

FINAL

FEBRUARY 2018



*Riverside County Regional Park
and Open-Space District*

COMPREHENSIVE TRAILS PLAN - APPENDICES



Appendix A: Intercept Survey

December 15, 2016



Riverside County
Regional Park and Open-Space District

SUMMARY: LOCATION COUNTS AND INTERCEPT SURVEY

Submitted by:


THE POWER OF INSIGHT



Appendix A: Introduction

The following appendix describes the process and results of the trail location counts and intercept surveys. These counts and surveys were conducted at specific locations, selected in collaboration with the Riverside County Comprehensive Trails Master Plan Technical Advisory Committee. The locations, listed in Table 1 and illustrated in Figure 1, were chosen to emphasize the project's goals of creating trails that are usable by a variety of users and those having a high level of connectivity to major destinations. Accordingly, these counts were not conducted within regional parks, on backcountry trails, or areas non-adjacent to urban centers.

Trail User Types and Survey Results

While the outcomes of these surveys indicate a nearly even split of exclusively pedestrians and bicyclists on the observed trails,, the results do not indicate the full spectrum of trail users throughout Riverside County. Equestrian users represent a significant trail user group within the county. Due to the types of trails selected for the surveys, areas with high concentrations of equestrians were not represented in the intercept and count survey processes. Trail planning efforts throughout Riverside County must account for the full spectrum of trail user types, including equestrians.

SUMMARY Location Counts and Intercept Survey

Comprehensive Trails Plan

Riverside County Regional Park & Open Space District Trail Use Survey

November 30, 2016 | CS Agreement 160063

OVERVIEW

Location counts and intercept surveys were conducted at nine pre-selected sites throughout Riverside County, between November 2nd and November 19th. Data were collected on weekday morning and evening peak-periods during daylight hours, as well as in selected off-peak periods. Data collection and counts also were conducted on Saturdays at selected Riverside and Coachella Valley locations. The end of daylight savings on November 6th shortened some morning and evening peak data collection periods.

Prior to conducting the counts and intercepts, all locations were visited to plan logistics for the data collection phase. A pre-test for the intercept survey and count methodology were conducted to verify that all data collection instruments were capturing data accurately.

Table 1: Count and Intercept Dates by Location shows details regarding data collection.

Table 1: Count and Intercept Dates by Location

Location	Weekday	Weekend (Saturday)
Beaumont	11/11/2016	
Butterfield Stage	11/10/2016	
La Quinta	11/18/2016	11/19/2016
Murrieta Trail	11/9/2016 ; 11/10/2016	
Santa Gertrudis Trail	11/9/2016	
Palm Springs	11/17/2016 ; 11/18/2016	11/19/2016
SART - Anza Narrows	11/2/16	11/5/2016
SART - Bark Park	11/4/2016	11/5/2016
SART - Jurupa	11/3/2016	

Intercept Surveys

All intercept surveys were collected using tablets at the count locations and in areas adjacent to the count locations. (Table 1: Count and Intercept Dates by Location). A total of 366 complete surveys were collected and overall results can be considered accurate at +/- 5.1% at a 95 percent confidence level. Table 2: Survey Status Summary shows the outcome of all approaches to potential respondents. Surveys were not completed with people who were not using the trails or had already completed the survey.

Prior to data collection a survey instrument was developed jointly by Redhill Group, Cambridge Systematics and Alta (see: Appendix B: Survey Instrument.) The survey instrument was programmed and tested by Redhill Group prior to data collection and determined to be capturing the required data. Pretest data is included in the final data set. The trail direction that the respondent was traveling was based on the direction of the entire trail length as opposed to the segment surveyed. Distance traveled was self-reported by the respondents and represents the respondents' estimation of their one way trip on the trail. Demographic questions (gender, ethnicity and age) were observed or estimated by the interviewer.

Following data collection, all data was reviewed for completeness and accuracy. If a respondent did not answer all the questions, the survey was marked as incomplete and removed from the final data set.

A tally of surveys by location is shown in Table 4: Intercept Survey Results Summary.

Table 2: Survey Status Summary

Survey Status	Totals	Percentages
All Approaches	623	
Trail Users	583	93%
Refusals	205	35%
Agreed to Participate	378	64%
Incomplete Surveys	12	3%
Total Completed Surveys	366	



Table 3: Count Results Summary

Count Location	Day/Date	6:00 am* - 8:59 AM	9:00 am - 2:59 pm	3 pm - 5:59 pm**	Total	*=Sunrise	**=Sunset
Beaumont	<i>Location Totals:</i>	18	84	14	116		
Weekday	11/11/2016	18	84	14	116	6:19 AM	4:48 PM
Butterfield Stage	<i>Location Totals:</i>	16	19	11	46		
Weekday	11/10/2016	16	19	11	46	6:18 AM	4:49 PM
La Quinta	<i>Location Totals:</i>	65	266	17	348		
Weekday	11/18/2016	65	122	17	204	6:25 AM	4:44 PM
Weekend	11/19/2016		144		144	6:26 AM	4:44 PM
Murrietta	<i>Location Totals:</i>	15	16	11	42		
Weekday	11/9/2016		7	11	18	6:17 AM	4:50 PM
Weekday	11/10/2016	15	9		24	6:18 AM	4:49 PM
Palm Springs	<i>Location Totals:</i>	86	117	33	236		
Weekday	11/17/2016	39	47	33	119	6:24 AM	4:45 PM
Weekday	11/18/2016	47			47	6:25 AM	4:44 PM
Weekend	11/19/2016		70		70	6:26 AM	4:44 PM
Santa Gertrudis	<i>Location Totals:</i>	13	24	2	39		
Weekday	11/9/2016	13	24	2	39	6:17 AM	4:50 PM
SART - Anza Park	<i>Location Totals:</i>	34	204	24	262		
Weekday	11/2/2016		20	24	44	7:10 AM	5:55 PM
Weekend	11/5/2016	34	184		218	7:13 AM	5:53 PM
SART - Bark Park	<i>Location Totals:</i>	138	592	50	780		
Weekday	11/4/2016	56	170	50	276	7:12 AM	5:54 PM
Weekend	11/5/2016	82	422		504	7:13 AM	5:53 PM
SART - Jurupa	<i>Location Totals:</i>	10	43	29	82		
Weekday	11/3/2016	10	43	29	82	7:11 AM	5:54 PM
Grand Total***		395	1365	191	1951		
***Bicyclists and Pedestrians combined							

Table 4: Intercept Survey Results Summary

Intercept Location	Day/Date	6:00 am* - 8:59 AM	9:00 am - 2:59 pm	3 pm - 5:59 pm**	Total	*=Sunrise	**=Sunset
Beaumont	<i>Location Totals:</i>	1	11	2	14		
Weekday	11/11/2016	1	11	2	14	6:19 AM	4:48 PM
Butterfield Stage	<i>Location Totals:</i>	7	5	4	16		
Weekday	11/10/2016	7	5	4	16	6:18 AM	4:49 PM
La Quinta	<i>Location Totals:</i>	19	48	5	72		
Weekday	11/18/2016	19	28	5	52	6:25 AM	4:44 PM
Weekend	11/19/2016		20		20	6:26 AM	4:44 PM
Murrietta	<i>Location Totals:</i>	2	6	3	11		
Weekday	11/9/2016		3	3	6	6:17 AM	4:50 PM
Weekday	11/10/2016	2	3		5	6:18 AM	4:49 PM
Palm Springs	<i>Location Totals:</i>	22	22	7	51		
Weekday	11/17/2016	9	13	7	29	6:24 AM	4:45 PM
Weekday	11/18/2016	12			12	6:25 AM	4:44 PM
Weekend	11/19/2016	1	9		10	6:26 AM	4:44 PM
Santa Gertrudis	<i>Location Totals:</i>	1	12		13		
Weekday	11/9/2016	1	12		13	6:17 AM	4:50 PM
SART - Anza Park	<i>Location Totals:</i>	7	35	8	50		
Weekday	10/31/2016***		3		3	7:09 AM	5:57 PM
Weekday	11/2/2016		3	7	10	7:10 AM	5:55 PM
Weekend	11/5/2016	7	29	1	37	7:13 AM	5:53 PM
SART - Bark Park	<i>Location Totals:</i>	26	76	24	126		
Weekday	10/31/2016***			4	4	7:09 AM	5:57 PM
Weekday	11/4/2016	14	41	20	75	7:12 AM	5:54 PM
Weekend	11/5/2016	12	35		47	7:13 AM	5:53 PM
SART - Jurupa	<i>Location Totals:</i>	2	9	2	13		
Weekday	11/3/2016	2	9	2	13	7:11 AM	5:54 PM
Grand Total		87	224	55	366		
***pretest date							

Appendix A: Count Sheet

Bicycle/Pedestrian Data Collection - Screenline Count Form Name: _____

<p>Date _____ 20__</p> <p>Location _____</p>	<p>This Page _____</p> <p>Count Period _____</p>	<p>Pages _____ of _____</p> <p>Rain <input type="checkbox"/> YES <input type="checkbox"/> NO</p>
--	--	--

<p>Bicyclists Circle One: N / S / E / W</p>	<p>Circle One: N / S / E / W</p>	<p>Notes:</p>
--	----------------------------------	----------------------

Count bicyclists when they cross this imaginary line →

Bikes - Right to Left

→

Bikes - Left to Right

▼ Make additional marks to count other characteristics

Female _____

Sidewalk Riding _____

Wrong Way Riding _____

Other: _____

Other: _____

Count pedestrians when they cross this imaginary line →

Pedestrians - Right to Left

→

Pedestrians - Left to Right

▼ Make additional marks to count other characteristics

Wheelchair/Special Needs _____

Skateboard/Scooter/Skates _____

Child _____

Other: _____

Other: _____

Appendix B: Survey Instrument

QUESTIONNAIRE WITH LOGIC & SKIP PATTERNS

{09:53:13 8 DEC 2016}

QUESTIONNAIRE = RVTABS
VERSION : 0

```
*****
*          CODE BOX :          *
*          *                   *
* LT = LESS THAN      { < } *
* GT = GREATER THAN   { > } *
* EQ = EQUALS         { = } *
* NE = NOT EQUAL TO   { # } *
*****
```

```
*****
1. ARE YOU USING THE TRAIL TODAY ?
```

1. YES
2. NO

```
*****
2. MODE OF RESPONDENT
```

1. BIKE
2. WALK/JOG
3. HORSEBACK
4. SKATEBOARD
5. SCOOTER
6. SKATES
7. OTHER (OTHER LINE = 100)

```
*****
3. WHAT KIND OF BIKE ?
```

1. STANDARD/SINGLE
2. TANDEM
3. BIKE WITH BABY IN SEAT
4. BIKE WITH CART (NO PASSENGER)

```
*****
4. COMPANIONS ?
```

1. TRAVELING ALONE
2. 1 TO 2 PEOPLE
3. 3 OR MORE PEOPLE
4. ORGANIZED GROUP (OTHER LINE = 101)

```
*****
5. DO YOU HAVE A FEW MINUTES TO COMPLETE A SURVEY TO HELP
IMPROVE RIVERSIDE COUNTY TRAILS AND PATHS ?
```

1. YES
 2. NO
- ```

```

6. MAY WE CONTACT YOU AT A LATER TIME TO COMPLETE THE SURVEY ?

- 1. YES
- 2. NO

\*\*\*\*\*

7. WHAT IS YOUR NAME ?

\*\*\*\*\*

8. WHAT IS THE BEST PHONE NUMBER TO REACH YOU AT ?

\*\*\*\*\*

9. HOW DID YOU GET TO THIS PATH ?

- 1. CAR/TRUCK/VAN
- 2. BIKING
- 3. WALKING/JOGGING
- 4. PUBLIC TRANSPORTATION
- 5. EQUESTRIAN
- 6. OTHER (OTHER LINE = 102)

\*\*\*\*\*

10. WHAT IS THE PRIMARY PURPOSE OF YOUR TRIP TODAY ?

- 1. WORK
- 2. SCHOOL
- 3. SHOPPING
- 4. VISITING FRIENDS/FAMILY
- 5. EXERCISE/REC
- 6. OTHER (OTHER LINE = 103)

(Multiple Response)

\*\*\*\*\*

11. WILL YOU BE STOPPING ANYWHERE ELSE ON YOUR TRIP TODAY ?

- 1. NO
- 2. WORK
- 3. SCHOOL
- 4. SHOPPING
- 5. VISITING FRIENDS/FAMILY
- 6. EXERCISE/REC
- 7. OTHER (OTHER LINE = 104)

(Multiple Response)

\*\*\*\*\*

12. HOW OFTEN DO YOU NORMALLY USE THE PATHS ?

- 1. 3+ DAYS/WK
- 2. 1-2 DAYS/WK
- 3. ONCE/MONTH
- 4. SEVERAL TIMES/YEAR
- 5. LESS THAN ONCE/YEAR
- 6. FIRST TIME

\*\*\*\*\*

13. WHAT ARE ALL THE REASONS YOU USE THE PATHS ?

- 1. EXERCISE
- 2. ENJOYMENT
- 3. TRAVELING TO WORK
- 4. TRAVELING TO SCHOOL
- 5. TRAVELING TO SHOP
- 6. VISITING FRIENDS/FAMILY
- 7. TRAVELING TO RUN ERRANDS
- 8. OTHER (OTHER LINE = 105)

(Multiple Response)

\*\*\*\*\*

14. HOW OFTEN DO YOU USE PATHS TO TRAVEL TO WORK ?

- 1. ONCE/WEEK
- 2. 2-3 TIMES/MNTH
- 3. ONCE/MNTH
- 4. SEVERAL TIMES/YEAR
- 5. LESS THAN ONCE/YEAR
- 6. FIRST TIME

\*\*\*\*\*

15. HOW OFTEN DO YOU USE PATHS FOR SHOPPING/ERRANDS, VISITING FRIENDS/FAMILY, OR TO GET TO SCHOOL ?

- 1. ONCE/WEEK
- 2. 2-3 TIMES/MNTH
- 3. ONCE/MNTH
- 4. SEVERAL TIMES/YEAR
- 5. LESS THAN ONCE/YEAR
- 6. FIRST TIME

\*\*\*\*\*

16. WHAT IS YOUR HOME ZIP CODE ?

\*\*\*\*\*

17. WHAT CITY ARE YOU GOING TO ?

- |                       |                              |
|-----------------------|------------------------------|
| 1. BANNING            | 17. MENIFEE                  |
| 2. BEAUMONT           | 18. MORENO VALLEY            |
| 3. BLYTHE             | 19. MURRIETA                 |
| 4. CALIMESA           | 20. NORCO                    |
| 5. CANYON LAKE        | 21. PALM DESERT              |
| 6. CATHEDRAL CITY     | 22. PALM SPRINGS             |
| 7. COACHELLA          | 23. PERRIS                   |
| 8. CORONA             | 24. RANCHO MIRAGE            |
| 9. DESERT HOT SPRINGS | 25. RIVERSIDE                |
| 10. EAST VALE         | 26. SAN JACINTO              |
| 11. HEMET             | 27. TEMECULA                 |
| 12. INDIAN WELLS      | 28. WILDOMAR                 |
| 13. INDIO             | 29. DON'T KNOW               |
| 14. JURUPA VALLEY     | 30. REFUSED                  |
| 15. LAKE ELSINORE     | 31. NO PARTICULAR DEST.      |
| 16. LA QUINTA         | 32. OTHER (OTHER LINE = 108) |

\*\*\*\*\*

18. HOW MANY MILES ON THE TRAIL ARE YOU TRAVELING, OR DID YOU TRAVEL, TO GET TO WHERE YOU'RE GOING ? (ONE-WAY TRIP)

- 1. LESS THAN 1 MILE
- 2. 1 MILE
- 3. 2 MILES
- 4. 3 MILES
- 5. 4 MILES
- 6. 5 MILES
- 7. 6 MILES OR MORE, HOW MANY ? (OTHER LINE = 106)

\*\*\*\*\*

19. WOULD YOU BE WILLING TO SUPPORT AN INITIATIVE TO FUND TRAIL DEVELOPMENT AND MAINTENANCE ?

- 1. YES
- 2. NO
- 3. NOT SURE

\*\*\*\*\*

20. THOSE ARE ALL THE QUESTIONS WE HAVE. THANK YOU FOR HELPING TO IMPROVE THE RIVERSIDE TRAILS!  
RESPONDENT'S COMMENTS:

\*\*\*\*\*

21. ESTIMATED AGE.

- 1. 19 OR YOUNGER
- 2. 20-29
- 3. 30-39
- 4. 40-49
- 5. 50-59
- 6. 60 OR OLDER

\*\*\*\*\*

22. OBSERVED GENDER

- 1. MALE
- 2. FEMALE

\*\*\*\*\*

23. OBSERVED ETHNICITY

- 1. AFRICAN AMERICAN
- 2. ASIAN OR PACIFIC ISLANDER
- 3. HISPANIC/LATINO
- 4. NATIVE AMERICAN/ALASKA NATIVE
- 5. WHITE, NON-HISPANIC/LATINO
- 6. MULTIRACIAL
- 7. OTHER (OTHER LINE = 107)

