





CHAPTER 4: **toolboxes**

IN THIS CHAPTER:

1. Engineering Toolbox
2. School Zone Signage & Markings Guide
3. Programming Toolbox
4. Creative Placemaking & Programming

A toolkit of improvements and countermeasures was utilized during the recommendations process to fit the unique challenges and opportunities of the Morongo Basin. **Chapter 4** outlines these tools and how they address four components of recommendations: Engineering, Safe Routes to School, and Programming, and Creative Placemaking.

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4.1.

ENGINEERING TOOLBOX

This section provides a set of engineering tools that can be used to create safer and more comfortable walking and biking environments.

The icons to the right categorize the different recommendation types that can be found within this section of engineering tools. These tools generally fall under three categories: Bicycle, Pedestrian, and Traffic Calming. Their use and intent are outlined on the following pages, noting improvement benefits and design considerations. Please refer to the latest editions of Caltrans HDM, FHWA, MUTCD, and other federal or state guidelines for specific engineering design and signage standards.

References:

- ¹ MUTCD (CA)
- ² FHWA Small Town and Rural Multimodal Networks (2016)
- ³ NACTO Urban Design Bikeway Guide
- ⁴ Essentials of Bike Parking (APBP) (2016)
- ⁵ ADA Best Practices Toolkit for State and Local Governments
- ⁶ National Center for Safe Routes to School
- ⁷ FHWA Safety Program - Road Diet Information Guide
- ⁸ Safety Benefits of Raised Medians and Pedestrian Refuge Areas - FHWA
- ⁹ pedbikesafe.org (FHWA)
- ¹⁰ Pedestrian Hybrid Beacon Guide-Recommendations and Case Study
- ¹¹ Flexing Rumble Strip Design for Bicycle Accommodation (Rumble Strips and Rumble Stripes - FHWA)
- ¹² Caltrans Highway Design Manual (HDM)

bicycle



Bicycle-related treatments in this toolbox include bikeway facilities, bicycle parking, amenities, signage, and intersection elements. While bikeway facilities can be classified into three categories— off-street, on-street, and shared street— these broad categories include more specific bikeway types. Recommended treatments depend on the context — including street type, vehicle traffic speed, volume, and more.

pedestrian



This set of pedestrian-related treatments focuses on enhancing pedestrian visibility, reducing motorist speed, and improving pedestrian infrastructure. Providing and improving pedestrian facilities like sidewalks and crossing treatments can help create a more comfortable and safer experience for students walking to school.

traffic calming



The purpose of traffic calming is to reduce the speed and volume of traffic to acceptable levels in order to improve livability, reduce vehicle collisions, and create a safer environment for students, bicyclists, and pedestrians. Recommended treatments depend on the context — including street type, vehicle traffic speed, volume, and more.



CLASS I: BIKE PATH

An off-street bikeway facility that is physically separated from any street or highway, commonly planned along rights-of-way such as waterways, utility corridors, flood control access roads, railroads, and similar paths that offer continuously separated riding opportunities¹².

BENEFITS:

- Generally used to serve corridors not served by streets and highways or where wide right-of-way exists
- Can provide recreational opportunities or serve as commute routes
- Offers bicycling opportunities not provided by the road system

DESIGN & OTHER CONSIDERATIONS:

- Right-of-way availability
- High costs associated with new construction and long-term maintenance



CLASS II: BIKE LANE

A portion of the roadway that is designated by striping, signaling, and/or pavement markings for the exclusive use of bicyclists. They are established along streets and corridors where there is significant bicycle demand, and where there are distinct needs that can be served by them¹².

BENEFITS:

- Delineates right of way assigned to bicyclists and motorists and provides for more predictable movements by each

DESIGN & OTHER CONSIDERATIONS:

- Roadway reconfiguration may be needed if insufficient room exists for side-by-side sharing of existing streets by motorists and bicyclists
- Locations with right-turn-only lanes should provide a minimum 4-foot width for bicycle use between the right-turn and through lane when bikes are permitted. Where posted speed is greater than 40 miles per hour, minimum width should be 6 feet¹²
- Installation of rumble strips allowed by HDM Chapter 300 Index 302.1



CLASS II: BUFFERED BIKE LANE

An additional striped buffer can provide greater separation between bicyclists and vehicular traffic. Buffered bike lanes are recommended where roadway space allows¹².

BENEFITS:

- Provides greater shy distance between motor vehicles and bicyclists
- Provides space for bicyclists to pass another bicyclist without encroaching into the adjacent motor vehicle travel lane

DESIGN & OTHER CONSIDERATIONS:

- Different design guidelines for each striping pattern
- More suitable than un-buffered Class II bike lanes on roadways with high vehicle speeds or volumes
- Typically wider than traditional Class II bike lanes in order to accommodate buffer



CLASS III: BIKE ROUTE / SHARROWS

Class III bikeways are designated roadways where bicycles and motor vehicles share a roadway. Design standards require specific signage, but additional enhancement can be provided by using shared roadway markings, or "sharrows"¹².

BENEFITS:

- Provides continuity to other bicycle facilities (usually Class II bikeways)
- Designates preferred routes through low volume roads

DESIGN & OTHER CONSIDERATIONS:

- Assure that these routes are suitable as shared roadways
- Prior to designation as a bikeway, routes may need additional improvements for bicycle travel
- Maintain routes in a manner consistent with the needs of bicyclists



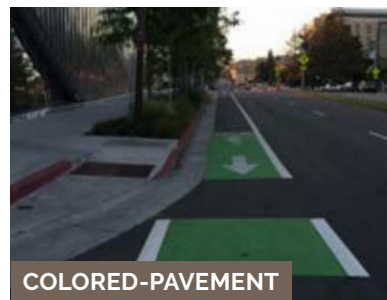
CLASS III: BIKE BOULEVARD

A bicycle boulevard is a low-stress shared roadway Class III bicycle facility, designed to offer priority for bicyclists operating within a roadway shared with motor vehicle traffic.



CLASS IV: CYCLE TRACK

A cycle track is a protected bikeway that includes a physical barrier between bicyclists and motor vehicle traffic. It combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane.



COLORED-PAVEMENT

Colored pavement is used to increase the visibility of bikeways or, more commonly, zones with a high potential for motor vehicle/bicycle conflicts, by indicating cyclist right-of-way with a distinctive color. They are intended to regulate, warn, or guide traffic.



RUMBLE STRIPS

Rumble strips use both noise and vibration to alert the driver that he or she is leaving the appropriate travel path. The strategic placement of rumble strips is important as practitioners balance safety effects for motorists and bicyclists²¹. Installation of rumble strips allowed by HDM Chapter 300 Index 302.1.

BENEFITS:

- Increases comfort for bicyclists by reducing motorist speeds and volumes, if diversion is included
- Connects residential roads to commercial corridors/community services

DESIGN & OTHER CONSIDERATIONS:

- May require additional paved surface to provide sidewalk space for pedestrians
- Diversion design restricts vehicle movements.

BENEFITS:

- Dedicates and protects space for bicyclists in order to improve perceived comfort and safety
- Eliminates risk and fear of collisions with over-taking vehicles
- Reduces risk of 'dooring' compared to a bike lane and eliminates the risk of a doored bicyclist being run over by a motor vehicle

DESIGN & OTHER CONSIDERATIONS:

- Streets with high bicycle volumes, motor vehicle volumes/speeds
- Consider transit stops to manage bicycle & pedestrian interactions
- Requires additional maintenance for debris due to limited vehicle access
- Caltrans Design Information Bulletin (DIB) 89-01

BENEFITS:

- Increases awareness of bicyclists
- Can be used to indicate an area of potential conflict between bicyclists and motor vehicles

DESIGN & OTHER CONSIDERATIONS:

- Currently under Interim Approval by FHWA for optional use
- Costly to maintain
- Green, blue, and red are among the colors that have been tested
- Multiple meanings; dedicated cycling corridor, can also mean a shared mode facility or a "mixing zones" with cars

BENEFITS:

- Effective countermeasure for reducing roadway departure crashes
- Flexibility in design and strategic placement can successfully accommodate variety of users

DESIGN & OTHER CONSIDERATIONS:

- Offset of the rumble strip from the lane can be adjusted to best accommodate bicyclists. This may mean using edgeline rumble strips to provide additional paved shoulder space beyond the rumble strip, or increasing the offset where very narrow paved shoulders exist
- Rumble strip application, design and placement on one roadway may not fit the context of another roadway
- Implementation of rumble strips should always consider bicycle-friendly design such as "skip" rumble strips.



bicycle



TWO-STAGE TURN QUEUE BOX

Two-stage turn queue boxes offer bicyclists a safe way to make left turns at multi-lane signalized and unsignalized intersections from a cycle track or bike lane.

BENEFITS:

- Designates area for bicyclists waiting to proceed in a different direction and formalizes two-stage turn maneuvers in a predictable pattern
- Reduces turning conflicts between bicyclists and motor vehicles³

DESIGN & OTHER CONSIDERATIONS:

- Should be placed in a location downstream of the cross street intersection stop line and downstream of the crosswalk across the cross street
- Multiple positions are available for queuing boxes, depending on intersection configuration³
- Under Interim Approval by FHWA, allowing interim use, pending official rulemaking



INTERSECTION BICYCLE BOX

The bike box is an intersection improvement design to prevent bicycle/vehicle collisions, especially between drivers turning right and bicyclists proceeding forward¹.

BENEFITS:

- Increases the visibility of stopped bicycle traffic at a intersection
- Reduces the number of conflicts between bicyclists and turning motorists at intersections
- Reduces the number of bicycles and motor vehicles encroaching into pedestrian crosswalks when stopped at an intersection
- Can help mitigate intersection right-turn ("right-hook") conflicts

DESIGN & OTHER CONSIDERATIONS:

- Placed at least 10 feet in advance of the pedestrian crosswalk or the intersection stop line
- Limited to signalized intersections



BICYCLE PARKING

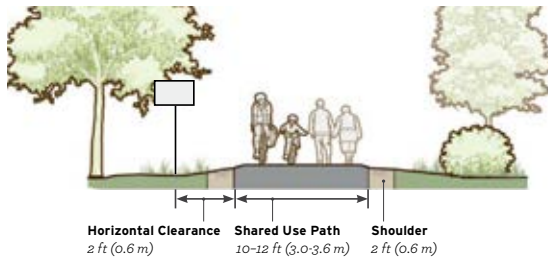
Bicycle parking provides a location for bicyclists to securely lock or store their bikes. Short-term bicycle parking includes bike racks (inverted U, post and ring) and bike corrals. Long-term parking can include bike lockers and stations⁴.

BENEFITS:

- Improves first and last mile connections when installed near bus stops, schools, and parks
- Supports bike upright without putting stress on wheels
- Allows for locking of frame and at least one wheel

DESIGN & OTHER CONSIDERATIONS:

- Placement varies based on facility type
- Long-term bicycle parking more costly to maintain and implement over short-term bicycle parking



SHARED USE PATH

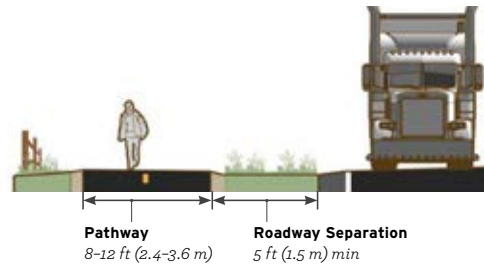
Shared use paths or multi-use trails are separated from roadway traffic and offer network connectivity opportunities outside the traditional roadway network. The separated facility provides a pathway for bicyclists, pedestrians, and other non-motorized transportation users to travel on².

BENEFITS:

- Provides a low-stress separated facility for active transportation users
- Supports tourism through convenient access to natural areas or as an enjoyable recreational opportunity itself²

DESIGN & OTHER CONSIDERATIONS:

- 8 ft minimum for low traffic scenarios²
- 12-14 ft recommended for heavy use pathway²
- Often located in parks, greenbelts, or utility corridors



SIDEPATH

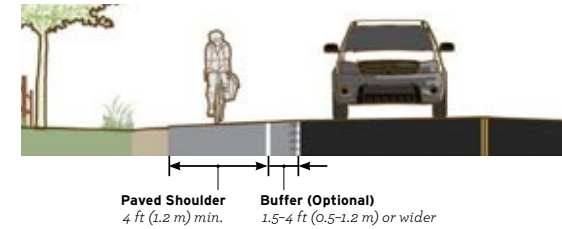
Sidepaths are bidirectional shared use paths located immediately adjacent and parallel to a roadway. They can offer a more comfortable experience compared to on-roadway facilities, allow for reduced roadway crossing distances, and maintain rural and small town community character².

BENEFITS:

- Completes networks where high-speed roads provide the only corridors available²
- Provides a more appropriate facility for users of all ages and abilities than shoulders or mixed traffic facilities on roads with moderate or high traffic intensity²

DESIGN & OTHER CONSIDERATIONS:

- Requires a wide roadside environment to provide for separation and pathway area outside of the adjacent roadway²
- Minimum recommended pathway width is 10 ft. Provide a minimum of 2 ft clearance to signposts or vertical elements²



PAVED SHOULDER

Paved shoulders are located on the edge of roadways and can be enhanced to serve as a functional space for bicyclists and pedestrians to travel in the absence of other facilities with more separation².

BENEFITS:

- Provides a stable surface off the roadway for pedestrians and bicyclists to use when sidewalks are not provided²
- Provides advantages for all roadway users, by providing space for bicyclist, pedestrians, and motor vehicles²

DESIGN & OTHER CONSIDERATIONS:

- Added shoulder or edge line rumble strips, of bicycle-tolerable design, can minimize impacts to bicyclists and reduce roadway departure crashes¹¹
- Requires a wider roadway to provide an accessible shoulder space²
- Consider posted roadway speed limits, planned functional roadway classifications, available ROW, existing shoulder ROW, clearance for and breaks within rumble strips¹¹





SIDEWALK

Sidewalks are physically separated from the roadway by a curb or unpaved buffer space, providing dedicated space intended for use by pedestrians that is safe, comfortable, and accessible to all.

BENEFITS:

- Enhances pedestrian network connectivity
- Provides safe mode of travel
- Provides opportunities for walking
- Provides connections to neighborhoods and key community destinations

DESIGN & OTHER CONSIDERATIONS:

- Right-of-way availability
- Utility conflicts
- Maintenance costs



CURB RAMP

A curb ramp is a ramp cutting through a curb or built up to it to provide a route to safely transition from a roadway to a curbed sidewalk and vice versa.

BENEFITS:

- Eliminates the vertical edge of the curb for easy access
- Provides accessibility to people with physical disabilities and who use wheelchairs

DESIGN & OTHER CONSIDERATIONS:

- Must meet specific standards for width, slope, cross slope, placement, and other features in order to be compliant with Title II of the ADA⁶
- Additional detectable warnings are required



MEDIAN REFUGE ISLANDS

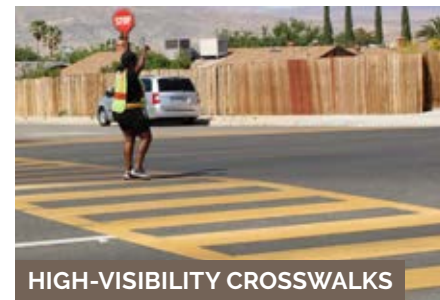
Median refuge islands are protected spaces placed in the center of the street to facilitate bicycle and pedestrian crossings.

BENEFITS:

- Provides a protected space for pedestrians and bicyclists to wait for an acceptable gap in traffic
- Reduces the overall crossing length and exposure to vehicle traffic for a bicyclist or pedestrian
- Decreases the amount of delay that a bicyclist will experience to cross a street

DESIGN & OTHER CONSIDERATIONS:

- Right-of-way availability
- Should be at least 4 feet wide (preferably 8 feet wide for accommodation of pedestrian comfort and safety)



HIGH-VISIBILITY CROSSWALKS

High-visibility ladder crosswalks provide a designated walkway for pedestrians to cross from one side of a street to the other³.

BENEFITS:

- More visible to approaching vehicles and have been shown to improve yield behavior³
- Creates a more comfortable and safe crossing experience for pedestrians³

DESIGN & OTHER CONSIDERATIONS:

- Supplemental measures may be required to reduce traffic speeds, shorten crossing distances, and/or provide an active warning of pedestrian presence
- Site location and pedestrian demand
- Engineering judgment may be required to assess need
- Yellow school crosswalks are to be installed within 500 ft of school



MID-BLOCK CROSSING

Midblock crosswalks facilitate crossings to places that people want to go but that are not well served by the existing traffic network.



PUSH BUTTONS

Pedestrian push buttons are electronic buttons used by pedestrians to change traffic signal timing to accommodate pedestrian street crossings⁷.



PEDESTRIAN SIGNAL HEADS

Pedestrian signal heads provide special types of traffic signal indications exclusively intended for facilitating pedestrian traffic - consisting of illuminated symbols of a walking person, upraised hand, and countdown timer⁸.

BENEFITS:

- Allows pedestrians to cross in the middle of a long block without walking all the way to a signalized intersection crosswalk

DESIGN & OTHER CONSIDERATIONS:

- Pedestrian demand for the facility
- May be supplemented with traffic control devices for optimal effect
- Design needs to consider stopping sight distances, effects of grade, cross slope, need for lighting, and other factors, making use of warrants similar to those used for standard intersections

BENEFITS:

- Provides pedestrians at a traffic signal with sufficient time to cross a roadway

DESIGN & OTHER CONSIDERATIONS:

- Shall clearly indicate which crosswalk signal is actuated by each pedestrian pushbutton
- Are not needed if pedestrian recall is already in place for the traffic signal.
- Refer to MUTCD Chapter 4E. Pedestrian Control Features for specific design standards

BENEFITS:

- Indicates to pedestrians when to cross, when not to cross, and how many seconds are left to cross

DESIGN & OTHER CONSIDERATIONS:

- Need to have pedestrian push button to supplement it
- Refer to MUTCD Chapter 4E. Pedestrian Control Features for specific design standards





ADVANCED YIELD LINE

Advanced yield lines are roadway markings that encourages drivers to slow down in advance when approaching a pedestrian crossing.

BENEFITS:

- Offers more visibility of pedestrians crossing the roadway
- Reduces the likelihood of multiple-threat crashes

DESIGN & OTHER CONSIDERATIONS:

- Must be supplemented with a crosswalk that is 20-50' from the facility and R1-5 or R1-5a MUTCD signage



SPEED FEEDBACK SIGN

A dynamic message sign that uses radar or laser technology to determine the speed of an approaching vehicle and then displays the speed to the driver. If motorists are speeding, the sign flashes the exceeded speed along with 'SLOW DOWN' or 'YOUR SPEED'.

BENEFITS:

- Activates when drivers exceed posted speed limit by five miles per hour
- Can be effective in reducing motorist speeds on wide roadways

DESIGN & OTHER CONSIDERATIONS:

- Physical constraints include requiring a special type of pole, space for footing, and if the signs are not solar — a source of electricity



PEDESTRIAN HYBRID BEACON

A pedestrian hybrid beacon (PHB) is a traffic control device used to increase motorists' awareness of pedestrian crossings at uncontrolled marked crosswalk locations. A PHB is distinct from pre-timed traffic signals and constant flash warning beacons because it is only activated by pedestrians when needed¹⁰.

