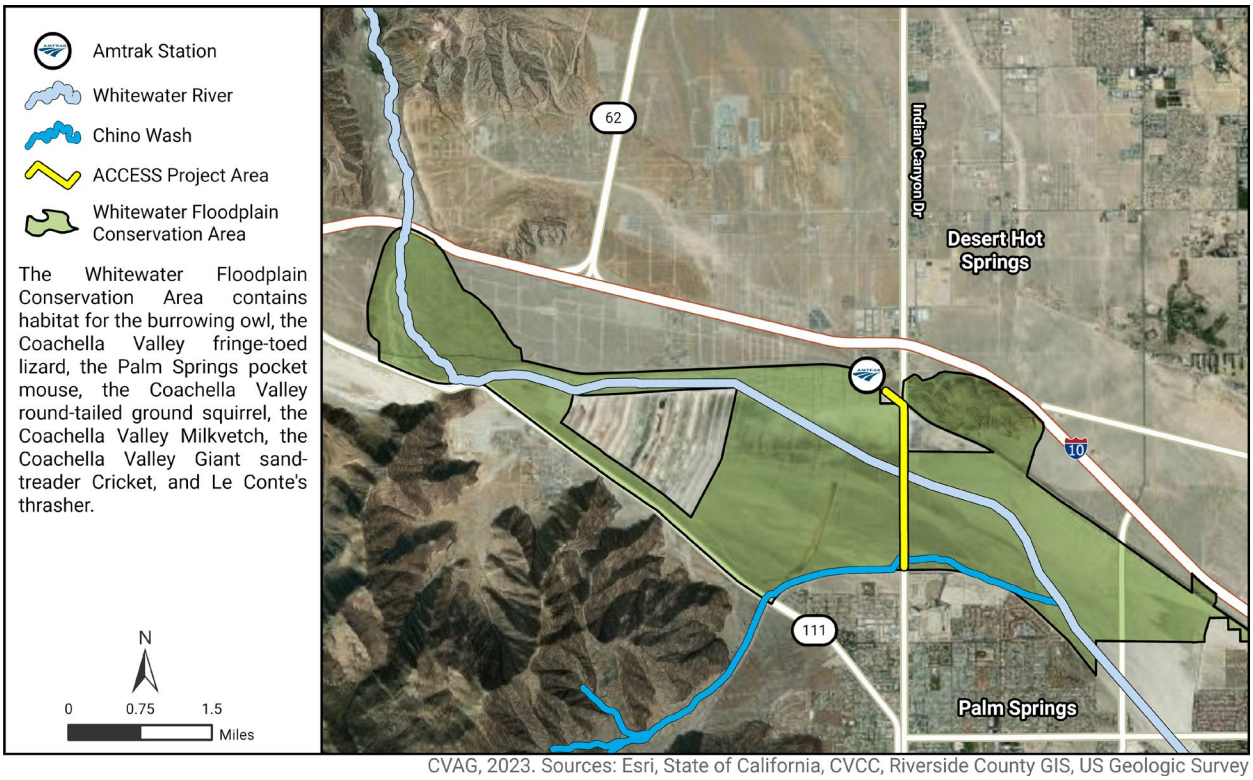
In addition, climate models predict that the frequency of >95 degrees Fahrenheit days will increase to half the year (179 days) by the end of the 21st Century under RCP 8.5 (Hopkins 2018). Significantly, days above 85 degrees Fahrenheit are predicted to increase by up to 150% by 2100, particularly in the cooler months, November to May (Yanez 2020). Severe storms bring flooding to the desert along the Whitewater Floodplain but also cause high winds Westerly winds which are strongest on the west side of the Valley pick up and deposit blowsand eastward, providing the physical driver for the aeolian sand dune system (USFWS 2010). Most high winds events don't require a storm system due to the drastic elevational gradient causing a shift in air pressure along the San Gorgonio pass. Severe wind events tend to be most frequent from October to April and can have sustained speeds of 40 miles per hour (Nowak 2022).

Indian Canyon Drive is frequently unpassable as water and sand move over these roads to dune fields in the eastern part of the Preserve. Critical infrastructure is at stake from the increased frequency of extreme weather events, which was also identified as an issue for regional resiliency in the most recent Inland Desert Summary Report of California's Fourth Climate Change Assessment.

As part of the Whitewater Floodplain Conservation Measures, improvements to Indian Avenue and Gene Autry Trail call for a grade separation to provide an undercrossing for Coachella Valley fringe-toed lizard, flat-tailed horned lizard, Coachella Valley round-tailed ground squirrel, and Palm Springs pocket mouse. The project proposes to provide that under-crossing with the addition of a bridge to areas that are active fluvial sand transport areas (CVMSHCP 2016, 4.3.6. d).

The Whitewater Floodplain is a Flooding, Blowsand, Habitat, and Wildlife Corridor

Research in the region, including for the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) has been underway for 20 years and includes a study by UC Riverside's Center for Conservation Biology within the Whitewater Floodplain. This sandy floodplain contains dune hummocks resulting from the accumulation of sand on the leeward side of shrubs. Sand moves across the Valley from the northwest to the southeast with the stronger winds in the western Valley resulting in habitats known as ephemeral dune fields or ephemeral sand fields (Barrows et al 2022; Barrows and Allen 2007) Shrubby, sparse vegetation catch the sand in the ephemeral sand fields providing habitat for many plant and animal species that rely on the habitat (Figure 6).



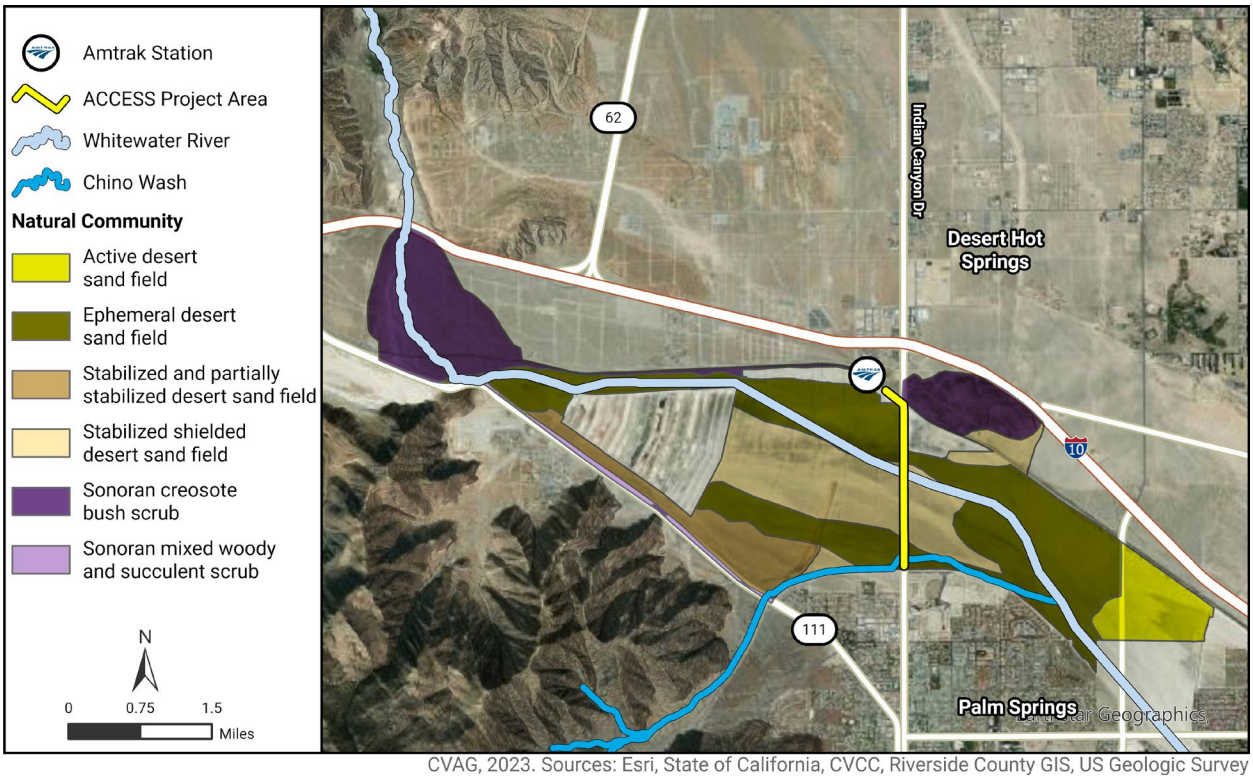
CVAG, 2023. Sources: Esri, State of California, CVCC, Riverside County GIS, US Geologic Survey

