



# WHITEWATER RIVER/PARKWAY 1e11 NEV/BIKE/PEDESTRIAN CORRIDOR PRELIMINARY STUDY REPORT



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# TABLE OF CONTENTS

EXECUTIVE SUMMARY .....	iii
1.0 INTRODUCTION .....	1
2.0 NEIGHBORHOOD ELECTRIC VEHICLES .....	2
2.1 NEIGHBORHOOD ELECTRIC VEHICLES DEFINED .....	2
2.2 LEGISLATION .....	5
2.3 UNIQUE CONSIDERATIONS FOR NEV CORRIDORS .....	6
3.0 REVIEW OF REGIONAL TRAILS STUDY (DANGERMOND GROUP 2009) .....	7
3.1 GENERAL DESCRIPTION .....	7
3.2 INTEGRATING NEVS INTO PROPOSED BIKEWAY .....	7
3.3 FATAL FLAW ANALYSIS .....	8
4.0 PRELIMINARY PARKWAY PROPOSAL .....	9
4.1 COMMUNITY BENEFITS .....	9
4.2 CONCEPTUAL ALIGNMENT .....	10
4.3 DESIGN GUIDELINES .....	14
4.4 PRELIMINARY CROSS SECTIONS .....	14
4.5 DRAINAGE CROSSINGS .....	27
4.6 GOLF COURSES .....	27
4.7 COACHELLA VALLEY MULTIPLE SPECIES HABITAT CONSERVATION PLAN .....	28
5.0 COST ESTIMATE .....	29
6.0 IMPLEMENTATION RECOMMENDATIONS .....	30
6.1 IMPLEMENTATION RECOMMENDATIONS .....	30
6.2 PROJECT PHASING .....	33

## APPENDICES

A: State of California Assembly Bill 61 (for Riverside County)

B: Roadway and Drainage Crossing for the Whitewater River, Tahquitz Creek Connector,  
and Desert Hot Springs Connector

**LIST OF FIGURES**

Figure 2-1: Examples of NEVs.....3  
Figure 4-1: Conceptual Alignment ..... 11  
Figure 4-2: Restricted ROW Class I Path ..... 15  
Figure 4-3: Restricted ROW Divided Class I Path ..... 19  
Figure 4-4: Optimum Class I Path ..... 21  
Figure 4-5: Roadway Adjacent Class 1 Path ..... 23  
Figure 4-6: Class II Path ..... 25

**LIST OF TABLES**

Table 4-A: Drainage Crossings.....27  
Table 4-B: Golf Courses in Whitewater River..... 28  
Table 5-A: Cost Estimate..... 29

## EXECUTIVE SUMMARY

The Coachella Valley Association of Governments (CVAG) conducted this Preliminary Study Report (PSR) in order to assess the viability of building an alternative transportation corridor along the Whitewater River for Neighborhood Electric Vehicles (NEVs), golf carts, bicyclists, joggers, pedestrians, and mobility device-reliant persons. The proposed project would be the largest such facility in the United States and would bring attention to the Coachella Valley as a leader in green transportation infrastructure. This PSR builds upon the findings of the Whitewater River, All American Canal and Dillon Road Regional Trails Corridor Study (Dangermond 2009).

The conceptual alignment for the multi-modal (NEV/Bicycle/Pedestrian) Whitewater River Parkway/Parkway 1e11 (Parkway), includes 52 miles of trail comprised of the following segments:

- Parkway Trunk Line: Palm Canyon/Highway 111 at Chino Wash in Palm Springs to Avenue 56 in Coachella, including side paths to the College of the Desert main campus and La Quinta High School (38 miles)
- Desert Hot Springs Connector (9 miles)
- Tahquitz Creek Trail Connector (5 miles)

The proposed Parkway will serve as the backbone for a larger regional trail network that will extend throughout the Coachella Valley. Additional segments that are envisioned for later implementation include, but are not limited to, the following:

- Salton Sea Extension: From Avenue 56 along the Whitewater to the Sea (10 miles)
- Mecca/North Shore Bikeway Connector: From Avenue 66 at the Whitewater River along Hammond Road and Avenue 70 to the North Shore Yacht Club (12 miles)

The PSR concludes that the proposed Parkway is viable. The greatest challenges facing the project are: right-of-way/easement clearance; crossings of arterials and drainages; existing golf course and country club developments along and within the Whitewater River channel; and restricting gas fueled vehicles from using the Parkway. Maintenance and management responsibilities will need to be planned and provided for as well.

The preliminary cost estimate to construct the 52 miles of Parkway 1e11 currently proposed is approximately \$77 Million. This estimate includes \$4.5 Million for nine charging stations, and a \$15.5 Million (25%) contingency fund.

The PSR provides five sample Parkway cross sections. These include four versions of a Class I path (separate from roadway) cross-section and one Class II (on roadway) cross section. Preliminary design guidelines and implementation recommendations are also presented.

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## 1.0 INTRODUCTION

Residents of the Coachella Valley have been discussing the idea of a bike path along the Whitewater River, which transects the entire valley, for decades. In the last five years, this idea has gained traction through the advocacy efforts of the Coachella Valley Community Trails Alliance, a grass-roots non-profit organization dedicated to local urban trail development. The Coachella Valley Association of Governments (CVAG), Riverside County Supervisor John Benoit (and his predecessor, the late Roy Wilson); the Riverside County Regional Parks and Open-Space District (RivCo Parks), and the Desert Recreation District (DRD) have all contributed to exploring and advancing the vision of a Whitewater River Urban Trail that extends without interruption from Palm Springs to the Salton Sea. CVAG updated the Coachella Valley Non-Motorized Transportation Plan in 2010. RivCo Parks and DRD jointly funded the Whitewater River, All American Canal and Dillon Road Regional Trails Corridor Study (Regional Trails Study), which was completed by The Dangermond Group in December 2009, and was adopted by the DRD Board of Directors in April, 2011.

Recently the vision of a Whitewater River urban trail has received renewed impetus from CVAG. Assembly Bill (AB) 1318 (South Coast Air Quality Management District: Emission Reduction Credits: California Environmental Quality Act), authored by California Assembly Member V. Manuel Perez (80th District), and coauthored by California Assembly Member Brian Nestande (64th District) and former State Senator John Benoit (37th District), enabled the Competitive Power Ventures' (CPV) Sentinel Natural Gas Power Plant to proceed with construction in Desert Hot Springs. The legislation required that CPV pay \$53 million in air quality mitigation fees to the South Coast Air Quality Management District (SCQMD). CVAG proposes to use a portion of these mitigation fees to plan and build a modified version of the Whitewater River urban trail. CVAG's proposal is to expand the paved path proposed in the Regional Trails Study so that golf carts and neighborhood electric vehicles (NEVs) can share the path with bicyclists, and to also include an adjacent soft surface path for pedestrians and joggers.