\*\*\*\*\*

24. LOCATION OF DATA COLLECTION/SURVEY.

- 1. RIVERSIDE: ANZA NARROWS
- 2. RIVERSIDE: BARK PARK
- 3. RIVERSIDE: JURUPA/VAN BUREN
- 4. TEMECULA: MURRIETA TRAIL
- 5. TEMECULA: SANTA GERTRUDIS
- 6. LA QUINTA
- 7. PALM SPRINGS



8. TEMECULA: BUTTERFIELD STAGE  
9. BEAUMONT

\*\*\*\*\*

25. DIRECTION OF TRAVEL.

- 1. NORTH
- 2. SOUTH
- 3. EAST
- 4. WEST

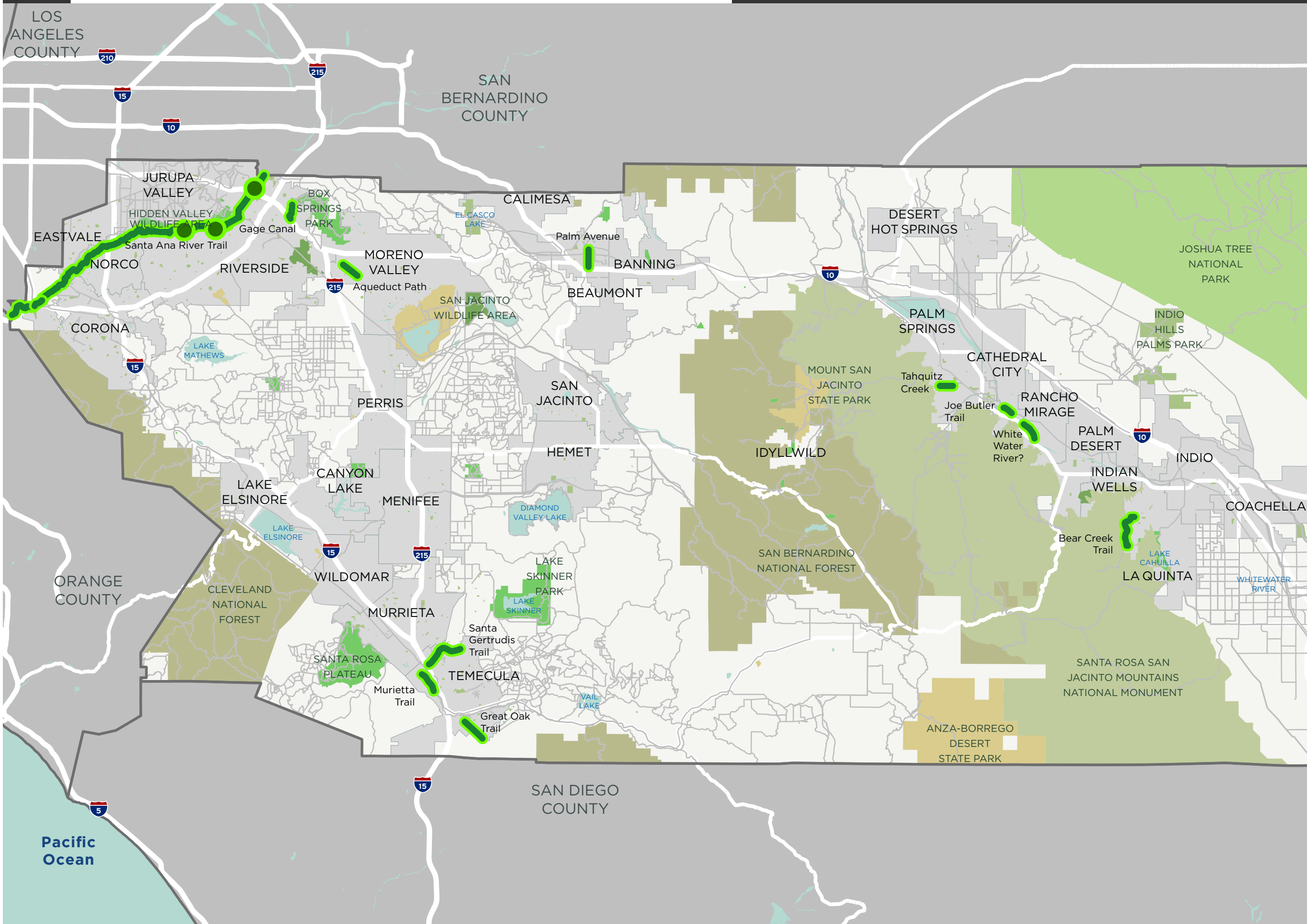
\*\*\*\*\*

26. SURVEYOR LAST NAME

- 1. DIALOGU
- 2. DYER
- 3. GILL
- 4. NORY MCCUTCHEN
- 5. MANOA
- 6. NELSON
- 7. SLOCOVICH

\*\*\*\*\*

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**SURVEY LOCATIONS**

- Survey Trail
- Intercept Survey Points

**PARKS/OPEN SPACE**

- Local
- County
- National Forest
- National Monument
- National Park
- State
- Wilderness

**JURISDICTION**

- Cities
- Riverside County
- Other Counties

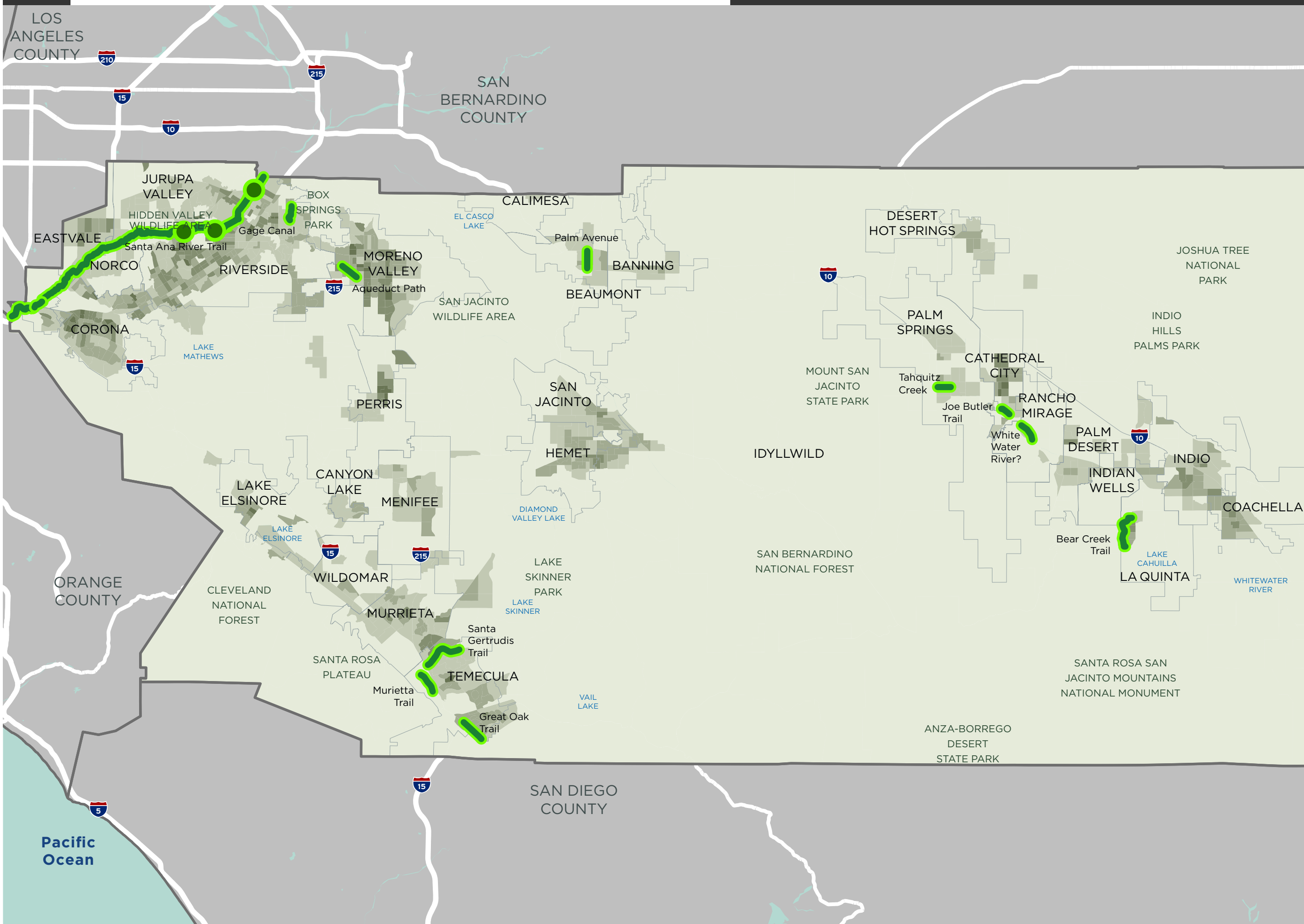
**NORTH**

0 2.5 5 7.5 MILES



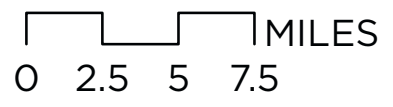
# POTENTIAL TRAIL SURVEY LOCATIONS

# RIVERSIDE COUNTY TRAILS MASTER PLAN



**SURVEY LOCATIONS**  
Survey Trail  
Intercept Survey Points

**POPULATION DENSITY**  
Lowest  
Highest





# Memorandum

TO: Greg Maher, Alta Planning and Design

FROM: Cambridge Systematics and Redhill Group

DATE: January 6<sup>th</sup>, 2017

This memorandum provides a brief overview of findings from the trail intercept surveys implemented by Redhill Group. The full dataset, frequency of response summary, and crosstab documents are provided separately.

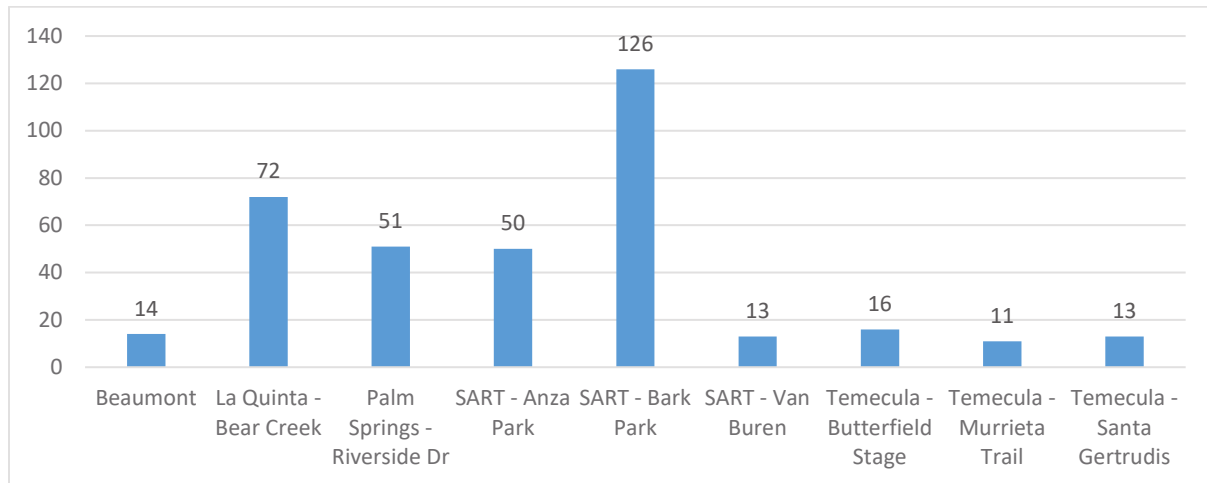
## Summary of Survey Respondents

There were a total of 366 completed intercept surveys collected at 9 different locations. The surveys were collected over 10 days in November, 2016, on Wednesdays, Thursdays, Fridays, and Saturdays. Surveys were collected in the morning, mid-day, afternoon periods.

**Figure 1: Trail Count Locations**

| Location Name                | Facility Type       | Location Description                                                     |
|------------------------------|---------------------|--------------------------------------------------------------------------|
| Beaumont – Oak Valley        | On-Street Bike Lane | Oak Valley Pkwy E of Palm Ct                                             |
| La Quinta – Bear Creek       | Off-street Path     | Bear Creek Trail E of Eisenhower Dr                                      |
| Palm Springs – Riverside Dr  | Off-street Path     | Riverside Drive Path E of Sunrise Wy                                     |
| SART – Anza Park             | Off-street Path     | Santa Ana River Trail just W of Martha Mclean-Anza Narrows/Riverbed Park |
| SART – Bark Park             | Off-street Path     | Santa Ana River Trail just W of Bark Park                                |
| SART – Van Buren             | Off-street Path     | Santa Ana River Trail E of Van Buren Bl off Jurupa Ave                   |
| Temecula - Butterfield Stage | On-Street Bike Lane | Butterfield Stage Rd N of Wolf Store Rd                                  |
| Temecula - Murrieta Creek    | Off-street Path     | Murrieta Trail N of Rancho California Rd                                 |
| Temecula - Santa Gertrudis   | Off-street Path     | Santa Gertrudis Creek Trail N of Ynez Rd                                 |

The majority of the surveys were collected on the Santa Ana River Trail (52% of total between the three locations). However, there were over 50 surveys completed on both the Bear Creek Trail in La Quinta and Riverside Drive Path in Palm Springs.

**Figure 2: Survey Responses by Location**

Half of the respondents were on bicycles and almost half were walking, with a couple skaters and skateboarders. Over 70% traveled alone and an additional 23% traveled with one other person. Surveyors were asked to estimate demographic characteristics of the survey respondents. Of the respondents, almost 75% of those surveyed were male and the majority appeared to be over 40 years old. Roughly 70% were non-Hispanic white and about 20% were Hispanic/Latino.

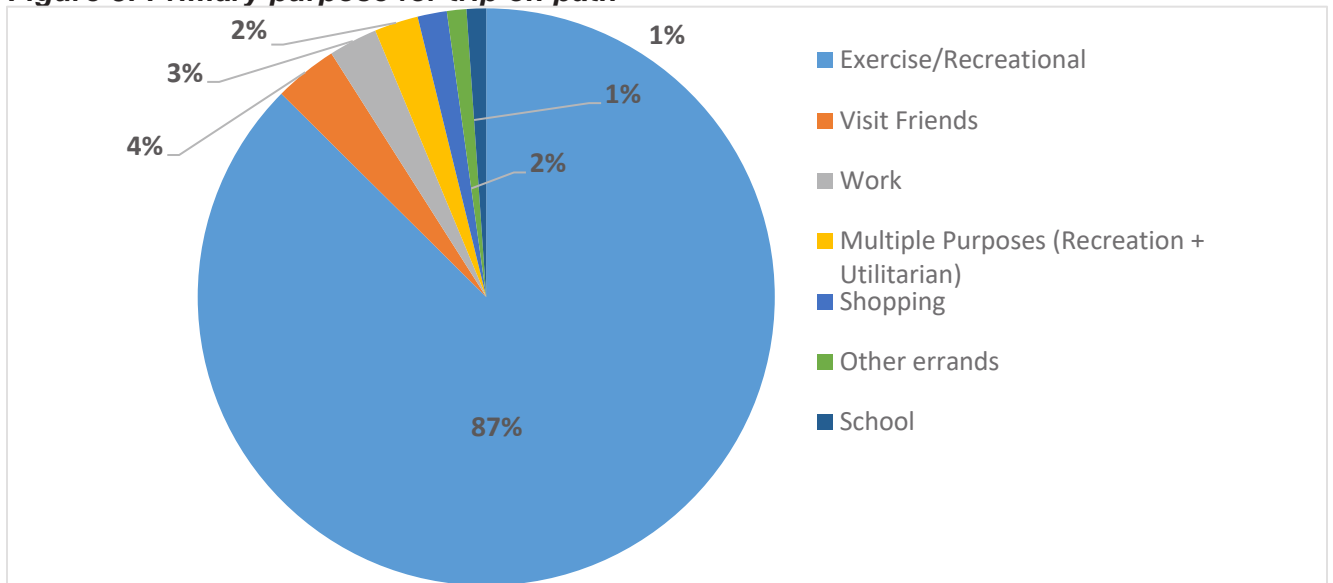
## Trail Usage and Trip Purpose

The trail users who responded to the survey represented common travelers on the paths. Almost 60% of respondents use the paths three or more times a week; 82% of respondents used the paths at least once per week. Survey respondents were asked about the primary purpose of their current trip as well as if they intended to make any additional stops. On the date of survey, the most common use for the paths was for recreation, however, a large percentage of respondents use the paths for utilitarian purposes. For example, 13% of the respondents indicated that their primary purpose of the trip was something other than recreational (See Figure 3 - shopping, work, school, visiting friends, and errands) and 12% of those using the paths for exercise made non-recreational stops. In total, on the date of the survey, 23 percent of all respondents used the paths for a non-recreational trip purpose. There was a slight but not significant difference in trip purpose by mode; close to 13% of bicyclists and 12% of pedestrians indicated a non-recreational primary trip purpose. It should be noted that utilitarian trips were more common on bike lanes and adjacent sidewalks; 26% of those surveyed had a primary purpose that was non-recreational. Excluding bike lanes, the percent of trips with recreation as the primary trip purpose increases from 87% to 89%.