BENEFITS:

- PHBs can lead to lower conflict and crash rates for pedestrians and vehicles¹⁰
- Clearly indicates that a crosswalk is being used and that all motorists must come to a complete stop¹⁰

DESIGN & OTHER CONSIDERATIONS:

- Should be located outside the functional area of a signalized intersection and outside of any turn lanes or acceleration lanes¹⁰
- In addition to the signal head displays, stop lines and marked crosswalks are required at PHB crossings. Advance stop lines should be used on multi-lane crossings to reduce the potential for second threat crashes¹⁰



RRFB

Rectangular rapid flash beacons (RRFBs), a type of active warning beacon, that combines a pedestrian warning sign with user-activated light-emitting diodes (LEDs). The device flashes amber when activated through a pedestrian push button or by pedestrian detection.

BENEFITS:

- Increases driver yielding behavior at crossings because they use an irregular flash pattern similar to emergency flashers on police vehicles

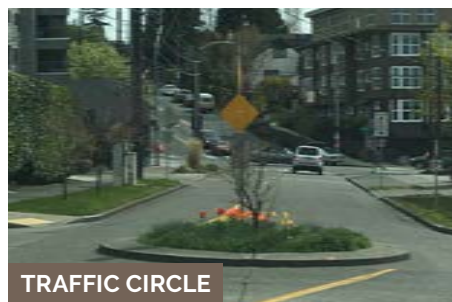
DESIGN & OTHER CONSIDERATIONS:

- Use in combination with a crosswalk, wheelchair ramps, advance warning signs or pavement markings, and overhead lighting
- Usually implemented at high-volume pedestrian crossings



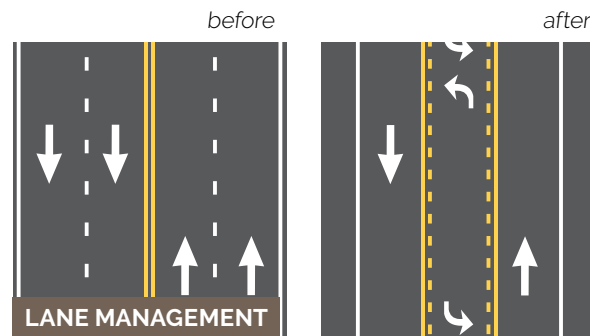
CURB EXTENSION

Curb extensions visually and physically narrow the roadway, creating safer and shorter crossings for pedestrians while increasing the available space for street furniture, benches, plantings, and street trees.



TRAFFIC CIRCLE

Mini roundabouts and neighborhood traffic circles lower speeds at minor intersection crossings and are an ideal treatment for uncontrolled intersections.



LANE MANAGEMENT

Also known as roadway reconfiguration, lane management involves reconfiguring or narrowing motor vehicle lanes to accommodate parking and often times, the addition of bikeway facilities or transit stops. Lane management can transform a street that was formerly difficult for a bicyclist to travel. When bicycle lanes are striped, bicyclists are more visible and motorists know where to look for them.

BENEFITS:

- Improves ability of pedestrians and motorists to see each other
- Reduces speed of turning vehicles
- Shortens pedestrian crossing distances

DESIGN & OTHER CONSIDERATIONS:

- Appropriate where there is an on-street parking lane
- May require relocation of fire hydrants to maintain adequate curbside access in case of a fire
- Impacts on drainage

BENEFITS:

- Allows motorists and bicyclists to yield instead of making complete stops
- Reduces vehicle speeds by forcing motorists to maneuver around them

DESIGN & OTHER CONSIDERATIONS:

- Residential traffic circle is typically characterized by (1) a non-traversable center island, (2) no splitter islands on the intersection approaches, and (3) either yield control or no control
- Careful attention should be paid to available lane width and turn radius
- Ensure landscaping does not impede sight distance

BENEFITS:

- Reduces vehicle-to-vehicle conflicts
- Improves safety by reducing vehicle operating speeds, decreasing crash severity of all users when they do occur

DESIGN & OTHER CONSIDERATIONS:

- Requires data analysis and engineering judgment to determine road diet applicability
- Geometric and operational design features (e.g. turn lanes, traffic volumes, transit routes etc.) should be carefully considered and applied during design reconfiguration



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4.2. SCHOOL ZONE

SIGNAGE & MARKINGS GUIDE

The California Manual on Uniform Traffic Control Devices (CA-MUTCD), Part 7 "sets forth basic principles and prescribes standards that shall be followed in the design, application, installation, and maintenance of all traffic control devices and other controls required for the special pedestrian conditions in school areas".

This section of Morongo Basin Active Transportation Plan will provide an overview of these guidelines for markings and signage requirements that may be found in the recommendations for the nine schools within their respective school zones and along designated corridors. The following icon-key sections help explain and denote the different types of school zone traffic control devices.

"It is important to stress that regardless of the school location, the best way to achieve safe and effective traffic control is through the uniform application of realistic policies, practices, and standards developed through engineering judgment.

Pedestrian safety depends upon public understanding of accepted methods for efficient traffic control. This principle is especially important in the traffic control of pedestrians, bicycles, and other vehicles within the vicinity of schools. Neither school pedestrians nor other road users can be expected to move safely in school areas unless they understand both the need for traffic controls and how these controls function for their benefit."

- CA-MUTCD Section 7A.01



signage

Road signs are used to provide regulations, warnings, and guidance information to road users. School signs help advise road users that they are approaching a school zone/crosswalk or whether there is a reduction in the posted speed limit.



markings

Markings have defined and important functions in a proper scheme of school area traffic control. Often, they are used to supplement the regulations or warnings provided by traffic signs, signals, or other devices. In other instances, they are used alone, and produce results that cannot be obtained by the use of any other device to control, alert, or convey messages to road users.



Assembly A (CA)

SW24-1 (CA)



W16-5P



OR

W16-6P

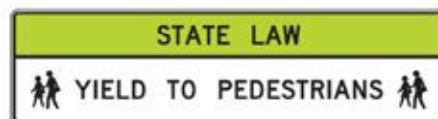


Assembly B (CA)

SW24-2 (CA)



Assembly E (CA)



R1-9 (CA)

Assembly C (CA)



SR4-1 (CA)

Assembly D (CA)

SW24-3



S1-1



W16-2aP

OR



W16-2P

OR



W16-5P

OR



W16-6P

SCHOOL WARNING

- Shall be used on streets with prima facie 25 MPH.
- Shall be posted adjacent to school grounds/boundary.
- Posted up to 500 feet in advance school boundary.
- Conventional size 36" X 48" unless otherwise determined by engineer.

SCHOOL CROSSWALK WARNING

- Shall be posted at yellow crosswalks adjacent to schools or for crosswalks along school routes.
- Shall NOT be posted if crosswalk is controlled by STOP, YIELD or Traffic Signal.
- Can be posted at white crosswalks.
- ASSEMBLY B: Conventional size 36" X 48" unless otherwise determined by engineer.
- ASSEMBLY E: Conventional size 90" x 24" unless otherwise determined by engineer.

SCHOOL SPEED LIMIT

- Shall be used on streets with prima facie 25 MPH.
- Shall be posted adjacent to school grounds/boundary.
- Posted up to 500 feet in advance school boundary.
- Conventional size 36" X 48" unless otherwise determined by engineer.

SCHOOL ADVANCE WARNING

- Shall be posted on street in advance of a school crosswalk.
- Shall be used in advance of Assembly B, C or E.
- Conventional size 36" X 48" unless otherwise determined by engineer.



Crosswalk Markings



Traditional Parallel Line Crosswalk



Crosswalk with Ladder Design

Pavement Markings



CROSSWALK MARKINGS

- Marked crosswalks adjacent to schools (within 600 feet) shall be yellow
- If one leg of the crosswalk is yellow, then all shall be yellow

PAVEMENT MARKINGS

- Shall be used in advance of all yellow school crosswalk
- Shall NOT be used where the crosswalks is controlled by Stop, Yield or Traffic Signals
- XING shall be placed at least 100 feet in advance of the school crosswalk
- Shall be yellow if they are within a school zone (600')
- Installed in a single lane
- May be used at remote locations along school routes, but outside the school zones
- Yellow paint shall not be used outside of the school zone; markings must be white

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4.3

PROGRAMMING TOOLS

This chapter covers non-infrastructure programming opportunities that agencies in the Morongo Basin can partake in to improve walking and biking in the region. There are six “Es” associated with Safe Routes to School; however, they can also be applied to active transportation planning in generally. Previous sections in this chapter covered traffic control and engineering improvements - the Engineering ‘E’ of SRTS. However, this chapter covers non-infrastructure programming opportunities that agencies in the Morongo Basin can partake in to improve walking and biking in the region.

This section offers a set of active transportation programs under the categories of Education, Encouragement, Enforcement, and Evaluation that can be implemented as a part of this Plan. While infrastructure improvements focus on physical elements to improving safety, non-infrastructure programs and policies can also have an important impact in increasing the number and safety of people walking and biking.

Often referred to as the sixth ‘E’, Equity is also a consistent theme across the implementation of all ‘Es’. In order to successfully achieve the goals defined in this Plan and as a part of SRTS, it is important consider how both infrastructure and non-infrastructure strategies can address the needs of low-income students and students of color.

The programming tools defined in this section focus on Education, Encouragement, Enforcement, and Evaluation. Shown to the right, brief summaries of each ‘E’ are provided alongside icon-keys that help define each programming strategy detailed in the following pages.

education



The implementation of educational program efforts in the community can have a lasting cultural impact. These programs can introduce students and community members to new infrastructure and help build understanding of safe practices. Education can equip students and parents with the knowledge, skills, and confidence to bike and walk to a desired destination.

encouragement



By investing in an encouragement strategy, the SRTS Plan can foster the community’s growth towards active transportation trends. These can take place in the form of events, clubs, and activities that inspire walking, bicycling, or carpooling through fun activities or incentives.

enforcement



Enforcement efforts can help ensure that the community is creating safe and responsible behaviors on the road and building respect among all road users. Focused enforcement of traffic laws surrounding school sites should include controlling vehicle speed, encouraging motorists to yield to pedestrians in crosswalks, and encouraging proper walking and biking behaviors.

evaluation



This Plan evaluated baseline existing school area conditions which have served as the basis for many of the improvement recommendations. Continued program evaluation in the future will allow for progress monitoring of the impact of both programming and engineering improvements. This allows for tracking of successes or the ability to modify the Plan in order to achieve desired results.



EDUCATION PROGRAMS

DETAILS

DESCRIPTION

PEDESTRIAN RODEO

- Audience: Elementary School
- Lead / Champion(s) PTA, parents, local law enforcement, community organizations

A pedestrian rodeo is an event that teaches students specific walking safety tips and rules of the roadway. Participants are led through a mini city that simulates the functionality of streets, intersections, pedestrian crossings, and more. Pedestrian rodeos can be organized for different school, district, and City-wide events.

BIKE RODEO

- Audience: Elementary, Middle School
- Lead / Champion(s) PTA, parents, local law enforcement, bicycling advocacy group, community organizations

A bike rodeo is an event that teaches students the proper techniques of riding a bicycle safely. The goal is to provide an opportunity for students to learn and develop bicycle riding skills in a fun and noncompetitive environment. Bike rodeos consist of stations that teach participants a specific bike riding or handling skill through a laid-out course that can simulate the functionality of streets, intersections, and crosswalks. Participants are generally guided through these courses by adult instructors who can provide tips and explain how the participant should navigate through each scenario. Bike rodeos are often accompanied with other activities such as bike and helmet fitting and a station that explains the basic rules of the road before student participants head off to the skill stations.

TRAIL TREKKERS

- Audience: Adults
- Lead / Champion(s): Bicycle advocacy groups, local environmental groups, Morongo Basine Healthcare District

Trail Trekkers refer to an organization of volunteers that help to maintain and spread awareness of local trails. Groups like these can sponsor hikes, create interpretive guides, and publicize and distribute maps of trails and walking and biking routes. Instead of a separate group, Trail Trekkers can be incorporated into existing groups such as the Morongo Basin Healthcare District.

HEALTHY MORONGO

- Audience: Adults
- Lead / Champion(s): Morongo Basin Healthcare District

Coordinate with Morongo Basin Healthcare District to inform residents about health benefits of walking and biking. Include pamphlets and programs at the annual health and resource fair. Provide healthcare incentives for those that walk or ride a bike recreationally.

EDUCATION PROGRAMS

DETAILS

DESCRIPTION

BIKE SAFETY & SKILLS TRAINING

- Audience: Elementary, Middle, High School, Adults
- Lead / Champion(s): Bicycle advocacy group, local volunteers, PTA

The training involves teaching participants how to safely operate a bicycle. It consists of both a sit-down discussion as well as hands-on training where participants can apply their knowledge on the road. A certified instructor may be required.

BIKE REPAIR WORKSHOP

- Audience: Middle, High School Adults
- Lead / Champion(s): Bicycle advocacy group, local volunteers, PTA

While bike rodeos focus on helping students develop proper bicycle handling and riding skills, learning how to repair and maintain your own bicycle is also an important component of bicycle safety. Generally geared towards middle and high school students, these workshops can also help encourage interest in biking past school-age. These can be offered as a one-time course or a multi-session training and be combined with other educational programming.

BIKE & PED SAFETY EDUCATION CAMPAIGN

- Audience: Parents, Elementary Middle, High School, Adults
- Lead / Champion(s): PTA, parents, local law enforcement, community organizations

A safety education campaign seeks to educate motorists on the rights of pedestrians and bicyclists, and to educate pedestrians and bicyclists on safe behavior. The campaign could display messages on banners related to speeding and yielding to pedestrians in crosswalks, or print them on maps, posters, or bumper stickers.

WALK WISE, DRIVE SMART

- Audience: Senior Adults
- Lead / Champion(s): Senior centers

Walk Wise, Drive Smart is a program aimed to improve the walking environment with a primary target of senior adults. Educational workshops are held that teach safe walking and driving behavior to raise awareness of risks for those advancing in age. Partnerships could be undertaken with the Yucca Valley Senior Center or Twentynine Palms Senior Center.

SUGGESTED ROUTES TO SCHOOL MAPS

- Audience: Elementary, Middle, High School
- Lead / Champion(s): District, City, local law enforcement, community organizations

Suggested routes to school maps are a simple way to showcase the quickest and safest ways to access a particular school. These maps generally help indicate where crosswalks, signals, and crossing guards are located and walking distances and times from school. Often times, people have misconceptions about how far places are and how long it will take for them to walk or bike there. Suggested routes to school maps usually include a ¼ and ½ mile radius or walkshed from the school, indicating 10-15 minute walk times.





ENCOURAGEMENT PROGRAMS

DETAILS

DESCRIPTION

WALKING SCHOOL BUSES & BIKE TRAINS	<ul style="list-style-type: none">• Audience: Elementary School• Lead / Champion(s): School, PTA, parents,	Walking School Buses and Bike Trains are events where adults or guardians volunteer to walk or bike to school with students in their neighborhood via a pre-planned route and schedule. Parents have the option of dropping their children off or picking up their children from a "bus/ train stop". Walking School Buses and Bike Trains offer parents a means of safely transporting their children to and from school using active transportation.
COMPETITIONS / CHALLENGES	<ul style="list-style-type: none">• Audience: Elementary, Middle, High School• Lead / Champion(s): District, schools, PTA, parents, local law enforcement, bicycling advocacy group, community organizations	Schools can incentivize students who walk and/or bike to and from school. The Golden Sneaker Walking Contest is an example that has been implemented in various cities and school districts. The program is a walking competition between classes at each school. Each class strives to have as many students walking and/or biking to and from school as possible. At the end of the competition, the class that has the most participants wins the Golden Sneaker award or other prizes.
WALK & BIKE TO SCHOOL DAY	<ul style="list-style-type: none">• Audience: Elementary, Middle, High School• Lead / Champion(s): Schools, PTA, parents, District	Walk to School Day and Bike to School Day are events that seek to encourage students to walk or bike to school. Every year, students from around the world participate in the International Walk to School Day in early October. Nationally, organizers host Bike to School Day in early May. Outside of these two days, ongoing Walk and Bike to School Days can be organized by individual schools to continue to encourage students to walk and bike throughout the school year.
PARK & WALK	<ul style="list-style-type: none">• Audience: Elementary School, Parents• Lead / Champion(s): PTA, Parents, Schools	Park & Walk programs encourage parents to park at a farther location, either at a park or several blocks away, to then walk their child(ren) to school. Safe Routes to School programs and efforts focus on improving opportunities for students to walk and bike to school. However, it is a reality that many students live too far from school to be able to do so. Park & Walk programs allow parents to park and walk their young children to school all while reducing traffic congestion within drop-off zones.
OPEN STREETS EVENTS	<ul style="list-style-type: none">• Audience: Elementary School, Parents• Lead / Champion(s): Bicycle advocacy group, SCAG, community organizations	At Open Streets events, primary roads are closed to vehicle through traffic and the streets are transformed into plazas for walking, bicycling, and other community activities. The event encourages waking and bicycling but offering the opportunity for people to walk or bike away from the stress of traffic and sponsoring booths where people can learn the benefits of active transportation.

ENFORCEMENT PROGRAMS

DETAILS

DESCRIPTION

CROSSING GUARDS	<ul style="list-style-type: none"> Audience: Elementary School Lead / Champion(s) PTA, parents, local law enforcement 	An adult crossing guard program can help to re-enforce the laws of the roadway while also providing added visibility, supervision, and assistance to school pedestrians crossing the street. Though there are already adult crossing guards in place at many of the schools, a review of current locations, conditions, and needs is recommended.
SCHOOL SAFETY PATROL PROGRAM	<ul style="list-style-type: none"> Audience: Middle, High School Lead / Champion(s): Local law enforcement, schools, PTA, parents 	A school safety patrol program is a cost effective way to improve overall safety while providing traffic calming during the peak school periods. The program and enforcement benefits are similar to the adult crossing guard program, but with school students being heavily involved. Programming should follow the guidelines set for in the CA-MUTCD (Part 7), with coordination between the appropriate jurisdictions to train and obtain proper equipment. This program provides another great opportunity for parents to get involved to help supervise student patrol members.
TARGETED ENFORCEMENT CAMPAIGN	<ul style="list-style-type: none"> Audience: Parents, motorists Lead / Champion(s) Local law enforcement, District, schools 	Partnering with local law enforcement can help ensure that traffic laws are followed within and surrounding school zones. The campaign can use a variety of methods to enforce traffic laws. For example, the City can install active speed monitors at schools to warn drivers about their speeds, such as the speed feedback signs recommended at a few locations to slow traffic speeds in school zones. While law enforcement officers can utilize a progressive ticketing method to change behavior, it should also be paired with education or a campaign to reinforce safe roadway behavior.
SPEED ENFORCEMENT CAMPAIGN	<ul style="list-style-type: none"> Audience: Parents, motorists Lead / Champion(s) Local law enforcement, District, schools 	The campaign would place speed feedback trailers at specific locations where pedestrians are present. It seeks to curb speeding by warning motorists of their current speed, and thus slow down if they are going above the posted speed limit.
TRAFFIC COMPLAINT HOTLINE	<ul style="list-style-type: none"> Audience: Adults Lead / Champion(s) Local law enforcement 	Setup a hotline to report non-emergency traffic violations to law enforcement. This can help law enforcement agencies keep track of complaint areas and prevent concerns prior to incidents happening. It will also improve engagement of community members with officers.