A revised urban trail vision for the Coachella Valley, a multi-modal (NEV/bicycle/pedestrian) Whitewater River Parkway/Parkway 1e11 (Parkway) is now being considered. CVAG issued a Request for Proposals (RFP) in November 2011 to review the Regional Trails Study and investigate the possibility of integrating a golf cart/NEV component into the proposed alignment. Specifically, CVAG wanted to make sure there were no fatal, or cost-prohibitive, flaws to the new vision for a multi-modal trail. This document, the Parkway Preliminary Study Report (PSR), is the product of the RFP issued by CVAG. This PSR builds on the findings of the Regional Trails Study to assess the viability of the Whitewater Parkway concept. Although the PSR's primary objectives are to estimate project costs and identify potential obstacles, other pertinent issues are explored, including legal requirements, conceptual alignments, preliminary cross-sections, parkway design guidelines, and implementation recommendations. Most of the analyses presented are preliminary and will be refined through additional research, evaluation, planning, public input, and regional coordination. Coordination with all incorporated and unincorporated communities affected by Parkway proposal will be particularly important.

## 2.0 NEIGHBORHOOD ELECTRIC VEHICLES

### 2.1 NEIGHBORHOOD ELECTRIC VEHICLES DEFINED

In order to assess whether the proposed Whitewater Trail alignment proposed in the Regional Trails Study would be suitable for neighborhood electric vehicles (NEVs), the laws, requirements, operational issues, and other aspects NEVs must be understood. NEVs are small, electric-powered personal vehicles. They have a limited range and can travel up to speeds of 25 mph. They are a viable transportation alternative for short (up to 30 miles) trips. While they may look like golf carts, they are regulated like motor vehicles, requiring a driver's license and registration. California cities with NEV Plans generally allow conventional golf carts to utilize designated NEV corridors. In such cases, speed limits can be lowered to improve safety.

Examples of NEVs are provided in Figure 2-1. NEVs such as the Chrysler GEM are specifically designed to meet federal safety standards for low-speed vehicles as defined in Section 571.500, Title 49 Code of Federal Regulations. An NEV corridor can be defined as having the necessary infrastructure to accommodate NEV travel safely, including charging facilities, striping, signage, parking, and educational elements. The City of Lincoln, California, north of Sacramento, has one of the premier NEV programs in the country. The following section includes excerpts from the City of Lincoln NEV Transportation Plan (2006) and other sources.

#### **Low Speed Vehicle**

A Low Speed Vehicle (LSV) is defined as a motor vehicle other than a motor truck, having four wheels on the ground and an unladen weight of 1,800 pounds or less, that is capable of propelling itself at a minimum speed of 20 miles per hour and a maximum speed of 25 miles per hour on a paved, level surface. An LSV is not considered a golf cart except when operated pursuant to Section 21115 or 21115.1 of the California Vehicle Code (CVC) pertaining to operations within a golf course facility/community (CVC Section 385.5). LSV is a relatively new motor vehicle classification created by the National Highway Traffic Safety Administration (NHTSA) in 1998. This new classification is codified as Section 571.500 Title 49 code of Federal Regulations and as California Vehicle Code Section 385.5.

#### **Neighborhood Electric Vehicle**

A Neighborhood Electric Vehicle (NEV) is an electrically-powered LSV. They are manufactured by car companies and meet federal safety standards for low speed vehicles. Examples include the Daimler Chrysler "GEM" car. While "low-speed vehicle" is technically the correct term, NEV is the more popularly used and recognized term. NEVs are required to have California license plates in order to utilize public roads.

#### **Golf Carts**

A conventional golf cart is a motor vehicle having not less than three wheels in contact with the ground, weighs less than 1,300 pounds, operates at no more than 15 miles per hour. They are designed to carry golf equipment and not more than two persons, including the driver (CVC Section 345). A conventional-golf cart is not technically a low speed vehicle. However, speed-modified golf carts are designed to travel at not more than 20 miles per hour and must have a California license plate to utilize public roads.



Source: City of Lincoln CA NEV Transportation Plan

Figure 2-1: Examples of NEVs

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## 2.2 LEGISLATION

Existing law (Chapter 6, Streets and Highways Code, Section 1950 – 1965) authorizes a city or county to establish a golf cart transportation plan subject to the review of the appropriate transportation planning agency and traffic law enforcement agency. Assembly Bill 61 (Riverside County [AB 61 (Appendix A)]) adds Chapter 7 (commencing with Section 1963) to Division 2.5 of the Streets and Highways Code to authorize Riverside County and its local agencies to establish an NEV transportation plan subject to the same review process established for a golf cart transportation plan. The bill defines “neighborhood electric vehicle (NEV)” the same as a “low speed vehicle” (LSV). Within California, only electric powered LSVs can be sold. Therefore, all LSVs in the State of California are NEVs.

Legislation allowing NEV plans and systems to be implemented has been authorized by the State legislature on a request-by-community basis, with the first request and authorization coming in 2005 from the cities of Lincoln and Rocklin, CA (AB 2353). The legislation requires local agencies to develop an NEV Transportation Plan that includes the following elements:

- Route selection
- Transportation interfacing
- Provision for NEV-related facilities, parking, road markings/signage, and charging stations
- Specific categories of facility types
- Traffic and safety
- Maintenance, security, liability

Additional Regulations for NEVs are presented below:

- NEVs must comply with all the rules and regulations for motor vehicle as set forth in the California Vehicle Code. Vehicle Code §21251 provides in part that:  

[A] low-speed vehicle is subject to all the provisions applicable to a motor vehicle, and the driver of a low-speed vehicle is subject to all the provisions applicable to the driver of a motor vehicle or other vehicle, when applicable, by this code or any other code, with the exception of those provisions which, by their very nature, can have no application.
- NEVs must be registered with the State Department of Motor Vehicles, and the driver must hold a valid California driver's license and be insured.
- NEVs may travel on any street with a posted speed limit of 35 miles per hour or less. However, a city, by local ordinance or resolution, may restrict or prohibit the use of NEVs [CVC §21266(a)]. Approved NEV travel routes should be clearly designated to direct NEV traffic to the safest available route.
- NEVs may cross state-highways at controlled intersections only. Crossing at uncontrolled intersections is permitted with the approval of the agency with primary responsibility for that intersection [CVC §21260(2)].

In 2010, several jurisdictions requested and received approval to develop NEV plans, including the cities of Jackson, Sutter Creek, Amador City, and Fresno. Riverside County and all cities contained within Riverside County received legislative authorization to establish NEV transportation plans through Assembly Bill 61(AB 61), as amended on March 8, 2011. The full text of AB 61 is shown in Appendix A. It remains in effect until January 1, 2017.

An NEV transportation plan in Riverside County must be reviewed by the Riverside County Transportation Commission, any agency having law enforcement responsibilities in an entity included in the plan, and the California Traffic Control Devices Committee. Following these reviews, the plan would need to be submitted to the California Department of Transportation for approval. AB61 also has legislative reporting requirements.

## **2.3 UNIQUE CONSIDERATIONS FOR NEV CORRIDORS**

### **Operating Issues**

The organization and management of users will be critical to maintaining a high level of safety on the NEV/Bike/Pedestrian Parkway. Introducing a 1,800-pound vehicle at 25 miles per hour onto a non-motorized facility, where people may stop unpredictably or are bicycling with young children, requires education and management. Police or rangers should be trained to supervise conditions and use.