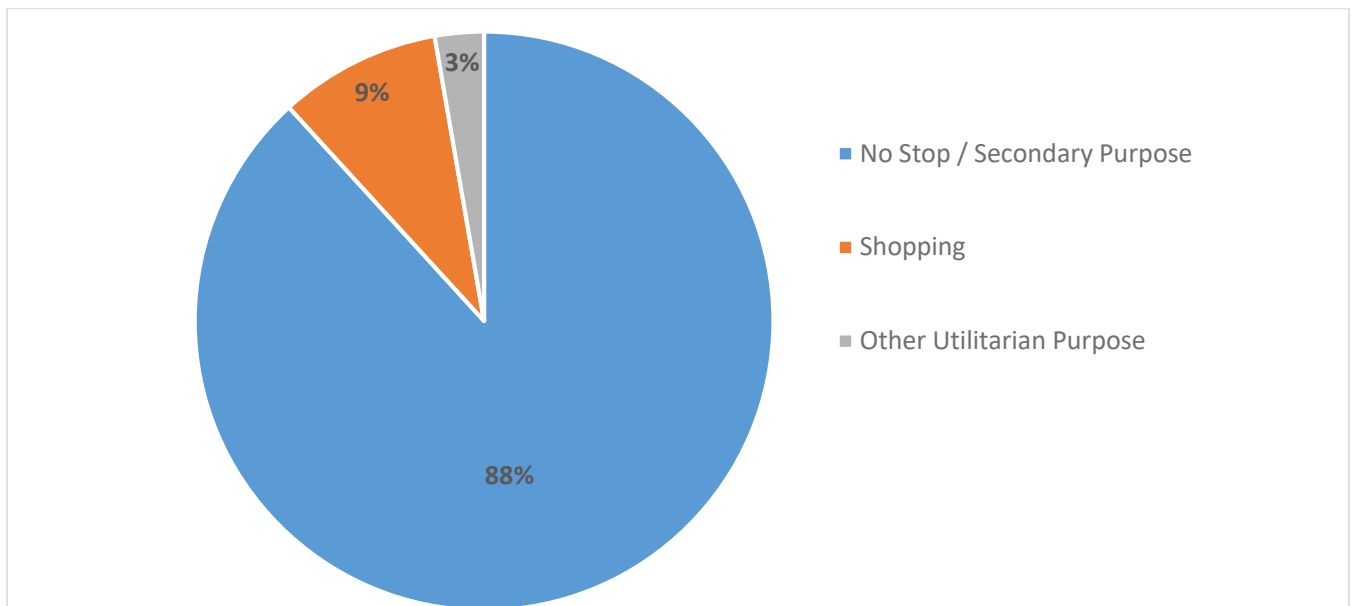
Participants were then asked about all the reasons for using trails. Almost all respondents had used the paths for exercise in the past; however, 16% had also used them for shopping, 12% for visiting friends/families, 8% for other errands, and 6% for work (See Figure 5). In total, of all the respondents, 33% had used paths at some point for a non-

recreational purpose. Of the respondents who used paths to travel to work (6.3% of total), 78% use paths for commuting at least once per week. Additionally, of the respondents who use paths for errands, visiting friends, or to get to school (28% of total), 52% use paths for those purposes at least once per week.

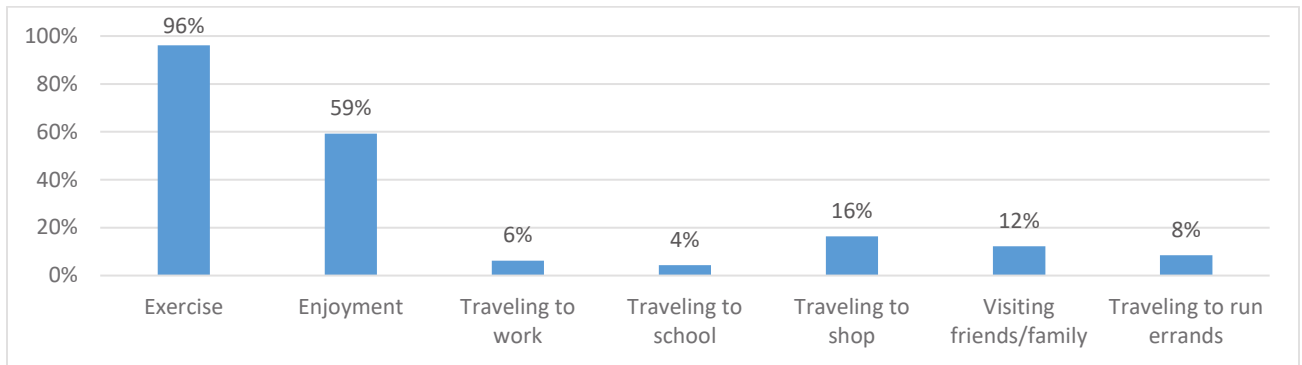
**Figure 3: Primary purpose for trip on path**



**Figure 4: Secondary purpose for trip on path**



**Figure 5: All reasons for respondents' utilization of paths**







## Appendix B: Best Practices Survey



# Memorandum

TO: Greg Maher, Alta Planning and Design  
FROM: Jon Overman, Cambridge Systematics  
DATE: October 12, 2016  
RE: Agency Best Practices - Initial Findings

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## Peer Agency Best Practices Survey – Initial Findings

The Riverside Park and Open Space District Peer Agency Survey gathered information from agencies in the Western United States regarding their management of paths and trails. This memo provides a high-level overview of the initial findings from the survey; the full list of results and findings will be provided separately.

Agencies were asked to provide information responses related to their trail management practices, including their funding sources, maintenance practices, and usage of their facilities. As of this writing, the following ten agencies participated in the survey:

- El Dorado County, California
- Jefferson County Open Space, Colorado
- Lane County Parks, Oregon
- Los Alamos County Parks Recreation and Open Space, New Mexico
- Los Angeles County Department of Public Works, California
- Maricopa County Parks and Recreation, Arizona
- Metro Parks and Nature Department, Oregon
- Missoula County Parks, Trails & Open Lands, Montana
- Tualatin Hills Park & Recreation District, Oregon
- Washoe County Regional Parks & Open Space, Nevada

The survey was conducted in August and September 2016. The survey, consisting of 24 multiple choice and short answer questions, was administered by Cambridge Systematics using an online survey tool. Participants filled out the survey on their own. Follow up interviews may be conducted.

## Trail Planning Documents

All agencies surveyed have at least one trail planning document. Nine out of ten agencies indicated they had a Park Master Plan, six indicated they had a Regional Park/Open Space District Master Plan, and five agencies indicated they had a Trail Master Plan. Below are the different types of trails planning documents agencies indicated they have produced:

- Bicycle Master Plan
- Bicycle Master Plan as part of Mobility Element of County General Plan
- Park Master Plan
- Regional Park/Open Space District Master Plan
- Trail Maintenance Plan
- Trail Master Plan
- Trail Operations Study
- Trail Use Survey Report
- Trail Wayfinding Sign Plan
- Trails Development Handbook

## Trail Ownership and Maintenance

Four agencies noted that they maintain trails on land not owned by the agency. Three of the agencies maintain trails on Federal lands and one maintains trails on State land.

All but one of the ten agencies responded that at least one regional or inter-county trail intersects the agency jurisdiction. Depending on the agency, there are different inter-agency agreements for trail management:

- The Los Angeles County Department of Public Works and the Tualatin Hills Park & Recreation District indicated they are solely responsible for maintaining regional trails.
- Most agencies noted that maintenance responsibility varies by jurisdiction, and Missoula County Parks Trails & Open Lands wrote that “each trail may have a unique set of circumstances for maintenance.”
- Missoula County Parks Trails & Open Lands also noted that for trails or paths on State land, the County has a memorandum of understanding outlining maintenance responsibility. The county's responsibility includes snow sweeping, snow plowing and weed control, and the state is responsible for pavement management and maintenance.
- Jefferson County Open Space noted that the City and County of Denver owns some land in Jefferson County; Jefferson County builds and maintains the trails on this land.

- Some agencies mentioned that they share regional trail maintenance responsibilities with the US Forest Service or local home owner's associations.

Trail maintenance by facility type varies between agencies. For instance, one agency answered that all trails are maintained by the agency's staff and volunteers. Other agencies answered that the trail type is not a factor, jurisdictional boundaries determine the trail management responsibilities. Moreover, other agencies answered that maintenance responsibility does vary by trail type:

- The Los Angeles County Department of Public Works noted that they maintain paved paths, while unpaved paths are maintained by the Department of Parks and Recreation.
- The Tualatin Hills Park & Recreation District specified that soft surface trails are maintained by natural area staff, while the maintenance for hard surface trails is split between park maintenance and trail maintenance staff.
- El Dorado county noted that Class II and III bike lanes are maintained by their Transportation Division, while Class I trails are maintained by their Facilities Division and volunteers.
- Jefferson County Open Space shared that the County has a transportation and engineering division charged with maintaining commuter trails. Some of regional trails are constructed using County funds, however, ongoing maintenance is the responsibility of local jurisdictions.

Agencies with limited resources available, such as Lane County Parks, have no specific funding for trail maintenance in their budget, and therefore rely heavily on the efforts of active volunteer groups to maintain trails. Seven of the ten agencies rely on volunteers or non-profit organizations for some of the trail maintenance, however, many agencies contract with private firms or have paid staff that performs maintenance duties.

## Funding Sources

There are various federal, state, and local funding sources that agencies rely on for funding capital projects and on-going maintenance. The survey respondents cited the following sources:

### *Federal Funding Sources:*

- Active Transportation Program (ATP)
- Safe Routes to Schools
- Congestion Mitigation and Air Quality Improvement (CMAQ) Program
- Surface Transportation Program (STP)
- Regional Surface Transportation Program (RSTP)
- Metropolitan Transportation Improvement Plan Funds
- Public Lands Highway Discretionary (PLHD)
- Transportation Investment Generating Economic Recovery (TIGER) Grants
- Other Federal grants
- Bonds
- County Capital Improvement Program Funds
- Dedicated sales tax
- Donations
- General Fund Tax
- Parks & Trails Bond Program Funds
- Parks Funds
- Parks System Development Charge Capital Improvement Program
- Road Discretionary Fund
- Regional Parks and Open Space District Funds
- User fees
- Regional Call for Projects

### *State Funding Sources:*

- Active Transportation Program (ATP)
- Bicycle Transportation Act (BTA)
- State Departments of Transportation
- Mobile Source Air Pollution Reduction Review Committee (MSRC)
- Oregon Lottery
- Oregon Recreational Trail Grant
- **Recreational Trails**
- State grants
- State Parks Recreational Trail Program
- Transportation Development Act (TDA)

### *Local Funding Sources:*

- Bond measure
- Community Service Districts (CSD)
- Developer Impact Fees
- Partnerships with local jurisdictions
- Property Taxes
- System Development & Change
- Tax increment financing

### *In-kind Donations/Volunteering:*

- Donations/Donations by private firms
- Friend Groups
- Various local non-profit organizations
- Volunteer labor and resources
- Impact Fee Programs

### *County Funding Sources:*

Six agencies responded that they have a developer impact fee program, or similar. Three of those six agencies indicated their developer fee funds could be used for trail construction, but no agency specified that they could use the developer impact fee funds for maintenance.

Jefferson County Open Space clarified that in order to use the developer fee funds for trail construction, the trail would need to be identified as a transportation improvement (eg. a sidewalk along a major roadway). Lane County Parks noted that Community Service Districts “can only be used for projects that increase capacity or planning, not for maintenance.”

## Trail Usage

Half of the agencies noted that their trails are open from dawn until dusk, including one agency that opens their trails an hour before dawn, and closes an hour after dusk. The other half of the agencies responded that their trails are usually open twenty-four hours a day, seven days a week.

Agencies were also asked if and how they track their annual trail users. Most agencies did not answer this question. One agency responded that they estimate their annual users. Two agencies noted that they use automated counters, and one agency noted the use of manual counts. However, trail usage data was limited and therefore will not provide comparisons for Riverside County.

# Riverside County Comprehensive Trails Plan

## Trail Agency Management Practices *Peer Agency Survey Results – Draft 1*

*prepared for*

**Alta Planning & Design**

*prepared by*

**Cambridge Systematics, Inc.**



## 1.0 Introduction

Trail management practices vary considerably depending on the structure of the agency, regional characteristics, and types of trails that are maintained. This report summarizes the key findings from a survey conducted to support the Riverside Park and Open-Space District's development of a Comprehensive Trails Plan. The purpose of this document is to summarize the trail maintenance, funding, and usage patterns for trail agencies in the Western United States. Findings from the surveys are presented here, and where necessary, data from external best practices surveys was used to fill in the gaps.

This summary of findings is organized by the following sections:

- » Survey Respondents
- » Trail Usage
- » Trail Management
- » Trail Funding

## 2.0 Survey Respondents

The Riverside Park and Open-Space District Peer Agency Survey gathered information from county agencies in the Western United States regarding their management of paths and trails. Ten county agencies participated in the survey, representing a mix of rural, suburban, and urban counties (see Table 2.1). Agencies were asked to provide information related to their trail management practices, including their funding sources, maintenance practices, and usage of their facilities.

**Table 2.1 Participating Agencies**

| <b>Agency Name</b>                                | <b>State</b> |
|---------------------------------------------------|--------------|
| Maricopa County Parks and Recreation              | Arizona      |
| El Dorado County                                  | California   |
| Los Angeles County Department of Public Works     | California   |
| Jefferson County Open Space                       | Colorado     |
| Missoula County Parks, Trails & Open Lands        | Montana      |
| Washoe County Regional Parks & Open Space         | Nevada       |
| Los Alamos County Parks Recreation and Open Space | New Mexico   |
| Lane County Parks                                 | Oregon       |
| Metro Parks and Nature Department                 | Oregon       |
| Tualatin Hills Park & Recreation District         | Oregon       |

The survey was conducted in August and September 2016. The survey, consisting of 24 multiple choice and short answer questions, was administered by Cambridge Systematics using an online survey tool. Participants filled out the survey on their own.

## 3.0 Trail Usage

Survey respondents were asked if and how they monitor trail users. Most agencies declined to answer this question, likely signifying the lack of available data. Two agencies noted that they use automated counters, and one agency noted the use of manual counts. One agency responded that they estimate their annual users. Of those who responded, most agencies suspected that greater than 70% of the usage was recreational. Weekday and weekend usage was common for most agencies, and while there was some seasonal variation, most agencies see fairly consistent usage throughout the year.

However, quantifiable trail usage data was limited and therefore does not allow for useful comparisons to Riverside County. The limited data on trail usage is a challenge for many agencies nationwide. A 2014 study conducted by the Rails-to-Trails Conservancy (RTC) found that over half of management agencies did not track users, and roughly a quarter simply estimate or guess their trail usage.<sup>1</sup>

## 4.0 Trail Management

### 4.1 Trail Planning Documents

All agencies surveyed have completed at least one trail planning document. Nine out of ten agencies indicated they had a Park Master Plan, six indicated they had a Regional Park/Open Space District Master Plan, and five agencies indicated they had a Trail Master Plan. A full list of planning documents is found in Table 4.1.