Figure 6: Species of the Whitewater Floodplain

The Whitewater Floodplain Preserve functions as a key, critical fluvial and aeolian transport corridor for the federally threatened and CESA-listed Coachella Valley fringe-toed lizard. The CVMSHCP monitoring framework was established specifically to detect patterns in the availability of habitat for covered species, including assessments of physical habitat and measurements across the community structure (Barrows et al. 2005). Sand dune habitats are dynamic; aeolian-driven sands are continuously shifting in response to the wind, while new upwind sand additions are dependent on stochastic flood events bringing sediments out of the surrounding mountains (Barrows 1996). The aeolian sand habitat of the Coachella Valley includes four different natural community types that comprise the remnants of the valley's original aeolian sand landscape, including active

sand dunes and ephemeral sand fields both found in the Whitewater Floodplain reserve area defined by unique wind, sand, and vegetation characteristics (Figure 7).

Protection goals included sustaining populations of the Coachella Valley fringe-toed lizard within each of these community types. Flat-tailed horned lizards, while once much more widespread, are now restricted to the stabilized sand fields and (less) active dunes of the Coachella Valley National Wildlife Refuge and California State Ecological Reserve.



CVAG, 2023. Sources: Esri, State of California, CVCC, Riverside County GIS, US Geologic Survey

Figure 71: Whitewater Floodplain Ecosystem

Shifts in climate that may impact this corridor, as introduced above, are important in the frequency of storms, winds, and the magnitude of flows, together with any changes in seasonality of these events. While desert species are specially adapted to arid lands and infrequent rainfall, they still require the conditions to which they are adapted—specifically the physical habitat structure, high and low temperatures, and the ecological community interactions. More severe floods or winds will result in the need for interventions to protect infrastructure (plowing, moving sand, blocking, diverting, etc.). Long-range planning for climate-resilient infrastructure will help prevent interruptions to sand flow and significant impacts on species over time. By contrast, short-sighted and ad-hoc repairs and interventions may not prevent impacts on species' habitat. Implementations to maintain sand flow, or essential ecosystem processes will bolster the integrity of the system and the ability of species to respond to climate changes by protecting thermal refugia, intact hydrology, and ecological food webs. Intact ecosystems and shrub communities within desert dry wash woodlands store carbon, provide habitat for species, and provide ecosystem functions like stabilizing streambanks.

Climate change will continue to impact many of the various factors that explain suitable habitat as well as population changes in these species, including annual rainfall, sand compaction, harvester ant abundance, and vegetation characteristics, including Sahara mustard (Barrows 2006, Barrows and Allen 2009, Barrows and Allen 2010). But improvements also must be mindful that fluvial and aeolian processes are essential to other species inhabiting this corridor. Necessary action with a vision for climate resilience that is informed by the scientific understanding of the physical and ecological processes in this region is vital.

However, the most critical aspect of species conservation is the maintenance of the physical habitat—loose, aeolian sands that are maintained only via the transport corridors, of which the San Gorgonio Wash and

Whitewater Floodplain are vital to the sand transport system and the sustainability of the species populations under the CVMSHCP (USFWS 2010). The flow of sand naturally through this corridor has thus far preserved aeolian sand species' populations, while there has been variability in habitat patch size and abundance, this has only been possible via specific conservation of lands that conserve this corridor, and specific attention to the maintenance of these physical flows. Increased climate stochasticity, or unpredictability of rainfall as well as a predicted increase of 30% to the wettest day in some areas of the desert (Hopkins 2018) mean that maintaining this critical corridor cannot be taken for granted.

This corridor also contributes to the connectivity of populations of these aeolian sand species, as urbanization threatens to cut off vital connections that maintain healthy populations. Gene flow has been reduced already in the fringe-toed lizard, and any decrease in patch size or further division of the landscape would negatively impact the species' survival (Vandergast et al. 2019). The Species Conservation Analysis for the CVMSHCP (9.6.2.3) describes that "a bridge or very large culverts, installed at the point where the Whitewater River normally flows across Indian Avenue, will allow animal and sand movement below the road while keeping the road open to traffic during flood events."

Serves Climate-Vulnerable, Underserved and Under-Resourced Communities

While often assumed to be an affluent area due to its prominent tourism industry, the Coachella Valley is comprised of a highly varied socio-economic landscape. Wealth disparities in western Coachella Valley are significant, and the extreme levels of poverty seen create unique challenges for these rural, environmental justice communities. A July 23, 2023 Desert Sun news article noted Palm Springs Unified School District serves a higher proportion of socioeconomically disadvantaged children than every other midsize or large school district in the state of California. State data shows nearly 20,500 of Palm Springs Unified School District's 21,000 students — or 97.5% of them — qualify as socio-economically disadvantaged. The district includes the cities of Palm Springs, Cathedral City and Desert Hot Springs – the three cities with the most to benefit from improving Indian Canyon.

The project's census tract and adjacent tracts meet both the federal and state disadvantaged and climate-vulnerable thresholds under the LTCAP. These are shown in Figure 1, which is a compilation of disadvantaged census tracts per Healthy Places Index (HPI) 3.0 and the United States Department of Transportation Equitable Transportation Community (DOTETC) tools.

CVAG's proposed ACCESS Indian Canyon Drive project is located in Census Tract 449.04 and is designated as a Historically Disadvantaged Community according to the U.S. DOTETC. Disadvantaged indicators that contribute to this designation include issues related to health, economy, equity, and resilience.

Historically disadvantaged census tracts per U.S. DOTETC that are adjacent to the project's census tract will also stand to benefit from CVAG's ACCESS Indian Canyon Drive Project. For example, directly north of the project is the City of Desert Hot Springs, which includes disadvantaged census tracts 445.07,445.10, 445.16, 445.18, and 445.22. Directly to the east of the project location is the unincorporated area of Sky Valley, which includes three disadvantaged census tracts, 445.05, 445.20, and 472.02. To the west of the project location, in the City of Palm Springs, census tracts 446.06 and 444.05, and to the south, census tracts 446.02, 446.04, 447.01, 447.02, 449.16, 449.26, 450, 451.03, 451.08 are all designated as disadvantaged.

The project location is also considered a disadvantaged community by state standards. According to California's HPI 3.0, the project location census tract 449.04 has an HPI score in the 21.2 percentile, indicating that it only has healthier conditions than 21.2 percent of census tracts in the state. Moreover, from an economic perspective, only 59.4 percent of the population in this tract is above the poverty line, which is lower than the state's average of 69.1 percent and lower than that of Riverside County, which is 66.5 percent. Additionally, in terms of employment, this tract ranks in the 14.4 percentile, which is significantly lower than the County's, which is in the 53.6 percentile. The tract also faces low educational attainment rates, which according to the CA HPI 3.0 has healthier education conditions than only 2.5 percent of tracts in the state. From a transportation perspective, tract 449.04 ranks in the 25.1 percentile. However, for active commuting, said tract is in the 3.2 percentile ranking, indicating a need for active transportation.