EVALUATION PROGRAMS	DETAILS	DESCRIPTION
PARENT SURVEYS	<ul style="list-style-type: none">• Audience: Parents• Lead / Champion(s): City, District, Schools	Online Parent Surveys can be a cost-effective way to gather feedback on effectiveness of programs and improvements made as part of this plan. It is recommended that after improvements are implemented, the City should conduct parent surveys to evaluate the effectiveness of this Plan and improvements through before and after data.
STUDENT TRAVEL TALLIES	<ul style="list-style-type: none">• Audience: Elementary, Middle, High• Lead / Champion(s): City, District, Schools	Teachers and school administrators can aid in administering an in-class travel tally to collect data on student's travel modes both in the morning and afternoon periods. Similar to parent surveys, it is recommended that the City coordinate with the District or school to conduct tallies after implementation of improvements near a school to evaluate the effectiveness of those treatments.
COLLISION DATA & ANALYSIS	<ul style="list-style-type: none">• Audience: --• Lead / Champion(s): City	Pedestrian and bicyclist-related collisions evaluated for each school establish baseline safety conditions. Follow up analysis of pedestrian and bicycle collisions over time can give feedback on the safety improvements made, or identify areas where further improvements may be warranted. This is particularly important as more students and guardians walk and bike to school; the City can monitor and evaluate corridors and/or intersections as travel behavior changes.
BIKE / PEDESTRIAN COUNTS	<ul style="list-style-type: none">• Audience: --• Lead / Champion(s): City	Bike and pedestrian counts contribute to a more thorough understanding of travel behavior and thus improve the ability to calculate the costs and benefits of bike and pedestrian improvements. They can be integrated into existing vehicle counts or completed at high traffic locations and commercial districts. Counts are useful at illustrating the need for infrastructure when requesting grant funding.

4.4.

CREATIVE PLACEMAKING & PROGRAMMING

This section provides a set of public art-related elements often integrated as part of active transportation infrastructure.

The icons to the right categorize the relation of each element to either bicycle, pedestrian, or overall programming. Within each page, a description, benefits, photos, and example projects are summarized for these elements. The purpose of this toolbox is to provide inspiration for the types of projects that can help support pedestrian and bicycle infrastructure within the Morongo Basin with the inclusion of the local arts community.

bicycle element



Bicycle-related public art includes artistically designed bike racks, trailheads, and possibly other bicycle amenities. These elements help integrate art into community, while supporting and promoting a healthy and bikeable environment.

pedestrian element



This set of pedestrian-related public art includes artistic crosswalks, benches, shading, wayfinding etc. These elements can help enhance pedestrian visibility, improve pedestrian infrastructure, and create a community-inspired environment for walking and even taking transit.

programming



The toolbox include a description for public arts programming in the form of commissioning artists and also artist-led community engagement. These programs have been used to integrate public art and local artists in larger active transportation projects to support walking and biking in a artistic and community-drive way.



ARTISTIC BIKE RACKS

Artist designed bike racks can create playful and functional sculptural objects, contributing to the built environment.

BENEFITS:

Artist designed bike racks are functional. They provide a unique sensibility to the community. Pedestrians and bicyclists notice these unusual forms and their presence reinforces active transportation activities. Involvement of local artists in these projects create a greater sense of pride and allow for the arts community to contribute to the perception and functionality of their community.

EXAMPLES:

As part of the Metro Public Art Collection in Nashville, local artists were commissioned to design and fabricate unique bike racks as part of the city's green and healthy living initiative. The program has been rolled out in several communities over several years.



"Ground Ball" | Kristina Colucci | Nashville, TN



"Shelves" | Zach Duensing | Nashville, TN



"Microphone" | Franne Lee, Keith Harmon, and Mac Hill | Nashville, TN

PROTECTED BIKE LANES

Colorful embellished surfaces help with visibility and artists may choose to use reflective materials as part of their design concept for heightened visibility. Protected bike lanes with artistically designed elements can provide this type of visibility on roadways with high traffic volumes and in conflict zones.

BENEFITS:

These projects help to create a greater level of perceived safety for the pedestrian and car drivers. Protected bike lanes can be customized with paint and other relatively inexpensive materials. Some projects include minor landscape elements that are also artist designed to soften the look of this primarily concrete infrastructure. Involvement of local artists in these projects create a greater sense of pride and allow for the arts community to contribute to the perception and functionality of their community.

EXAMPLES:

The New York City Department of Transportation's (NYC DOT) Barrier Beautification program funded the painting of protected bike lanes on Flushing Avenue. The program changes exhibits every 11 months and pays artists up to \$2,500. The Tactical Urbanist Guide provides a how to for the painting of concrete barriers at <http://tacticalurbanismguide.com/materials/concrete-jersey-barrier/>



Flushing Avenue Protected Bike Lanes | New York City, NY



"Face to Face" | Debra Hampton



Debra Hampton holding stencil designs





ARTISTIC CROSSWALKS

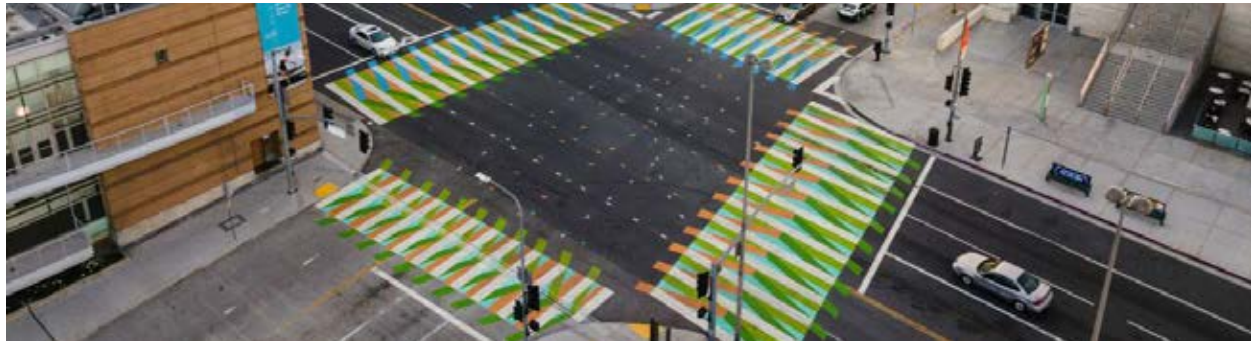
Artist designed crosswalks can be permanent or temporary. They provide visual cues to drivers and pedestrian with striking color and/or patterns, creating a unique visual marker in the built environment.

BENEFITS:

Crosswalk design can be reflective of a theme that is identified with the community and its visual attributes. Artist designed crosswalks are highly visible to cars and pedestrians.

Temporary crosswalks can bring special attention to areas where cars and pedestrians are learning new ways to interact safely. Artist crosswalks can also be used near schools and can involve students and the school community at large.

Involvement of local artists in these projects create a greater sense of pride and allow for the arts community to contribute to the overall perception and functionality of their community.



"Couleur Additive" | Carlos Cruz-Diez | Los Angeles, CA

picture credit: Jacob Fisher



"Grand Prix & Leopard Shard" | Hataya Tubtim | Long Beach, CA

picture credit: DLBA



Temporary Crosswalk | SCAG GoHuman Illuminate Riverside *picture credit: KOA / Aurelio Campos*

PEDESTRIAN SEATING

Artist designed seating is part of creating a unique look and feel to a place. Seating areas can consist of a single bench or a complete rest areas with landscape and shade elements.

BENEFITS:

Artist designed seating may employ a variety of materials. They can be singular sculptural objects or complete installations that include seating, shade and landscape. Seating installations are generally more noticeable and can reflect the character and visual sensibility of a community. Involvement of local artists in these projects create a greater sense of pride and allow for the arts community to contribute to the overall perception and functionality of their community.

EXAMPLES:

As part of the replacement of bus shelters and seating areas by Long Beach Transit, local artist were asked to create benches and sculptural objects to be incorporated into bus stops. The program created uniquely designed street furniture which serves transit users better giving them areas for shelter and seating.

Phoenix artist, Kevin Berry, designed bus shelters on Goldwater Boulevard—one at Indian School Road and the other just south of Camelback Road. The project consists of two bus shelters with cast concrete benches, artist-designed trash receptacles, a privacy wall, and tree grates and guards.



"Couleur Additive" | Carlos Cruz-Diez | Los Angeles, CA

picture credit: Jacob Fisher



Goldwater Boulevard Bus Shelters | Kevin Berry | Phoenix, AZ





SHADE STRUCTURES

Artistically designed shade structures are particularly important in areas of high intensity sun and wind. These structures can be incorporated with seating and landscape.

BENEFITS:

Provides pedestrians and bicyclists with places to rest on long journey. Provides shelter from heat, wind and cold. Gives pedestrians a feeling of security near busy roads. Involvement of local artists in these projects create a greater sense of pride and allow for the arts community to contribute to the perception and functionality of their community.

EXAMPLES:

Bloomcanopy is a grouping of shade structures installed adjacent to Pierce Street Market in Downtown Phoenix. The piece was commissioned by the Phoenix Office of Arts and Culture. The shade structures were designed by Christopher Malloy of MAP.



"Bloomcanopy" | Christopher Malloy | Phoenix, AZ

WAYFINDING

Artist designed wayfinding is often conceived as a small art treasure hunt within a community. Designs can stand out by using atypical colors and shapes, or they may blend in by adopting the local vernacular and opt for employing a whimsical approach to the text.

BENEFITS:

Artist designed wayfinding projects have often been oriented towards cultural and historic destinations in the community. Artist designed wayfinding is a way to direct visitors to more eclectic and off the beaten track destinations. Involvement of local artists in these projects create a greater sense of pride and allow for the arts community to contribute to the overall perception and functionality of their community.

EXAMPLES:

Matt Tomasulo is an artist located in Raleigh, North Carolina. He is a passionate entrepreneur, urban designer, and civic instigator focused on bucking the status quo to shape healthier, connected, and economically vital 21st century communities. His work is positioned yet playful, and ranges from public art to neighborhood development. Matt created Walk [Your City] (on Facebook and the web) and helps you boost your community's walkability, linking informational street signs for people with web-based campaign management and data collection to complement traditional approaches to wayfinding.



Walk [Your City] | Matt Tomasulo | Raleigh, NC



pedestrian element



ARTISTIC STREETSCAPING

Artist designed streetscapes may include traffic circles, bump-outs, median and designated pedestrian rest areas. They may be permanent, temporary, or mobile so that they may be placed in various locations.

BENEFITS:

These projects help to create a greater level of perceived safety and accommodation for pedestrians and bicyclists. They help to create visible, physical barriers from car traffic. When landscaped areas are combined with street furniture, they can be part of an overall strategy to promote active transportation and safety, and encourage community gathering enhancing opportunities for social, cultural and economic participation. Involvement of local artists in these projects create a greater sense of pride and allow for the arts community to contribute to the perception and functionality of their community.

EXAMPLES:

Located in the City of Laguna Beach, the streetscape renovation/ pocket park creation project is composed of a sculpture, a series of stools, and are-shaped and re-surfaced planter. The detailed cut out shapes of the sculpture and the mosaic details on the stool tops were inspired by the rich tide pool habitat of Laguna Beach located just a block away from the project site. The project was conceived by Shin Gray Studio in Los Angeles, California.

Commissioned by the Clark County's Department of Parks and Recreation, the County hired two internationally-known public artists, Barbara Grygutis of Tucson and Buster Simpson of Seattle, and rising Phoenix artist Kevin Berry. Planning, design and execution of this first major public art project by Clark County took seven years. It was dedicated in October, 2010. Instead of designing discrete artworks, the three-artist team together designed the necessary furniture for the trailheads and waysides and the layout and planting of the trailheads in partnership with landscape architectural firm J.W. Zunino and Associates. The artists designed the signs, benches, and shade shelters for the trailheads. They also rescued and included in some trailheads, broken chunks of the historic Stardust Hotel and Casino, which was built on the Las Vegas Strip in 1955. (The hotel opened in 1958, closed in 2006 and was imploded March 13, 2007.) The artists used weathering steel for the shade shelters, which is designed to rust to a steadily deepening color.



"Road Blossoms" | Shin Gray | Laguna Beach, CA



Flamingo Arroyo Trail | Buster Simpson, Barbara Grygutis, & Kevin Berry | Las Vegas, CA

COMMISSIONING ARTISTS

Programs that have been successful tend to have adopted specific standards in seeking and commissioning artists for transportation public art projects. Arts Connection, the official arts organizations for the County of San Bernardino can facilitate these best practices which include:

PROCESS:

- Preparing and widely distributing a Request for Qualifications to identify local artists who possess the skills to work in collaboration with a design team for the project
- Artist honorariums for design proposals
- Using art professionals as part of a selection panel to review qualifications
- Working with artists to identify sources for necessary insurance
- Working with artists to identify fabricators
- Creating commission agreements that employ reasonable insurance requirements and payment schedules
- Providing plaques for artworks so the public can be informed of who created the artwork

PUBLIC ENGAGEMENT

Artists can be employed to open up public dialogue, and reach out to audiences who might otherwise not get involved in traditional civic processes. Arts engagement can help residents to envision future needs, articulate community values, and identifying issues. These types of activities can take many forms, and have proven to be very successful in reaching historically marginalized communities.

BENEFITS:

Increased diverse participation in the planning process or public dialogue; community members have a role in providing input to select types and themes for public art projects. Arts Connection as the official arts organization of San Bernardino County has overseen many of these projects and can provide the appropriate oversight in these projects.







CHAPTER 5

recommendations

IN THIS CHAPTER:

1. Regional Active Transportation Network
2. Regional Active Transportation Corridors
3. Local Focus Areas
4. Public Art-Related Strategies & Recommendations

Chapter 5. "Recommendations" summarizes the proposed improvements for the Morongo Basin Active Transportation Plan. The chapter is split into three primary sections: regional recommendations as shown through the 'Regional Active Transportation Network' and also 'Regional Active Transportation Corridors' that breaks down the network into projects for implementation, local recommendations for 22 focus areas, and strategies for the overall inclusion of public art.

Project factsheets for regional and local projects are located respectively in Appendices A & B.

5.1. REGIONAL ACTIVE TRANSPORTATION NETWORK

The Regional Active Transportation Network (ATN) is a composite of both pedestrian and bicycle infrastructure recommendations. The proposed Network consolidates research findings, existing conditions assessments, community feedback (events and surveys), and field observations into a singular Network that aims to create a more walkable, bikeable, and transit-accessible Morongo Basin.

Existing pedestrian and bicycle infrastructure is often overshadowed by vehicle-specific infrastructure. However, there are specific locations across the region where existing pedestrian and bicycle facilities are present that establish the existing Network. These are detailed in Chapter 3 Existing Conditions. The Regional ATN provides regional connectivity between Morongo, Town of Yucca Valley/Area, Joshua Tree, Landers, Pioneertown/Rimrock, Twentynine Palms City/Area, and Wonder Valley.

SR-62 is the regional backbone to the Morongo Basin area; it connects through the Town of Yucca Valley, City of Twentynine Palms, and unincorporated communities within the County. As such, connections between the rural areas of the region are centered on proposed enhancements to SR-62 – linking the western and eastern most project extents. Peripheral connectivity is made within the represented areas, extending and connecting north and south from SR-62.

Figure 5.1.1. Regional ATN Map

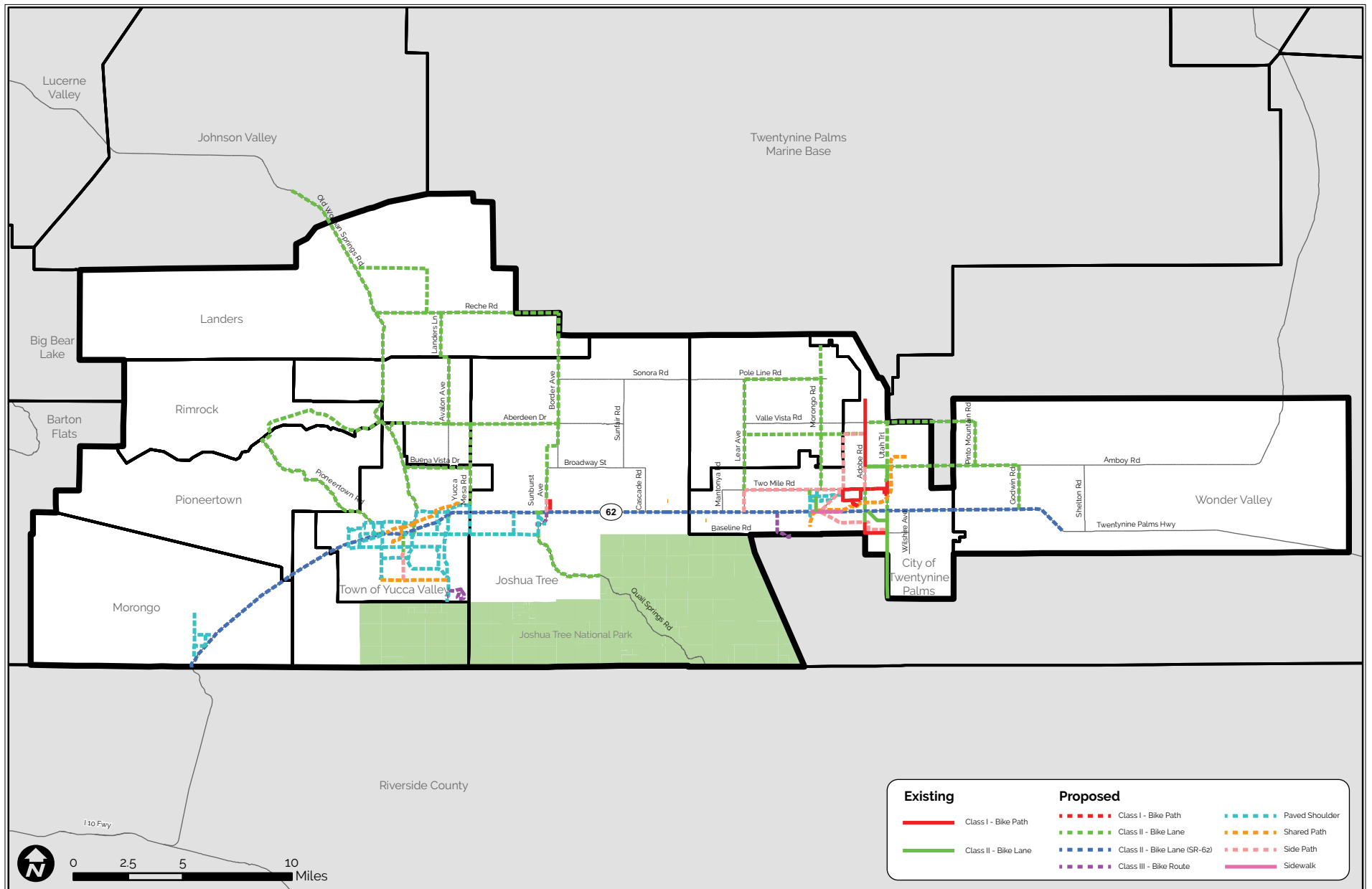


Figure 5.1.2. Regional ATN Map (Yucca Valley)