**Table 4.1 Trail Agency Planning Documents**

| Document Type                                   | % of Respondents |
|-------------------------------------------------|------------------|
| » Park Master Plan                              | 90%              |
| » Regional Park/Open Space District Master Plan | 60%              |
| » Trail Master Plan                             | 50%              |
| » Trail Maintenance Plan                        | 30%              |
| » Trail Use Survey Report                       | 30%              |
| » Bicycle Master Plan                           | 20%              |
| » Trail Operations Study                        | 10%              |
| » Trail Wayfinding Sign Plan                    | 10%              |
| » Trails Development Handbook                   | 10%              |

<sup>1</sup> 2014. Maintenance Practices and Costs of Rail –Trails. Rails-to-Trails Conservancy. <http://www.railstotrails.org/resourcehandler.ashx?id=6336>

## 4.2 Trail Ownership and Management Responsibilities

Most of the responding agencies are responsible for maintaining between 35 and 80 miles of trails, though some maintain as little as 10 and as many as 600 trail miles. Most agencies manage trails in a variety of land uses, with the exception of 100% rural (Lane County and El Dorado County) or 100% suburban (Tualatin Hills). Under normal circumstances, the trails are open seven days a week. Half of the agencies noted that their trails are open from dawn until dusk, including one agency that opens their trails an hour before dawn, and closes an hour after dusk. The other half of the agencies responded that their trails are open twenty-four hours per day.

The responsibility for maintaining a trail depends on the location, the owner of the right of way, and the type of trail. Four agencies noted that they maintain trails on land not owned by the agency. Three of those agencies maintain trails on Federal lands and one maintains trails on State land. Ninety percent of the agencies have at least one regional or inter-county trail which intersects the agency's jurisdiction. Depending on the parties involved, there are different inter-agency agreements for trail management:

- The Los Angeles County Department of Public Works and the Tualatin Hills Park & Recreation District indicated they are solely responsible for maintaining regional trails in their jurisdiction.
- Missoula County Parks Trails & Open Lands noted that for trails or paths on State land, the County has a memorandum of understanding outlining maintenance responsibility. The county's responsibility includes snow sweeping, snow plowing and weed control, and the state is responsible for pavement management and maintenance. However, they noted that each trail may have a unique set of circumstances.
- The Metro Parks and Nature Department does not maintain any trails on land owned by other agencies, but other agencies maintain trails on their land.
- Jefferson County Open Space noted that the City and County of Denver owns some land in Jefferson County; Jefferson County builds and maintains the trails on this land. Furthermore, some of regional trails are constructed using County funds, however, ongoing maintenance is the responsibility of local jurisdictions.
- Some agencies mentioned that they share regional trail maintenance responsibilities with the US Forest Service or local home owner's associations.
- Within the Los Alamos County Parks, Recreation, and Open Space Division, the Parks division manages paved trails and the Open Space division manages the unpaved trails.

In some cases, trail management responsibilities vary by trail:

- The Los Angeles County Department of Public Works noted that they maintain paved paths, while unpaved paths are maintained by the Department of Parks and Recreation.
- The Tualatin Hills Park & Recreation District specified that soft surface trails are maintained by natural area staff, while the maintenance for hard surface trails is split between park maintenance and trail maintenance staff.
- The Metro Parks and Nature Department noted that on-street facilities are managed by the Transportation division, while off-street paths and trails are under the Parks department purview.
- El Dorado county noted that Class II and III bike lanes are maintained by their Transportation Division, while Class I trails are maintained by their Facilities Division and volunteers.
- Jefferson County Open Space shared that the County has a transportation and engineering division charged with maintaining commuter trails.

Trail usage is considered a hazardous sport in only two of the responding counties, and four agencies have liability insurance for trail usage. Metro Parks in Oregon noted they are protected by a recreational immunity clause in their Public Use of Lands Act.

### 4.3 Trail Maintenance Practices

Trail agency maintenance needs depend on the surrounding land uses, regional climate, and permitted uses. Trail maintenance practices range from physical repair or resurfacing of the trail surface, to surface clearing and vegetation control, to maintenance of parking facilities, restrooms, and other amenities. While resurfacing and repairs are time consuming and costly processes, they represent a small amount of what agencies normally spend on trail maintenance. Given the widely different sizes of the surveyed agencies, there was a significant range in the maintenance budgets; annual maintenance budgets ranged from \$2,000 to \$5,000,000. Agencies with limited resources available, such as Washoe County Parks, have no specific funding for trail maintenance in their budget, and therefore rely heavily on the efforts of active volunteer groups to maintain trails. Seven of the ten agencies rely on volunteers or non-profit organizations for some of the trail maintenance, however, many agencies contract with private firms or have paid staff that performs maintenance duties. The importance of volunteers for trail maintenance responsibilities is consistent with national trends; the 2014 RTC study found that 58% of trails benefited from volunteer groups performing maintenance tasks, up from 46% in their 2005 study, and 43% of agencies utilize paid municipal staff.<sup>2</sup>

Of the responding agencies, vegetation maintenance and surface clearing were the most costly maintenance tasks. This is also consistent with the RTC study, which found that vegetation maintenance, including mowing, makes up about 30% of average maintenance budgets, while litter clean up and clearing the trail and surrounding land clear of debris and trash is close to 20%.<sup>3</sup>

The 2014 RTC survey found that the average annual maintenance costs for paved asphalt trails were \$1,971 per mile and \$1,006 for crushed stone trail, excluding major repairs.<sup>4</sup>

**Table 4.2 Percent of Maintenance Budget by task: Rails-to-Trails Conservancy Survey**

| Maintenance Task                                                                        | Percent of Budget |
|-----------------------------------------------------------------------------------------|-------------------|
| Vegetation management (leaf clearing, pruning, tree removal, application of herbicides) | 18.9%             |
| Maintenance of toilets                                                                  | 14.2%             |
| Mowing                                                                                  | 12.0%             |
| Keep trail-side land clear of trash and debris                                          | 11.5%             |
| Other trail maintenance activities                                                      | 9.1%              |
| Litter clean up, recovery from illegal acts of vandalism/dumping                        | 8.0%              |
| Repair/maintenance of signs                                                             | 6.3%              |
| Clearing of drainage channels and culverts                                              | 5.4%              |
| Surface maintenance of parking areas                                                    | 2.7%              |

Source: Rails-to-Trails Conservancy. Maintenance and Cost of Trails. 2014

<sup>2</sup> 2014. Maintenance Practices and Costs of Rail –Trails. Rails-to-Trails Conservancy. <http://www.railstotrails.org/resourcehandler.ashx?id=6336>

<sup>3</sup> Ibid

<sup>4</sup> Ibid

## 5.0 Funding Sources

Funding for trail construction and maintenance comes from a variety of federal, state, and local sources. The survey respondents noted the following funding sources for capital projects and ongoing maintenance.

**Table 5.1 Capital and Maintenance Funding Sources**

| <b>Funding Class</b> | <b>Capital Funding Sources</b>                                                                               | <b>Maintenance Funding Sources</b>                |
|----------------------|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| Federal Funding      | Safe Routes to Schools                                                                                       | Youth Conservation Corp                           |
|                      | Congestion Mitigation and Air Quality Improvement (CMAQ) Program                                             | Unspecified grants                                |
|                      | Surface Transportation Program (STP)                                                                         |                                                   |
|                      | Regional Surface Transportation Program (RSTP)                                                               |                                                   |
|                      | Recreational Trails Program                                                                                  |                                                   |
|                      | Public Lands Highway Discretionary (PLHD)                                                                    |                                                   |
|                      | Transportation Investment Generating Economic Recovery (TIGER) Grants<br>Other Federal grants (unspecified)  |                                                   |
| State Funding        | Active Transportation Program (ATP)                                                                          | Transportation Development Act (TDA)              |
|                      | Bicycle Transportation Account (BTA)                                                                         | Unspecified grants                                |
|                      | State Departments of Transportation                                                                          |                                                   |
|                      | Mobile Source Air Pollution Reduction Review Committee (MSRC)                                                |                                                   |
|                      | Oregon Lottery                                                                                               |                                                   |
|                      | Oregon Recreational Trail Grant                                                                              |                                                   |
|                      | Metropolitan Transportation Improvement Plan Funds<br>State grants<br>State Parks Recreational Trail Program |                                                   |
| County Funding       | Bonds                                                                                                        | Dedicated sales tax                               |
|                      | County Capital Improvement Program Funds                                                                     | General Fund Tax                                  |
|                      | Dedicated sales tax                                                                                          | Donations                                         |
|                      | Donations                                                                                                    | Parks Department Operating and Maintenance Budget |
|                      | General Fund Tax                                                                                             | County General Fund                               |
|                      | Parks & Trails Bond Program Funds                                                                            | User fees                                         |
|                      | Parks Funds                                                                                                  |                                                   |
|                      | Parks System Development Charge Capital Improvement Program                                                  |                                                   |
|                      | Road Discretionary Fund                                                                                      |                                                   |
|                      | Regional Parks and Open Space District Funds                                                                 |                                                   |
| User fees            |                                                                                                              |                                                   |

|                     |                                       |                               |
|---------------------|---------------------------------------|-------------------------------|
|                     | Regional Call for Projects            |                               |
| Local Funding       | Municipal Bonds                       | Property Taxes                |
|                     | Community Service Districts (CSD)     | Local Option Levy             |
|                     | Developer Impact Fees                 | Volunteer labor and resources |
| Local Funding cont. | Partnerships with local jurisdictions | Non Profit Organizations      |
|                     | Park System Development Charge        |                               |
|                     | Tax increment financing               |                               |
|                     | Donations/Donations by private firms  |                               |
|                     | Friend Groups                         |                               |
|                     | Impact Fee Programs                   |                               |

Much of the funding for trail construction comes from federal sources passed through to state agencies or local agencies. These funds are often dispersed through competitive grant programs. At the county or local level, municipal bonding, sales taxes, general funds, and fee programs are common sources for sustained and dedicated trails funding. Often, local agencies are opportunistic about the source of funds available for specific trails. The Missoula County Parks noted that trails that go through property owners associations or special taxing districts may have dedicated funds for on-going maintenance, freeing up general funding sources for other trails.

Six agencies responded that they have a developer impact fee program, or similar. Three of those six agencies indicated their developer fee funds could be used for trail construction, but no agency specified that they could use the developer impact fee funds for maintenance. Jefferson County Open Space clarified that in order to use the developer fee funds for trail construction, the trail would need to be identified as a transportation improvement (eg. a sidewalk along a major roadway). Lane County Parks noted that Community Service Districts “can only be used for projects that increase capacity or planning, not for maintenance.”

Funding for capital projects comes from diverse set of federal, state, and local sources. However, funding for trail maintenance is almost exclusively local. As described above, many agencies rely on volunteers to perform maintenance. When local staff performs the work, the funding generally comes from local government sources. In the RTC survey, they found that municipal governments were the leading funder of trail maintenance (42% of respondents).<sup>5</sup> While maintenance is eligible for federal funding under the Recreational Trails Program,<sup>6</sup> trail maintenance often has to compete with capital projects in competitive grant programs. In California, the Recreational Trails Program funding is allocated through two State run application processes, the Active Transportation Program and Recreational Trails Program. Given the lack of dedicated funding sources, trail maintenance often competes with municipal funding needs, and therefore trail managers often cite the need for dedicated federal and state funding for trail maintenance.<sup>7</sup>

<sup>5</sup> 2014. Maintenance Practices and Costs of Rail –Trails. Rails-to-Trails Conservancy. <http://www.railstotrails.org/resourcehandler.ashx?id=6336>

<sup>6</sup> Recreational Trails Program: [http://www.fhwa.dot.gov/environment/recreational\\_trails/](http://www.fhwa.dot.gov/environment/recreational_trails/)

<sup>7</sup> 2014. Maintenance Practices and Costs of Rail –Trails. Rails-to-Trails Conservancy. <http://www.railstotrails.org/resourcehandler.ashx?id=6336>



## Appendix C: Development Impact Fee



# Non-Recreational Trail Usage in Riverside County

*Implications for Developer Impact Fee Funding*

## White Paper

*prepared for*

**Riverside County Regional Parks and Open Space District**

**Alta Planning and Design**

*prepared by*

**Cambridge Systematics, Inc.**

*report*

# Non Recreational Trail Usage in Riverside County

*Implications for Developer Impact Fee Funding*

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**Riverside County Regional Parks and Open Space District**

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**March 7, 2017**

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## Executive Summary

This white paper was prepared for the Riverside County Regional Parks and Open-Space District's Comprehensive Trails Plan. The purpose of the white paper is to describe the characteristics of non-recreational trail usage in Riverside County and the implications for the County's Developer Impact Fees (DIF) program related to regional parks and trails. The white paper discusses findings from recently completed trail surveys, a review of trail surveys nationally, and a review of innovative DIF programs in California.

The white paper is organized into four sections, for which the key findings are summarized below:

- **Results from Riverside County trails surveys.** Results from the household survey, trail counts, and intercept surveys demonstrate that a significant portion of trail users utilize the trails for non-recreational purposes, including to access employment or school, visiting friends and family, shopping, and other errands. For the household survey, of all respondents who had used the trails, 30% had used them for a non-recreational purpose in the past. For the intercept survey, 24% of respondents on the date of survey had either a primary or secondary trip purpose that was non-recreational, and regarding historical usage, 33% had used the trails for non-recreational purposes in the past.
- **Non-recreational trail usage nationwide.** Trail surveys on similar multi-use trails and paths across the country reveal that, while recreational trips remain the most common purpose for trails in most regions, utilitarian usage is present on all trails, and very common on trails in more urbanized areas and locations near employment or retail centers.
- **California Development Impact Fees for trail funding.** DIFs are widely used in California as a way for local agencies to pay for new infrastructure needed from the new residents or employees. The white paper reviewed four impact fee programs in California where cities or counties exacted fees from commercial development to fund bicycle projects: Los Angeles Metro, City of Santa Monica, City of Oakland, and City/County of San Francisco. These programs employ various strategies for determining the nexus between the development and the infrastructure improvement as well as determining the fee amount.
- **Implications for Riverside County Development Impact Fee program.** Riverside County's original DIF for regional trails included exactions from commercial property developers. However, the 2014 update to the DIF removed commercial development from the regional parks and trails fee program. Findings from this study of the survey data and emerging practices indicate that, if desired, Riverside County would be justified in seeking to add commercial developer exactions to a trail impact fee program.

## 1.0 Introduction/Overview

As part of their Comprehensive Trails Plan, the Riverside County Regional Parks and Open-Space District (Riverside County Parks) has undergone efforts to determine the characteristics of trail users on Riverside County trails and paths. Riverside County Parks would like to know if residents are using paths and trails for non-recreational purposes and if new commercial development is likely to add new users to the trail system. The practice of funding expansion of regional parks and recreation facilities with development impact fees (DIF) is not uncommon among jurisdictions throughout California. Less common is their application to active transportation investments, including regional trails and charging new non-residential development fees for expanding trails to accommodate non-recreational trail usage. Even more uncommon is persuading cities to collect fees from new development within their jurisdictions for on countywide facilities unless a countywide sales tax measure requires each city must to collect fees in order to receive the sales tax revenues (e.g., the Western Riverside TUMF). Nevertheless, there are a few examples, including recent updates to DIF programs where bicycle commuting is explicitly included in the nexus analysis and new commercial development is charged impact.

This white paper summarizes the experiences of California jurisdictions who have attempted to establish the nexus between new development and their impacts on bicycle infrastructure and county who have persuaded their cities to collect a countywide fee. We focus on efforts to establish a nexus between non-recreational trail usage and new commercial development. Prior to the case studies, this paper presents an overview of the findings from recent household and trail user surveys conducted on Riverside County trails and a review of non-recreational trail usage across the country. Finally, it evaluates the assumptions about trail usage Riverside County's existing impact fee program and makes recommendations to strengthen Riverside County Park's argument for including regional trails in the County's mitigation fees.

The white paper is organized into these four sections:

- Results from Riverside County trails surveys
- Non-recreational trail usage nationwide
- California Development Impact Fees for trail funding
- Implications for Riverside County Development Impact Fee program

## 2.0 Results from Surveys

As part of the Riverside County Comprehensive Trails Plan, a series of surveys were conducted in Riverside County to determine the characteristics of trail usage. The surveys included a general public survey, trail user counts, and trail user intercept surveys. Together, they offer a consistent picture of residents' purpose for using trails. While most trail usage is recreational, many Riverside County residents do use trails for commute or utilitarian purposes.