As a whole, per the U.S. Census, the City of Palm Springs has a median household income of $61,597, which is 27 percent lower than the state's median household income of $84,907. The socioeconomic conditions of the project's benefiting cities is further discussed in the Environmental Equity section.

Adjacent census tracts to the north that are disadvantaged per state standards and the Healthy Places Index include 445.22, 445.07, 445.09, 445.10, 445.15, 445.16, 445.18, 472.01 and 472.02 which have an overall HPI score of 4.8, 5.3, 5.7, 5.8, 2.3, 14.2, 24.7, 5.9 and 17.2 percentile, respectively.

Disadvantaged communities as far east as the Cities of Indio and Coachella and as far north as the City of Yucca Valley and nearby high desert communities will also stand to benefit given the interconnectedness of the regional economy, the need for essential goods and services and, in case of an emergency, access to Desert Regional Medical Center. Also, the Coachella Valley's economy relies largely on the tourism and hospitality industries, which are heavily concentrated in the western part of the valley. As such, having access to reliable and safe roads facilitates access to jobs in the area, many of which are filled by workers across the region.

This region also is home to the ancestral land of the Agua Caliente Band of Cahuilla Indians, which own a significant portion of land directly south of the project. The improvements proposed by CVAG's ACCESS Indian Canyon Drive project will also benefit the Tribal Nation given its proximity to the project and enterprises in the area that are critical to their self-sufficiency.

Consistent with State, Regional and Local Plans

CVAG's ACCESS Indian Canyon Drive project is consistent with state and local plans to adopt climate strategies that build resilience and protect communities from the impacts of climate change, especially the most vulnerable. In alignment with the Governor's Office of Emergency Services Adaptation Planning Guide, CVAG has explored, defined, and initiated action and is positioned to implement, monitor and evaluate climate resilience improvements to Indian Canyon Drive. Because of the multi-benefits of the project – reducing road closures, decreasing vehicle miles traveled and emissions, increasing mobility, and protecting the environment – that strengthen protections for climate-vulnerable communities, the project is also in strong alignment with the Adaptation Planning Guide.

The proposed project to address flood and blowsand related closures on Indian Canyon Drive is also included in the Southern California Association of Governments (SCAG) fully adopted Connect SOCAL 2020 Regional Transportation Plan/Sustainable Communities Strategy (p. 278). The description of the project is to build a "new bridge to replace existing low water crossing at Whitewater River." Although the project proposed by CVAG for the LTCAP is modified to optimize benefits, the projects both aim to reduce flood and blowsand road closures.

The City of Palm Springs' Local Hazard Mitigation Plan (LHMP) also includes addressing flood and blowsand issues on Indian Canyon Drive (p. 25). The LHMP describes the mitigation action to address flood and blowsand as constructing an all-weather roadway on Indian Canyon Drive between Tramway Road and Interstate 10. CVAG's proposed project strongly aligns with the segment identified in the LHMP. It is also important to note that the LHMP states that the project is on hold due to funding, underscoring the cost prohibitions aforementioned.

Lastly, as the transportation planning agency for the Coachella Valley, the proposed project is also included in CVAG's Regional Transportation Project Prioritization Study (TPPS) (p. 21) and related Regional Arterial Cost Estimate (RACE) in Table 4-3. Total Costs of Segments – Cost Breakdown (p. 105).

E. Evaluation Criteria

Climate Threat Impacts

Closures of Indian Canyon Drive have a crippling effect for the region, in terms of traffic, public safety access, goods movement and, as a result, the economy and natural systems. If left unaddressed, roadway closures on Indian Canyon Drive will further burden low-income and disadvantaged communities at and near the project location.

Severe weather events and extreme heat, which are linked to climate change, are projected to increase, triggering more flooding and blowsand events that will cause roadway closures on Indian Canyon Drive, exposing its

vulnerability. As soil becomes drier and less absorbent and heat increases the evaporative carrying capacity of the atmosphere, storms and flash floods in the arid desert Coachella Valley region will become more severe and frequent. For Indian Canyon Drive and other at-grade crossings and in sand transport areas, such as Indian Canyon Drive, climate change will exacerbate the widespread social and economic impacts of flood and blowsand related road closures.

Vehicles trapped by flooding on Indian Canyon Drive – November 9, 2022

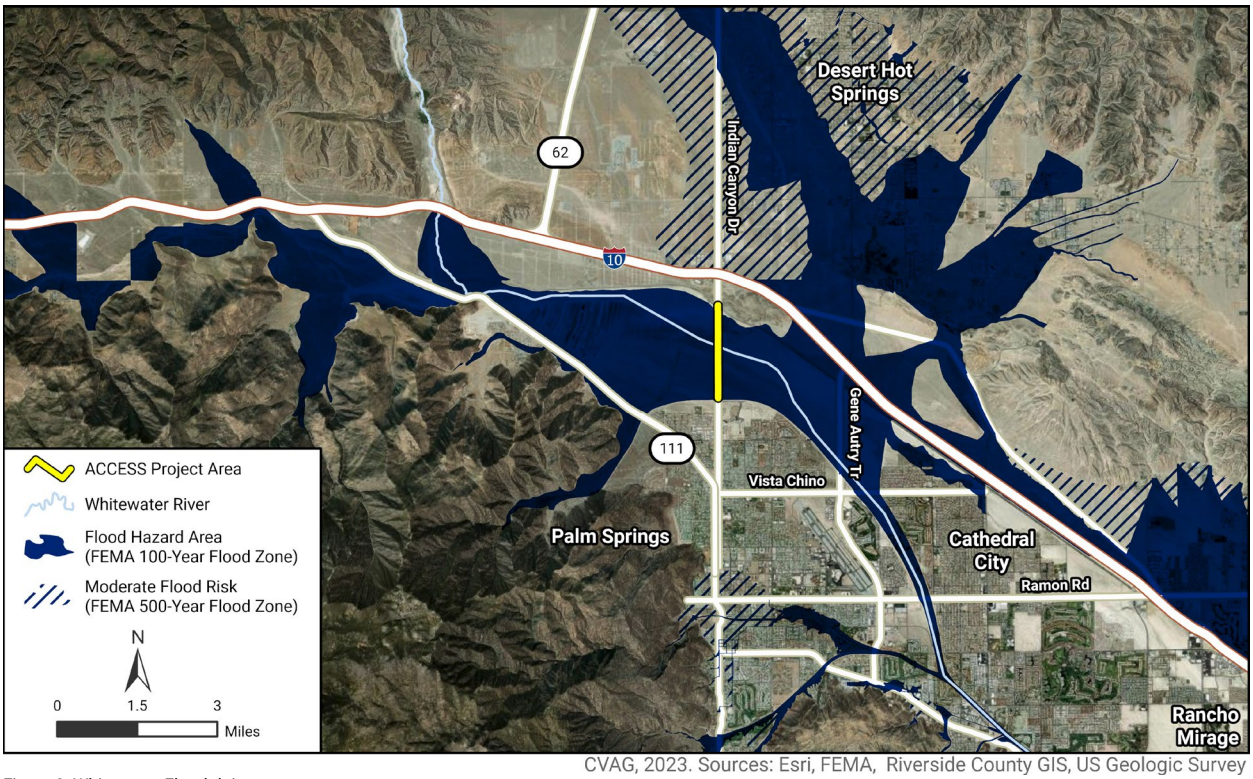
Debris, sediment brought by flooding on Indian Canyon Drive – February 14, 2019

The project-specific risks that CVAG's ACCESS Indican Canyon Drive project will address relate to the occurrences of flood and accumulation of sediment deposits at at-grade crossings and blowsand accumulation at the Palm Springs Train Station, which impacts mobility. To address environmental impacts, the project will help protect critical habitat for protected species and reduce emissions by reducing vehicle miles traveled, increasing mobility options, and generation of renewable energy.