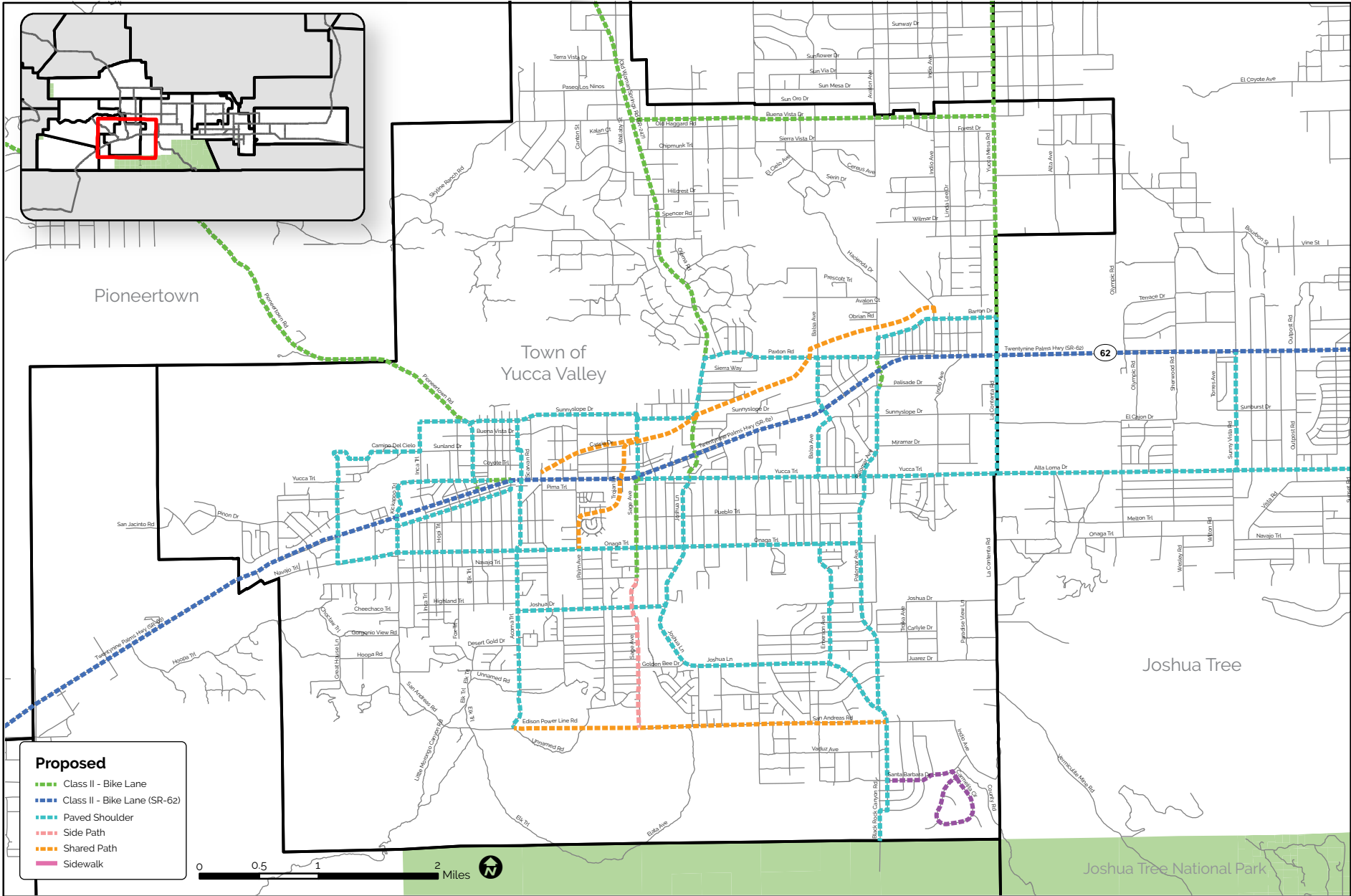


Figure 5.1.3. Regional ATN Map (Joshua Tree)

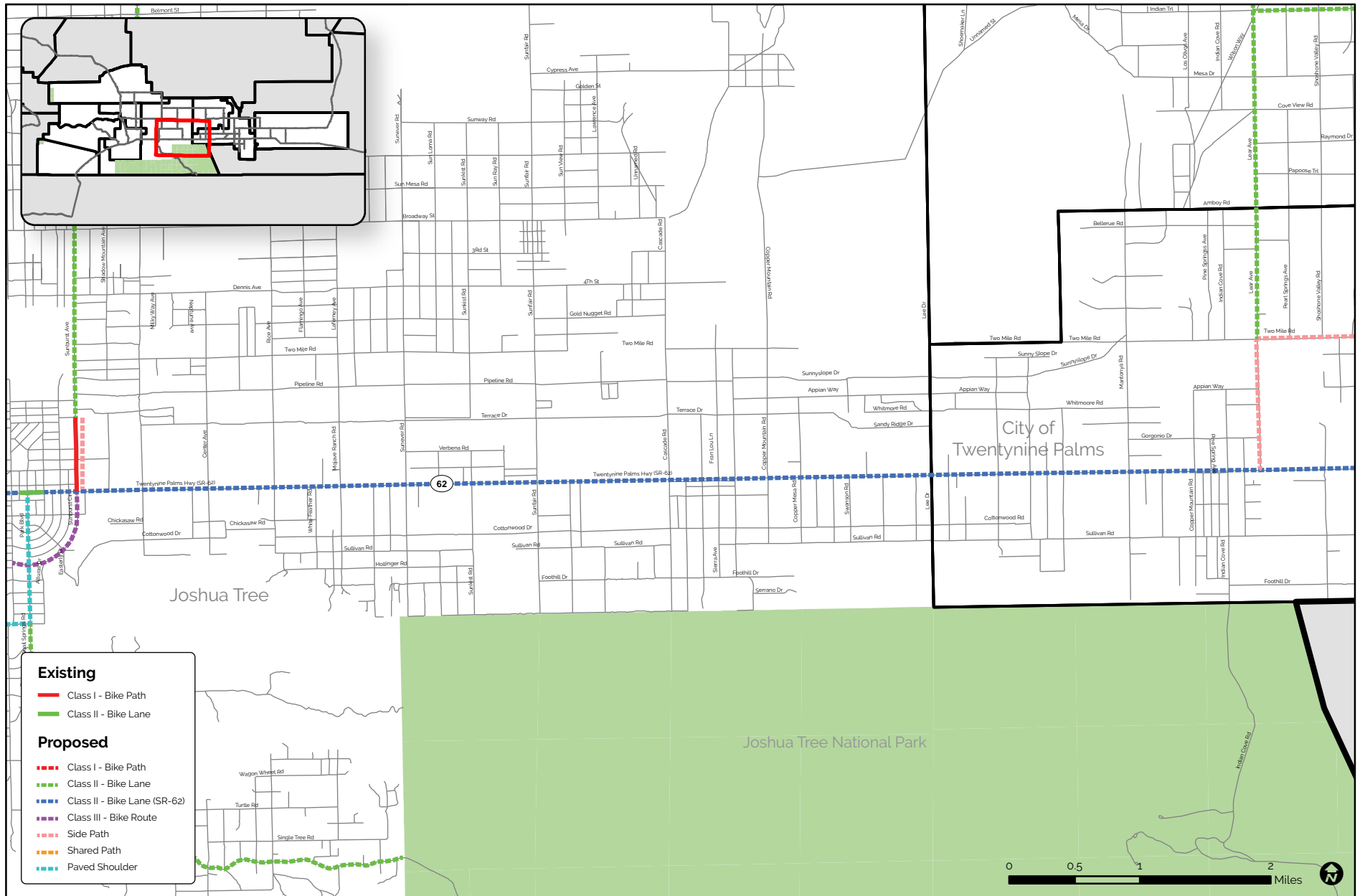
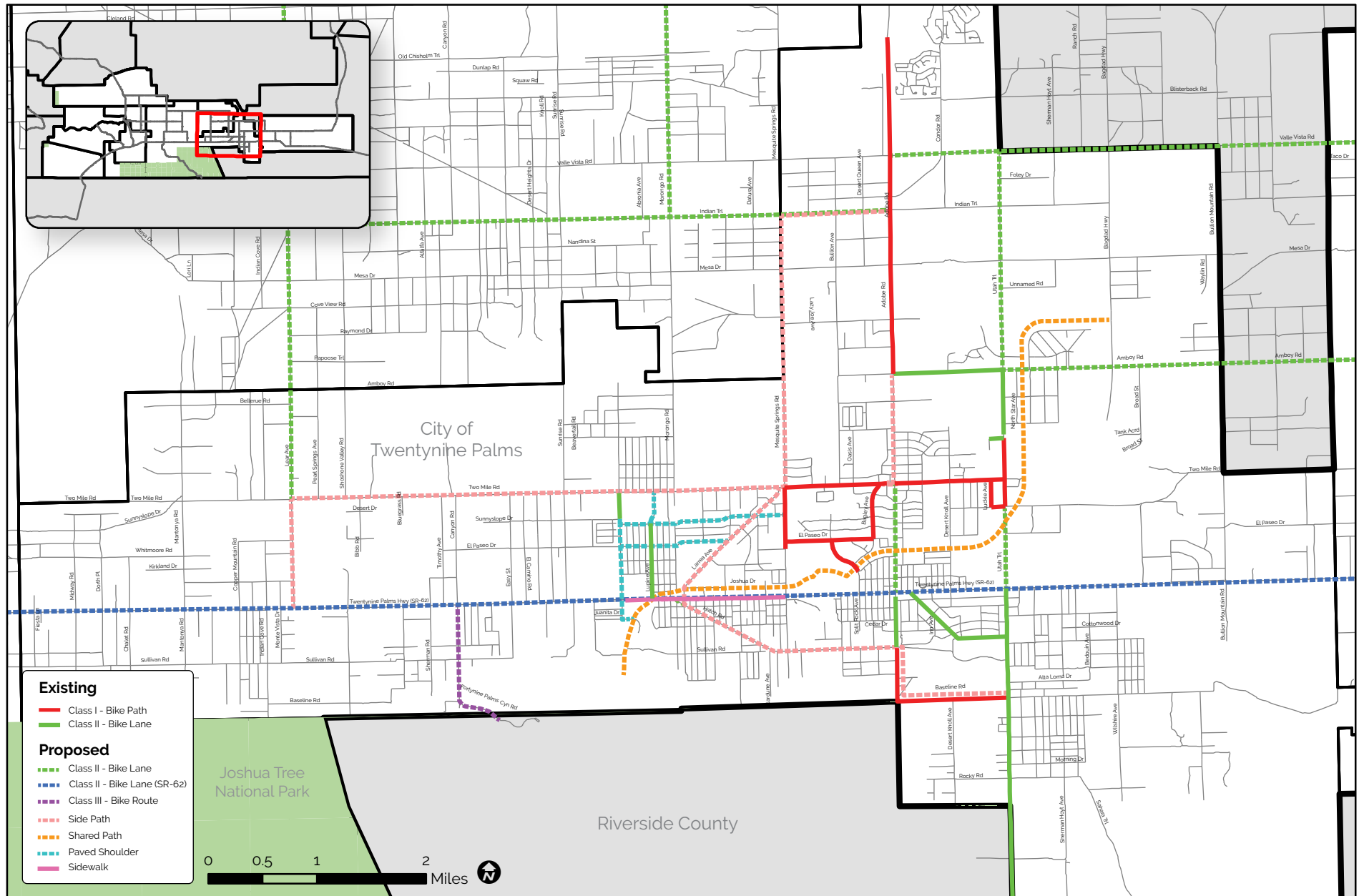


Figure 5.1.4. Regional ATN Map (Twentynine Palms)



REGIONAL NETWORK CONSTRAINTS

The existing community characteristics of each City/area within the Morongo Basin contribute to implementation constraint themes. Constraints are derived from the existing conditions of the region and can include roadway width, right-of-way dedications, terrain make-up, and more. The following section will outline constraints on the proposed regional active transportation network that inhibit the implementation of pedestrian and bicycle infrastructure. Thematically the Morongo Basin is host to the following constraints:

Unpaved Shoulders Where active transportation network enhancements are proposed, the availability of a paved shoulder constrains the immediate implementation of pedestrian and bicycle infrastructure. At present, Class II – bike lanes (pedestrian paved shoulders) are constrained by existing loose and unpaved shoulders. Roadway examples include: Aberdeen Drive, Pioneertown Road, Alta Loma, Onaga Trail, and Park Boulevard. In most cases these roadways are paved for vehicular traffic at a width of 24' to 28'. These roadways have a 12' shoulder adjacent to each travel lane cleared of vegetation and obstructions, but they are not paved; loose shoulders with dirt and gravel are present. These existing constraints do enable future implementation since the shoulder is cleared and ready for paving, pending funding allocation. However shoulders that are not cleared and do not have right-of-way designated present constraints on pedestrian and bicycle feature installation.

Variability in Highway Widths Existing Class II – bike lanes are not present in high quantities across the Morongo Basin; however an unassuming eye might conclude the contrary to be true. Bicyclists within the region use slivers of variable paved shoulders to travel on usually 0' to 3' or more. These shoulders lack uniformity and are not suitable spaces to be classified as a bicycle facility per Highway Design Manual standards. SR-62 is one such example where there is variability in roadway width, a major constraint for the implementation of bicycle and pedestrian infrastructure. The variability thus would require major modifications to install active transportation network features. Lastly, adjacent to existing roadways are power lines/poles and utilities. These present a constraint on expansion since the relocation of said utilities would be required for future active transportation network features.



Existing Network & Attractor Connections: Existing facilities within the Morongo Basin are limited, offering brief localized connections. The sprawling rural landscape and spread-out distribution of attractors within the region presents another constraint. Since the attractors are distributed across the region, establishing existing network connection enhancements are constrained by the large distance between the attractors and communities represented.

Vehicular Characteristics & Roadway Conditions: A lack of right-of-way on existing facilities can increase an active transportation user's exposure to less than desirable behavior. High vehicular speeds along long straight and open roadways is part of an overall built environment constraint that discourages use in many cases. Most rural roadways have speed limits that are greater than 40 mph, which require 6' for bicycle facilities to be classified as Class II – bike lanes. These high speed corridors present a challenge to pedestrians crossing since in some situations there is no vehicular control to provide support at the intersections.

Desert Environment & Conditions: Aside from the vehicular characteristics, the rural desert environment presents physical constraints on its users: extreme temperatures (it can be >100 degrees and also <32 degrees Fahrenheit); extreme winds (blow debris onto roadway/shoulders); flooding and drainage constraints.

Multiple Jurisdictions Coordination The forecasted Morongo Basin regional network is a cross-jurisdictional plan that weaves together incorporated and unincorporated areas of San Bernardino County. The implementation of the active transportation network crosses municipal boundaries and will require County, Town, and City coordination for comprehensive implementation.



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5.2. REGIONAL ACTIVE TRANSPORTATION CORRIDORS

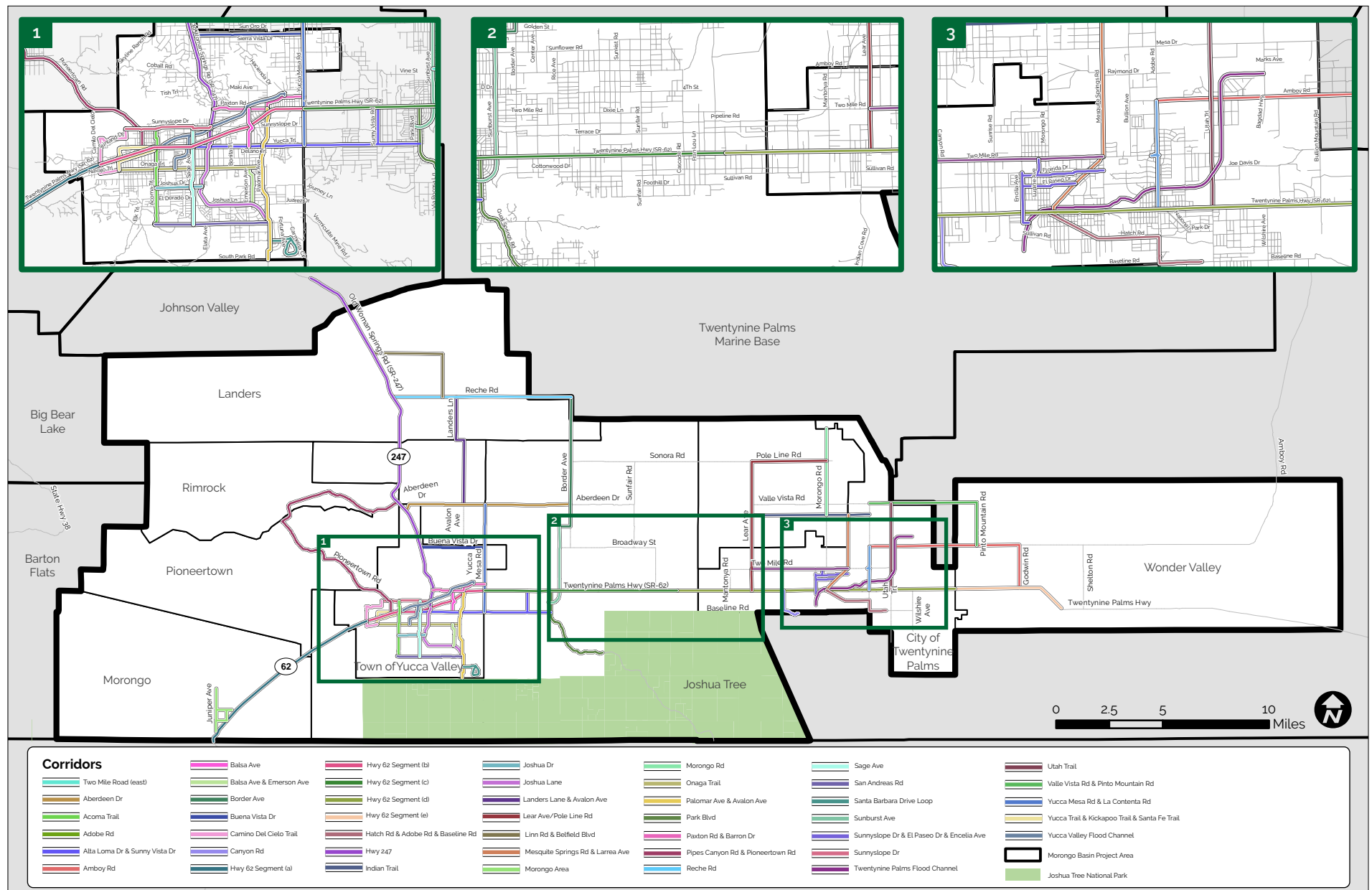
The Morongo Basin Regional ATN is composed of 46 corridors.

Regional corridors provide connections to and from origins and destinations within the region as a whole for active transportation focused users. Segmentation of the overall network into corridors allows for strategic organization of represented engineer recommendations for prioritization, funding, and project implementation plans. The Regional ATN consists of the following corridors shown to the right.

Appendix A provides a more detailed profile of each of these corridors. The corridor factsheets detail location, specific recommendations, identified constraints, and total implementation cost. Cost estimates are further discussed in **Chapter 6** and specific cost estimates per project are provided in **Appendix C**.