### **Controlling Access**

One of the greatest challenges of the NEV Parkway is finding an effective way to keep cars off the facility. Traditional bollards used on Class I bike paths will not work due to the width of NEVs. One design solution would be the introduction of speed humps with cuts designed to allow NEVs and bicycles to pass through, but to slow cars with regular wheel bases. However, this approach may have ADA and emergency access implications. Another possibility is to have control gates that are opened by NEV owners with methods similar to those used on toll bridges.

### **Class I-II Transitions**

Unlike bicyclists and pedestrians who can transition from a Class I bike path to sidewalks, streets, and bike lanes by taking a variety of legal means of crossing and walking/riding along streets, NEVs are subject to the California Vehicle Code and operate more like cars than like bicycles. Intersections may have to be re-designed in some cases, especially where the NEV Class I bike path emerges within 200 feet of a signalized intersection.

### **Re-Charge and Sharing/Rental Facilities**

NEVs as well as golf carts are likely to require public re-charge facilities. Re-charge facilities would most likely be located at staging/trailhead areas, parks, and destination points. One or more centralized NEV rental/sharing centers would be an excellent support facility for the Parkway, providing residents and visitors alike with opportunities to travel without using traditional cars.

## **3.0 REVIEW OF REGIONAL TRAILS STUDY (DANGERMOND GROUP 2009)**

### **3.1 GENERAL DESCRIPTION**

The *Whitewater River, All American Canal and Dillon Road Regional Trails Corridor Study* (Regional Trails Study) was completed by The Dangermond Group in December 2009 and was adopted by the DRD Board of Directors in April, 2011. This study was jointly funded by the RivCo Parks and DRD. It provides a comprehensive analysis of and recommendations for a Class I bike path and equestrian/hiking trail system along the Whitewater River, All American Canal, and Dillon Road. The Study builds on previous regional trail planning efforts, including the CVAG Non-Motorized Transportation Plan (2001) and the Riverside County General Plan Regional Trails Plan (Draft 2009).

The Regional Trails Study proposes a paved bike path and an earthen surface equestrian path. The bike path is primarily proposed on the right bank (looking downstream towards the Salton Sea); however, it is proposed for the left bank in the following locations: 1) from Portola Avenue to Adams Street, and 2) downstream of Avenue 64. South of Avenue 64, the paved trail is proposed on the left bank based on future developments that are expected to provide bank reinforcement. The equestrian path is generally proposed on the opposing bank from the bike path. The Regional Trails Study proposes a path that extends to the Whitewater Preserve, utilizing Highway 111, Tipton Road and Whitewater Canyon Road. It does not propose a direct connection between the Whitewater Trail and the City of Desert Hot Springs (DHS).

The Whitewater Corridor is managed by the Coachella Valley Water District (CVWD) and Riverside County Flood Control and Water Conservation District. The property along the Whitewater River is divided among public owners, tribal owners, private owners, and homeowner associations. The Regional Trails Study discovered numerous discrepancies in ownership and parcel number information between CVWD data and the County Assessor's records. Ownership and easement status will have to be clarified for an unknown number of parcels. Trail easements will be required along the length of the Whitewater River. Developing a process for obtaining these easements should be initiated early. In addition, ROW boundaries will need to be identified in the field, which may require formal land surveys in some areas.

The Regional Trails Study proposes on-street bypasses of seven golf courses that traverse the bed and banks of the Whitewater River. While routing around some key golf courses is not a fatal flaw, it does represent a diversion for trail users. Bicycle/pedestrian trails and golf courses are not mutually exclusive though people often assume otherwise.

### **3.2 INTEGRATING NEVS INTO PROPOSED BIKEWAY**

The proposed cross sections used in the Regional Trails Study are for exclusive use of bicyclists and pedestrians, not NEVs. As such, the recommended widths (12 feet for Class I bike path) are narrower than the recommended minimum NEV/Class I bike path (14 feet). Based on a review of the Regional Trails Study detailed maps, opportunities and constraints section, and other materials, the proposed alignment is similar to what would be required for a Parkway that accommodates NEV/golf cart users, as well as bicyclists and pedestrians.

## **Roadway Crossings**

The Regional Trails Study identifies new at-grade mid-block crossings, some requiring new signals, as well as new undercrossings. Adequate traffic and speed data, roadway and bridge configurations, flood data, etc., are required in order to identify the types of specific improvements required. A preliminary review of the crossing locations does not indicate any crossings where a signal would not be feasible.

## **Class II and Roadway Adjacent Class I NEV Facilities**

The use of Class II (on-street) facilities and Class I NEV facilities adjacent to roadways may be problematic if right-of-way is limited. This problem can at times be overcome by reducing the width of car lanes. Roadways with high speeds and volumes may also be problematic.

## **Staging/Parking/Passing Areas**

While the Regional Trails Study shows numerous staging/trailhead areas, a Class I NEV/bike path will require additional parking and staging facilities due to the new vehicle type. Occasional passing areas may be needed, depending on future volumes, allowing NEVs to pass slower-moving vehicles.

## **3.3 FATAL FLAW ANALYSIS**

Based on the available information and on our knowledge of the corridor, the proposed NEV/Bicycle/Pedestrian Parkway does not have any fatal flaws that would prevent it from being constructed and operated effectively. Key issues such as intersection and access control need to be resolved, as do issues related to the available right-of-way to accommodate the wider paved section required of a NEV Class I facility. Access through key golf courses will help make the Parkway a more functional facility, but the alternatives around them do not represent fatal flaws.

## 4.0 PRELIMINARY PARKWAY PROPOSAL

### 4.1 COMMUNITY BENEFITS

The potential benefits from an NEV/Bicycle/Pedestrian path in the Coachella Valley include:

- Air quality improvements
- Community cohesion
- Energy saving
- Less expensive transportation for low-income populations
- Improved mobility and independence for aging and disabled drivers
- Health benefits from active transportation and recreation (bicycling and walking).
- Job generation and economic stimulus

**Air Quality Improvements:** First and foremost, enabling people to travel safely by bicycle or electric vehicle will reduce the emissions that would have been generated if these trips had been done with internal combustion-powered vehicles. NEVs are zero emission vehicles that eliminate toxic emissions that result from traditional automobiles. They are ideal for short distance trips which generate disproportionate levels of air pollution due to the starting, stopping and restarting engines.

The South Coast Air Quality Management District (SCAQMD) has designated the Coachella Valley as a serious PM<sub>10</sub> (Particulate Matter) nonattainment area. The Whitewater River transforms into a “river of blowing dust and sand” during strong wind events. Paving dirt maintenance roads along one levee of the Whitewater River for an NEV/Bike/Pedestrian corridor will help to alleviate some of the particulate matter generated when strong winds funnel through the Whitewater River channel.