During periods of floods and high winds, sediment and debris block travel on Indian Canyon Drive. After the water resides, the sediment carried by the flood waters remains on the road, causing the road to be closed for days after the storms. Opening of the roads is then contingent on the ability of maintenance crews to safely remove all debris and sand off the road and make necessary repairs to the roadway. As a result, Indian Canyon remains closed for days after a flood and blowsand event, impacting access to key destinations and resources for local communities, many of which are considered to be disadvantaged.

Flooding events paralyze access to key routes and make regional travel difficult and impractical. Indian Canyon Drive crosses the Whitewater Floodplain (Figure 8) in the Whitewater Floodplain Conservation Area. As such, Indian Canyon Drive is exposed to imminent danger related to flash floods, which can cause the roadway to be non-functional. Although blowsand is a regional issue, the greatest impacts are observed at the at-grade crossings; these locations are most susceptible to sediment deposits. The combination of low roadway elevations at the washes, lack of vegetation, and sandy/fine-grained soil conditions create the perfect environment for sediment transport onto the roadways during flood events and periods of heavy wind.

In the first six months of 2023, Indian Canyon Drive closed for 38 days, more than the preceding 22 months, February 2021 and December 2022, when it closed for 36 days. Closures are costly and remediation can take days or longer after the storm events pass, placing pressure on city maintenance crews and severing access to important destinations for local disadvantaged communities.



CVAG, 2023. Sources: Esri, FEMA, Riverside County GIS, US Geologic Survey

Figure 8: Whitewater Floodplain

People in communities north of the I-10 freeway, such as Desert Hot Springs, are directly impacted as their direct route to Palm Springs is cut off, forcing them to find alternate routes. This creates a domino effect that impacts other parts of the region's transportation system, causing widespread impacts including increased congestion, longer travel times associated emissions.

Currently, there are no all-weather bridges that cross the Whitewater Flood Plain. When Indian Canyon is closed, motorists must find alternate routes into the City of Palm Springs, which is either Gene Autry Trail or Date Palm Drive and Vista Chino. However, because Gene Autry and Vista Chino is downstream from Indian Canyon Drive, these roads are also typically closed when Indian Canyon Drive is closed. As such, motorists must travel approximately 15 miles to go through Ramon Road to get to the point on Indian Canyon that is south of the Whitewater River, which would have taken 2 miles if Indian Canyon Drive was functional.

Crews clear mud and sand off Indian Canyon Drive in Palm Springs, CA – September 12, 2022

As a truck route, Indian Canyon Drive closures impact the movement of goods and the economy. According to Streetlight data analysis, the Annual Average Daily Traffic for Indian Canyon Drive in 2019 was 13,527. Of this amount, 584 vehicles were medium-duty, buses and trucks with up to 3 axles, and 85 were heavy-duty, which are trucks with four or more axles. Because of road closures, these medium and heavy-duty vehicles must find alternate routes to reach their destination,

which impacts local roads and communities. The increased emissions associated with detours from these vehicles further worsen air quality for the Coachella Valley, which is in non-attainment for ozone and PM 10.

From an environmental standpoint, flood and blowsand road closures to Indian Canyon directly impact the environment, impacting people and protected species in the area. Because Indian Canyon disrupts the sand flow, this impacts the integrity of the ecosystem process which is critical for species habitat. Furthermore, from an air quality perspective, blowsand on the roadway can exacerbate air quality in the area. Blowsand produces PM10 in two ways; by direct particle erosion and fragmentation (natural PM10), and by secondary effects, as sand deposits on road surfaces are ground into PM10 by moving vehicles and resuspended in the air (man-made PM10). This poses a significant health issue as PM10 has been linked to increased respiratory, morbidity and mortality. Ultimately, the goal to mitigate blowsand is not to prevent it from occurring but to control and prevent/minimize blowsand from accumulating onto the roadways. Raising the roadways at these crossings is a feasible alternative that will provide a signification reduction in sediment accumulation onto the roadways. This project will not solve all adverse impacts of blowsand, but it will address the flood issues and greatly reduce the adverse impacts of blowsand at areas most susceptible to these events.

Project location experience with climate event: Blowsand on Indian Canyon Drive
April 22, 2023

Economic opportunities for residents are also negatively impacted when Indian Canyon Drive closes due to flood

JUNE 20

Coachella Valley Association of Governments to Apply for N Indian Canyon Dr Bridge State Grant

"Well, for me, I work two jobs and have to go all the way around the city," Mosley continued. "Sometimes I can't even make it in because the traffic is so bad. I won't even make enough money to get there as much as I'll put it in gas, to be honest, so it defeats the purpose. That's taking money out of my kids mouths."

and blowsand. Considering Palm Springs residents like Ladonna Mosley, who works two jobs in order to care for her family. When Indian Canyon is closed, it makes it nearly impossible to get from her first job at Tower Market, a gas station on the southwest corner of Indian Canyon Drive and East San Rafael, to her second job at Amazon Distribution in the City of Beaumont, which is approximately 27 miles west of Palm Springs.

Add in the price of gas, time, and resources needed to get to figure out the rerouted drive, and it becomes clear how Ms. Mosley's family and many others in the region bear the costs of these weather-related closures.

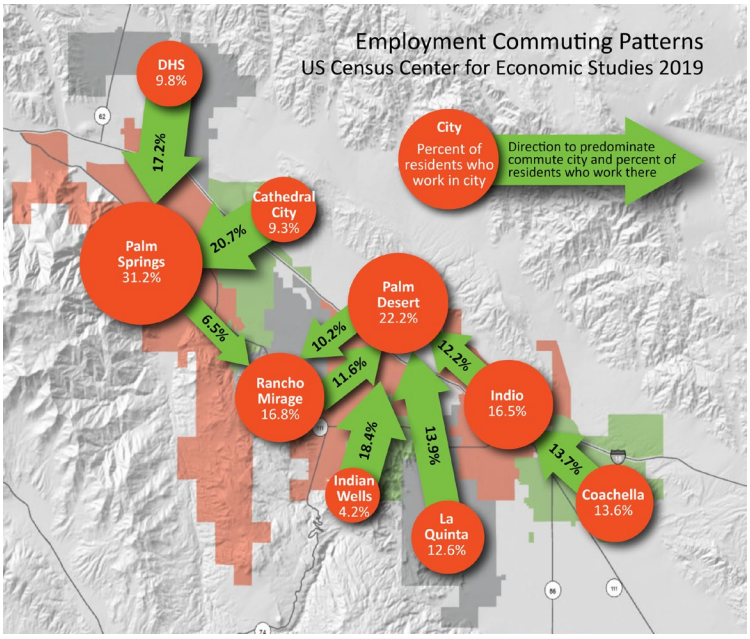


Figure 9: U.S. Center for Economic Studies – Coachella Valley travel patterns 2019

The closure of one of the most important routes into Palm Springs from Desert Hot Springs has a significant impact on low-income workers and businesses in the area. Recent data from the United States Center for Economic Studies for 2019 further shows travel patterns and key connections between cities in the Coachella Valley. According to the report, 17.2 percent of residents of Desert Hot Springs and 20.7 percent of residents from Cathedral City travel to Palm Springs for employment (Figure 9). These two of the valley's cities export more workers than work within their respective cities. Thus, illustrating the need for reliable, safe transportation infrastructure to support the flow of people and goods between these communities, especially between the Cities of Palm Springs, Desert Hot Springs, and Cathedral City.