Corridor Name	Length (Miles)	Primary Area	Secondary Area
Aberdeen Drive	7.9	Yucca Valley Area	
Acoma Trail	2.6	Yucca Valley (Town)	
Adobe Road	2.2	Twentynine Palms	
Alta Loma Drive/Sunny Vista Road	7.2	Yucca Valley (Town)	Joshua Tree
Amboy Road	9.0	Twentynine Palms (City)	Wonder Valley
Balsa Avenue	1.1	Yucca Valley (Town)	
Balsa Avenue/Emerson Avenue	1.1	Yucca Valley (Town)	
Border Avenue	6.5	Joshua Tree	Landers
Buena Vista Drive	3.0	Yucca Valley (Town)	
Camino Del Cielo Trail	2.5	Yucca Valley (Town)	
Canyon Road	1.2	Twentynine Palms (City)	
Hatch Road/Adobe Road/Baseline Road	3.5	Twentynine Palms (City)	
Indian Trail	5.5	Twentynine Palms Area	Twentynine Palms (City)
Joshua Drive	1.2	Yucca Valley (Town)	
Joshua Lane	3.7	Yucca Valley (Town)	
Landers Lane/Avalon Avenue	5.4	Yucca Valley Area	Landers
Lear Avenue / Pole Line Road	9.5	Twentynine Palms Area	Twentynine Palms (City)
Linn Road/Belfield Boulevard	5.3	Landers	
Mesquite Springs Road/Larrea Avenue	3.8	Twentynine Palms (City)	
Morongo Area	3.7	Morongo	
Morongo Road	4.0	Twentynine Palms Area	Twentynine Palms (City)
Onaga Trail	3.9	Yucca Valley (Town)	
Palomar Avenue/Avalon Avenue	4.2	Yucca Valley (Town)	
Park Boulevard	5.1	Joshua Tree	
Paxton Road/Barron Drive	2.7	Yucca Valley (Town)	
Pipes Canyon Road/Pioneertown Road	14.1	Pioneertown / Rimrock	Yucca Valley (Town)
Reche Road	8.4	Landers	
Sage Avenue	2.6	Yucca Valley (Town)	
San Andreas Road	3.1	Yucca Valley (Town)	
Santa Barbara Drive Loop	1.7	Yucca Valley (Town)	
Sunburst Avenue	3.9	Joshua Tree	
Sunnyslope Drive/El Paseo Drive/Encelia Avenue	3.9	Twentynine Palms (City)	
Sunnyslope Drive	2.4	Yucca Valley City	
SR-247: (Old Woman Springs Road)	17.6	Yucca Valley City/Area	Landers
SR-62 (a): (Twentynine Palms Highway)	9.3	Morongo	Yucca Valley Area
SR-62 (b): (Twentynine Palms Highway)	5.8	Yucca Valley (Town)	
SR-62 (c): (Twentynine Palms Highway)	8.8	Joshua Tree	
SR-62 (d): (Twentynine Palms Highway)	13.1	Twentynine Palms (City)	Joshua Tree
SR-62 (e): (Twentynine Palms Highway)	5.4	Wonder Valley	
Twentynine Palms Flood Channel	6.8	Twentynine Palms (City)	
Two Mile Road (East)	4.5	Twentynine Palms (City)	
Utah Trail	2.75	Twentynine Palms (City)	
Valle Vista Road/Pinto Mountain Road	7.0	Twentynine Palms (City)	Wonder Valley
Yucca Mesa Road/La Contenta Road	5.0	Yucca Valley (Town)	Yucca Valley Area
Yucca Trail/Kickapoo Trail/Santa Fe Trail	2.6	Yucca Valley (Town)	
Yucca Valley Flood Channel	5.0	Yucca Valley (Town)	

Figure 5.2.1. Regional ATN Corridors Map



5.3. LOCAL FOCUS AREAS

In a broad reaching regional active transportation network, localized infrastructure recommendations at key pedestrian and bicyclist focus areas are proposed to connect users to and from their destinations and within the network itself.

The Morongo Basin local focus areas are represented by two categories – Safe Routes to School Focus Areas, of which there are seven, and Other Pedestrian and Bicyclists Focus Areas, of which there are 15. The local focus areas capture major attractors and are listed within each local focus area's section along with descriptive text, recommendation maps, collateral details, and respective engineer cost estimates.

Safe Routes to School Focus Area	Community
(13) Friendly Hills Elementary School	Joshua Tree
(12) La Contenta Middle School & Black Rock High School	Yucca Valley (Town) / Joshua Tree
(9) Landers Elementary School	Landers
(22) Morongo Valley Elementary School	Morongo
(17) Twentynine Palms High School	Twentynine Palms (City)
(20) Twentynine Palms Junior High School	Twentynine Palms (City)
(10) Yucca Mesa Elementary School	Yucca Valley Area

Other Pedestrian & Bicycle Focus Area	Community
(19) Adobe Road & State Route 62	Twentynine Palms (City)
(21) Baseline Road & Utah Trail	Twentynine Palms (City)
(15) Copper Mountain College	Joshua Tree
(18) El Paseo Drive & Hillside Avenue	Twentynine Palms (City)
(8) Onaga Trail & Balsa Avenue	Yucca Valley (Town)
(2) Onaga Trail & Hopi Trail	Yucca Valley (Town)
(4) Onaga Trail & Sage Avenue	Yucca Valley (Town)
(3) Palm Avenue & Sunland Drive	Yucca Valley (Town)
(14) Park Boulevard & State Route 62	Joshua Tree
(11) State Route 62 & Avalon Avenue	Yucca Valley (Town)
(1) State Route 62 & Park Avenue	Morongo
(7) State Route 62 & Warren Vista Drive	Yucca Valley (Town)
(16) Sullivan Road & El Sol Avenue (Knotts Sky Park)	Twentynine Palms (City)
(6) Yucca Trail & Airway Avenue	Yucca Valley (Town)
(5) Yucca Valley Town Hall & County Library	Yucca Valley (Town)

Figure 5.3.1. Local Focus Areas Map

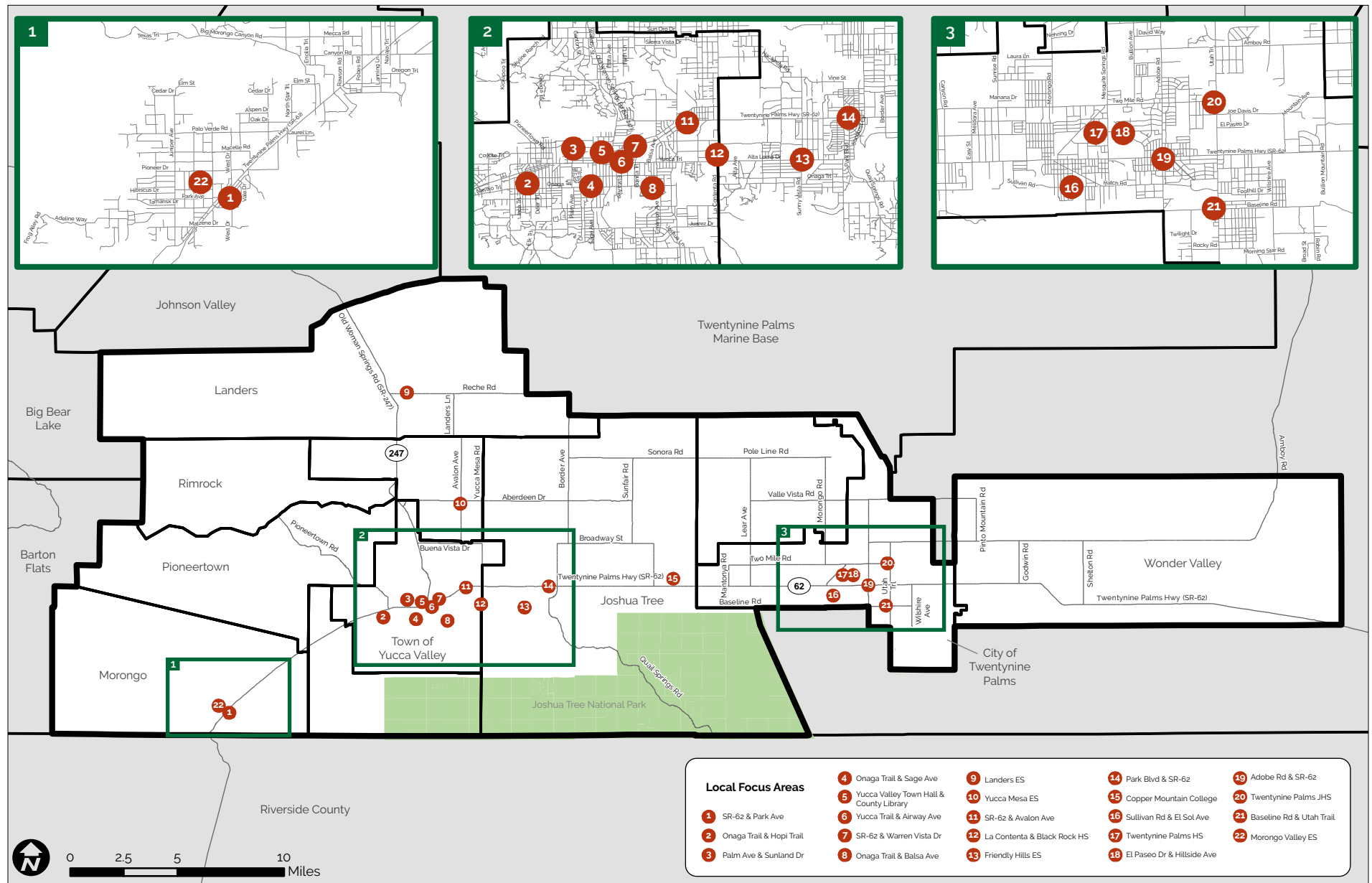


Figure 5.3.2. Safe Routes to School Focus Areas

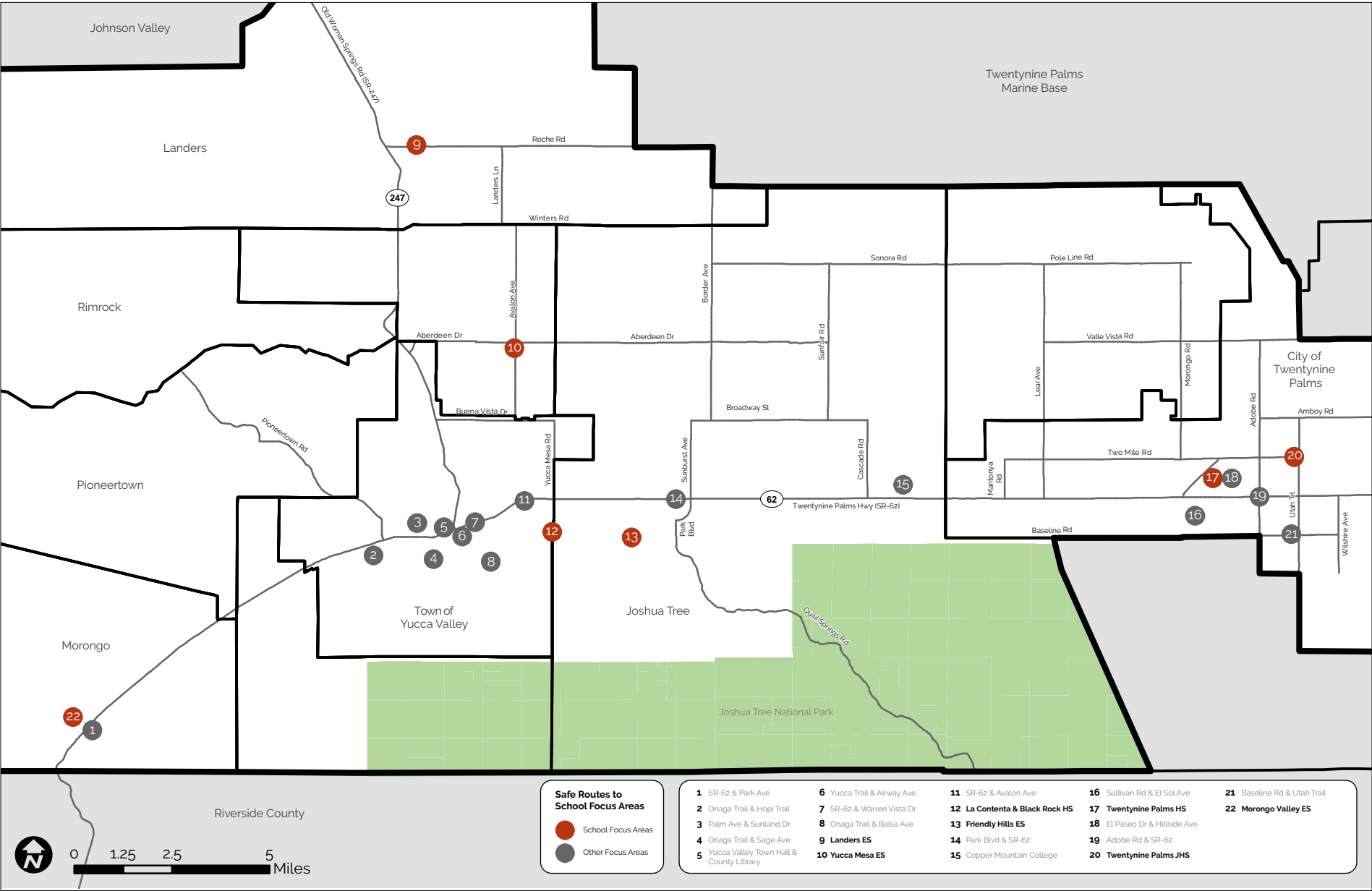
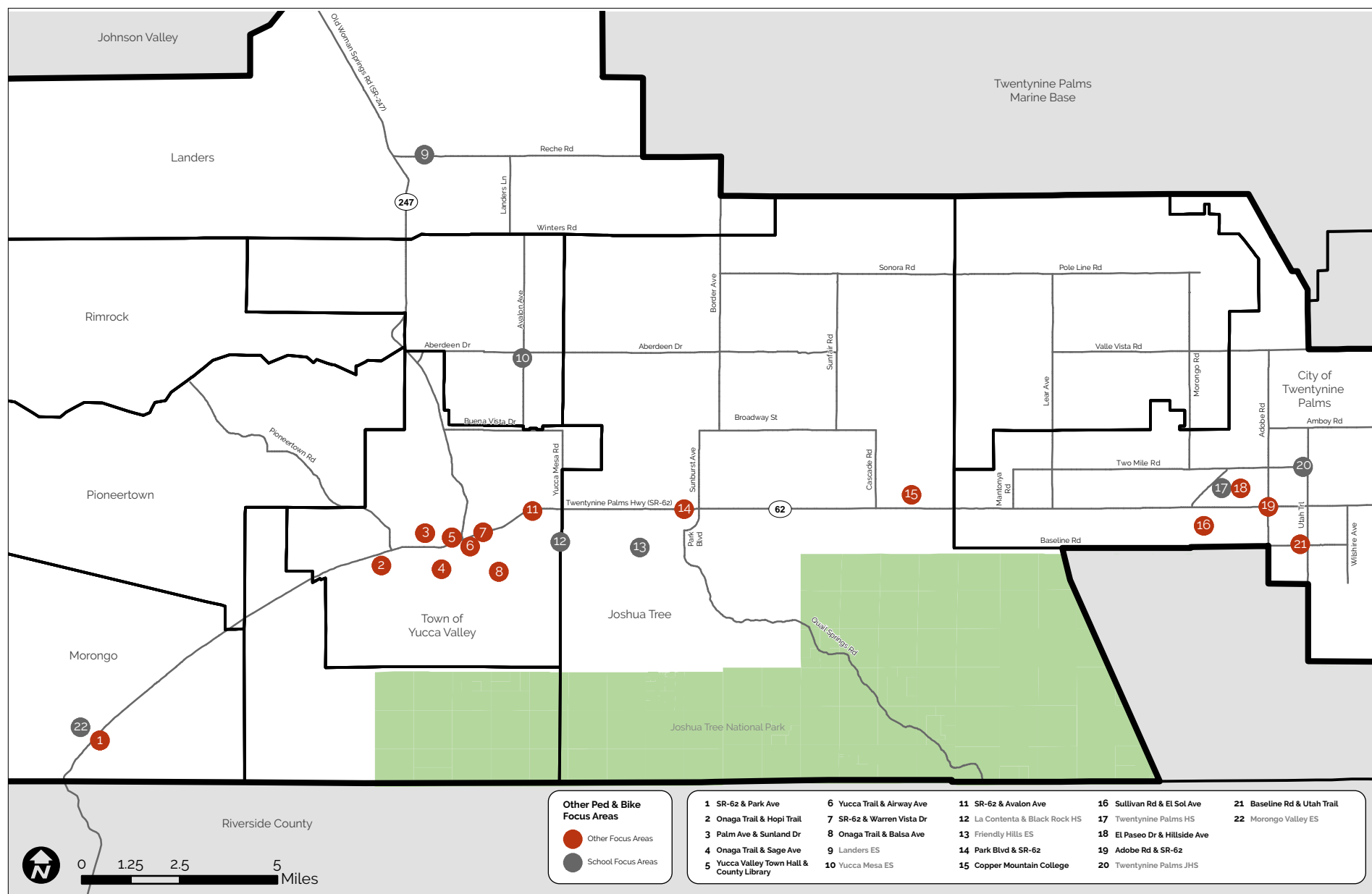


Figure 5.3.3. Other Pedestrian and Bicycle Focus Areas



5.4. PUBLIC ART-RELATED STRATEGIES & RECOMMENDATIONS

FUNDING

- Since public art-related elements may not be an allowable expenditure under traditional active transportation funding sources, it is recommended that local agencies consider outside funding sources for artistic enhancements that support walking and biking in the Morongo Basin region.
A complete list of potential grant opportunities is listed on page 237-238 (Section 6.4) of this document.
- Consider the potential to partner with existing local educational or cultural institutions when applying for grant funding. These partnerships help to anchor artistically enhanced infrastructure projects within the existing cultural community and can provide greater visibility, public participation, and support for the goals of this Plan.
- Where public art is an allowable expenditure under a project funding source, consider setting aside a portion of funds to be used for artistic enhancements associated with the project.
- It is recommended that Arts Connection continue to engage with key County, Town, City, and National Park stakeholders and the local arts community to identify areas of collaboration and funding potential to meet the goals set forth as part of the Morongo Basin Active Transportation Plan.

ENGAGING THE LOCAL ARTS COMMUNITY

- Consider the use of public art from school-age children and college students as enhancements to active transportation projects, particularly for projects near schools, colleges, and playgrounds.
- Professional level public artwork for Morongo Basin active transportation projects should be solicited through the Request for Qualifications (RFQ) process.
- Local agencies should take steps to ensure that RFQs reach a broad range of artists within the community.
- It is recommended that public art design proposals for Morongo Basin active transportation projects utilize the guidelines developed by the Mojave Desert Land Trust (Reading the Landscape). These guidelines can be found at

<https://www.mdlt.org/discover-learn/reading-the-landscape/>

ADMINISTRATIVE MANAGEMENT

It is recommended that Arts Connection, the County's designated arts council, serve as the primary project management entity for all art-related projects associated with the Morongo Basin Active Transportation Plan. Arts Connection may provide the following services to streamline administrative tasks associated with successful project management:

- Working with the County and/or local agencies to develop and promote the issuing of Request for Qualifications (RFQs) and other processes for artist solicitation
- Working with the County and/or local agencies to develop realistic budget for artist services
- Conducting local outreach and community engagement for any creative placemaking or arts programming project
- Convening and overseeing the artist selection process
- Developing scope and payment schedules for artist agreements
- Assisting artists in obtaining appropriate insurance needed during project duration
- Providing project oversight from design to completion

TYPE OF PUBLIC ART

It is recommended that the following three public art-related infrastructure elements, as identified through the Plan's outreach process, be prioritized for funding and implementation.