**Community Cohesion:** The limited driving range of NEVs will encourage people to shop locally. The lower transportation speeds will foment community interaction and cohesion. The corridor, along with amenities such as interpretive sites and charging stations, will create public space where people can interact with one another.

**Energy Savings:** According to the City of Lincoln NEV Transportation Plan, the average energy consumption of a standard automobile is 27.5 miles per gallon. NEVs operate on average at 0.223 kilowatt hours/ mile or the equivalent of 150 miles per gallon. Annual operating costs are estimated to be 1/5<sup>th</sup> of an automobile.

**Less Expensive Transportation:** A new NEV retails for approximately \$7,500, and used NEVs are available for less. Golf Carts are less expensive and bicycles are substantially less expensive. Providing the infrastructure to use these vehicles will avail low-income families of a relatively inexpensive option for transportation. In addition, bicycle and NEV rental/sharing facilities are envisioned that would enable people to use these modes of transportation without having to purchase one themselves.

**Improved Mobility:** Many seniors and disabled individuals are no longer able (or no longer feel safe) to operate an automobile. Loss of the ability to drive a car can lead to isolation or dependence on others for mobility. NEVs and golf carts have long been used in retirement communities to prolong mobility. Creating a safe NEV/golf cart infrastructure beyond retirement communities will expand these mobility benefits to those who otherwise would not have access.

**Health Benefits:** Today most people drive their children to school due to safety concerns. This factor, coupled with the increasing reliance on electronic forms of entertainment, has contributed to a childhood obesity crisis in the Coachella Valley and the entire nation. A study conducted by the Desert Healthcare District in 2009 documented this crisis. Creating safe corridors for children to walk and ride bicycles to school would promote more exercise. This approach is part of the larger concept of creating “healthy communities” by design. The air quality improvements expected from Parkway implementation will contribute to improved health for residents and visitors, especially those suffering from respiratory ailments such as asthma.

**Economic Stimulus:** Planning, engineering and construction of the 1e11 Parkway will create local jobs. The NEV/Bike infrastructure will create more demand for bicycles, golf carts and NEVs to be purchased from local businesses. The local businesses that service these vehicles are also expected to see increased demand. The Parkway is expected to become a central alternative transportation corridor. Businesses located along the corridor are likely to experience an increase in customers (Parkway Users). Tourism and the Spa Industry are cornerstones of the Coachella Valley economy. The Parkway is sure to attract more visitors seeking safe places for outdoor recreation and will complement the local Spa Industry.

## 4.2 CONCEPTUAL ALIGNMENT

The conceptual alignments developed in collaboration with CVAG staff are presented in Figure 4-1 on the following page. Additional alignment detail is available on the CVAG website. The segments presented here are understood to be the backbone for a regional NEV/Bike/Pedestrian path system that will extend throughout the Coachella Valley, and will include many branches that are not discussed within this report.

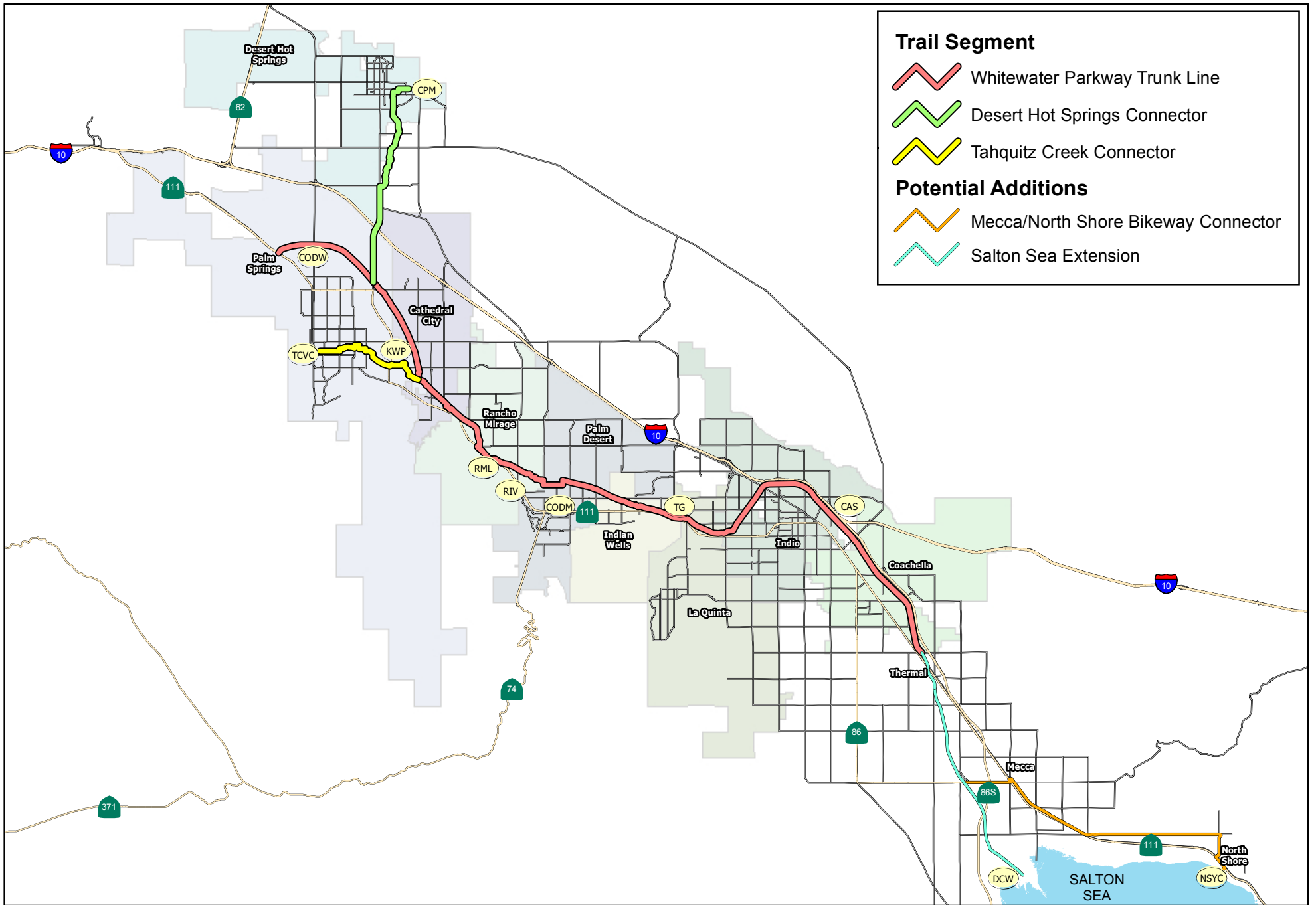
### Parkway Trunk Line

The bike path alignment proposed in the Regional Trails Study was used as the basis to develop conceptual alignments and alternate routes for the NEV/Bicycle/Pedestrian Parkway. The trunk line of the Parkway is proposed to extend from Palm Canyon Drive (at the intersection with Chino Canyon Wash)<sup>1</sup> in Palm Springs, to Avenue 56 in Coachella, approximately 36 miles. The trunk line includes a dual bank path between Adams Street and Dune Palms Road that will provide a direct link to La Quinta High School. A side path is also proposed to provide a direct connection to the College of the Desert (COD) main campus and adjacent Civic Center Park in Palm Desert. Additional side paths may be proposed as the project moves forward and could include nearby destinations such as The River retail/entertainment complex in Rancho Mirage, the Tennis Garden in Indian Wells, and the Fantasy Springs and Spotlight 29 Casinos in Indio and Coachella.