Additional data analyzed from Streetlight shows how critical Indian Canyon is for low-income residents' livelihood as it is a primary way these Desert Hot Springs residents to get to their employment and earn a living. This data point was further reinforced in feedback that CVAG gathered during planning efforts and public outreach.

Indian Canyon Drive is a critical route and access point for disadvantaged communities. For trips from to-and-from the disadvantaged communities of Desert Hot Springs and Cathedral City, Indian Canyon is one of two direct Whitewater River crossings from Interstate 10 into Palm Springs. The other, Gene Autry Trail, is also subject to frequent closures due to climate events – leaving drivers to resort to an out-of-the way detour along Ramon Road, which has a substandard bridge that desperately needs to be replaced. Given that Indian Canyon Drive a critical entry point from I-10 into the City of Palm Springs, this regional arterial is important for the movement of goods and people to support the local economy.

The Coachella Valley is a major tourist destination and is the number one contributor to the local economy. According to the 2022 Economic Impact of Visitors in Greater Palm Springs study, travel, and tourism in the Coachella Valley had an economic impact in 2019 of $7.5 billion. In 2022, the tourism industry generated $8.7 billion in total economic impact to Greater Palm Springs, surpassing tourism's economic impact in 2019 by 16% and in 2021 by 28%. According to the report, this revenue represents one in four jobs in the Greater Palm Springs area, from executive-level jobs to lodging, food and beverage and retail, recreation, entertainment, transportation, and others. This aligns with the U.S. Census data, indicating that a large population impacted by road closures in the Western Coachella Valley work in tourism-related sectors that are largely centered in Palm Springs. These occupations are a function of the local economy's dependence on travel tourism, which is largely centered in the City of Palm Springs and adjacent cities in the western Coachella Valley. In effect, having access to Indian Canyon Drive is critical for goods and people movement, to support jobs that help local families subsist. Therefore, having access to Indian Canyon Drive is critical to the livelihoods and well-being of disadvantaged communities at or adjacent to the project area to reach important destinations.

Public health and safety risks significantly increase for disadvantaged communities when severe floods or winds impact Indian Canyon Drive. For example, travelers on Indian Canyon Drive are at risk of being trapped in their vehicles and experiencing great injury or death. For example, on November 8, 2022, the Palm Springs Fire Department took action and conducted a swift water rescue to save three motorists who were trapped by flooding on Indian Canyon Drive. This is not an isolated incident. A similar rescue recently occurred on January 10, 2023.

One of the most significant flooding events in the Western Coachella Valley was February 14, 2019, when the Coachella Valley experienced the Valentine's Day Storm that brought record-setting rainfall and widespread flooding and blowsand on regional arterials, including Indian Canyon Drive. Emergency services personnel along with people traveling to work, schools, doctor's appointments, and other locations were stuck at a standstill for hours. The traffic woes were particularly problematic to and from Palm Springs and Desert Hot Springs, although it impacted drivers across the entire Coachella Valley for weeks after the storm.

Indian Canyon Drive roadway closures can also be a matter of life or death for people needing emergency medical care. Because Indian Canyon Drive provides a direct route to the region's only Level 1 Trauma Center, Desert Regional Medical Center, emergency personnel or others seeking emergency services must find alternate routes when it closes. As a result, detour routes are also likely to be congested given that other regional roads, such as Gene Autry Trail and Vista Chino Road, also close due to flood and blowsand events. This places people seeking emergency medical care in a life-or-death situation. Therefore, increasing the resiliency of Indian Canyon Road to withstand the effects of climate changes is critical to ensuring access to Indian Canyon Drive during storm events, and protecting the public health and safety of residents and visitors to the Coachella Valley

Facebook screengrab of Indian Canyon Drive and Surrounding Communities group

Given the widespread impacts road closures have on the Coachella Valley's population, the community has taken measures to communicate road closures on Indian Canyon Drive and other roads impacted by flood and blowsand in the region. For example, local concerned residents created a Facebook page called Indian Canyon Dr. & Surrounding Roads Status Group. The purpose of the social media group is to inform in real-time about road closures that may impact commutes for residents and visitors as well as other related issues that may impact commutes in the area. The group has 15,300 members – all of whom want to know if Indian Canyon or surrounding roads are open or closed.

Resiliency, Preservation, Enhancement, and Protection Benefits

CVAG's ACCESS Indian Canyon Drive project will increase the resiliency of Indian Canyon Drive to withstand the impacts of climate change as well as increase the resiliency of local disadvantaged communities by increasing their access to key destinations that are critical to their livelihood and well-being.

To address flooding and blowsand accumulation at at-grade crossings on Indian Canyon Drive, the CVAG ACCESS Indian Canyon Drive project proposes capital improvements that will decrease flood and blowsand related closures, providing increased access to this key critical regional arterial road. CVAG's proposed project includes the construction of two prefabricated bridges, each over at-grade crossings identified as areas impacted by concentrated flood and blowsand. As previously described, each of the bridges are designed to convey 100-year flows. These bridge improvements over at-grade crossings will significantly reduce the risk Indian Canyon Drive faces when periods of heavy rain or high winds occur, increasing its resilience.

Additionally, the bridges will improve goods movement given the 15,000 average daily traffic, of which 700 are attributed to medium- and heavy-duty vehicles that rely on Indican Canyon Drive to transport goods. By extension, this will help create a more resilient community as the economic impacts are reduced since both goods and workers can reach their destination efficiently. From a safety perspective, increasing the resilience of Indian Canyon Drive will preserve emergency vehicle access and help to reduce emergency response times to and from Desert Regional Medical Center. For communities north of the I-10 or travelers on said road, this will greatly enhance public health and safety as Indian Canyon Drive provides a direct connection to the hospital. The proposed bridges will ultimately help enhance access for disadvantaged communities in the project area as well as enhance access to Tribal lands of the Agua Caliente Band of Cahuilla Indians, which have enterprises critical to their self-sufficiency in the area.

The two miles of sand mitigation fence, including Amtrak's Palm Springs Station, provides an additional layer of protection for the roadway from being closed due to sand accumulation on the roadway. High winds in this area cause blowsand to move onto roads which results in dangerous driving conditions and road closures. Emissive windblown sand contributes to low visibility, which adds to the danger motorists face when traveling on Indian Canyon Drive. Sand mitigation fencing will reduce wind velocity and sand deposits on the roadway, increasing the safety of road users while helping to minimize blowsand related closures. By extending this improvement to the rail station, mobility options will increase.

To enhance mobility, CVAG's project includes two miles of elevated, Class IV, all-weather active transportation improvements. Connecting the City of Desert Hot Springs to CV Link along Indian Canyon Drive is a part of CVAG's ATP Master Plan. This improvement will increase mobility and modality for the disadvantaged communities at or near the project area. The lighting features also help improve the safety of users.

Furthermore, the proposed project includes a grade-separated CV Link over-crossing connection at the Chino Canyon levee, which will improve safety. As aforementioned, Indian Canyon's ADT of 15,000 can be a safety risk for bikers, pedestrians, and other users of the proposed pathway. By eliminating conflict points considering the ADT on Indian Canyon Drive, safety for users of the multi-modal pathway will be greatly enhanced.

Allowing the conveyance of blowsand in the project area is critical to protecting the environment and natural resources. CVAG's proposed project is located in the sand-transport area, which is an ecosystem process that provides critical habitat for protected species in the area. Species such as the fringe-toed lizard and the Coachella Valley milkvetch rely on this ecosystem process for their survival. As such, the bridges' culverts will facilitate the flow of sand and provide a habitat undercrossing to accommodate protected species in the conservation area and align with the CVMSHCP, helping to protect the environment and natural resources in the area.