- Artist Designed Enhanced Visual Crosswalks
- Artist Designed Amenities for Shade and Seating
- Artistically Enhanced Protected Bike Lanes/Paths





CHAPTER 6:

implementation plan

IN THIS CHAPTER:

1. Cost Summary
2. Project Prioritization
3. Funding Opportunities
4. Project Phasing
5. Performance Measures
6. Implementation & Next Steps

The Implementation Plan in **Chapter 6** provides tools for realizing this vision of change. Projects are prioritized according to greatest benefit and grouped into an appropriate schedule based on funding and construction timeline. A detailed cost estimate is provided for the recommendations along with a set of funding sources that have the potential to cover these costs.

6.1. COST SUMMARY

This section summarizes overall cost estimates for implementation.

COST ASSUMPTIONS

Unit costs for planning cost estimates are derived from KOA's extensive experience in providing engineering services to communities across Southern California.

Project costs are estimated to reflect actual cost of construction as accurately as possible, based on 2018 dollars. Cost tables for each corridor and local focus area can be found in [Appendix C](#) and [Appendix D](#).

Cost assumptions include considerations for design, environmental, construction management, mobilization, and traffic control in order to provide as accurate of a cost for implementation as possible. While other project specific factors such as grading, acquisition costs, or landscaping may increase the actual cost of construction, an additional 15 percent contingency has been added to each project to account for these factors that may arise during the design phase.

As the County and local jurisdictions pursue funding for these projects, it should be noted that construction costs may fluctuate based on when funding actually becomes available.

Table 6.1.1. Regional Corridor Total Costs

REGIONAL CORRIDOR (PART 1)	TOTAL COST
Aberdeen Drive	\$4,219,065
Acoma Trail	\$1,623,922
Adobe Road	\$998,038
Alta Loma Drive/Sunny Vista Road	\$4,407,006
Amboy Road	\$5,552,565
Balsa Avenue	\$664,093
Balsa Avenue/Emerson Avenue	\$653,252
Border Avenue	\$4,123,948
Buena Vista Drive	\$1,504,853
Camino Del Cielo Trail	\$1,539,410
Canyon Road	\$112,637
Hatch Road/Adobe Road/Baseline Road	\$3,279,425
Indian Trail	\$4,676,855
Joshua Drive	\$765,275
Joshua Lane	\$2,153,366
Landers Lane/Avalon Avenue	\$3,676,651
Lear Avenue/Pole Line Road	\$6,033,506
Linn Road/Belfield Boulevard	\$3,588,973
Mesquite Springs Road/Larrea Avenue	\$3,668,344
Morongo Area	\$2,299,905
Morongo Road	\$2,143,741
Onaga Trail	\$2,387,682
Palomar Avenue/Avalon Avenue	\$2,471,307

cont'd

Table 6.1.2. Regional Corridor Total Costs (continued)

REGIONAL CORRIDOR (PART 2)	TOTAL COST
Park Boulevard	\$466,867
Paxton Road/Barron Drive	\$1,632,432
Pipes Canyon Road/Pioneertown Road	\$7,138,548
Reche Road	\$4,467,305
Sage Avenue	\$2,030,174
San Andreas Road	\$2,949,717
Santa Barbara Drive Loop	\$157,455
State Route 247	\$9,397,458
State Route 62 (a)	\$3,265,890
State Route 62 (b)	\$3,277,369
State Route 62 (c)	\$4,561,472
State Route 62 (d)	\$4,631,819
State Route 62 (e)	\$3,459,070
Sunburst Avenue	\$2,246,534
Sunnyslope Drive/El Paseo Drive/Encelia Avenue	\$2,371,012
Sunnyslope Drive	\$1,467,953
Twentynine Palms Flood Channel	\$6,475,007
Two Mile Road (East)	\$3,944,213
Utah Trail	\$1,800,343
Valle Vista Road/Pinto Mountain Road	\$4,854,912
Yucca Mesa Road/La Contenta Road	\$1,144,956
Yucca Trail/Kickapoo Trail/Santa Fe Trail	\$1,497,471
Yucca Valley Flood Channel	\$4,699,371
REGIONAL TOTAL =	\$140,481,167

Table 6.1.3. Local Focus Area Total Costs

FOCUS AREA	TOTAL COST
Friendly Hills Elementary School	\$1,013,371
La Contenta Middle School & Black Rock High School	\$2,818,753
Landers Elementary School	\$174,894
Morongo Valley Elementary School	\$1,206,277
Twentynine Palms High School	\$1,248,324
Twentynine Palms Junior High School	\$1,862,975
Yucca Mesa Elementary School	\$551,081
Adobe Road & State Route 62	\$730,779
Baseline Road & Utah Trail	\$910,221
Copper Mountain College	\$301,447
El Paseo Drive & Hillside Avenue	\$2,236,852
Onaga Trail & Balsa Avenue	\$2,669,973
Onaga Trail & Hopi Trail	\$2,251,902
Onaga Trail & Sage Avenue	\$1,991,170
Palm Avenue & Sunland Drive	\$1,149,352
Park Boulevard & State Route 62	\$2,566,230
State Route 62 & Avalon Avenue	\$495,678
State Route 62 & Park Avenue	\$1,788,713
State Route 62 & Warren Vista Drive	\$889,459
Sullivan Road & El Sol Avenue (Knotts Sky Park)	\$631,272
Yucca Trail & Airway Avenue	\$810,009
Yucca Valley Town Hall & County Library	\$627,886
LOCAL TOTAL =	\$28,926,618

6.2. PROJECT PRIORITIZATION

The purpose of a prioritization analysis is to provide all agencies with an implementation guide to the projects that offer the greatest potential benefit to people walking and biking in the Morongo Basin.

While projects with higher rankings should be considered for implementation before projects with a lower rank, agencies may choose to advance specific projects for other interests or as certain types of funding become available. Additional analyses should be conducted periodically in response to major changes in population, the environment, and transportation network.

The project prioritization model used for this Plan was developed with considerations to seven key categories:

1. Network Connectivity
2. Need
3. Health
4. Equity
5. Community Support
6. Economic Efficiency
7. Project Feasibility

The specific measures for each category are shown in Table 6.18. Weighting factors were adjusted to provide higher prioritization on some criteria than others based on City input. The assigned weights determine an overall cumulative score that balances benefits to potential users and overall implementation feasibility and cost.

Due to the Morongo Basin region's more rural characteristics, scoring of specific categories may be lower when compared to more densely populated areas of the region and overall scores may be lower in comparison to more urbanized areas outside of the region. Due to the many factors considered within the project prioritization, regional corridors and local focus areas can score well in some categories, but not as high as others. As a result, the County and local agencies should consider scoring across all categories, as well as the overall score when evaluating a project for funding.

Tables 6.2.2, 6.2.3, and 6.2.4 provide a list of the prioritized Regional Corridors and Local Focus Areas and a breakdown of each cumulative score by ranking criteria.

Figures 6.2.1 and 6.2.3 illustrate the corridors not only by ranking, but by scores. Figures 6.2.2 and 6.2.4 further show the corridors by a high and low priority ranking level based on the cumulative scores.

Table 6.2.1. Prioritization Criteria & Weights

CATEGORY	CRITERIA	DESCRIPTION	MEASURED BY	REGIONAL SCORE	LOCAL SCORE
Network Connectivity	System-wide Significance	Quantifies the impact of pedestrian and bicycling infrastructure improvements proposed that close gaps and extend existing features	Presence or absence of dedicated pedestrian, bicycling, and public transportation facilities along the corridor.	10	10
Need	Safety	Addresses accident clusters, high volume locations or poor existing conditions and potential safety hazards for those walking and bicycling	Number of pedestrian- and bicycle-involved collisions within an 100' buffer of the corridor (5 yr TIMS); normalized.	5	5
	Active Transportation To Work	Quantifies the number of people who use the bus or trolley to work, a quarter-mile from each corridor; normalized.	Number of people who walk, bike, or ride the public transit to work.	5	5
	Number of Attractors	Number of activity centers/destinations for pedestrian and bicycle access such as retail, schools, parks, and public services.	Total number of attractors within each corridor	5	5
	Population Density	Quantifies the number of people living within a quarter-mile from each corridor.	Number of people living within each identified corridor.	5	5
	Employment Density	Quantifies the number of people working within a quarter-mile from each corridor.	Number of people working within each identified corridor.	5	5
	School Enrollment	Number of students enrolled along corridor represented schools	Total number of students enrolled in gradeschool.	5	5
	Adjacent Schools	Quantifies the number of schools along the corridor	Total number of public schools along the corridor	5	5
Health	Disadvantaged Community	CalEnviroScreen 3.0 to gauge disadvantaged communities; increased weight	Overall CalEnviroScreen 3.0 Percentile Score	5	10
Equity	Median Household Income	Median household income to gauge economic resources available	Median household income by Census Block Group	5	5
	Free & Reduced Lunch	Students currently eligible to receive Free or Reduced Price Meals (FRPM)	Total number of students enrolled in FRPM programs along schools along each corridor	5	5
	Vehicle Ownership	Vehicle ownership within the tracts that the schools along the corridor represent to gauge reliance on active transportation	Number of households with one vehicle or less.	5	5
	Level of Traffic Stress (LTS)	Quantifies the average level of comfort for each proposed corridor; only used in regional corridor prioritization.	Number of households with one vehicle or less.	5	0
Community Support	Community Support	The project has shown diverse (e.g. broad) community support previously or during project.	Presence/Absence	10	10
Economic Efficiency	Resource Synergy	Potential for cost sharing and coordination with other agencies; opportunities to implement pedestrian/bicycling facilities as part of other infrastructure projects would generate efficiencies.	Agency judgment	5	5
	Cost	Total project cost.	Cost for project implementation	10	10
Feasibility	Projects feasibility	The project requires a scalable quantity of feasibility as assessed by engineering judgment (i.e. ROW accessibility, easements, dedications, barriers, etc.)	Engineering judgment of assessed feasibility	5	5
TOTAL SCORE				100	100

Table 6.2.2. Regional Prioritization Scores & Corridor Rankings

Rank	Regional Corridor	Overall Score	Network Connectivity (0 - 10)	Need (0 - 35)	Health (0 - 5)	Equity (0 - 20)	Community Support (0 - 10)	Economic Efficiency (0 - 15)	Feasibility (0 - 5)
1	Twentynine Palms Flood Channel	77.3	9.4	29.8	2.8	15.1	9.0	7.1	4.0
2	State Route 62 (b)	71.9	9.8	29.4	3.9	11.3	9.0	7.6	1.0
3	Alta Loma Drive/Sunny Vista Road	71.0	7.1	25.0	2.3	11.3	10.0	10.4	5.0
4	Onaga Trail	66.5	6.2	22.2	3.2	11.4	10.0	10.5	3.0
5	Yucca Valley Flood Channel	64.4	8.4	22.5	4.4	12.1	7.0	8.1	2.0
6	State Route 62 (d)	62.3	10.0	22.8	3.5	6.9	8.0	8.1	3.0
7	Adobe Road	60.5	8.4	16.7	1.4	8.0	10.0	13.0	3.0
8	Hatch Road/Adobe Road/Baseline Road	56.1	7.4	13.9	2.4	10.8	7.0	10.6	4.0
9	Yucca Trail/Kickapoo Trail/Santa Fe Trail	55.6	7.3	12.7	4.2	10.9	6.0	11.5	3.0
10	Acoma Trail	53.5	6.8	12.4	3.8	8.2	8.0	11.4	3.0
11	Sage Avenue	52.8	6.2	14.7	3.6	8.4	8.0	9.9	2.0
12	Joshua Lane	51.5	6.4	17.6	3.1	4.6	7.0	10.8	2.0
13	Utah Trail	51.3	5.3	7.4	2.7	10.6	9.0	12.2	4.0
14	Palomar Avenue/Avalon Avenue	50.3	5.2	11.3	3.1	7.1	10.0	10.5	3.0
15	Sunnyslope Drive/El Paseo Drive_Encelia Avenue	50.0	6.2	14.6	0.6	9.0	6.0	10.6	3.0
16	Park Boulevard	48.1	5.6	8.5	2.9	4.4	10.0	12.6	4.0
17	Sunnyslope Drive	48.0	6.0	10.8	4.9	7.7	5.0	11.5	2.0
18	Mesquite Springs Road/Larrea Avenue	46.4	6.3	11.1	0.0	9.9	7.0	10.2	2.0
19	Camino Del Cielo Trail	45.6	5.6	5.4	4.5	10.7	5.0	11.5	3.0
20	Yucca Mesa Road/La Contenta Road	44.8	5.2	5.7	2.1	8.9	7.0	12.9	3.0
21	State Route 62 (c)	44.7	6.7	13.5	1.5	5.8	8.0	7.2	2.0
22	Balsa Avenue/Emerson Avenue	44.7	5.1	7.4	2.8	9.9	5.0	12.4	2.0
23	Sunburst Street	44.7	5.5	11.0	0.7	9.8	5.0	10.7	2.0

Figure 6.2.3. Regional Prioritization Scores & Corridor Rankings (continued)

Rank	Regional Corridor	Overall Score	Network Connectivity (0 - 10)	Need (0 - 35)	Health (0 - 5)	Equity (0 - 20)	Community Support (0 - 10)	Economic Efficiency (0 - 15)	Feasibility (0 - 5)
24	Two Mile Road (East)	44.3	5.9	9.0	2.2	9.3	7.0	8.9	2.0
25	San Andreas Road	43.3	5.0	6.2	3.1	9.1	8.0	9.9	2.0
26	Pipes Canyon Road/Pioneertown Road	43.1	6.5	8.5	4.9	11.8	4.0	5.4	2.0
27	Santa Barbara Drive Loop	41.2	5.0	1.9	2.9	8.4	4.0	14.0	5.0
28	Balsa Avenue	40.7	5.5	4.7	3.8	6.3	5.0	12.4	3.0
29	Paxton Road/Barron Drive	39.8	5.5	5.1	4.2	5.6	6.0	11.4	2.0
30	Morongo Area	39.8	0.3	6.6	4.8	10.3	4.0	11.6	2.0
31	Buena Vista Drive	39.5	5.0	3.1	3.3	6.6	6.0	11.5	4.0
32	State Route 62 (a)	39.2	0.5	8.4	4.6	9.2	4.0	9.6	3.0
33	Joshua Drive	38.5	5.1	6.0	3.2	5.8	4.0	12.3	2.0
34	State Route 247	36.3	6.5	10.9	4.3	4.7	5.0	2.0	3.0
35	Canyon Road	35.3	0.5	0.7	3.7	7.4	5.0	14.0	4.0
36	Indian Trail	34.0	5.3	0.9	2.0	6.7	7.0	8.1	4.0
37	Morongo Road	33.1	0.8	5.3	1.0	6.2	5.0	10.8	4.0
38	State Route 62 (e)	32.6	0.0	0.1	5.0	5.0	10.0	9.4	3.0
39	Landers Lane/Avalon Avenue	32.3	0.1	2.4	3.1	7.5	5.0	10.2	4.0
40	Linn Road/Belfield Boulevard	31.0	0.0	0.4	4.3	10.0	4.0	9.3	3.0
41	Amboy Road	30.6	5.6	1.2	4.2	6.5	4.0	6.1	3.0
42	Valle Vista Road/Pinto Mountain Road	30.0	5.2	0.3	4.0	6.7	3.0	7.9	3.0
43	Aberdeen Drive	29.6	0.1	4.6	1.8	7.6	5.0	8.6	2.0
44	Reche Road	28.1	0.2	1.9	3.6	7.1	3.0	8.3	4.0
45	Lear Avenue/Pole Line Road	25.4	0.3	1.2	3.7	6.6	5.0	6.6	2.0
46	Border Avenue	25.2	0.0	0.5	1.5	6.5	5.0	8.7	3.0