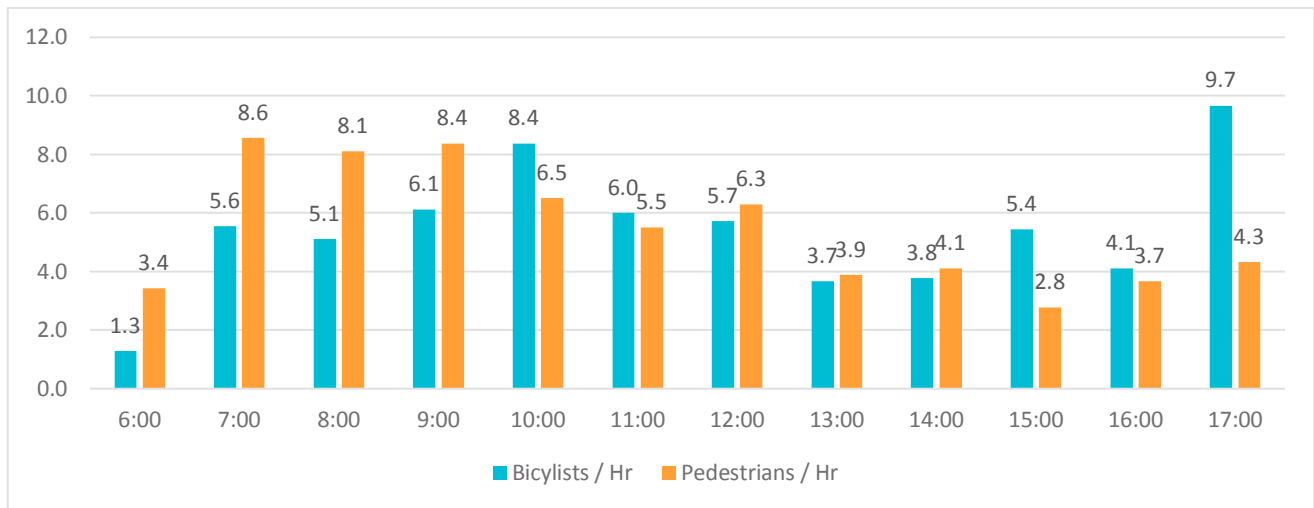
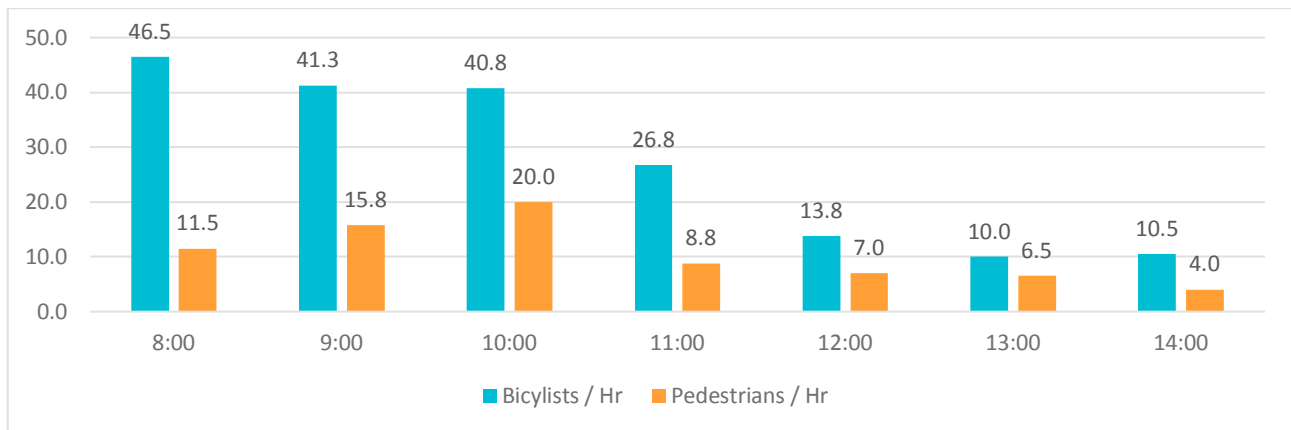
### 2.1 General Public Survey

A general public survey was administered in Riverside County in July and August of 2016. Of the 419 completed surveys, 61% had used a trail, path, or bike lane in the past year. Most trail usage is for exercise or enjoyment, with 81% of respondents indicating that they have no particular destination. However, almost 30% of trail users have utilized trails or paths for their commute or another utilitarian purpose. For commute trips, 16% of trail users have commuted to work and 12% have accessed school using a trail or path.

In response to questions about bike lane usage (as separate from county bike trails and paths), 22% of the total sample of the household survey respondents have used bike lanes in the last year, 81% use the bike lanes at least once per month and 58% of bike lane users have used the bike lanes for work, shopping, or other utilitarian purposes. While the use of bike lanes is not the focus of this study, bike lane usage helps validate the bicycle commuting habits of Riverside County residents.

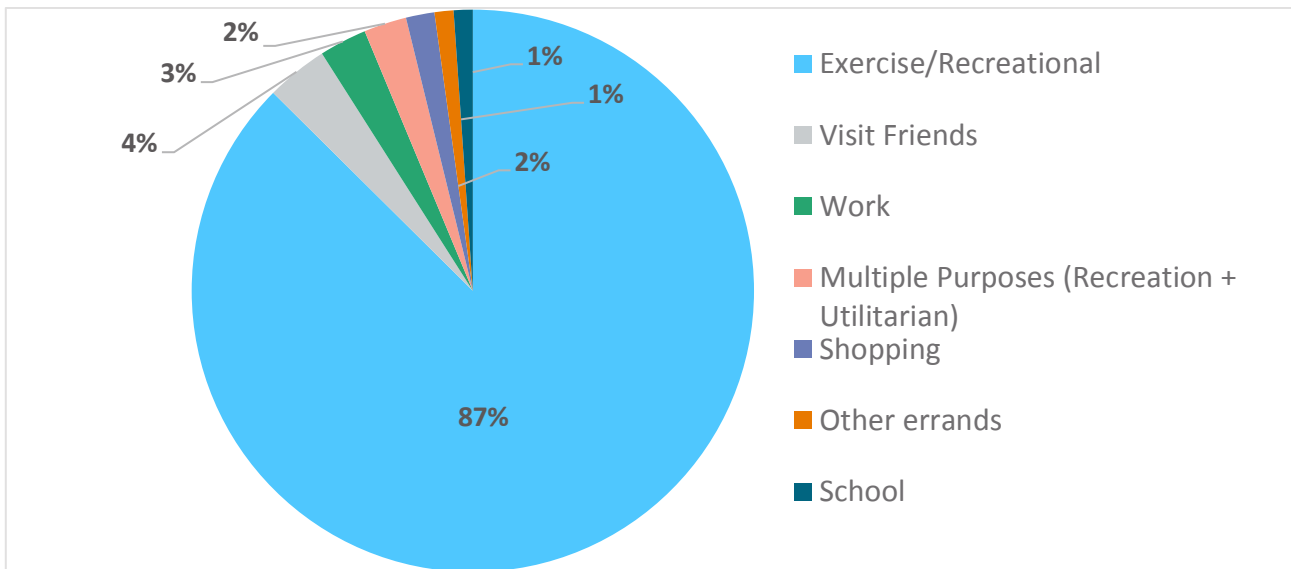
### 2.2 Trail Counts and Trail Intercept Surveys

During a 10 day period in November, 2016, trail counts and intercept surveys were conducted at nine locations in Riverside County, including seven locations along off-street multi-use paths and two locations with on-street bike lanes. During 121 hour long count periods, there were a total of 1,951 users counted on paths and bike lanes during the 121 hours of counting. Of the observed users, 1,156 (59%) were bicyclists and 795 were pedestrians (including skating and skateboarding). There were more total users observed on weekday periods (1,015) compared to weekend periods (936); however, there were more weekday count periods. There were a total of 95 count-hours on weekdays and only 26 count-hours on weekends, so average hourly volumes were significantly higher during the weekend count periods. However, only four locations were surveyed on the weekends and were some of the most popular locations.

**Figure 2.1** Weekday Bicycle and Pedestrian Average Hourly Volume**Figure 2.2** Weekend Bicycle and Pedestrian Average Hourly Volume

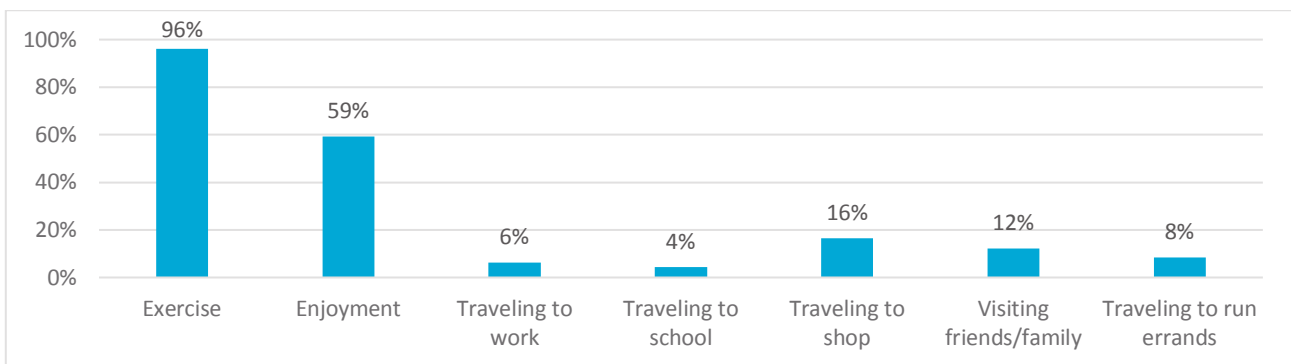
During the same count periods, a total of 366 intercept surveys were completed by participating trail users, of which 92% were collected on off-street paths. The trail users who responded to the survey represented common travelers on the trails. Almost 60% of respondents use the trails three or more times a week; 82% of respondents used the trails at least once per week. Survey respondents were asked about the primary purpose of their current trip as well as if they intended to make any additional stops. On the date of survey, the most common use for the trails was for recreation, however, a large percentage of respondents use the trails for utilitarian purposes. For example, 13% of the respondents indicated that their primary trip purpose was non-recreational (e.g., shopping, work, school, visiting friends, errands) and 12% of those using the trails for exercise made non-recreational stops. In total, on the date of the survey, 23 percent of all respondents used the trails for a non-recreational trip purpose. There was a slight but not significant difference in trip purpose by mode; close to 13% of bicyclists and 12% of pedestrians indicated a non-recreational primary trip purpose.

**Figure 2.3** Primary purpose for trip on trail



Of all the reasons that respondents had utilized trails for in the past, 16% had also used them for shopping, 12% for visiting friends/families, 8% for other errands, and 6% for work. In total, of all the respondents, 33% had used trails at some point for a non-recreational purpose. Of the respondents who used trails to travel to work (6.3% of total), 78% use trails for commuting at least once per week. Additionally, of the respondents who use trails for errands, visiting friends, or to get to school (28% of total), 52% use trails for those purposes at least once per week.

**Figure 2.4** All reasons for utilization of trails





### 3.0 Non-Recreational Trail Usage Nationwide

Multi-use trails provide cyclists with low-stress transportation options, as they are physically separated from vehicular traffic. Trail-related research relies on intercept surveys to evaluate the trip use of trail users. A review of trail user survey reports conducted by jurisdictions across the country suggests that while cyclists are more likely to use multi-use trails for recreation, these facilities are also being used for utilitarian purposes. Eleven trail survey reports from across the country were reviewed to show the varying trip purposes of multi-use trails.

Overall utilitarian trips on multi-use trails make up anywhere from 4% to 45% of all trips based on intercept surveys conducted across the country in rural and urban areas (see Table 3.1). Multi-use trails in urban areas on the whole, have a higher percentage of cyclists using those facilities for utilitarian purposes compared to trails located in suburban or rural areas, which indicates that trails in urban areas have greater connectivity to job and activity centers. Intercept surveys in more rural and suburban areas generally show a lower percentage of utilitarian riders, indicating minimal connectivity to key destinations and job centers. On the whole cyclists primarily use multi-use trails for recreational purposes, but are increasingly relying on these facilities for social and utility trips.

**Table 3.1 National Surveys of Non-Recreational Trail Usage**

| Location                                           | Relevant Finding                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| West Lafayette, Indiana                            | A study of a paved trail found that <b>12.5%</b> of trail users used the trail for transportation or a combination of recreation and transportation. <sup>1</sup>                                                                                                                                   |
| Silver Comet Trail (Northwest of Atlanta), Georgia | Just under <b>4%</b> of the field survey participants said their trips were for non-recreational purposes such as commuting to work or local trips for shopping or personal business. <sup>2</sup>                                                                                                  |
| Miami Valley, Ohio                                 | Survey of users of multi-use trails showed commuting as the smallest share of use, at about <b>4%</b> of responses. The majority of responses were in the exercise, fitness, and recreation categories. <sup>3</sup>                                                                                |
| Central Ohio Trails                                | The majority of users on the Central Ohio Greenways and Trails Group (COG) trail network reported using the trails principally for recreation and exercise, however, <b>7%</b> use trails as transportation infrastructure for utilitarian purposes, including commuting and shopping. <sup>4</sup> |
| Tahoe City, California                             | Tahoe City Public Utility District conducts annual surveys of trail usage; in 2015, <b>26%</b> of the trail use was transportation to access shopping, dining, work, etc. <sup>5</sup>                                                                                                              |
| Greenville County, South Carolina                  | Approximately <b>6%</b> of Greenville Hospital System Swamp Rabbit Trail users reported using the trail for transportation purposes. <sup>6</sup>                                                                                                                                                   |
| City of Manhattan, Kansas                          | A key finding of the study showed that <b>12%</b> of trail system users utilize trails for transportation to work or to get to other places. <sup>7</sup>                                                                                                                                           |
| Jackson County, Oregon                             | A survey conducted within the Bear Creek Greenway identified that 55% of bicyclists and pedestrians on the segment used the trail for recreation and <b>45%</b> for transportation. <sup>8</sup>                                                                                                    |
| City of Sanibel, Florida                           | An intercept survey conducted at six trail locations found the most common trip purposes were recreation (45%) and fitness (29%), followed by shopping/errands ( <b>19%</b> ) and commuting to or from work ( <b>3%</b> ).                                                                          |
| Arlington, Virginia                                | Automated counter data collecting bicycle and pedestrian volumes on the Custis Trail, a paved multi-use trail, indicated a high percentage of commute trips due to higher usage on weekdays than weekends and distinct morning and afternoon peaks during commute hours. <sup>9</sup>               |
| New Jersey Statewide Trails                        | A trail user survey conducted for the New Jersey Trails Plan found that that <b>12%</b> of users use trails for utilitarian purposes. <sup>10</sup>                                                                                                                                                 |

## 4.0 California Development Impact Fees for Trail Funding

The contemporary usage of DIFs by California jurisdictions are governed by the California Mitigation Fee Act or AB 1600. Passed in 1987 and amended subsequently with a series of Supreme Court rulings, the Mitigation Fee Act allows any local agency in the state (city or county) to enact legislation to exact fees on development under these conditions:

1. There must be a nexus between the development project and the impact,
2. The fees must be roughly proportional to the impact created, and
3. The fees may not be used to fix existing deficiencies, rather they must be used to fund new improvements to any “public facility.”

These conditions, sometimes called the “AB 1600 requirements,” are fulfilled with a fee study, the quantified basis for imposing the fee that establishes the nexus between the fee and the projected development impact. Additionally, a development project does not need to cause the impact, but rather just contribute to the impact. Finally, a fee exaction is still legal if existing residents receive incidental benefits from the improvements, along with the new developments’ residents.<sup>11</sup>

California’s local jurisdictions were the first to adopt development impact fees extensively, in part due to limits on the ability to raise additional revenue from taxes, and have led the country in their innovative applications. To understand these practices, there are a few factors that differentiate how impact fee programs are structured:

- **Nexus methodology:** The calculations of fees may be based on a *facility standard* or *performance analysis*:
  - A facility standard involves dividing the existing aggregate amount of infrastructure (e.g., miles of bike trails, number of bike lockers) or their value (e.g., the cost of building them in current dollars) divided by the service population (residents or residents plus employees). This produces a maximum standard that new development may be required to sustain. If the agency wants to impose a higher standard, it would need to build the additional facilities with other revenues to increase the current standard.
  - A performance analysis evaluates the impacts of projected development on the level of service (e.g., change in vehicle hours of delay, vehicle miles of travel, bicycle miles of travel) and then determines what projects are needed to mitigate these impacts. The fee amount equals the cost of these projects divided by the service population. This method captures the marginal impacts from new development, which may be more or less than the average per capita increase funded with a facility standard. It may also afford more flexible selection of bicycle network improvements than the proportional increase in trails justified under a facility standard, such as first-mile/last mile improvements, amenities (e.g., bike lockers, showers, and signage). Nevertheless, it would require use of a bicycle model, which adds cost and complexity
- **Land Use Types:** A fee program may be applied to a single land use type (*residential* development only) or may include multiple development types. Imposing fees on all land uses distributes the cost across a lower base. If the amount new facilities included in the fee program is held constant, this can result in a

lower cost per capita, enumerated as new residents and employees and converted into land use the equivalent number of residential dwelling units and square feet of office, retail, industrial and warehousing. This reduction in cost per capita, however, can increase the political tolerance for or economic headroom to increase the fee per capita to a level closer to the maximum justified in the nexus analysis (see the fourth practices below). This increase will generate more revenue.