Enhancing environmental benefits to address climate change and greenhouse gas emissions is a key component of the project. For that reason, the project includes a solar shade over the multi-modal pathway. The solar shade structure will provide a much-needed reprieve from extreme heat, which can reach 120 degrees Fahrenheit during the summer, and is projected to increase in intensity due to climate change. Also, the solar panels will help generate approximately three megawatts of clean renewable energy for the grid, decreasing reliance on fossil fuel generation resources and other generation resources that emit greenhouse gas emissions. This will align with the aggressive renewable energy and greenhouse gas reduction goals of the state. The Coachella Valley and the desert region is renowned for its renewable energy potential. Because the Coachella Valley has sunny skies the majority of the year, solar energy generation is ideal for the climate. The inclusion of this component also makes it compatible with surrounding renewable energy land use, which includes solar and wind generation. Investing in solar production as part of the project will create approximately 80 new clean energy jobs, providing employment opportunities to residents from disadvantaged areas.

Environmental Equity

Environmental equity and direct benefits for climate-vulnerable, under-resourced communities are at the forefront of CVAG's ACCESS Indican Canyon Drive project. As detailed above, the project identified by both state and federal metrics as a disadvantaged community. It is also located in Palm Springs' Council District 1, which is the City's only minority-majority district and is currently represented by the City's first Latina mayor. Given the climate vulnerability related to increased severity and frequency of floods and blowsand storms as shown per Cal Adapt, as well as extreme heat, ensuring the project benefits and uplifts the most disadvantaged communities is a project priority. Additionally, other disadvantaged communities adjacent to the project will also directly benefit from the project.

The City of Palm Springs has a total population of 44,575 and a median household income of $61,597, which is 27 percent lower than the state's median household income of $84,907. The City also has a poverty rate of 14.5 percent, higher than the state's 12.3 percent. Also, a large percentage of workers in the City work in the arts, entertainment, and recreation and accommodation and food services, 17 percent, and retail trade, 10 percent. These jobs, although important to the overall economy, are largely low-wage jobs that make it difficult for people to adapt to the costs of climate change.

The City of Desert Hot Springs, which is directly north of the project and stands to benefit from the proposed project, is a disadvantaged community. Indian Canyon Drive provides a direct connection to job centers, goods and services, and other essentials in the City of Palm Springs. The City of Desert Hot Springs has a total population of 32,512 and a median household income of $37,924, significantly lower than the state's. Given the income of the community, 26.3 percent of the population lives in poverty, significantly higher than the state's poverty rate of 12.3 percent. Of the population in the City, 42.6 percent speak Spanish and 46.8 percent speak a language other than English. Also, in terms of education, only 14.5 percent of the population hold a Bachelor's Degree or higher. The employment rate in the City of Desert Hot Springs is 52 percent.

The City of Cathedral City which is also directly adjacent to the project has a population of 51,493 and a median household income of $56,671. Of the population, 52.1 percent speak a language other than English at home, of which 45.4 percent speak Spanish. The poverty rate in the City is 18.8 percent, which is also higher than the state's poverty rate. In terms of educational attainment, 24.1 percent hold a Bachelor's Degree or higher, which is also lower than the state's average of 36.2 percent. Regarding employment, 54.5 percent of the population is employed, of which 21.5 percent work in arts, entertainment, and recreation, and accommodation and food services, and 12.5 percent work in retail.

Given the disparity the communities in the project area face due to the direct impacts of the road's loss of function, CVAG's proposed project aims to lessen the burden on these communities and increase their resiliency to climate change. Access to safe, reliable transportation in this area provides individuals and families with the ability to participate in the economy, including the ability to access educational institutions or other resources that can help families break the cycle of poverty. If families in the project area or adjacent disadvantaged communities cannot access jobs, education, public health, and social services, the disparity they face widens. Families or individuals may risk losing housing due to the inability to pay rent or mortgage, which may be a function of not being able to earn enough because they cannot make it to work due to the road closures and related traffic impacts. As a result, poverty can increase, educational attainment levels may stay stagnant or decline, and the health and overall well-being of the community may decline.

Therefore, CVAG's ACCESS Indian Canyon Drive project is critical to ensuring that under-resourced families and individuals can have safe and reliable access to destinations that can help improve their quality of life. The resiliency improvements proposed by CVAG can help ensure families do not lose access to work or other resources and are not displaced from their homes. Many individuals in the area may hold two jobs, as in the case of Ladonna Mosley, and having access to a reliable, safe road is a matter of being able to provide for her family.

The City of Palm Springs has various initiatives to support affordable housing development for residents. Currently, the City is finalizing construction on three affordable housing developments, two of which are set to open in 2023 and another in 2024. To assist residents find affordable housing, the City maintains an affordable housing resources webpage dedicated solely to providing resources to assist those in need find a home. The City also has programs to support housing for people with special housing needs and to preserve housing for low-income families and individuals. To support the homeless, the City approved $5 million for a homeless navigation center near the project area.

CVAG's proposed project will not have project-induced impacts that lead to displacement. There are no homes located in this floodplain or in this right of way. The proposed project is located in the area of the city that is designated as a Watercourse Zone to the west and Open Space to the east of the project area per its General Plan. However, the south end of the project area connects to medium- and high-density areas that include affordable housing.

Community Engagement

Few things draw as much consensus in the Coachella Valley as the idea of improving Indian Canyon.

CVAG's community engagement strategy is well documented in Appendix C, including having more than 1,000 names on a contact list of interested residents. A recent CVAG survey on the Indian Canyon design solicited input from 1,796 stakeholders. The overwhelming majority of respondents felt it was very important to resolve the flooding and sand hazards along the project corridor. Additionally, nearly all respondents (97%) stated they would support the development of bridges along this road to reduce road closures and increase safety. Other

improvements respondents would like to see along the project corridor to increase accessibility for all residents is the addition of reflective road markers (80%) and road lighting (66%), which received a high level of support. They also showed moderate levels of support for the related active transportation improvements.

Many survey respondents (61%) were over the age of 55, consistent with the region's demographics and the number of elderly residents, many of whom often travel through the project corridor to reach the region's only trauma center and other medical facilities.

Surveys were provided in both English and Spanish and digital and paper-based formats. Participation was incentivized by offering a gas card raffle prize. A winner was selected at random after the survey.

Desert Hot Springs Food Truck Friday, June 23, 2023

Responses showed that the majority (66%) of survey respondents travel along the corridor at least a few times per week. Survey respondents report traveling along the corridor for a variety of reasons including access to commercial/shopping centers (50%), access to medical facilities/appointments (47%), to get to/from home/work (45%), to access local entertainment (41%), and to visit community/recreation centers (25%). More than half (51%) of survey respondents encounter road closures along North Indian Canyon drive repeatedly throughout the rain/wind season and (24%) experience closures a few times per month. Survey respondents reported that when North Indian Canyon Drive is closed it can add time to their commute, often 20-30 minutes (32%) or even 30-45 minutes (24%).

CVAG also engaged with leadership from the cities of Palm Springs, Desert Hot Springs, and Cathedral City. Each city received an extended outreach toolkit that included project information and outreach materials to help them spread awareness among their communities and encourage participation in a stakeholder survey. To ensure critical stakeholders were aware of this project, the team developed a stakeholder database that included businesses, residents, community-based organizations, educational institutions, places of worship, and local agencies. This database received weekly e-mail blasts with project information. CVAG also collaborated with the Coachella Valley Housing Coalition (CVHC), a non-profit affordable housing builder that owns and operates multi-family affordable housing complexes throughout the Coachella Valley, including in the Cities of Desert Hot Springs, Cathedral City, and Palm Springs. This partnership allowed CVAG to reach low-income residents of affordable housing communities, to engage them on the flooding and blowsand issues, and receive their input and recommendation. Through this partnership, CVHC and CVAG distributed 458 door hangers to residents of seven affordable housing communities in Desert Hot Springs, Palm Springs, and Cathedral City. CVAG also consulted and collaborated directly with the Agua Caliente Band of Cahuilla Indians to discuss their vision and priorities for the corridor.