Figure 6.2.1. Regional Prioritization Scores Map

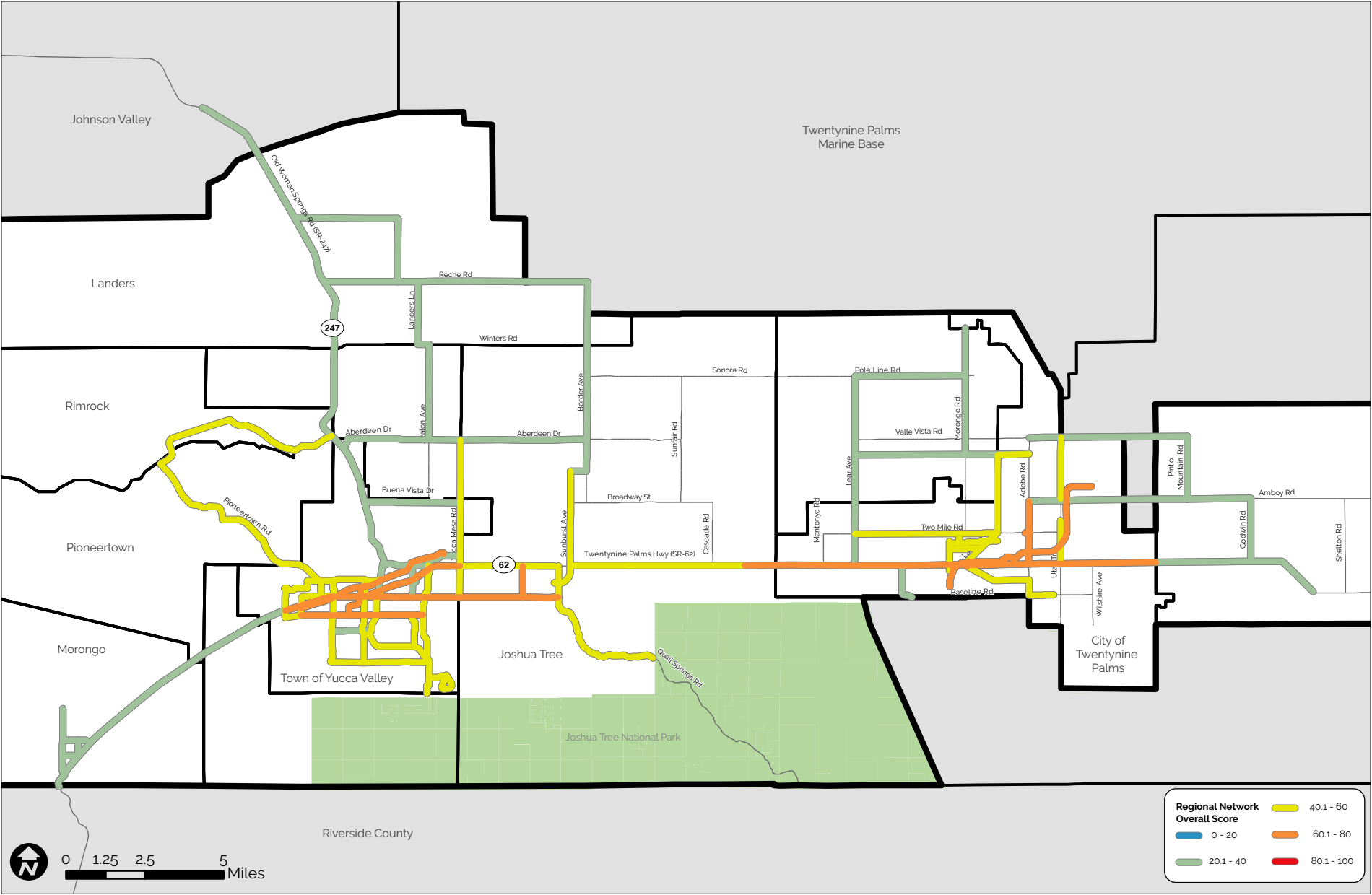


Figure 6.2.2. Regional Corridor Prioritization Rankings Map

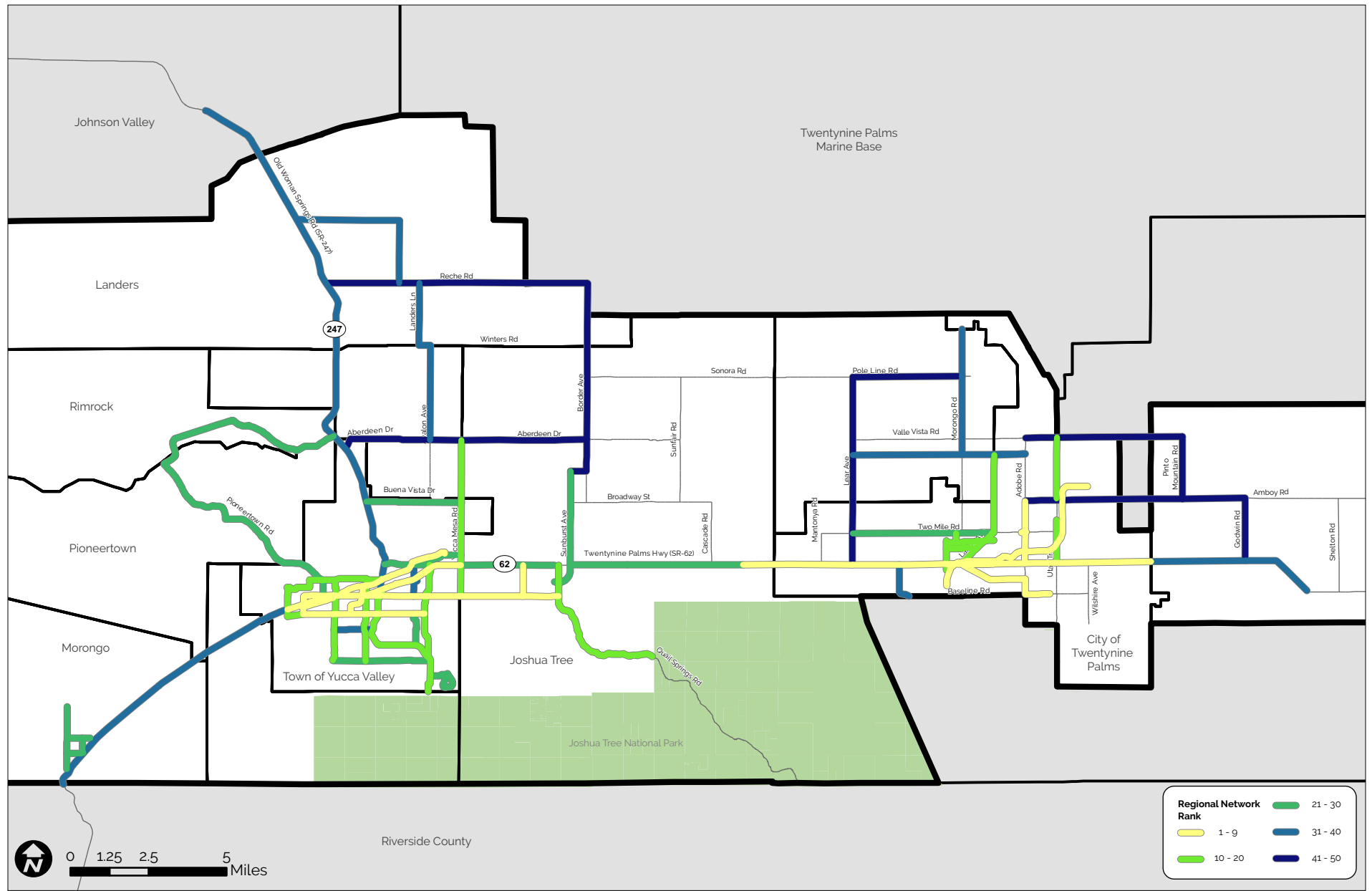


Table 6.2.4. Local Focus Area Prioritization Scores & Rankings

Rank	Focus Area	Overall Score	Network Connectivity (0 - 10)	Need (0 - 35)	Health (0 - 10)	Equity (0 - 15)	Community Support (0 - 10)	Economic Efficiency (0 - 15)	Feasibility (0 - 5)
1	El Paseo Drive & Hillside Avenue	74.3	10.0	28.3	5.5	13.3	8.0	6.2	3.0
2	Adobe Road & State Route 62	65.5	8.3	17.1	6.8	6.4	10.0	11.9	5.0
3	Twentynine Palms Junior High School	61.6	6.7	18.8	4.7	8.8	10.0	8.6	4.0
4	Yucca Valley Town Hall & County Library	58.5	6.9	10.4	8.7	4.2	10.0	13.3	5.0
5	Onaga Trail & Hopi Trail	56.7	6.8	17.4	7.3	7.0	8.0	7.1	3.0
6	Onaga Trail & Sage Avenue	54.5	6.4	13.0	6.7	9.3	8.0	7.1	4.0
7	Palm Avenue & Sunland Drive	53.2	6.7	9.7	9.9	5.7	6.0	10.3	5.0
8	Park Boulevard & State Route 62	47.6	6.3	18.5	1.9	7.0	6.0	5.0	3.0
9	Baseline Road & Utah Trail	47.3	5.6	3.0	9.4	4.0	8.0	12.2	5.0
10	Twentynine Palms High School	46.7	5.8	9.7	2.2	4.0	10.0	10.9	4.0
11	Morongo Valley Elementary School	44.2	0.3	5.1	10.0	4.8	10.0	10.1	4.0
12	Landers Elementary School	43.3	0.0	1.8	8.9	4.6	10.0	13.0	5.0
13	State Route 62 & Avalon Avenue	42.9	5.6	2.5	8.6	3.5	8.0	11.8	3.0
14	Onaga Trail & Balsa Avenue	42.0	5.3	7.3	5.7	4.2	10.0	5.6	4.0
15	La Contenta Middle School & Black Rock High School	42.0	5.3	7.8	5.4	6.6	10.0	4.0	3.0
16	Sullivan Road & El Sol Avenue (Knott's Sky Park)	40.3	1.9	9.1	0.0	4.9	6.0	13.3	5.0
17	Yucca Trail & Airway Avenue	39.2	2.2	7.6	7.1	3.7	6.0	9.6	3.0
18	State Route 62 & Warren Vista Drive	37.6	1.9	7.3	7.5	3.6	6.0	9.3	2.0
19	State Route 62 & Park Avenue	35.7	0.6	3.6	10.0	3.6	4.0	8.9	5.0
20	Friendly Hills Elementary School	34.8	0.0	4.9	3.2	2.8	10.0	10.8	3.0
21	Copper Mountain College	34.3	0.3	0.0	7.5	5.0	4.0	12.5	5.0
22	Yucca Mesa Elementary School	34.1	0.0	2.7	3.9	4.9	6.0	12.6	4.0

Figure 6.2.3. Local Focus Area Prioritization Scores Map

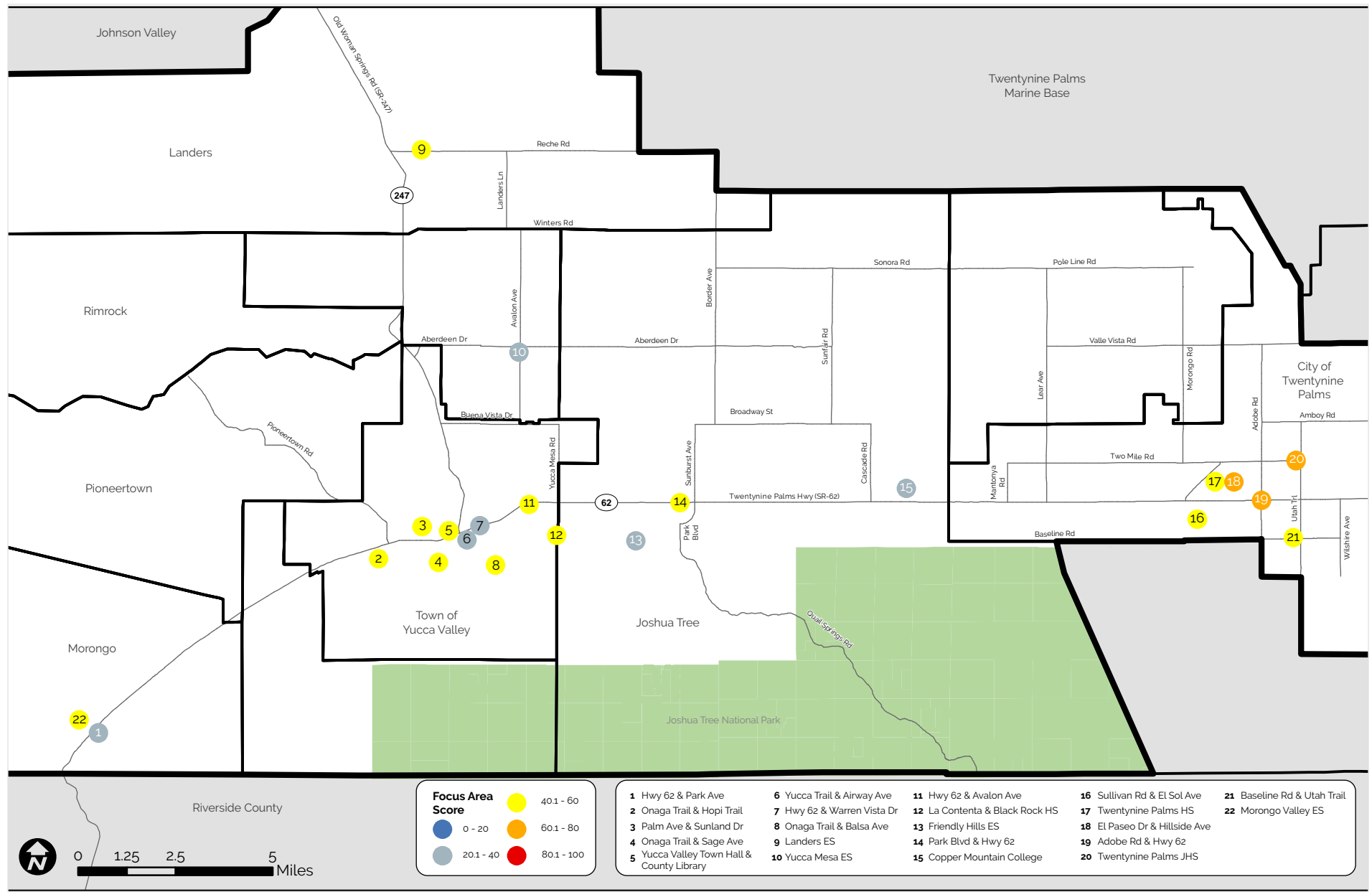
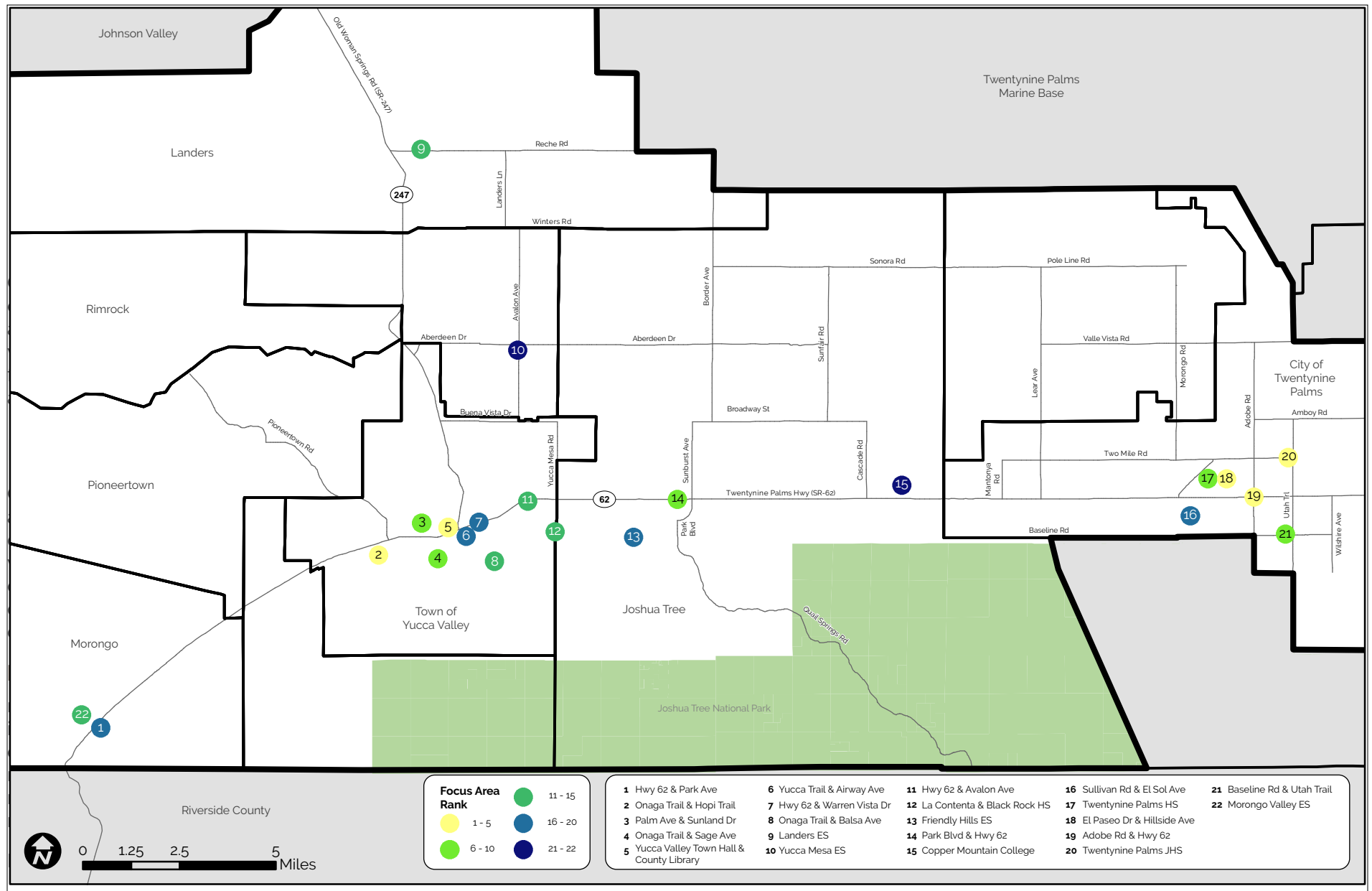


Figure 6.2.4. Local Focus Area Prioritization Rankings Map



6.3. FUNDING OPPORTUNITIES

This section presents potential federal, state, regional, and local funding sources that the County or city can seek for Plan implementation.

The following pages list funding opportunities by source, agency, program name, project eligibility, and provides a brief description for context. The County or cities can consider applying for a variety of funding opportunities to implement both infrastructure and non-infrastructure recommendations.

Based on the project prioritization detailed in the previous section, the County or cities could seek grant funding to design and construct the recommended infrastructure projects using the prioritization rankings as a guide. The County or cities may individually advance the implementation of a project where there is interest, funding is available, or there is incorporation into an existing infrastructure improvement project or feasibility study.

Table 6.3.1. Funding Sources

SOURCE	AGENCY	PROGRAM	ELIGIBILITY	DESCRIPTION
Federal	Federal Highway Administration (FHWA)	Surface Transportation Block Grant Program (STBGP) for Transportation Alternatives (TA)	Infrastructure	<p>Under the Fixing America's Surface Transportation (FAST) Act, the Moving Ahead for Progress in the 21st Century Act (MAP-21) was eliminated and the STBGP replaced the long-standing Surface Transportation Program (STP). STBGP has an apportionment set-aside for Transportation Alternatives (TA), which funds smaller projects such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, historic preservation, and other community improvements.</p> <p>The Act strives to improve mobility on America's highways, create jobs and support economic growth, and promote innovation; it provides \$226.3 billion of federal funding for surface transportation programs for FY 2016 to 2020. Specifically in California, STBGP funds are allocated through the state's Regional Surface Transportation Block Grant Program (RSTP) and the set-aside TA funds are allocated through the Active Transportation Program (ATP).</p>
Federal	Federal Highway Administration (FHWA)	Highway Safety Improvement Program (HSIP)	Infrastructure & Non-Infrastructure	The Highway Safety Improvement Program (HSIP) is a federal-aid program that was created from the FAST Act. The purpose of the program is to reduce fatalities and serious injuries on all public roads. In California, the HSIP funds are managed by the Division of Local Assistance (DLA). The City can apply for HSIP funds toward any public road or publicly owned bicycle or pedestrian pathway or trail in order to improve the safety for its users.
Federal	United States Department of Transportation (USDOT)	Better Utilizing Investments to Leverage Development (BUILD) <i>(formerly TIGER)</i>	Infrastructure	The BUILD grant replaced the Transportation Investment Generating Economic Recovery (TIGER) Grant Program, which was launched in 2009. The Consolidated Appropriations Act of 2018 made available \$1.5 billion for the BUILD Transportation Discretionary grants through September 2020. Eligible recipients include: state, local and tribal governments, including U.S. territories, transit agencies, port authorities, metropolitan planning organizations (MPOs), and other political subdivisions of state or local governments. The grant focuses on projects with significant regional or local impact and requires a 20% local match. While biking and walking projects are eligible, the emphasis is on larger transportation projects.
Federal	Housing and Urban Development (HUD)	Community Development Block Grant (CDBG)	Infrastructure & Non-Infrastructure	CDBG is a flexible program that provides communities with resources to address a wide range of unique community development needs. The federally-funding program is administered by the Department of Housing and Urban Development (HUD). On the local level, these funds are administered by the Riverside County Economic Development Agency (EDA) and can fund a range a projects including neighborhood revitalization, transportation services, public safety programs, flood and drainage facilities, water/sewer improvements, street improvements/sidewalks, etc.
State	California Department of Transportation (CALTRANS)	Community-Based Transportation Planning Grant (CBTP) Program	Non-Infrastructure	The Community-Based Transportation Planning grant program aims to engage the community in transportation and land use projects. Projects support concepts such as livable and sustainable communities with a transportation or mobility focus. They should also promote community identity and quality of life, as well as, provide transportation and land use benefits to communities.