- Jurisdictional Coverage:** Fees may be collected from new development *countywide* versus *single jurisdiction* (i.e., city or unincorporated only). Fees imposed by a single jurisdiction within their boundaries (city limits or incorporated county only) are by far the most widespread practice. For a county parks and recreation department, however, a fee collected from new development only in the unincorporated area can miss the portion of new development occurring within incorporated jurisdictions. Countywide fee programs that include improvements to facilities located within incorporated areas and collect from new development within cities would expand the trail network and increase the total fee revenue significantly.
- Agency Control:** Fees that funding regional trails may be included within *transportation* fees or *parks and recreations* fees. This distinction maybe technical and produce little or no difference in amount of fee revenue generated or the type of land use subject to the fee. Nevertheless, expansion of regional bicycle trails funded through a transportation fee may be developed, programmed, and updated by the public works department or department of transportation. Their inclusion within a parks and recreation fee program would afford control to that county agency, which could program fee revenues to target specific types and locations for regional bike trails. If the overseeing agency has multiple priorities or multiple aims to achieve a goal, there may uncertainty about the availability of funding for bicycle and pedestrian trails.

The following matrix summarized the how each of these practices would be more or less advantageous to the Riverside County Regional Parks and Open-Space District using the following criteria: potential revenue generation, project programming flexibility, and the amount of control by the District.

| PRACTICES               | LESS ADVANTAGEOUS          | MORE ADVANTAGEOUS |
|-------------------------|----------------------------|-------------------|
| NEXUS METHODOLOGY       | Facility Standard          | Performance-Based |
| LAND USE TYPE           | Residential Only           | All Land Uses     |
| JURISDICTIONAL COVERAGE | Local/single jurisdiction* | Countywide        |
| AGENCY PRIORITY         | Multiple Priorities        | Focused Priority  |

\*City only or unincorporated county only

## 4.1 California Case Studies

We have selected four California case studies below that demonstrate innovative and advantageous practices and provide practical insights for Riverside County's DIF program. We include a matrix for each case study that summarizes their approach using the four practices described above.

### 4.1.1 Los Angeles County (LA Metro)

Until 2014, Los Angeles County Metropolitan Transportation Authority (LA Metro) had been engaged in a decade-long effort to implement a countywide congestion mitigation fee program that would fund regionally significant local transportation improvements with a countywide congestion mitigation fee (CMF) on new development. Ultimately the CMF was not implemented due to political opposition from the development industry; however, its design was the most innovative attempted for a countywide fee, focusing on a full spectrum of transportation projects, including over 20 percent of the funding going to bicycle improvements. The following practices used for the CMF design:

#### LA Metro Congestion Mitigation Fee Structure

| PRACTICES               | CRITERIA            |
|-------------------------|---------------------|
| NEXUS METHODOLOGY       | Performance-Based   |
| LAND USE TYPE           | All Land Uses       |
| JURISDICTIONAL COVERAGE | Countywide          |
| AGENCY PRIORITY         | Multiple priorities |

In the final few years of this effort, Metro completed pilot nexus studies for each of its eight subregions to demonstrate the program's feasibility. This involved reaching out to all 89 jurisdictions, nine subregional Councils of Governments, and the stakeholders throughout business community. They found that the CMF Program was feasible and would provide a significant new source of funding for expanding the capacity of multimodal transportation infrastructure, including bicycle lanes and trails. Legal reviews concluded it complied with statutory requirements of the California Mitigation Fee Act (AB1600).

As part of the CMF Study, jurisdictions submitted more than 1,700 transportation projects, including about 600 bicycle related projects. Quantitative analysis measured the aggregate benefit of all transportation projects, estimating a reduction of 25 million vehicle hours of delay and an economic benefit of approximately 60,000 jobs and \$11.2 billion in economic activity over 20 years.

A literature review validated that expanding bicycle infrastructure would mitigate the congestions caused by new development, but was unable to cite analytical methods which could quantify how much these projects would reduce congestion. In an abundance of legal caution, therefore, Metro decided not to incorporate bicycle projects as extensively into the pilot nexus study as many local jurisdictions were petitioning for. Nevertheless, the lack of quantitative tools available to quantify a nexus motivated the Metro Board to direct staff in January 2012 to develop modeling capability to quantify the impact of bicycle projects on

travel behavior, health environment, and safety. The Board intended the new tools to demonstrate how much expansion of bicycle facilities could mitigate the increased congestion caused by all types of new development. As a result, Metro commissioned the development of two bicycle demand models that evaluate the effectiveness of bicycle capital improvements to divert commuter (i.e., utilitarian) auto trips to bicycle and also measures changes in recreational bicycle travel.

#### 4.1.2 Santa Monica

The Santa Monica Transportation Impact Fee (TIF) program includes funding for a variety of other multi-modal transportation choices, including bicycle facilities, using a performance-based nexus approach for all development types.<sup>12</sup> The performance-based nature of the TIF is based on Santa Monica's travel demand model and their recently adopted Land Use and Circulation Element (LUCE), which calls for no net new PM peak hour vehicle trips by 2030. The fee expenditure plan includes capital projects such as construction of sidewalks, curb extensions, installation of bike racks and bus stops, and signing and striping of new bicycle and transit lanes throughout the City. The fee expenditure plan focuses on cumulative, city-wide impact from new development, and although the program is integrated with demand-side measures designed to achieve its goals, the City has not included any operating costs for the demand-side measures in the fee expenditure plan.

The LUCE provides the framework to integrate land use and transportation to reduce vehicle trips, encourage walking, bicycling and transit use, including specific bike improvements that mitigate congestion caused by new residential and commercial development. The LUCE fee funds a full spectrum of transportation projects, which includes extensive bicycle and pedestrian improvements.

#### Santa Monica Transportation Impact Fee Structure

| PRACTICES               | CRITERIA            |
|-------------------------|---------------------|
| NEXUS METHODOLOGY       | Performance-Based   |
| LAND USE TYPE           | All Land Uses       |
| JURISDICTIONAL COVERAGE | Single City*        |
| AGENCY PRIORITY         | Multiple priorities |

\*Coordinated with City of Los Angeles.

The LUCE states that “New projects will be required to minimize the trips they generate and contribute fees to mitigate their new trips. To achieve the No Net New Trips goal, developers cannot be expected to have every project generate zero trips by itself. Rather, developers will pay mitigation fees that will fund capital improvement projects citywide, such that the net impact of each development project ultimately is zero. Fees will be used for improvements that benefit the City's transportation system overall, such as additional buses to increase frequency, improved walking routes and new bike lanes.”

In addition to Santa Monica's program, Los Angeles Department of Transportation (LADOT) updated its West Los Angeles Transportation Improvement and Mitigation Specific Plan (WLA TIMP).<sup>13</sup> The WLA-TIMP included a developer impact fee to fund bicycle enhancements throughout the eight communities to the east

and south of Santa Monica.<sup>14</sup> Although separate from the LUCE program, LADOT and the City of Santa Monica have coordinated their programs to help develop a multi-jurisdictional bicycle network.

### 4.1.3 City of Oakland

The City of Oakland has just adopted a transportation impact fee which includes funding for bicycle facilities based on an innovative asset-based facility standard applied to all development types.<sup>15</sup> Oakland has a surface transportation network that provides rights-of-way (streets, sidewalks, and off-street pedestrian and bicycle paths) for nearly all types of travel within the City. The City is responsible for maintaining, improving, and expanding this infrastructure to support transportation services for all travel modes: vehicles, including private vehicles and public bus transit, biking and walking.

The fee program applies a novel approach to justify a fee based on maintaining the City's existing level of investment that all types of new development are held accountable for maintaining. This approach monetizes the value of all transportation infrastructure, with the maximum threshold of this asset value-based nexus set to the replacement cost of all the City's transportation assets: roadways, sidewalks, bike lanes and paths, etc. In order to estimate a conservative estimate of the City's current citywide transportation infrastructure, the City choose not to include the value of the underlying land in the replacement cost of city streets and excluded the value of the transit rolling stock, signals, and other ancillary transportation assets. Using this maximum threshold as a ceiling, the City may legally assess fee amounts on new development that falls below the threshold based on its location, land use type, design, etc. The developer fees fund a full spectrum of transportation projects, which includes extensive bicycle and pedestrian improvements.

#### Oakland Transportation and Capital Improvements Impact Fee Structure

| PRACTICES               | CRITERIA                     |
|-------------------------|------------------------------|
| NEXUS METHODOLOGY       | Innovative Facility Standard |
| LAND USE TYPE           | All Land Uses                |
| JURISDICTIONAL COVERAGE | Single City                  |
| AGENCY PRIORITY         | Multiple priorities          |

Although the facility standard does not directly address the impacts of new development of the performance of the bike network, the innovated "asset-value" based approach provides the City with a very flexible funding source for transportation investments throughout the city. The City can use fee revenue for any capital expansion of infrastructure that connects residential neighborhoods, retail and employment centers, and other destinations. This citywide focus avoids funding improvements to infrastructure that only serve a particular neighborhood, which are not be eligible for funding from the fee.

### 4.1.4 City and County of San Francisco

As a Charter City with more discretion than General Law cities, in 1973 the City and County of San Francisco revised its traffic impact fee law by adopting a "Transit First" policy. This policy change encouraged the

development of types of land development that have multi modal accessibility and the construction of alternative mode transportation projects. Even with this change, however, the regulations on traffic impact studies still required a traditional traffic impact analysis and did not consider how investments in alternative modes, such as transit and non-motorized travel modes, could expand capacity and mitigate the impacts from the additional trips from new development. Beginning in 2003, the City started revising its laws and practices to support multi-modal mitigations, and in 2011, San Francisco passed a Bicycle Development Impact Fee (BDIF) which applies an innovative asset-based facility standard to all development types.<sup>16</sup>

In 2011, the City completed a nexus study for the Bicycle Impact Development Fee (BIDF) and a Pedestrian Impact Development Fee (PIDF). These impact fees were based on the calculation of facility standards for the bicycle network and components of the pedestrian network and associated traffic calming features, respectively. In 2015, the TIDF was replaced by a Transportation Sustainability Fee (TSF) which included pedestrian infrastructure under a “complete streets” category. The BIDF relies on a *planned* facility standard because the City plans to expand and improve not just maintain the current standard for its bicycle network. The City will fund the expansions needed to reach the planned facility standard from other sources of revenue, thus allowing it to assess a fee on new development for its fair share of the expanded and improved bicycle network. All future residents and workers added by new development will have access to the cycle track network the City plans to complete by 2030. Therefore, new development’s share of the cost is equal to its share of the 2030 population. The cost of achieving the planned standard per person (resident or worker) in 2030 is calculated by multiplying the planned facility standard (mileage of cycle track equivalents per capita) by the average unit cost of a facility (cost per mile of cycle track equivalent). The estimated cost borne by new development is equal to the cost per person (resident or worker) multiplied by the expected number of new residents and workers.

While the BIDF was adopted as a separate fee, bicycle facilities are included in allowable expenditures of the “transit capital facilities” component of the TIDF based on (1) transit overcrowding from development, and (2) research indicating that improved bike facilities can shift modes from transit to bikes. San Francisco is unique in that it is both a city and a county so the practices used for its design should take this into account.

#### City of San Francisco Transportation Sustainability Fee Structure

| PRACTICES               | CRITERIA             |
|-------------------------|----------------------|
| NEXUS METHODOLOGY       | Facility Standard    |
| LAND USE TYPE           | All Land Uses        |
| JURISDICTIONAL COVERAGE | Full City and County |
| AGENCY PRIORITY         | Policy Priority      |

Although the facility standard does not directly address the impacts of new development of the performance of the bike network, the innovated “asset-value” based approach provides the City with a very flexible funding source for transportation investments throughout the City.

### 4.1.5 Other California Development Impact Fees

We reviewed over a dozen other California DIF programs where parks and recreations facilities included in their funded projects. Our review revealed the common practice of assessing fees for trails and bicycle facilities on residential development only and no mention of bicycle commuting or even the use of municipal or regional recreational facilities by non-residential development. Examples of these practices include updates to DIF programs in the City of Costa Mesa (August 2015), Town of Moraga (January 2016), City of Brentwood (June 2015), Sonoma County (December 2015), Placer County (2014), City of Fresno (2013) and the City of Truckee (December 2015). One exception is the Sacramento County (March 2010) transportation impact fee, which exacts fees on all types development and funds bicycle and pedestrian projects on congested roadways.<sup>17</sup>

## 5.0 Implications for Riverside County Development Impact Fee program

Riverside County first implemented development impact fees in 2001 and the fee program was renewed in 2006 and again in 2014. The latest update provides the nexus arguments and fee amounts for various public facilities, including regional parks and regional trails.

### Existing Riverside County Developer Impact Fee Structure

| PRACTICES               | CRITERIA            |
|-------------------------|---------------------|
| NEXUS METHODOLOGY       | Facility Standard   |
| LAND USE TYPE           | Residential Only    |
| JURISDICTIONAL COVERAGE | Unincorporated Only |
| AGENCY PRIORITY         | Single Priority     |

#### 5.1.1 Land Use Type

In contrast to the 2006 fee program, the 2014 program excludes commercial development from the regional parks and regional trails impact fee program. The nexus study for the 2014 program contends that residents are the primary users of trails, therefore demand for trail facilities should be based on residential population and exclude workers.<sup>18</sup> The study provides little evidence to support the claim that residents are the primary users; however, in a staff report presentation dated June 17, 2014, an explanation is offered for why the updated program sought to exclude commercial development.<sup>19</sup> One slide from the presentation states:

*Mainly it's because the original nexus study defined "Residents/Employees" as non-working and working residents. The key consideration to any nexus finding under the Mitigation Fee Act is that*



*new development creates the need or demand for a public facility. By law, impact fees cannot pay for existing deficiencies or a “lack of facilities”, only the facilities required as a result of population growth. Commercial development creates demands on roads, traffic signals, and public safety – primarily through the businesses and their employees that occupy commercial development.*

*13 years later, we have better demographic data and resources, and have completely separated residents from employees because it was important to be clear about who creates the facility demand. Businesses and employees (non-county residents) would not typically create the demand for regional parks in unincorporated Riverside County, although some local neighborhood parks may be used by employees in connection with their employment.*

This logic ignores the fact, as stated in the presentation, that employee usage of regional parks is not zero, albeit less than residents.<sup>20</sup> Furthermore, as noted above, almost 30% of trail users from the household survey and 33% of trail users from the intercept survey reported having used the trails or paths for non-recreational purposes in the past. Given findings from the household and intercept surveys, excluding commercial development outright from the regional trail DIF is based on an incorrect assumption that employees who work in a commercial development are not commuting there on bicycle, that residents are not utilizing the trails to access shopping opportunities, and that more would not choose to if facilities were expanded. This demand is sufficient to require new commercial development to pay impact fees to expand the trail infrastructure.

The District could calculate a fee on new nonresidential development using a facilities standard that divides the current assessed value of all trail infrastructure by a service population that includes all residents and employees. This value per person (residents plus employees) would set the maximum threshold for fees on all types of new non-residential development (retail, office, industrial, etc.) based on their total employment. This approach would not necessarily increase the total funding available for regional trails. Rather, it would spread some of the costs from residential to commercial development, which may moderate a burden of new housing costs and may afford some additional headroom to raise fee amounts to cover the maximum amount of mitigation allowed under the nexus analysis.