As noted, most survey respondents are in support of the proposed improvements that would reduce road closures, greenhouse gas emissions, and improve air quality. Through these efforts, CVAG earned media attention which help to increase community outreach and engagement.

Six pop-up informational booths specific to this project were hosted in June and July 2023. Project staff presented the proposed project, discussed the conditions along the corridor, answered questions, shared a frequently asked questions document, and administered a survey to gather feedback related to the community's values and priorities for the corridor. A pop-up at the Organized Neighborhoods of Palm Springs (ONE-PS) Monthly Meeting reached representatives from 52 recognized neighborhood organizations in Palm Springs. ONE-PS is a network of Palm Springs neighborhoods that seeks to bridge the gap between the community and city officials on matters of civic and social interest. A pop-up was held at the Palm Springs Hospitality Association Member Luncheon, which is a non-profit business association with a focus on increasing tourism in Palm Springs and the interests of the hospitality members. This group was targeted to reach hospitality managers who could serve as a strategic bridge to hospitality workers, many of whom live in Desert Hot Springs and commute to Palm Springs through the project corridor and are adversely impacted by road closures.

A pop-up was also held at the Coyote Run Apartments, an affordable housing community very close to the corridor in Palm Springs. The pop-up was held during a food distribution event and sought to reach low-income and underserved residents. Additional pop-ups were hosted at Village Fest-Palm Springs, Desert Hot Springs Fireworks Spectacular, and Desert Hot Springs Food Truck Friday, to reach residents of these cities and those who utilize the corridor frequently. These events drew community members diverse in age, ethnicity, and socio-economic backgrounds. To minimize barriers to engagement, bilingual staff were present at the community events.

To continue engagement during project implementation, CVAG will continue to work with the cities, affordable housing managers, low-income communities, and community groups as the proposed bridges are designed and finalized. CVAG will continue to engage the CVHC and other non-profits and community-based organizations to notify residents living in affordable housing near the project corridor and continue to develop relationships with community-based organizations and tribal groups who provide a direct connection to stakeholders from historically underserved communities to ensure the project is beneficial to those who may not typically engage in the public process.

In addition, the outreach team will continue to update the project database with residents who opted-in to receive project notifications. A continued notification campaign will occur through e-mail blasts and social media to share updates about the construction road status and road closures throughout the project cycle.

F. Additional Evaluation Criteria

Reduction of Greenhouse Gases and Vehicle Miles Traveled

CVAG's ACCESS Indian Canyon Drive will help reduce greenhouse gas by decreasing emissions, improving air quality, and helping to create healthier and more resilient communities. For example, between December 2021 and December 2022, Indian Canyon Drive was closed for a total of 26 days due to flood and blowsand issues. As a result of Indian Canyon Road Closures, emissions increase as motorists seek alternative routes or detours to reach their destination, which increases vehicle miles traveled and associated greenhouse gas emissions. Using the California Emissions Estimator Model and the average daily traffic on Indian Canyon, emissions modeling shows that 26 days of detour increase vehicle miles traveled by 5,160,584. As a result of increased travel, mobile emissions increase by 2,415 MTCO2 per year (Figure 11). By ensuring roadway functionality of Indian Canyon Drive during flood and blowsand events, the emissions and vehicle miles traveled will decrease, helping to improve air quality for the climate-vulnerable and under-resourced communities near the project. This will also help to reduce fuel costs, helping to increase disposable income for many of the low-income families that depend on Indian Canyon Drive to reach important destinations.

Road Width (Feet)	Total Estimated Area (SF)	Total Estimated Area (1000 SF)	Total Estimated Acres
70	4,804,800	4,805	110.3030303030

Trips

Land Use Type	Average Daily Trips	CalEEMod Trip Rate
Trips	15,268	3.1776556777

VMT Calculations

Trip VMT (mi/trip)[2]	13.00

	VMT	Detour Days	Yearly VMT
Trips	198,484	26	5,160,584

CalEEMod Miles Adjustment for 26 Day Detour:	0.926027
Mobile GHG Emissions (MTCO2e/year) - 26 Day Detour	2,415

Figure 11: VMT and GHG emission reductions from vehicles

Additionally, active transportation improvements will contribute to the clean air benefits of the project. This proposed improvement will provide increased mobility options for the residents and visitors of the western Coachella Valley. It also provides a key connection to CV Link for the residents of Desert Hot Springs who currently lack access to this regional active transportation pathway. As such, this will help to promote healthy transportation options, helping to provide an alternative to using a vehicle, which will reduce vehicle miles traveled and decrease greenhouse gas emissions. This will help to address poor air quality in the region, which leads to unhealthy outcomes.

The solar shade will also contribute to emissions reduction, helping to off-set the

use of non-renewable resources to meet energy demand, which is significant in the hot desert climate during the summer. With the inclusion of the solar shade, the 3-megawatt solar project is estimated to reduce emissions by 630 MTCO2 per year.

Transportation, Land Use, and Housing Goals

CVAG's ACCESS Indian Canyon Drive advances SCAG's regional transportation plan and sustainable communities strategy. Rooted in past Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) plans, Connect SoCal's "Core Vision" centers on maintaining and better managing the existing transportation network, while expanding mobility choices by locating housing, jobs and transit closer together and increasing investment in transit and complete streets. CVAG's proposed project to increase the resiliency of Indian Canyon Drive and address flood and blowsand issues is included in SCAG's adopted SCS/RTP plan.

From a regional perspective, the inclusion of CVAG's Indian Canyon Drive project in SCAG's SCS/RTP reinforces the importance of this regional arterial road for purposes of land use and transportation strategies, to increase mobility options, and achieve more sustainable growth in the Coachella Valley. Through CVAG's ACCESS Indian Canyon Drive project, goals of the RTP/SCS (p. 9) can be achieved, which include, but are not limited to, regional economic prosperity, improve mobility, accessibility, reliability, and resilience of the regional transportation system, increase people and goods movement and travel choices, reduce greenhouse gas emissions and improve air quality, support healthy and equitable communities, adapt to climate change, and promote conservation of natural and agricultural lands.

CVAG's proposed project aligns with all the goals of the RTP/SCS: It reduces VMT, improves safety and reliability, facilitates goods and people movement, protects the natural environment, and helps to address transportation equity in the Coachella Valley.

Locally, CVAG does not have land use authority. However, the City of Palm Springs is a member of CVAG. The City does not have a pro-housing designation but city staff stated they are in the process of pursuing it. CVAG staff will support its member jurisdictions in this process. Additionally, the City of Palm Springs has submitted its progress report to the California Department of Housing and Community Development for its 2021–2029 Housing Element. Also, the City has adopted various policies and undertaken initiatives to increase affordable housing opportunities and address homelessness in the region. Page 39 of the City's General Plan Identifies assisted multi-family housing.

Palm Springs has made additional efforts to provide housing for homeless people. In 2019, the City amended its zoning code to allow emergency shelters as a by-right use in the M-2 zone. More than 60 acres of vacant land are available. The zoning code was amended to allow for transitional and permanent supportive housing. The City Council also provided financial assistance to rehabilitate Nightingale Manor for permanent supportive housing. The City also supports a wide variety of service agencies. These services include emergency rental assistance, food/groceries and hot meals, physical and mental health services, social services, and jobs and employment training.

In 2019, the State Legislature approved a one-time grant to Palm Springs for $10 million to develop a strategy and plan for services for addressing homelessness in the community. Following public workshops on the potential uses of funding, the City is dedicating the funds to assist in the development of three projects that will accommodate residents who are at risk of homelessness.