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<sup>1</sup> The right bank levee for Chino Canyon Wash blends seamlessly with the right bank levee for the Whitewater River west of Gene Autry Trail.



Figure 4-1: Whitewater Parkway Conceptual Alignment

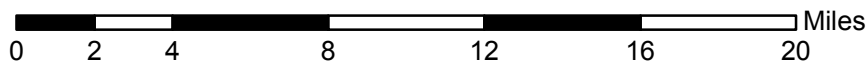


**Trail Segment**

-  Whitewater Parkway Trunk Line
-  Desert Hot Springs Connector
-  Tahquitz Creek Connector

**Potential Additions**

-  Mecca/North Shore Bikeway Connector
-  Salton Sea Extension



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### **Desert Hot Springs Connector**

The Regional Trails Study did not include a direct link between Desert Hot Springs (DHS) and the Whitewater River Bike Path. It did propose to connect to the Whitewater River Preserve with a Class II (bike lane) facility using the Highway 111, Tipton Road and Whitewater Canyon Road. However, Whitewater Canyon Road is far west of DHS and is separated by a small mountain range. Representatives from DHS proposed a Parkway connection to DHS utilizing Gene Autry Trail, Palm Drive, Desert Dunes Golf Course, the Verbena Wash, Desert View Avenue, and terminating at the Cabot Pueblo Museum (nine miles). This locally developed alignment avoids Conservation Areas and serves a populated area of DHS.

### **Tahquitz Creek Connector**

The Tahquitz Creek Trail in Palm Springs is an existing Class I Bike Path with Class II and Class III segments. It runs continuously between Calle Palo Fierro (one block east of South Palm Canyon Drive) to Tahquitz Creek's confluence with the Whitewater River (east of Golf Club Drive). This existing trail already connects seamlessly to an existing segment of the Whitewater River Bike Path and provides an established right-of-way that can be relatively easily upgraded to the Golf Cart/NEV-inclusive standards considered for Parkway 1e11. This trail was not addressed in the Regional Trails Study.

### **Re-charge Facilities and Rental/Share Stations**

Nine re-charge facilities, possibly solar power-assisted, are proposed and included in the cost estimate: seven along the Parkway Trunk Line, and one each for the DHS and Tahquitz Creek Connectors. Two NEV rental/share stations are also being considered. Locations in Rancho Mirage adjacent to the Rancho Mirage Library, and a location in the East Valley are envisioned. The rental/share stations are not included in the cost estimate.

The following Parkway segments are envisioned for later implementation and are not considered part of the proposed project at this time.

### **Whitewater Parkway Salton Sea Extension**

The Parkway is proposed to be extended from Avenue 56 in Coachella to the Salton Sea, which is approximately 10 miles. This route may initially be constructed as a bikeway, and later be upgraded to accommodate golf carts and NEVs. The Torres Martinez Desert Cahuilla Indians have developed a wetland restoration area at the mouth of the Whitewater River Delta to the Salton Sea. The Tribe has plans for a nature interpretive center. This future nature center would make an ideal final destination point for the Whitewater Extension to the Salton Sea.

### **Mecca/North Shore Bikeway Connector**

A Whitewater Parkway Connector is proposed for the Mecca and North Shore areas, once the Salton Sea Parkway Extension is constructed. The conceptual bikeway alignment begins on Avenue 66 and the Whitewater River. It would follow Avenue 66 into Mecca, head south on Hammond Road and then east on Avenue 70 into North Shore. The bikeway would head south on Vander Veer Road, then use Bay Drive, Highway 111, and Marina Drive to terminate at the North Shore Yacht Club Community Center. This facility would make a good destination point for the connector path. The majority of the alignment is along Hammond Road and Avenue 70. These roadways would require widening in order to accommodate the proposed bikeway.

### 4.3 DESIGN GUIDELINES

Design standards for NEV facilities are currently developed by each authorized local agency, as part of their NEV Transportation Plan. Design guidelines for bikeways and trails in the Coachella Valley are detailed in the California Highway Design Manual (Chapter 1000) and other sources, including the Americans with Disabilities Act (ADA), the Coachella Valley Non-motorized Transportation Plan, the Riverside County Regional Trails Plan, and other sources.

General design guidelines for Parkway 1e11 along the Whitewater River and other corridors include the following:

- Paved path for NEVs, golf carts, bicycles and mobility assistance devices
- Compacted earthen path for pedestrians, joggers, hikers and dog walkers
- Clear connections to adjacent destination points and neighborhoods
- Frequent access points, no less than two per mile, more where warranted
- Distinctive design (such as colored concrete) and iconic logo
- Safety rail when warranted by slope steepness and grade change
- Lane striping and path type differentiation where possible
- Directional, location and distance signage
- Landscaping where allowable
- Public art and aesthetic elements
- Interpretive /educational sites

### 4.4 PRELIMINARY CROSS SECTIONS

The conceptual cross sections for Parkway 1e11 are presented here. The cross sections will be refined with additional analysis and input from local jurisdictions, and will vary according to the actual right-of-way (ROW) available in a given location. Final cross sections/design standards will need to be approved by CVAG and the California Traffic Control Devices Committee. Five conceptual cross sections are presented.

#### **Class I Parkway**

A Class I NEV/Bike/Pedestrian Parkway is defined as a transportation corridor that is separate from streets, has a paved path for NEVs, golf carts and bicycles, and an adjacent compacted earth path for pedestrians, joggers, and hikers. A minimum width of 16 feet, including shoulders, is required. A 12-foot-wide paved path is deemed necessary to allow NEVs to pass safely in the opposite direction considering their size and speed.

Four types of Class I Parkway are considered:

- **Restricted ROW Class 1 Path:** This cross section is for areas where the ROW is restricted to between 16 and 20 feet. It includes a paved path for NEVs, golf carts and bicyclists plus a compacted soft surface path for pedestrians and hikers. In this narrow cross section, an NEV would need to pull into the opposing lane by at least two (2) feet to safely pass a bicyclist. Refer to Figure 4-2.



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- **Restricted ROW Divided Class 1 Path:** This cross section is for areas where the ROW is restricted to between 16 and 20 feet but separate, adjacent ROW is available. The divided path includes a paved path for NEVs, golf carts and bicycles and a separate, nearby, compacted soft surface path for pedestrians/hikers. The pedestrian path would typically be located on a second tier of levee embankment. Refer to Figure 4-3.
- **Optimum Class 1 Path:** This cross section is for areas where the ROW is not restricted. It includes a paved path for NEVs, golf carts and bicyclists plus a compacted soft surface path for pedestrians and hikers that would be separated by a landscaped buffer. Refer to Figure 4-4.
- **Roadway Adjacent Class 1 Path:** This cross-section is for areas where the Parkway must be placed adjacent to a roadway with high speeds limits. This two-way path would be clearly separated from the roadway with a landscaped buffer or an aesthetically appealing wall. Refer to Figure 4-5.