### 5.1.2 Jurisdictional Coverage

Second, Riverside County’s program only exacts fees from development in unincorporated areas, when the majority of users are likely to live in incorporated cities. The nexus study states, “By the nature of the type of facility, trails are almost always located in unincorporated areas. However, trails are provided for and used by all County residents.”<sup>21</sup> Data from the intercept survey confirmed that not only are residents who live in Riverside County cities using the trails, but people who reside outside of Riverside County are utilizing the trails for recreation and utilitarian purposes. The origin data from the intercept survey found that 79% of users live in Riverside County and 15% live in San Bernardino County. Users surveyed on the Santa Ana River Trail primarily live in incorporated cities (54% of users) or outside the County (33%), with only 13% of users residing in unincorporated areas in Riverside County.). Furthermore, while most of the regional parks may be in unincorporated areas, trails often cross jurisdictions, and as a transportation facility, connections to other paths, trails, and local routes are essential. Therefore a countywide approach to funding the regional trail system may be warranted and desirable, so in a future DIF update, Riverside County could consider including local jurisdictions in the DIF program, allowing for increased total revenue for regional trail development.

### 5.1.3 Nexus Type

The 2014 update of the nexus study for the regional trails DIF calculates the amount of trails that new development will be charged to sustain the existing inventory standard, which is the ratio of the total value of existing facilities in current dollars divided by the existing service population. The regional trails DIF is based on an *existing inventory* standard for Western Riverside County and a *planned facilities* standard for Eastern Riverside County. The reason for using different standards is that the nexus study projects that the total value of regional trail facilities over the total service population is anticipated to fall in Eastern Riverside County from \$81 per resident in 2010 to \$61 in 2020, thus the findings conclude the a fee of \$81 will generate more revenue than the \$5 million currently planned by the County to invest in new trails. This decline in the future facility standard, however, indicates a need for more aggressive capital investment rather than lowering the standard over time.

The existing standard in Western Riverside County of \$65 per resident calculated by dividing the existing \$18.3 million value of the trails facilities by the 238,000 residents. This existing standard will generate \$5.7 million from the 87,000 new residents expected to move to Western Riverside County between 2010 and 2020. The planned capital investments, however, amount to \$20.3 million, leaving \$14.6 unfunded. The \$65 standard, however, may be increased to \$128 per resident by including the \$17.8 million in anticipated grant funding into the existing asset value of the trail facilities. If this augmented existing standard were applied to the 87,000 new residents, the Regional Trails DIF would generate \$11.1 million in revenues, leaving only \$9.2 million unfunded.

As an alternative to using the existing facility standard, the District could use a bicycle model to evaluate trail usage for utilitarian trips (i.e., non-recreational), which would quantify the bicycle miles of travel (BMT) of new development. The modeling outputs would support a rigorous nexus and forecast where demand for bicycle commuting would justify trail expansion. It is not easy to predict, however, which nexus method would produce the highest fee on new commercial development.

### 5.1.4 Conclusion

In summary, findings from this study of recent survey data and emerging practices indicate that Riverside County would be justified in seeking to add commercial developer exactions to a trail impact fee program. The white paper found that non-recreational trips do occur on Riverside County trails and that there is precedent in California for the inclusion of commercial development in bicycle and pedestrian fee programs. The approach to establishing the nexus and setting the proportional fee depends on the desires of the County.

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## Appendix D: General Public Survey

# Memorandum

TO: Greg Maher, Alta Planning and Design

FROM: Cambridge Systematics and Redhill Group

DATE: October 12, 2016

This memorandum provides a brief overview of the public survey implemented by Redhill Group. The full dataset, frequency of response summary, and crosstab documents are provided separately.

## Demographics

There were a total of 419 completed surveys from 57 zip codes in Riverside County (see Figure 1 below). Of these respondents, there was equal gender split and roughly half the respondents were under 40, with fairly even splits for each age group. Almost have the respondents work full time, 15% work part time, and 10% are full-time students. The racial composition of the respondents included 44% white (non-Hispanic) and 38% Hispanic, and 5% African American, Asian, and multi-racial.

**Figure 1: Survey respondents by zip code**



## Current Trail Awareness and Usage

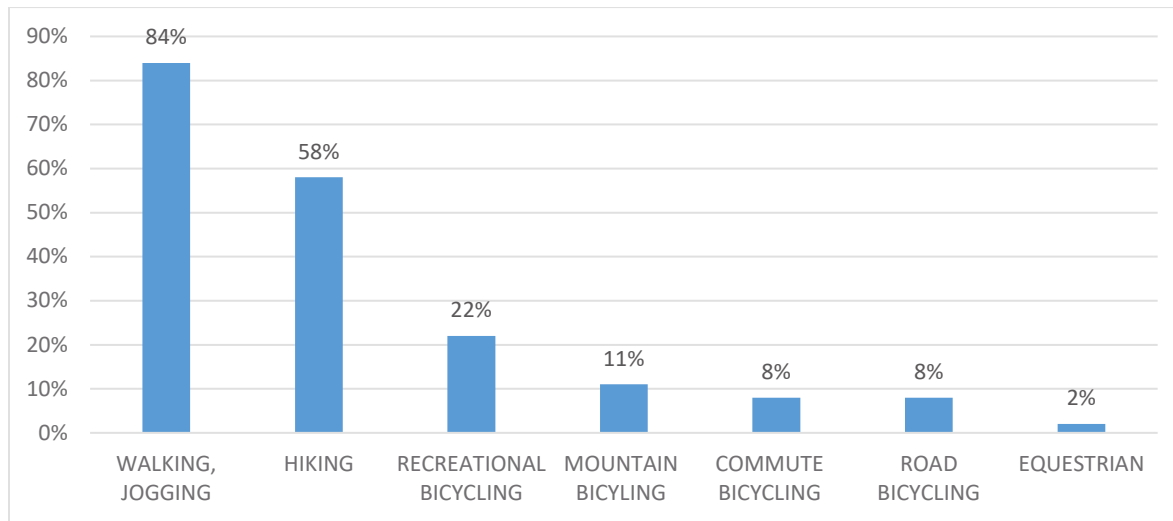
Of the respondents, 61% have used a trail, path, or bike lane in the past year. Of the trail users, slightly more respondents had used unpaved trails as compared to paved paths. The ten most commonly used trails include, in order of popularity, include:

- 1) Box Springs Mountain

- 2) Santa Ana River Trail
- 3) Hidden Valley
- 4) Sycamore Canyon
- 5) Temescal Canyon
- 6) San Jacinto/ Cleaveland National Forest
- 7) Alessandro Arroyo
- 8) Lake Skinner
- 9) Mission Creek
- 10) Victoria Ave

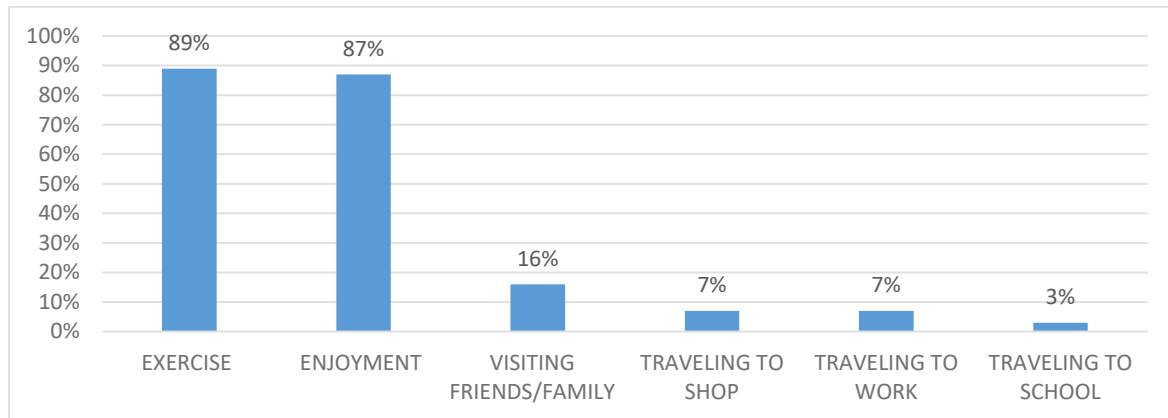
The majority of trail users walk/run (84%) or hike (58%), though 44% of all trail users (and 27% of all respondents) use the trails for bicycling. Most trail usage is for exercise or enjoyment, with 81% of respondents indicating that they have no particular destination, but almost 30% of trail users have utilized trails or paths for commute or utilitarian purposes. For commute trips, 16% of trail users have commuted to work and 12% have accessed school using a trail or path.

**Figure 2: Type of trail usage (percent of trail users)**



Note: the results of this survey indicate a random sampling of residents across all of Riverside County, and as such do not indicate areas of the county where higher concentrations of particular types of trail users appear in greater frequencies. This discrepancy is most pronounced with equestrians.

**Figure 3: Reasons for trail usage (percent of trail users)**



## Trail Satisfaction

Trail amenities are widely used by trail users; all trail users used at least one amenity and most amenities were used by more than half of trail users. Almost 90% of the trail users are satisfied with the trail amenities; the remaining 10% felt neutral about trail amenities.

Most users feel that the trails are safe in design (79% safe or very safe) and feel good about their personal security (77% safe or very safe). Of those who responded neutral or negatively about design safety or personal security, respondents had the following things to say about trail design safety: the trails are not wide enough; the trails can be better maintained; the trail lighting is insufficient; and there is a lack of signage, and for personal security, respondents had the following criticisms: trails are not patrolled by officers; there are not enough people on the trails to provide the sense of security; cars are sometimes burglarized; people loiter on certain trails; robberies occur; and off leash dogs exist.

## Bike Lane Usage

Of the survey respondents who have use bike lanes in the last year (22% of total), 81% use the bike lanes at least once per month. Similar to trail users, bicyclists who use bike lanes more often cycle for exercise and/or enjoyment. However, 58% of bike lane users have used the bike lanes for work, shopping, or other utilitarian purposes.

## Future Trail Usage

Of those respondents who had not used trails in the past year, the most common reason for not using the trails was the lack of knowledge of the trail locations. Furthermore, only 20% of non-trail users said they would not consider using a trail in the future.

Of the five trails that are in planning or construction phases, roughly a third of all respondents were either likely/very likely, unlikely/very unlikely, or unsure whether they would use the trails.

Survey respondents indicated that they are likely to support an initiative to fund trail development and maintenance in the future, with 57% supporting and only 13% opposing.



SURVEY SET MARGINS TO 0.5 AND REMOVE THIS LINE
RVTRAILS FREQUENCIES (09/16/16)

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1. WHAT COUNTY DO YOU LIVE IN?

- 1. LOS ANGELES . . . . . 0%
2. ORANGE . . . . . 0%
3. RIVERSIDE . . . . . 100%
4. SAN BERNARDINO . . . . . 0%
5. VENTURA . . . . . 0%
6. OTHER . . . . . 0%

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2. WHAT IS YOUR GENDER?

- 1. MALE . . . . . 48%
2. FEMALE . . . . . 50%
3. PREFER NOT TO ANSWER . . . . . 2%

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3. WHAT CATEGORY BEST DESCRIBES YOUR AGE?

- 1. 19 OR YOUNGER . . . . . 4%
2. 20 - 29 . . . . . 21%
3. 30 - 39 . . . . . 22%
4. 40 - 49 . . . . . 21%
5. 50 - 59 . . . . . 10%
6. 60 OR OLDER . . . . . 21%
7. PREFER TO NOT ANSWER . . . . . 0%

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4. WHICH CATEGORY DO YOU MOST IDENTIFY WITH?

- 1. AFRICAN AMERICAN . . . . . 5%
2. ASIAN/PACIFIC IS. . . . . 5%
3. HISPANIC/LATINO . . . . . 38%
4. NATIVE AM/ALASKA NATIVE . . . . . 2%
5. WHITE, NON-HISP./LAT. . . . . 44%
6. OTHER . . . . . 0%
7. MULTIRACIAL . . . . . 5%
8. PREFER TO NOT ANSWER . . . . . 1%

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5. PRIOR TO TAKING THIS SURVEY, WERE YOU AWARE THAT RIVERSIDE COUNTY HAS SEVERAL MAINTAINED TRAILS AND PATHS...?

- 1. YES . . . . . 72%
2. NO . . . . . 17%
3. NEVER THOUGHT ABOUT IT . . . . . 11%

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6. HAVE YOU USED ANY OF THE FOLLOWING TYPES OF TRAILS IN RIVERSIDE COUNTY IN THE PAST YEAR?

- 1. PAVED TRAIL ..... 39%
- 2. UNPAVED/SOFT SURFACE TRAIL ..... 41%
- 3. ON STREET BICYCLE LANES ..... 22%
- 4. HAVE NOT USED TRAIL/LANE IN PAST YEAR ..... 39%

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## 7. WHAT ARE THE REASONS YOU HAVE NOT USED A TRAIL IN THE PAST YEAR?

|                                                     |     |
|-----------------------------------------------------|-----|
| 1. DON'T KNOW WHERE .....                           | 40% |
| 2. TRAILS ARE TOO FAR .....                         | 14% |
| 3. DON'T KNOW HOW TO ACCESS .....                   | 19% |
| 4. DON'T KNOW WHEN OPEN .....                       | 16% |
| 5. ABOUT PERSONAL SAFETY .....                      | 19% |
| 6. DO NOT ENJOY OUTDOORS .....                      | 4%  |
| 7. TRAILS TOO CROWDED .....                         | 1%  |
| 8. DO NOT WANT TO GO ALONE .....                    | 13% |
| 9. NEVER THOUGHT ABOUT IT .....                     | 25% |
| 10. NO REASON TO USE .....                          | 15% |
| 11. NO NEEDED FACILITIES AT TRAIL DESTINATION ..... | 2%  |
| 12. OTHER REASON .....                              | 13% |

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## 8. WHAT WOULD MAKE YOU MORE LIKELY TO USE A TRAIL IN THE FUTURE?

|                                         |     |
|-----------------------------------------|-----|
| 1. KNOWING LOCATION .....               | 57% |
| 2. KNOWING AMENITIES .....              | 48% |
| 3. KNOWING OPEN HOURS .....             | 42% |
| 4. BIKE LANE SAFETY .....               | 14% |
| 5. WORK/SCHOOL FACILITIES .....         | 6%  |
| 6. WOULD NOT CONSIDER USING TRAIL ..... | 20% |
| 7. OTHER REASON .....                   | 9%  |

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9. HAVE YOU EVER USED ANY OF THE FOLLOWING TRAILS IN RIVERSIDE COUNTY IN THE PAST YEAR?

|                                           |     |
|-------------------------------------------|-----|
| 1. ALESSANDRO ARROYO .....                | 14% |
| 2. BENEDICT WSH .....                     | 1%  |
| 3. BIG/LTL MORONGO CNYN .....             | 9%  |
| 4. BLIND CANYON .....                     | 3%  |
| 5. BOGARD PARK .....                      | 3%  |
| 6. BX SPRINGS MNTN PRK/M .....            | 19% |
| 7. DESERT EDGE .....                      | 3%  |
| 8. DILLON RD .....                        | 4%  |
| 9. GAGE CANAL .....                       | 3%  |
| 10. HARFORD SPRNG/MOCKINGBIRD CNYN .....  | 3%  |
| 11. HIDDEN VALLEY .....                   | 17% |
| 12. JUAN BAUTISTA DE ANZA .....           | 3%  |
| 13. LAKE SKINNER .....                    | 12% |
| 14. LAKEVIEW/NUEVO .....                  | 9%  |
| 15. LONG CANYON .....                     | 2%  |
| 16. MISSION CREEK .....                   | 11% |
| 17. MOROGO WASH .....                     | 4%  |
| 18. PACIFIC CRST .....                    | 7%  |
| 19. PRENDA ARROYO .....                   | 1%  |
| 20. SN JACINTO/CLEAVELAND NTNL FRST ..... | 16% |
| 21. SANTA ANA RVR .....                   | 18% |
| 22. SANTA ROSA PLTU .....                 | 12% |
| 23. SPRINGBROOK WSH ARROYO .....          | 0%  |
| 24. SYCAMORE CNYN .....                   | 16% |
| 25. TEMESCAL CNYN .....                   | 16% |
| 26. VICTORIA AVE .....                    | 10% |
| 27. VISTA SANTA RSA .....                 | 2%  |
| 28. WILLIE BOY .....                      | 0%  |
| 29. WINE CNTY .....                       | 8%  |
| 30. OTHER .....                           | 12% |
| 31. DON'T KNOW NAME .....                 | 23% |
| 32. NONE .....                            | 0%  |

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10. WHAT IS YOUR HOME ZIP CODE?