Palm Springs has a large inventory of residential developments that have received government assistance or are under rent control—6 percent of all housing units. These include 1,167 apartment units, 832 mobile home units regulated by affordability agreements or rent control, and 53 single-family homes. An undetermined number of additional housing units in Palm Springs were assisted by other programs not directly under City jurisdiction.

During the Housing Element update, the City conducted workshops in areas of the city known to have disadvantaged characteristics. These included Desert Highlands/Gateway, which is directly south of the proposed project. Some of the conditions warranting attention include: lack of community amenities, including grocery stores, health care, banks, and support services, etc.; elevated poverty, unemployment, crime, and overpayment, and need for improving educational opportunity; lack of affordable housing; lack of opportunities to own housing and build wealth, and poorer housing conditions; lack of options for transit access to the rest of

Palm Springs and employment centers where residents work; need for improvements to neighborhood roadways and supporting infrastructure (lighting, sidewalks, etc.); and concentration of racial and ethnic minorities. CVAG's ACCESS project will provide critical infrastructure that can facilitate increased investment in the area and improve living conditions through increased mobility options and safe and reliable access to transportation infrastructure.

Furthermore, affordable housing properties are located citywide. Mobile homes tend to be concentrated more in south Palm Springs, northern Palm Springs, and the northern sphere of influence areas. Affordable apartment projects are in central and northern Palm Springs. Sites for affordable housing that have been approved and received funding are located near and above East Vista Chino. Vacant sites that could support affordable housing are near downtown and along Palm Canyon and Indian Canyon north of Vista Chino. In effect, CVAG's proposed project can facilitate increased investment in affordable housing in the northern area of the City. Having resilient, reliable, and safe transportation is a critical component to supporting an increase in affordable housing investments in the area.

Cost Effectiveness

FEMA Benefit-Cost Calculator

V.6.0 (Build 20230324.2039 | Release Notes)

Benefit-Cost Analysis

Project Name: Indian Canyon Drive Flood and Sandstorm Mitigation Project

					Using 7% Discount Rate			Using 3% Discount Rate (For FY22 BRIC and FMA only)		
Select	Map Marker ▲	Mitigation Title	Property Type	Hazard	Benefits (B)	Costs (C)	BCR (B/C)	Benefits (B)	Costs (C)	BCR (B/C)
☑	1			DFA - Riverine Flood	$ 88,180,793	$ 70,420,701	1.25	$ 164,402,051	$ 70,438,595	2.33
TOTAL (SELECTED)					$ 88,180,793	$ 70,420,701	1.25	$ 164,402,051	$ 70,438,595	2.33
TOTAL					$ 88,180,793	$ 70,420,701	1.25	$ 164,402,051	$ 70,438,595	2.33

CVAG used the FEMA Benefit-Cost Calculator for the ACCESS Indian Canyon Drive cost effectiveness analysis. This tool was selected because it is best fitted for flood mitigation measures, and it captures historical expenditures for repeated road repairs and coverts it to current dollar value for added benefits as well as determining the future risk reduction benefit of a hazard mitigation project. Additionally, it accounts for vehicular operating costs, added pollution during road closures, and substantial delays.

The average daily traffic on Indian Canyon is approximately 18,000 vehicles. When the road is closed because of flooding or blowsand, the average delay is approximately 35 minutes. The BCA of 1.25 was calculated by analyzing the annual repair cost of $2,504,317 and an estimated $688,800 annual loss of function versus the anticipated future cost after mitigation provided by the proposed improvements.

G. Funding and Project Delivery

For project delivery, CVAG is proposing the design-bid-build delivery method. However, for the solar component of the project, CVAG is proposing issuing a request for qualifications, to take a programmatic approach that

includes workforce training for local low-income residents and allocation of the project's solar benefits to low-income energy users in the area.

Regarding contracts for the construction phase, CVAG does not anticipate separate allocations. Only one contract is needed for the construction phase.

As it relates to threats the project may face, CVAG has identified potential threats and mitigation strategies to ensure successful project completion.

Threat	**Risk Level and Mitigation**
Original Cost Estimates: The risk that original cost estimates are lower than bids received	**Medium** — Any changes to the current estimates and actual bids received will be incorporated and reported to the California Transportation Commission.
Cost Overruns During Construction: Cost overruns after start of construction could result in insufficient upfront funds to complete the Project.	**Medium** — CVAG will track payment quantities, extra work and potential change orders. Master quantity sheets will show calculations or field measurements to justify payments. Master schedule, daily reports, Quality Assurance Plan and Risk Mitigation Plan will also reduce overruns.
Permits and Approvals: Delays in the receipt of permits and approvals may delay the start of construction.	**Low** — CVAG has initiated activities necessary to secure major permits with all affected agencies. The Contractor will assume responsibility to obtain all other permit approvals. Compliance will be the contractor's responsibility and will be addressed directly in the relevant contract documents
Schedule Coordination: Poor project scheduling and coordination could delay the Project schedule.	**Medium** — CVAG will maintain a Master Schedule and monitor potential delays by analyzing the contractor's schedules on a weekly basis, using information from the inspector's daily reports, meeting minutes, submittal logs, weekly statements of working days and other project records
Interconnection of Solar and Utilities: interconnecting solar generation may be delayed	**Low** — Transmission facilities are located east of Indian Canyon, which do not conflict with the project. CVAG will coordinate with Southern California Edison and Desert Community Energy to obtain permit approvals.
Pedestrian Overcrossing: Pedestrian bridge may be delayed due to approvals	**Low** — Approval from Riverside County Flood Control District (RCFCD) will be required for this project . CVAG received necessary approval from RCFCD for CV Link and will leverage experience to address potential delays.
Environmental Documents: Environmental approvals could be delayed	**Low** — Environmental approval could take longer than anticipated. To mitigate, CVAG has taken a proactive approach and has commenced this process with the use of local funds.

CVAG's proposed project is entirely within the right-of-way of Palm Springs and does not require coordination with Union Pacific Railroad for proposed capital improvements.

On September 26, 2022, CVAG's Executive Committee approved a Professional Service Agreement with Michael Baker International in an amount not to exceed $4,464,631.58 to provide design, engineering, and environmental services for the Western Coachella Valley Flooding and Blowsand Project – Phase One. This approval includes design, engineering, and environmental documents for Indian Canyon Drive. Currently, the project is scheduled to deliver environmental documents by June 2024.

Funding Table

Phase	Fiscal Year of Allocation	Amount	Funding Source	Committed or Uncommitted
Design, Engineering, and Environmental Documents	FY 2022–25	$4,500,000	Local funds (Measure A)	Committed
Construction	FY 2025–26	$50,000,000	Local Transportation Climate Adaptation Program	LTCAP Amount Requested
Construction	FY 2025–26	$20,400,000	Local funds (Measure A)	Committed (funding match)

CVAG is in a strong financial position and can absorb any cost overruns and deliver the project nomination with no additional funding from the LTCAP. Based on CVAG's audited financial statements ending the fiscal year 2022, CVAG has a total net position of $93,785,141. CVAG relies on Measure A to fund major transportation projects in the Coachella Valley. This funding source will fund CVAG's local match for the proposed ACCESS Indican Canyon Drive project. The Measure A Fund accounts for the revenues generated by the Measure A half-cent sales tax and is used mainly for the construction and/or improvement of the regional arterials in the Coachella Valley. At the end of FY 2022, CVAG's Measure A balance was $49,506,164. In addition, CVAG relies on Transportation Uniform Mitigation Fees (TUMF). The TUMF Fund accounts for the revenues generated by the Traffic Mitigation Fees and provides additional funds necessary to construct the transportation improvements generated by the development in the Coachella Valley.

Please see Project Programming Request form in Appendix B.