### **Class II Parkway**

Class II sections will be provided where the Parkway needs to be located on-street, either in the short- or long-term. Class II NEV/bike lanes are portions of public roadways that are designated by signs and pavement striping for NEV/bike travel. NEV/bike lanes should be 7 feet wide and allow NEVs, bikes, and golf carts to travel adjacent to automobile traffic, but within a striped separated space. NEV/bike lanes are appropriate on arterials and collector streets that have road design speeds of 45 miles per hour or less and are capable of providing a high level of service to insure that adequate capacity exists for automobiles, bicyclists and NEVs. This is a one-way facility that would be installed on both sides of a street. Pedestrians would use an adjacent sidewalk. Refer to Figure 4-6.

### **Class III Parkway**

Class 3 paths provide for shared use by NEVs, Golf Carts and Bicycles with conventional vehicle traffic on streets with a posted speed limit of 35 miles per hour or less. Pedestrians would use an adjacent sidewalk. These routes would be clearly marked with signs and/or sharrow. Sharrow is directional arrows painted on roadways, along with large bike stencils, to direct bicycle traffic. An example of a sharrow is presented below.



**Roadway Sharrow**

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## 4.5 DRAINAGE CROSSINGS

The conceptual alignment for the Parkway will need to provide crossings of the drainages listed in Table 4-A below. The American (aka Coachella) Canal crosses the Whitewater River in Indio. Crossing the canal is simple because it is below ground of the Whitewater River.

**Table 4-A: Drainage Crossings**

	<b>Drainage</b>	<b>Confluence (facing downstream)</b>	<b>Jurisdiction</b>
1	Cathedral Canyon Wash 1	Right Bank	Cathedral City
2	Cathedral Canyon Wash 2	Right Bank	Cathedral City
3	Magnesia Spring Drainage	Right Bank	Rancho Mirage
4	Palm Valley Drainage	Right Bank	Palm Desert
5	Deep Canyon Wash	Right Bank	Indian Wells
6	La Quinta Wash	Right Bank	La Quinta

The specific roadway and drainage crossings for the conceptual alignments of the Whitewater River, the Tahquitz Creek Trail Connector, and the Desert Hot Springs Connector are presented in Appendix B.

## 4.6 GOLF COURSES

The conceptual alignment for the Whitewater Parkway traverses all Golf Courses along the route, except for two: Thunderbird and Monterey Country Clubs. These two courses have fairways running perpendicular to the Parkway, increasing the likelihood of conflicts, as opposed to all the other courses, which have fairways that run parallel to the proposed Parkway. On-street routes are proposed as the conceptual alignment in these two locations, but alternate alignments are proposed that traverse the golf courses. This may become more viable if in the future, the fairways are redesigned to run parallel to the proposed Parkway.

The conceptual alignments for the Parkway traverse, are adjacent to, or are within a short distance of as many as 25 operating and abandoned golf courses. Furthermore, seven golf courses have sections within the Whitewater River bed and bank. These are listed in Table 4-B below. In addition, the cities of Palm Desert, Rancho Mirage, La Quinta and Indio have golf cart transportation programs with designated corridors where these types of vehicles are permitted. The City of Palm Springs has produced a map indicating the streets where NEVs are allowed. The Whitewater Parkway proposal should be consistent with and build upon these existing golf cart/NEV programs and resources.

**Table 4-B: Golf Courses in Whitewater River**

	<b>Name</b>	<b>Jurisdiction</b>	<b>Fairway Orientation</b>
1	Cimarron	Cathedral City	Parallel
2	Cathedral Canyon	Cathedral City	Parallel
3	Morningside	Rancho Mirage	Parallel
4	Thunderbird	Rancho Mirage	Perpendicular
5	Rancho Las Palmas	Rancho Mirage	Parallel
6	Monterey	Palm Desert	Perpendicular
7	Indian Wells	Indian Wells	Parallel

#### **4.7 COACHELLA VALLEY MULTIPLE SPECIES HABITAT CONSERVATION PLAN**

The Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) is a regional biological resources conservation plan developed over more than 10 years and eventually adopted by eight local jurisdictions and by Riverside County in 2007.<sup>2</sup> It provides a regional vision for balanced growth while conserving the Coachella Valley's rich natural heritage. The CVMSHCP protects 240,000 acres of open space and 27 species; ensures the survival of endangered species; enhances critical infrastructure improvements; and provides opportunities for recreation, tourism and job creation.

The CVMSHCP establishes Conservation Areas where new development, unless previously authorized under the adopted CVMSHCP, is highly restricted. Every possible effort has been made to avoid, skirt the edge of, and/or use existing easements through Conservation Areas with the proposed Whitewater Parkway alignments. The following Conservation Areas would be crossed by the Conceptual Alignment on previously disturbed and approved easements:

- Willow Hole Conservation Area (on Palm Drive)
- Whitewater Floodplain Conservation Area (on Gene Autry Trail and Chino Wash Levee)
- Coachella Valley Stormwater Channel and Delta Conservation Area (on Whitewater River Levees)

The conceptual alignment proposes no new disturbance of pristine Conservation Area lands. The CVMSHCP is not considered to be an obstacle to Whitewater Parkway development.

<sup>2</sup> The City of Desert Hot Springs is in the process of adopting the CVMSHCP.

## 5.0 COST ESTIMATE

The preliminary cost estimate to construct the 52 miles of Parkway 1e11 currently proposed is approximately \$77 Million. This estimate includes \$4.5 Million for nine charging stations, and a \$15.5 Million (25%) contingency fund. Approximately 92% of total project costs can be attributed to NEV facilities and 8% of costs can be attributed to pedestrian facilities. Additional costs for bicycle facilities are negligible because the NEV facilities provide sufficient right of way for bicycle use. Cost details are provide in Table 5-A. Projected costs for specific drainage and roadway crossings are presented in Appendix B.