SOURCE	AGENCY	PROGRAM	ELIGIBILITY	DESCRIPTION
State	California Department of Transportation (CALTRANS)	Active Transportation Program (ATP)	Infrastructure & Non-Infrastructure	The Active Transportation Program (ATP) was signed into legislation by Governor Brown in 2013. It consolidated existing federal and state transportation programs such as the Transportation Alternatives Program (TAP), Bicycle Transportation Account (BTA), and Safe Routes to School (SR2S) into a single program. The Road Repair and Accountability Act of 2017 added approximately \$100 million per year in available funds for the ATP. This ATP is supported with funding from the Surface Transportation Block Grant Program (STGB) administered by the FHWA. The program recently completed its fourth funding cycle.
State	California Office of Traffic Safety (OTS)	OTS Grants	Non-Infrastructure	<p>The Office of Traffic Safety Grants seeks to reduce traffic deaths, injuries, and economic losses. The grants have ten areas of concentration; of these, projects identified in this Plan qualify for the following:</p> <ol style="list-style-type: none"> 1. Pedestrian and Bicycle Safety 2. Police Traffic Services 3. Public Relations, Advertising, and Marketing Program 4. Roadway Safety and Traffic Records
State	California Department of Transportation (CALTRANS)	Systemic Safety Analysis Report Program (SSARP)	Non-Infrastructure	The Systemic Safety Analysis Report Program (SSARP) is a state-funded program that was established in 2016. The intent of the program is to help local agencies perform collision analysis, identify safety issues on their street network, and develop a list of countermeasures that can be used to prepare for future applications related to safety improvements. These safety improvements can help reduce collisions where vehicles interact with vulnerable road users (pedestrians, bicyclists, and motorcycles).
State	California Natural Resources Agency	Urban Greening Grant Program	Infrastructure	<p>"The Urban Greening Program receives its funding from revenue generated from the state's Cap and Trade program. The program is administered by the California Natural Resources Agency which has allocated \$80 million to the program. Projects that are qualify for grants from the program are required to show net GHG benefits along with other benefits; additionally, they must include one of three project activities:</p> <ol style="list-style-type: none"> 1. Sequester and store carbon by planting trees 2. Reduce building energy use by strategically planting trees to shade buildings 3. Reduce commute vehicle miles traveled by constructing bicycle paths, bicycle lanes or pedestrian facilities that provide safe routes for travel between residences, workplaces, commercial centers, and schools. "
State	California Department of Transportation (CALTRANS)	Environmental Enhancement and Mitigation (EEM) Program	Infrastructure	The Environmental Enhancement and Mitigation Program seeks to mitigate the environmental effects of transportation facilities. As provided by California Streets and Highways Code Section 164.56, the state legislature can allocate up to \$7 million from the Highway Users Tax Account toward this program. One category for which funding is provided is the acquisition or enhancement of resource lands to mitigate the loss of, or the detriment to, resource lands lying within or near the right of way acquire for transportation improvements, including roadside recreational facilities,

SOURCE	AGENCY	PROGRAM	ELIGIBILITY	DESCRIPTION
State	California Department of Transportation (CALTRANS)	State Highway Operation and Protection Program (SHOPP)	Infrastructure	The State Highway Operation and Protection Program (SHOPP) offers funding for capital improvement projects that relates to the state highway system. Projects focus on reducing collisions, enhancing mobility, restoring damage to roadways, and preserving bridges and roadways. This can include pedestrian and bicycle facility projects.
State	California Department of Transportation (CALTRANS)	Sustainable Communities	Non-Infrastructure	Sustainable Communities grants are intended to encourage local and regional multi-modal transportation and land use planning that furthers the region's Regional Transportation Plan/Sustainable Communities Strategy, where applicable. Successful projects will also contribute to the State's greenhouse gas reduction targets, employ the goals and best practices cited in the 2017 RTP Guidelines, and address the needs of disadvantaged communities. An estimated \$17 million in competitive grants is available for the FY 2019-20 grant cycle. The program requires a 11.47 % local match. Grants are available in amounts ranging from a minimum of \$100,000 (\$50,000 for disadvantaged communities) to a maximum of \$1,000,000 (MPOs may only apply with sub-applicants for the competitive grants).
State	California Department of Transportation (CALTRANS)	Strategic Partnerships	Non-Infrastructure	Strategic Partnerships grants are intended to identify and address statewide, interregional, or regional transportation deficiencies on the State highway system in partnership with Caltrans. Successful Strategic Partnerships will strengthen government-to-governments relationships and result in programmed improvements. A total of \$4.5 million in competitive grants is available for the FY 2019-20 grant cycle. Example project types include corridor studies, and corridor preservation studies, studies that identify interregional, inter-county, and/or statewide mobility and access needs, and projects that evaluate accessibility and connectivity of the multi-modal transportation network.
Regional / Local	Southern California Association of Governments (SCAG)	Sustainable Planning Grant	Non-Infrastructure	<p>The Sustainability Planning Grant Program (formerly known as the Compass Blueprint Grant Program) provides technical support to members in SCAG's jurisdictions. Grants can be used toward planning and policy efforts that allow for the implementation of the regional RTP/SCS. Grants in the program falls into three categories:</p> <ol style="list-style-type: none"> 1. Integrated Land Use – Sustainable Land Use Planning, Transit Oriented Development (TOD) and Land Use & Transportation Integration 2. Active Transportation – Bicycle, Pedestrian and Safe Routes to School Plans 3. Green Region – Natural Resource Plans, Climate Action Plans (CAPs) and Green House Gas (GHG) Reduction programs
Regional / Local	The Community Foundation	[various]	Non-Infrastructure	The Community Foundation strives to improve the quality of life in the San Bernardino, Riverside, and Coachella Valley regions by investing in programs that address community needs. They award grants to 501(c) 3 nonprofit organizations and provides student scholarships. Program areas include: educational scholarships, health and human services, civic and environmental benefit, arts and culture, and children and families.

PUBLIC ART-RELATED FUNDING SOURCES & PARTNERS

Opportunities to include creative placemaking in projects should be explored within typical infrastructure and non-infrastructure active transportation funding when possible. However, outside grant funding is also recommended as a resource for public art-related projects.

Public Arts Local Partners & Stakeholders

The following stakeholders can help broaden the potential funding sources for the project and should be consulted as the implementation of the plan progresses. Conversations exploring how Plan goals may align with their stated missions and public service objectives can prove to be beneficial both mutually and for the community.

- **Mojave Desert Land Trust (MDLT)** - Their mission of conservation, land acquisition, sustainability, protection of natural habitat and guidelines for artists working in the desert environment makes them an excellent partner for project designers to be proactive in developing infrastructure that is sensitive to the desert terrain.
- **Joshua Tree National Park** has supported arts programming through partnerships with associated organizations: the *Joshua Tree National Park Association* helps produce an annual Arts Festival; the *Desert Institute* is a part of the Association and offers various educational and art-related public programs in the park for a fee; *The Joshua Tree National Park Council for the Arts* organizes an annual Juried Show and Art Expo; and a grant-funded

initiative, the *Joshua Tree Art Innovation Laboratory (JT Lab)* that has allowed the Park to explore ways the creative community can support the park service's mission of preservation and engagement and help solve problems using more creative approaches. The Park also has a long-standing Artist-In-Residence program that is currently being restructured, and a weekly volunteer program program, Artists' Tea, which convenes local artists to strengthen community. All of these organizations could help to circulate information, connecting artists with RFQs and RFPs while serving their respective missions.

- **Joshua Tree Living Arts (JTLA)** - JTLA is a non-profit organization dedicated to strengthening the community through the arts by providing resources and programs that create an economically-viable, sustainable, vibrant, and interconnected living arts community for all generations. They were selected by a group of local arts leaders to guide the implementation of the recently developed Morongo Basin Strategic Plan for Culture and Arts. JTLA is working in partnership with other local arts organizations, government agencies, and businesses to achieve the plan's established goals. The agency could act as a liaison to education focused projects including aspects of "Safe Routes to School," and painted crosswalks to improve visibility.
- **Copper Mountain Community College (CMCC)** CMCC's mission is to provide educational opportunities for diverse desert communities and beyond through a comprehensive curriculum and support services that demonstrate a passion for the success of every individual student. In addition to their vibrant studio arts program, they also promote the study of desert living including desert ecosystems, desert cultures, and sustainable desert practices. These complementary foci and their comprehensive reach in the Morongo Basin make them suited to spearhead efforts in creating student-led projects including bus shelters, shade structures,

and other temporary activation projects within the transportation corridor.

- **City of Twentynine Palms Public Arts Advisory Committee (PAAC)** - PAAC members oversee the Art in Public Places program, supports Youth and the Arts projects in the community, and sponsors Art in Public Places exhibitions at the City's Twentynine Palms Visitor Center & Art Gallery and Chamber of Commerce. Their vision of creating and promoting the economic and social wellbeing of its residents is guided by principles of sustainability and adaptability, and embraces the development of a strong and diversified local economy with a focus on arts and cultural tourism. They are a resource for helping to leverage matching funds through other civic transportation and healthy community grant opportunities.
- **San Bernardino County** - County resources should be identified as part of the economic sustainability of the arts community and integrated with county funded initiatives like, health, transportation, education, sustainability and tourism. These areas all relate back to goals of this Plan.
- **San Bernardino County Transportation Authority (SBCTA)** - SBCTA, which allocates and programs State and Federal funds for regional transportation projects throughout the County, will also be a crucial partner in providing funding for the integration of arts-inclusive active transportation projects.

Specific Grant Funding Sources

The Project Team has identified grants on the following page that may also be considered to secure funding for public art opportunities associated with education, community engagement and infrastructure for the project.

Table 6.3.2. Funding Sources for Public Art-Related Elements

SOURCE	ORG	PROGRAM	ELIGIBILITY	DESCRIPTION
National	National Endowment for the Arts	OUR TOWN: Place-based Projects	Infrastructure	Our Town is the National Endowment for the Arts' creative placemaking grants program. Through project-based funding, we support projects that integrate arts, culture, and design activities into efforts that strengthen communities by advancing local economic, physical, and/or social outcomes. Successful Our Town projects ultimately lay the groundwork for systemic changes that sustain the integration of arts, culture, and design into strategies for strengthening communities. These projects require a partnership between a local government entity and nonprofit organization, one of which must be a cultural organization; and should engage in partnership with other sectors (such as agriculture and food, economic development, education and youth, environment and energy, health, housing, public safety, transportation, and workforce development). The Public Space design category encourages projects related to public infrastructure or spaces where people congregate (parks, plazas, and artist-produced elements of streetscapes.)
National	National Endowment for the Arts	Art Works	Non-Infrastructure	Art Works is the National Endowment for the Arts' principal grants program. Through project-based funding, Art Works supports public engagement with, and access to, various forms of excellent art across the nation, the creation of art that meets the highest standards of excellence, learning in the arts at all stages of life, and the integration of the arts into the fabric of community life. Projects may be large or small, existing or new, and may take place in any part of the nation's 50 states, the District of Columbia, and U.S. territories. Grants generally will range from \$10,000 to \$100,000. No grants will be made below \$10,000. Grants of \$100,000 or more will be made only in rare instances, and only for projects that Art Works determines demonstrates exceptional national or regional significance and impact. In the past few years, well over half of the agency's grants have been for amounts less than \$25,000.
State	California Arts Council	Creative California Communities	Infrastructure & Non-infrastructure	The Creative California Communities (CCC) program supports collaborative projects that harness arts and culture as a creative placemaking strategy. Projects should benefit residents and visitors in California's communities by leveraging the assets of the creative sector (artists, cultural organizations and arts-related businesses) to address community needs or priorities. Proposed projects must be designed and developed in partnership between the applicant organization and at least one partnering organization and should include California artists and their work as central to project design and implementation. The purpose is to revitalize neighborhoods or communities using arts as the central project activity and artists as key participants in that effort. Develops innovative arts or culturally related approaches to cultural economic development tailored to the specific communities or circumstances.

SOURCE	ORG	PROGRAM	ELIGIBILITY	DESCRIPTION
State	California Arts Council	Artists in Communities	Infrastructure & Non-Infrastructure	Artists in Communities (AC, formerly Artists Activating Communities) supports sustained artistic residencies in community settings, demonstrating that artists are integral to healthy communities and that the arts are a societal cornerstone that brings people together, builds community, and fosters social progress. AC centralizes artists and their artistic processes as vehicles for community vitality. AC Projects are artist-driven and engage community members as active participants. The application for this program must be submitted by an organization, but project must be developed in partnership with one or more California-based artists, and the artists' work must be the focus of the project. An applicant must be one of the following: a California-based nonprofit arts organization, unit of government, OR a social service/community nonprofit organization. Organizations such as libraries, housing agencies, senior centers, cultural centers, or hospitals may be eligible to apply. Use of fiscal sponsors is allowed in this program.
State	National Endowment for the Arts	Challenge America	Non-Infrastructure	The Challenge America category offers support primarily to small and mid-sized organizations for projects that extend the reach of the arts to underserved populations -- those whose opportunities to experience the arts are limited by geography, ethnicity, economics, or disability. These grants are for a fixed amount of \$10,000 and require a minimum of 100% match.
Federal	Economic Development Administration	Public Works and Economic Development Act of 1965 (PWEDA)	Non-Infrastructure	<p>The Economic Development Administration (EDA) was established and currently operates under the Public Works and Economic Development Act of 1965 (PWEDA). It aims to promote competitiveness and growth in rural and urban distressed communities by providing assistance for job creation, collaboration, and innovation. While it supports a range of activities, most of its funding is devoted to infrastructure development, job training, and support for new and struggling industries.</p> <p>PWEDA grants can potentially be used for a range of arts-related activities:</p> <ul style="list-style-type: none"> Building arts-related infrastructure Public art projects Incorporating the arts into transportation and public housing projects Supporting cultural heritage sites Designing a regional creative economy plan Developing partnerships between nonprofit and for-profit arts communities

For additional funding sources that can be explored, refer to the **Morongo Basin Strategic Plan for Culture and the Arts (MBSPCA)'s 'Potential Funding Sources' research summary.*

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6.4. PROJECT PHASING

Project phasing gives guidance about the amount of time and effort it takes to implement the projects recommended as part of this plan. It also helps municipalities plan for projects that can be implemented in the near future versus the projects which will not be foreseeable until several years from now. The categories below group projects by corridor for both pedestrians and bicyclists, designed to distinguish project phasing that is chronologically scalable and fiscally conscious.



SHORT-TERM (0-3 YEARS)

Short-term projects are those with a high "readiness" factor, meaning the proposed projects can be quickly implemented. Both pedestrian corridor projects and bicycle corridor projects within the Morongo Basin that are phased as "short-term" present opportunities for more rapid implementation and require less intensive engineering, design, construction costs/resources, and funding.

ADA curb ramps, high visibility crosswalks, pavement markings, signage, RRFB's

Class II bike lane striping (where roadway width permits and does not require re-striping), Class II and Class III roadway signage, and pavement markings (i.e. sharrows)

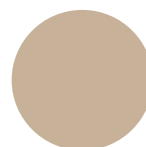


MID-TERM (3-7 YEARS)

Projects included in the mid-term phasing are chronologically scaled beyond the short-term projects due to their complexity and cost. The amount of expenditures associated with mid-term projects is higher than short-term projects due to more intensive engineering, design, construction costs, and funding necessary to be implemented.

Sidewalk (with curb and gutter), curb extensions / bulbouts

Class II bike lane striping and restriping (where removal of parking and shoulder pavement additions can be made)



LONG-TERM (7-10 YEARS)

These projects can be considered as forecasted projects and require added resources prior to implementation. These projects require more attention in the engineering and design phases or include features with high unit costs.

Traffic signals, roundabouts and any project that requires re-wiring

Class I bike path (installation and associated features), Class II bike lane (installation that involves more attention to re-striping, and roadway width alterations)



6.5. PERFORMANCE MEASURES

Performance measures are specific variables that evaluate the effectiveness of active transportation planning and implementation with quantitative data. Performance measures provide several benefits to agencies that use them. They show the value of projects to community stakeholders, inform smart budgeting decisions, and demonstrate to grant administrators the importance of and need for project funding.

The following performance measures are recommended to help ensure the success of the goals and objectives laid out at the beginning of this Plan. A suggested performance measure is provided for each of the listed objectives, including the data source required to track and assess this metric.

Table 6.5.1. Performance Measures

GOAL	OBJECTIVE	PERFORMANCE MEASURE	DATA SOURCE
Improve Safety	Develop efficient procedures for maintaining pedestrian and bicycle facilities	Mileage of bike lanes implemented through paving/routine maintenance projects	City/Town/County Inventory
	Reduce bicyclist and pedestrian fatalities and injuries resulting from collisions	Number of bicycle/pedestrian fatalities and serious injuries over 5 years	SWITRS/TIMS
Support Healthy Options	Encourage classes and events at schools and community centers to teach residents safe and healthy biking and walking habits (Countywide Vision)	Number of staff or teachers trained in walking and bicycling issues, number of trainings per year	City/Town/County Inventory
	Invest in active transportation facilities that will provide opportunities for exercise and recreation	Obesity rates, physical activity rates	CalEnviroScreen / Healthy Places Index
Connect People and Places	Invest in active transportation infrastructure that links population centers to regional trails, parks, schools, and transit stations	Number of attractors within a half-mile of a bikeway facility or regional corridor	Morongo Basin Active Transportation Plan
	Support public art-related projects, open streets events, and programming that encourage walking and biking within the Morongo Basin community	Number of public art-related projects, open streets events, and active transportation programs per year	City/Town/County Inventory
Enhance the Local Environment	Reduce vehicle emissions and pollution by increasing the number of walking and biking trips	Criteria Pollutant emissions	CalEnviroScreen
	Maintain and enhance the local trail network	Miles of Class I bike routes installed / maintained	City/Town/County Inventory
Promote a Vibrant Economy	Improve accessibility to jobs by walking and biking	Increase work mode share of bicycle/pedestrian trips	American Community Survey
	Invest in active transportation facilities that will attract new businesses, promote tourism, and bring economic growth to the region	Number of jobs added to the economy as a result of improved transportation conditions	REMI model via SCAG

6.6. IMPLEMENTATION & NEXT STEPS

The Morongo Basin Active Transportation Plan includes projects and programs that will help to make the region safer, more active, more vibrant, and more connected. The Town of Yucca Valley, City of Twentynine Palms, and County of San Bernardino are responsible for leading the implementation of this Plan, coordinating as necessary to ensure the regional and local benefits of proposed infrastructure and non-infrastructure recommendations. The County and local agencies should also consider opportunities to integrate public art and creative placemaking strategies to support walking and biking infrastructure and programs. Collaboration between community groups, stakeholders, local institutions, and other organizations is also key for project implementation.

Chapter 6 has provided several strategies that these agencies can use to pursue the recommendations listed in Chapters 5 and detailed in Appendices A and B. The project prioritization provided in section 6.2 should be used as guidance

for the projects and opportunities likely to produce the most public benefits. Higher prioritized projects may be more likely to have success with grant funding as they are likely to demonstrate a high project need. Project phasing in section 6.4 helps agencies identify the projects that are likely to see implementation sooner than others once pursued. This allows the Plan to be flexible enough to accommodate each agency's preference for improvements that are quickly visible versus longer-term projects that could produce long-lasting benefits. The funding tables in section 6.3 assists in identifying opportunities would fund each chosen segment and project. Together, these elements can help cities plan for a future that best meets their needs and resources.

This Plan is intended to be dynamic over time. Performance measures in section 6.5 can be used to gauge the effectiveness of investments, demonstrate the impacts of projects funded, and change priorities as

necessary. The performance measures will also help translate how the concrete projects and programs pursued fit into the broader goals established at the outset. This gives residents and stakeholders the ability to holistically evaluate the strategies pursued by each agency.

New pedestrian and bicycle facilities can be exciting projects for the Morongo Basin area. However, incorporated cities and the County should consider on-going maintenance needs for both new and existing facilities. This Plan recommends that bicycle and pedestrian facilities continue to be maintained as part of the Town of Yucca Valley, City of Twentynine Palms, and the County's regular roadway and public right-of-way maintenance programs. As new facilities are implemented, maintenance spending shall also be reevaluated for the potential need of an increased budget.

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