**Table 5-A: Cost Estimate**

ITEM	SEGMENT			TOTAL
	WHITEWATER PARKWAY TRUNK LINE	DESERT HOT SPRINGS CONNECTOR	TAHQUITZ CREEK CONNECTOR	
<b>DESCRIPTION</b>	38 Miles: Palm Springs (Chino Wash @ 111) to Coachella (Ave 56)	9 Miles: Gene Autry @ WW to Cabot's Museum	5 Miles: WW @ TC to Palm Canyon @ TC	<b>52 Miles</b>
<b>Planning/Design</b>				
Planning and Environmental (3%)	1,230,000	259,000	155,000	1,644,000
Engineering and Design (10%)	4,100,000	862,000	517,000	5,479,000
<b>Subtotal Planning/Design</b>	<b>5,330,000</b>	<b>1,121,000</b>	<b>672,000</b>	<b>7,123,000</b>
<b>Construction</b>				
Parkway Construction	17,549,000	4,221,000	2,154,000	23,924,000
Roadway/Drainage Crossings	10,500,000	1,600,000	1,300,000	13,400,000
Hard Infrastructure/ Amenities (10%)	2,805,000	582,000	345,000	3,732,000
Soft Infrastructure/ Aesthetics (2%)	561,000	116,000	69,000	746,000
Charging Stations (\$500,000 each)	3,500,000	500,000	500,000	4,500,000
Right of Way Allowance	6,080,000	1,600,000	800,000	8,480,000
<b>Subtotal Construction</b>	<b>40,995,000</b>	<b>8,620,000</b>	<b>5,168,000</b>	<b>54,783,000</b>
Contingency (25%)	11,581,000	2,435,000	1,460,000	<b>15,476,000</b>
<b>TOTAL BUDGET</b>	<b>57,906,000</b>	<b>12,176,000</b>	<b>7,300,000</b>	<b>77,382,000</b>

The proposed Parkway is intended serve as the backbone for a larger regional trail network that will extend throughout the Coachella Valley. Additional segments that are envisioned for later implementation include, but are not limited to, a 10-mile NEV/Bike/Pedestrian extension along the Whitewater River to the Salton Sea and a 12-mile Mecca/North Shore bikeway connector. These additional facilities are not included in the cost estimate above.

## 6.0 IMPLEMENTATION RECOMMENDATIONS

The Whitewater Parkway proposal faces many potential obstacles, including localized opposition to changes to adjacent infrastructure (often referred to as “NIMBYism”); existing private golf courses and country clubs that are within and/or adjacent to the Whitewater River; complicated land ownership, lease and easement arrangements; tribal lands; sensitive biological habitat; and numerous intersections with major arterials and drainages. However, with strong leadership and local support, this ambitious vision can overcome all obstacles to become an iconic symbol of the Coachella Valley’s commitment to green transportation and provide an alternative route to Highway 111 that would link the entire Coachella Valley.

The proposed Coachella Valley Whitewater River Parkway would be the most ambitious NEV project in the United States to date. With its golf cart culture, existing golf cart programs in the cities of Indio, La Quinta, Palm Desert and Rancho Mirage, and the Palm Springs NEV Route Map, the Coachella Valley is an optimal location for such a project. In addition to the project’s air quality and transportation benefits, it would provide a safe corridor for non-motorized transportation, offer a mobility option for seniors who are no longer able to drive a car, and provide recreational, community-building, and economic opportunities for many generations. Providing safe routes for children to walk and bike to school will help stem the childhood obesity crisis facing the Coachella Valley.

### 6.1 IMPLEMENTATION RECOMMENDATIONS

The following tasks are recommended for immediate action in order to move the proposal forward expeditiously and deliver a final product of the highest quality.

#### **Prepare and Submit Proposal to SCAQMD**

The mitigation funds made available by AB1318 provide a rare opportunity to make a large investment in the Whitewater Parkway Proposal. A project down payment of many millions of dollars is likely to attract additional funding and support. The South Coast Air Quality Management District (SCAQMD) will soon publish application guidelines. Once the guidelines and application process is made clear, CVAG should dedicate resources to preparing an outstanding application that clearly identifies the air quality benefits of the project and demonstrates the broad support the proposal has received throughout the Coachella Valley. Additional funding sources will be needed to complete the entire project.

#### **Designate a Full-Time Project Manager**

CVAG is a natural entity to coordinate and lead the Whitewater River Parkway initiative. All Coachella Valley cities, Riverside County, and local Tribal Groups are participants in this regional planning body. A full-time project manager is needed to oversee a proposal of this magnitude, as well as designated support staff. Many jurisdictions and metropolitan transportation agencies have staff dedicated to non-motorized transportation. CVAG should plan to hire or contract someone to manage development and implementation of the Parkway proposal.

## **Research Right-of-Way / Easement Conditions**

One of the most challenging issues facing Parkway development is the complicated land ownership and numerous easements that characterize the Whitewater River and immediate environs. Shortly after a project manager is in place, a land title specialist should be contracted to sort out the requisite ownership, easement and right-of-way conditions. Once existing conditions are known, a plan and process can be established to modify and acquire easements as needed to construct and manage the Parkway. The Regional Trails Study contains relevant information for sorting out land ownership. A land survey crew will likely be needed to determine the on-ground location of some boundaries.

## **Establish a Design Driven Process**

Establishing a design-driven process for Parkway development is necessary in order to create an outstanding facility, with attractive landscaping, distinctive character, and desirable amenities. Too often, large transportation projects are driven by engineering considerations, with aesthetic appeal being only an afterthought. Project development should contract with a landscape architect early in the process who can translate the Parkway vision into a blue-print plan. Once the design plan is completed, then an engineer should be hired to figure out how to cost-effectively build it.

## **Create a Project Identity**

A design firm should be hired to create a catchy name for the Parkway, a distinct logo, and recognizable aesthetic characteristics early on in the project development process. This will be critical to the marketing, promotion, and ultimate success of the project. An initial up-front investment to “brand” the Whitewater Parkway would pay off in the short and the long terms by acquainting people with the proposed project, and enabling them to locate and identify completed segments. Furthermore, categorizing the project as a transportation corridor initiative is critical for gaining access to the funds designated for federal and State transportation improvements. Working names include Whitewater River Parkway and Parkway 1e11. The latter is a play on Highway 111, the principal automobile corridor through the Coachella Valley, with the “e” standing for “electric”.

## **Develop a Coachella Valley NEV Transportation Plan**

Development and approval of an NEV Transportation Plan for the Coachella Valley is necessary, per California statute. AB 31 (presented in Appendix A) authorizes Riverside County jurisdictions to develop NEV Transportation Plans. The City of Lincoln, California, NEV Transportation Plan could be used as a model. The aforementioned maintenance and management plan should be a component of the NEV Transportation Plan. This plan will need to be approved by the State Legislature.

## **Prepare for Parkway Management and Maintenance**

Once the project is implemented, a funded body to oversee management and maintenance of the Parkway will be necessary. Setting up an agreement and funding mechanism will be a long, negotiated process; work on a management/maintenance structure should begin as soon as possible. This responsibility could be shared by the various jurisdictions, Riverside County, the Desert Recreation District, or provided by a new Parkway Management District. Shared management runs the risk of different design standards and maintenance levels occurring on Parkway sections. A jointly funded central management, maintenance and enforcement entity could avoid these risks. Enforcement of Parkway rules will be important for user safety. Rangers would likely be required to police the over 50 miles of proposed Parkway.

## Stakeholder Input

Building a broad base of support is critical to the successful implementation of the Parkway proposal. Participatory planning will result in a better final product and general local support and interest. CVAG has an organizational structure that can be utilized. For example, the CVAG Transportation Committee could form a Whitewater Parkway Subcommittee or simply assign the Non-Motorized Transportation Subcommittee to fulfill this function. All nine incorporated jurisdictions in the Coachella Valley are CVAG members.

A list of major stakeholders and a mechanism for participatory planning should be established as soon as possible. In addition, a list of stakeholders should be compiled as soon as possible, including. Likely stakeholders include, but are not limited to, the following entities:

- Coachella Valley Water District
- Riverside County Flood Control District
- Unincorporated communities of Thermal, Oasis, Mecca and North Shore
- Agua Caliente Band of Cahuilla Indians
- Cabazon Band of Mission Indians
- 29 Palms Band of Mission Indians
- Torres-Martinez Desert Cahuilla Indians
- The College of the Desert
- Desert Sands Unified School District
- Coachella Valley Unified School District
- Palm Springs Unified School District
- Desert Chapel School
- Desert Recreation District
- Riverside County Regional Parks and Open-Space District
- All golf courses located on or near the Whitewater River Parkway
- Knotts Water Park
- Cabot Pueblo Museum
- Coachella Valley Wild Bird Center
- Indian Wells Tennis Garden
- Desert Bicycle Club
- Electric Automobile Association
- Bicycle supplies and touring businesses
- Coachella Valley SPIN (Tour de Palm Springs)
- Coachella Valley Community Trails Alliance
- Desert Hiking Club
- Chambers of Commerce
- Coachella Valley Economic Partnership (CVEP)
- Desert Alliance for Community Empowerment (DACE)
- Desert Health Care District
- Building Healthy Communities Collaborative / California Endowment
- Golf cart and NEV businesses
- Palm Springs Desert Resorts Convention and Visitors Authority

## 6.2 PROJECT PHASING

A proposal of this scope will need to be constructed in phases. Given the complicated nature of this long corridor, CVAG should designate those areas with the fewest obstacles and greatest public support for the Parkway proposal for earliest implementation. The first segments to actually be constructed will be determined over time as unforeseeable opportunities and obstacles arise. To date, west valley jurisdictions have expressed greater support while the City of Coachella and community groups in the unincorporated far southeast valley have been less enthusiastic. Planning for all segments of the proposed Parkway should begin simultaneously, with ultimate construction occurring in those areas with the fewest obstacles and greatest community support.

A preliminary list of Parkway segments for near-term construction is provided below. The list is based on the greatest opportunities, fewest obstacles, and critical connections. The Mid-Coachella Valley will be the most challenging section due to the existing development along and within the Whitewater River Channel. In addition, jurisdictions that are willing to contribute funding and/or in-kind donations to Parkway development could receive priority. The following sections of the proposed Whitewater Parkway are preliminarily identified for near-term implementation:

**Whitewater - Tahquitz Creek to Country Club Drive Bikeway Upgrade:** An existing, though discontinuous, Bicycle/Pedestrian path extends along the right bank of the Whitewater River from the confluence with Tahquitz Creek (east of Golf Club Drive) to Country Club Road in Rancho Mirage. The section between Date Palm Drive and Frank Sinatra Drive was on the bottom of the Whitewater River, as opposed to the bank, and has regularly washed out.

**Tahquitz Creek Trail Connector:** This existing stretch of combined Class I, Class II and Class III bike/pedestrian trail is one of the finest existing roadway separated paths in the Coachella Valley. It travels through densely populated areas and is adjacent to destinations including Knott's Water Park, Desert Chapel School, Demuth Park and Community Center, and Tahquitz Creek Public Golf Course. However, this trail is poorly signed and poorly maintained. Without a guide familiar with the route, it would be very difficult for a first time user to follow the path. Upgrading this segment of existing path, including expanding the ROW as needed for NEV use, would be an easy place to begin. The route travels through two golf courses so it sets an example of golf course and NEV/Bike/Pedestrian path compatibility.

The City of Palm Springs has developed a Tahquitz Creek Trail Master Plan (2009) for the section between Belardo Road and the western boundary of Mesquite Country Club, east of Sunrise. In addition, the Palm Springs Sustainability Commission is in the process of researching how best to improve this existing resource.

**Whitewater - Palm Canyon Drive to Dinah Shore Drive:** Cathedral City has plans for three segments of bike trail along the right bank of the Whitewater River. Funding has been received for the Phase I (Vista Chino to 30th Avenue) and Phase II (30th Avenue to Ramon Road). Cathedral City will submit a grant application for Phase III (Ramon Road to Dinah Shore Drive). Given this initiative by Cathedral City, the plans for the West Valley Campus of the College of the Desert adjacent to the right bank of the Whitewater River west of Indian Canyon, and the City of Palm Springs support for the Parkway Proposal and the commitment to improving non-motorized transportation infrastructure, this segment is opportune for development.

**Desert Hot Springs Connector:** As previously discussed, the Dangermond Study did not provide a link between the Whitewater River Path and Desert Hot Springs. Desert Hot Springs elected leaders and community trail activists have expressed strong support for the Parkway Proposal. Local leaders and City staff conducted the ground research for the DHS connector path proposed in this document. In addition, the Sentinel Natural Gas Peaker Plant is located near DHS, so building this section of the Parkway early would be appropriate. In order for the DHS segment to connect with the rest of the Parkway, the Whitewater section between Palm Canyon Drive and Dinah Shore Drive, discussed in the previous paragraph, would need to be constructed.

**Dinah Shore to Tahquitz Creek:** Although this segment is not necessarily easy, it is critical for connectivity between the existing Tahquitz Creek Trail, the existing Whitewater River Trail between the Creek and Date Palm Drive, and the planned Whitewater River Trail between the Creek and Palm Canyon Drive. The area between the Dinah Shore Bridge and Tahquitz Creek is leased and managed by the Cathedral Canyon Country Club (though underlying ownership is the Agua Caliente Band of Mission Indians). This stretch of the right bank and right side of the Whitewater River bottom is currently an abandoned nine-hole golf course. It has paved paths, mature trees, and a functional restroom facility. This area could be retrofitted as a park/parkway very easily and would provide the critical link between existing and planned trail segments.

**Washington Street to Avenue 56:** The stretch of NEV Parkway proposed between the western border of La Quinta and Avenue 56 in Coachella is an optimal place to focus initial efforts. No current development exists within the Whitewater River in this stretch, with the exception of the left bank east of Jefferson Street. (The Parkway is proposed for the right bank.). In addition, the City of La Quinta has expressed support for a Whitewater Trail for several years and has begun preliminary research into alignment options. The City of Indio completed the Indio Trails Feasibility Study (2009), which includes preliminary engineering for a bike path along the right bank of the Whitewater River. The City of Coachella has prepared preliminary plans for a staging area at Sierra Vista Park. In addition, the ownership and lease arrangements in this section of the Whitewater River are largely under the purview of the Coachella Valley Water District.

## **APPENDIX A**

### **STATE OF CALIFORNIA ASSEMBLY BILL 61**

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## **APPENDIX B**

### **ROADWAY AND DRAINAGE CROSSING FOR WHITEWATER RIVER, TAHQUITZ CREEK CONNECTOR, AND DESERT HOT SPRINGS CONNECTOR**

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