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11. IN WHICH OF THE FOLLOWING WAYS HAVE YOU USED THE TRAILS IN THE PAST YEAR?

|                                                  |     |
|--------------------------------------------------|-----|
| 1. COMMUTE BICYCLING .....                       | 8%  |
| 2. ROAD BICYCLING (PERFORMANCE RIDING) .....     | 8%  |
| 3. RECREATIONAL BICYCLING .....                  | 22% |
| 4. MOUNTAIN BICYLING .....                       | 11% |
| 5. WALKING/JOGGING/ENDURANCE TRAIL RUNNING ..... | 84% |
| 6. HIKING .....                                  | 58% |
| 7. EQUESTRIAN/ENDURANCE RIDING .....             | 2%  |
| 8. OTHER REASON .....                            | 0%  |

12. WHAT ARE ALL THE REASONS YOU'VE USED THE TRAILS BEFORE?

- 1. EXERCISE ..... 89%
- 2. ENJOYMENT ..... 87%
- 3. TRAVELING TO WORK ..... 7%
- 4. TRAVELING TO SCHOOL ..... 3%
- 5. TRAVELING TO SHOP ..... 7%
- 6. VISITING FRIENDS/FAMILY ..... 16%
- 7. OTHER ..... 1%

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13. WHEN USING TRAILS, MY MOST COMMON DESTINATION IS...

- 1. TRAVELING TO WORK ..... 6%
- 2. TRAVELING TO SCHOOL ..... 1%
- 3. TRAVELING TO SHOP ..... 3%
- 4. VISITING FRIENDS/FAMILY ..... 8%
- 5. TRAVELING TO OTHR LOC. .... 1%
- 6. ONLY TRAVELING TO USE THE TRAIL ..... 81%

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14. HAVE YOU EVER USED A TRAIL AS PART OF YOUR COMMUTE TO WORK OR SCHOOL?

- 1. TRAVEL TO WORK ..... 10%
- 2. TRAVEL TO SCHOOL ..... 6%
- 3. BOTH ..... 6%
- 4. NEITHER ..... 79%

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15. WHAT IS THE TOTAL ESTIMATED ONE-WAY DISTANCE YOU TRAVEL TO WORK WHEN USEING THE TRAILS?

- 1. LESS THAN 1 MILE ..... 14%
- 2. 1-3 MILES ..... 51%
- 3. 4-10 MILES ..... 31%
- 4. MORE THAN 10 MILES ..... 3%

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16. WHAT IS TOTAL ESTIMATED ONE-WAY DISTANCE YOU TRAVEL TO SCHOOL WHEN USING THE TRAILS?

- 1. 1 - 5 MILES ..... 62%
- 2. 6 - 10 MILES ..... 27%
- 3. 11 - 15 MILES ..... 12%
- 4. MORE THAN 15 MILES ..... 0%

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17. WHY DO YOU TRAVEL USING THE TRAILS?

- 1. NO VEHICLE ..... 6%
- 2. NO OTHER TRANSPORTATION ..... 5%
- 3. SAVE MONEY ..... 12%
- 4. GD FOR ENVIRON./ENJY OUTDOORS ..... 60%

|                             |     |
|-----------------------------|-----|
| 5. EXCERCISE .....          | 84% |
| 6. SOCIAL INTERACTION ..... | 29% |
| 7. OTHER .....              | 1%  |

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18. WHEN YOU USE THE TRAILS, DO YOU USUALLY USE THEM...

- |                                        |     |
|----------------------------------------|-----|
| 1. BY YOURSELF .....                   | 25% |
| 2. WITH 1 OR 2 OTHER PPL .....         | 63% |
| 3. WITH 3 OR MORE PPL .....            | 10% |
| 4. AS PART OF AN ORGANIZED GROUP ..... | 2%  |

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19. HOW DO YOU USUALLY GET TO THE TRAILS?

- |                                |     |
|--------------------------------|-----|
| 1. CAR/TRUCK/VAN .....         | 62% |
| 2. BIKING .....                | 11% |
| 3. WALKING/JOGGING .....       | 24% |
| 4. PUBLIC TRANSPORTATION ..... | 3%  |
| 5. EQUESTRIAN/HORSE BACK ..... | 0%  |
| 6. OTHER .....                 | 0%  |

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20. HOW FAR ARE YOU WILLING TO DRIVE TO ACCESS A TRAIL?

- |                             |     |
|-----------------------------|-----|
| 1. 0 MILES .....            | 6%  |
| 2. 1-5 MILES .....          | 23% |
| 3. 6-10 MILES .....         | 29% |
| 4. 11-15 MILES .....        | 13% |
| 5. MORE THAN 15 MILES ..... | 27% |
| 6. NOT AT ALL .....         | 1%  |

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21. WHEN DO YOU TYPICALLY USE TRAILS?

- |                   |     |
|-------------------|-----|
| 1. WEEKENDS ..... | 38% |
| 2. WEEKDAYS ..... | 12% |
| 3. BOTH .....     | 50% |

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22. HOW OFTEN DO YOU NORMALLY USE TRAILS?

- |                                |     |
|--------------------------------|-----|
| 1. 3+ DAYS A WEEK .....        | 19% |
| 2. 1 - 2 DAYS A WEEK .....     | 27% |
| 3. AT LEAST ONCE A MONTH ..... | 26% |
| 4. SEVERAL TIMES A YEAR .....  | 24% |
| 5. LESS THAN ONCE A YEAR ..... | 4%  |

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23. WHAT ARE THE MOST COMMON TIMES OF DAY YOU USE TRAILS ON WEEKDAYS?

- |                             |     |
|-----------------------------|-----|
| 1. BEFORE 7 AM .....        | 17% |
| 2. 7:00 - 9:59 AM .....     | 45% |
| 3. 10:00 AM - 3:59 PM ..... | 24% |
| 4. 4:00 - 6:59 PM .....     | 35% |
| 5. 7 PM OR AFTER .....      | 23% |

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24. WHAT ARE THE MOST COMMON TIMES OF DAY YOU USE TRAILS ON THE WEEKEND?

- 1. BEFORE 7 AM ..... 21%
- 2. 7:00 - 9:59 AM ..... 47%
- 3. 10:00 AM - 3:59 PM ..... 37%
- 4. 4:00 - 6:59 PM ..... 27%
- 5. AFTER 7 PM ..... 15%

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25. WHICH OF THE FOLLOWING TYPES OF FACILITIES OR AMENITIES HAVE YOU USED WHEN USING TRAILS?

- 1. PARKING ..... 63%
- 2. TRASH CANS/RECYCLE BINS ..... 69%
- 3. SHADE/TREES ..... 71%
- 4. BENCHES ..... 50%
- 5. DRINKING WATER ..... 41%
- 6. RESTROOMS ..... 52%
- 7. OTHER ..... 2%

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26. OVERALL SATISFACTION [WITH TRAIL AMENITIES]

- 1. VERY SATISFIED ..... 44%
- 2. SATISFIED ..... 43%
- 3. NEUTRAL ..... 11%
- 4. DISSATISFIED ..... 0%
- 5. VERY DISSATISFIED ..... 0%
- 6. NA/DON'T KNOW ..... 1%

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27. [SATISFACTION WITH] PARKING

- 1. VERY SATISFIED ..... 31%
- 2. SATISFIED ..... 43%
- 3. NEUTRAL ..... 15%
- 4. DISSATISFIED ..... 2%
- 5. VERY DISSATISFIED ..... 1%
- 6. NA/DON'T KNOW ..... 8%

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28. [SATISFACTION WITH] TRASH CANS/RECYCLING BINS

- 1. VERY SATISFIED ..... 35%
- 2. SATISFIED ..... 43%
- 3. NEUTRAL ..... 17%
- 4. DISSATISFIED ..... 2%
- 5. VERY DISSATISFIED ..... 0%
- 6. NA/DON'T KNOW ..... 3%

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29. [SATISFACTION WITH] SHADE/TREES

- 1. VERY SATISFIED ..... 35%
- 2. SATISFIED ..... 41%
- 3. NEUTRAL ..... 18%
- 4. DISSATISFIED ..... 3%
- 5. VERY DISSATISFIED ..... 0%
- 6. NA/DON'T KNOW ..... 2%

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30. [SATISFACTION WITH] BENCHES

- 1. VERY SATISFIED ..... 26%
- 2. SATISFIED ..... 39%
- 3. NEUTRAL ..... 24%
- 4. DISSATISFIED ..... 6%
- 5. VERY DISSATISFIED ..... 0%
- 6. NA/DON'T KNOW ..... 5%

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31. [SATISFACTION WITH] DRINKING WATER

- 1. VERY SATISFIED ..... 16%
- 2. SATISFIED ..... 24%
- 3. NEUTRAL ..... 35%
- 4. DISSATISFIED ..... 12%
- 5. VERY DISSATISFIED ..... 3%
- 6. NA/DON'T KNOW ..... 10%

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32. [SATISFACTION WITH] RESTROOMS

- 1. VERY SATISFIED ..... 15%
- 2. SATISFIED ..... 27%
- 3. NEUTRAL ..... 30%
- 4. DISSATISFIED ..... 12%
- 5. VERY DISSATISFIED ..... 6%
- 6. NA/DON'T KNOW ..... 11%

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33. [SATISFACTION WITH] EQUESTRIAN AMENITIES

- 1. VERY SATISFIED ..... 11%
- 2. SATISFIED ..... 19%
- 3. NEUTRAL ..... 29%
- 4. DISSATISFIED ..... 1%
- 5. VERY DISSATISFIED ..... 1%
- 6. NA/DON'T KNOW ..... 39%

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34. [SATISFACTION WITH] SIGNAGE

- 1. VERY SATISFIED ..... 23%
- 2. SATISFIED ..... 40%
- 3. NEUTRAL ..... 24%
- 4. DISSATISFIED ..... 3%
- 5. VERY DISSATISFIED ..... 1%
- 6. NA/DON'T KNOW ..... 8%

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35. [SATISFACTION WITH] BIKE RACKS

- 1. VERY SATISFIED ..... 15%
- 2. SATISFIED ..... 22%

|                            |     |
|----------------------------|-----|
| 3. NEUTRAL .....           | 26% |
| 4. DISSATISFIED .....      | 4%  |
| 5. VERY DISSATISFIED ..... | 1%  |
| 6. NA/DON'T KNOW .....     | 32% |

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36. [SATISFACTION WITH] OTHER

- 1. VERY SATISFIED ..... 100%
- 2. SATISFIED ..... 0%
- 3. NEUTRAL ..... 0%
- 4. DISSATISFIED ..... 0%
- 5. VERY DISSATISFIED ..... 0%
- 6. NA/DON'T KNOW ..... 0%

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37. IN TERMS OF THE SAFETY OF THE TRAIL DESIGN, HOW SAFE DO YOU FEEL THE FACILITIES ARE?

- 1. VERY SAFE ..... 29%
- 2. SAFE ..... 52%
- 3. NEUTRAL ..... 16%
- 4. UNSAFE ..... 2%
- 5. VERY UNSAFE ..... 1%

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38. YOU RATED THE SAFETY OF THE TRAIL AS NEUTRAL, UNSAFE, OR VERY UNSAFE.

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39. IN TERMS OF YOUR PERSONAL SAFETY AND SECURITY, HOW SAFE DO YOU FEEL WHEN USING THE TRAILS?

- 1. VERY SAFE ..... 25%
- 2. SAFE ..... 52%
- 3. NEUTRAL ..... 20%
- 4. UNSAFE ..... 2%
- 5. VERY UNSAFE ..... 0%

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40. YOU RATED THE PERSONAL SAFETY ON THE TRAIL AS NEUTRAL, UNSAFE, OR

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41. WHEN YOU USE ON-STREET BIKE LANES, WHAT ARE THE REASONS YOU HAVE USED THEM?

- 1. EXCERCISE ..... 88%
- 2. ENJOYMENT ..... 75%
- 3. TRAVELING TO WORK ..... 14%
- 4. TRAVELING TO SCHOOL ..... 7%
- 5. TRAVELING TO SHOP ..... 20%
- 6. VISITING FRIENDS/FAMILY ..... 17%
- 7. OTHER REASON ..... 0%

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42. WHEN DO YOU TYPICALLY USE ON-STREET BIKE LANES?

- 1. WEEKENDS ..... 26%

2. WEEKDAYS ..... 14%  
3. BOTH ..... 60%  
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43. HOW OFTEN DO YOU NORMALLY USE ON-STREET BIKE LANES?

- 1. 3+ DAYS A WEEK ..... 17%
- 2. 1-2 DAYS A WEEK ..... 36%
- 3. AT LEAST ONCE A MONTH ..... 28%
- 4. SEVERAL TIMES A YEAR ..... 13%
- 5. LESS THAN ONCE A YEAR ..... 5%

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44. [LIKELINESS TO USE TRAIL:] MURRIETA CREEK TRAIL

- 1. VERY LIKELY ..... 16%
- 2. LIKELY ..... 13%
- 3. UNSURE ..... 30%
- 4. UNLIKELY ..... 25%
- 5. VERY UNLIKELY ..... 17%

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45. [LIKELINESS TO USE TRAIL:] SAN JANINTO RIVER TRAIL

- 1. VERY LIKELY ..... 16%
- 2. LIKELY ..... 13%
- 3. UNSURE ..... 30%
- 4. UNLIKELY ..... 25%
- 5. VERY UNLIKELY ..... 16%

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46. [LIKELINESS TO USE TRAIL:] SALK CREEK TRAIL

- 1. VERY LIKELY ..... 17%
- 2. LIKELY ..... 13%
- 3. UNSURE ..... 44%
- 4. UNLIKELY ..... 16%
- 5. VERY UNLIKELY ..... 10%

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47. [LIKELINESS TO USE TRAIL:] TEMESCAL CANYON/BUTTERFIELD STAGE/SOUTHERN EMEGRANT TRAIL

- 1. VERY LIKELY ..... 17%
- 2. LIKELY ..... 11%
- 3. UNSURE ..... 34%
- 4. UNLIKELY ..... 24%
- 5. VERY UNLIKELY ..... 14%

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48. [LIKELINESS TO USE TRAIL:] WHITE WATER (CV LINK) TRAIL

- 1. VERY LIKELY ..... 18%
- 2. LIKELY ..... 8%
- 3. UNSURE ..... 37%
- 4. UNLIKELY ..... 19%
- 5. VERY UNLIKELY ..... 17%

49. DO YOU BELIEVE OR SUPPORT THE CONCEPT OF RESTRICTED USE TRAILS WITHIN THE COUNTY?

- |                     |     |
|---------------------|-----|
| 1. YES .....        | 58% |
| 2. NO .....         | 16% |
| 3. DON'T KNOW ..... | 26% |

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50. WOULD YOU... BE WILLING TO SUPPORT AN INITIATIVE TO FUND TRAIL DEVELOPMENT AND MAINTENANCE?

- |                   |     |
|-------------------|-----|
| 1. YES .....      | 57% |
| 2. NO .....       | 13% |
| 3. NOT SURE ..... | 31% |

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51. DO YOU WORK?

- |                          |     |
|--------------------------|-----|
| 1. YES - FULL-TIME ..... | 46% |
| 2. YES - PART-TIME ..... | 15% |
| 3. NO .....              | 39% |

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52. ARE YOU A STUDENT?

- |                          |     |
|--------------------------|-----|
| 1. YES - FULL-TIME ..... | 10% |
| 2. YES - PART-TIME ..... | 7%  |
| 3. NO .....              | 83% |

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53. HOW MANY PEOPLE LIVE IN YOUR HOUSEHOLD

- |                           |     |
|---------------------------|-----|
| 1. 1 PERSON .....         | 14% |
| 2. 2 PEOPLE .....         | 30% |
| 3. 3 PEOPLE .....         | 19% |
| 4. 4 PEOPLE .....         | 18% |
| 5. 5 PEOPLE .....         | 11% |
| 6. 6 OR MORE PEOPLE ..... | 7%  |

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54. WHAT IS YOUR COMBINED TOTAL HOUSEHOLD INCOME?

- |                               |     |
|-------------------------------|-----|
| 1. LESS THAN \$20,000 .....   | 13% |
| 2. \$20,000-\$34,999 .....    | 10% |
| 3. \$35,000-\$49,999 .....    | 13% |
| 4. \$50,000-\$74,999 .....    | 21% |
| 5. \$75,000-\$100,000 .....   | 15% |
| 6. MORE THAN \$100,000 .....  | 23% |
| 7. PREFER NOT TO ANSWER ..... | 6%  |

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## Appendix E:

### Relevant Planning Documents

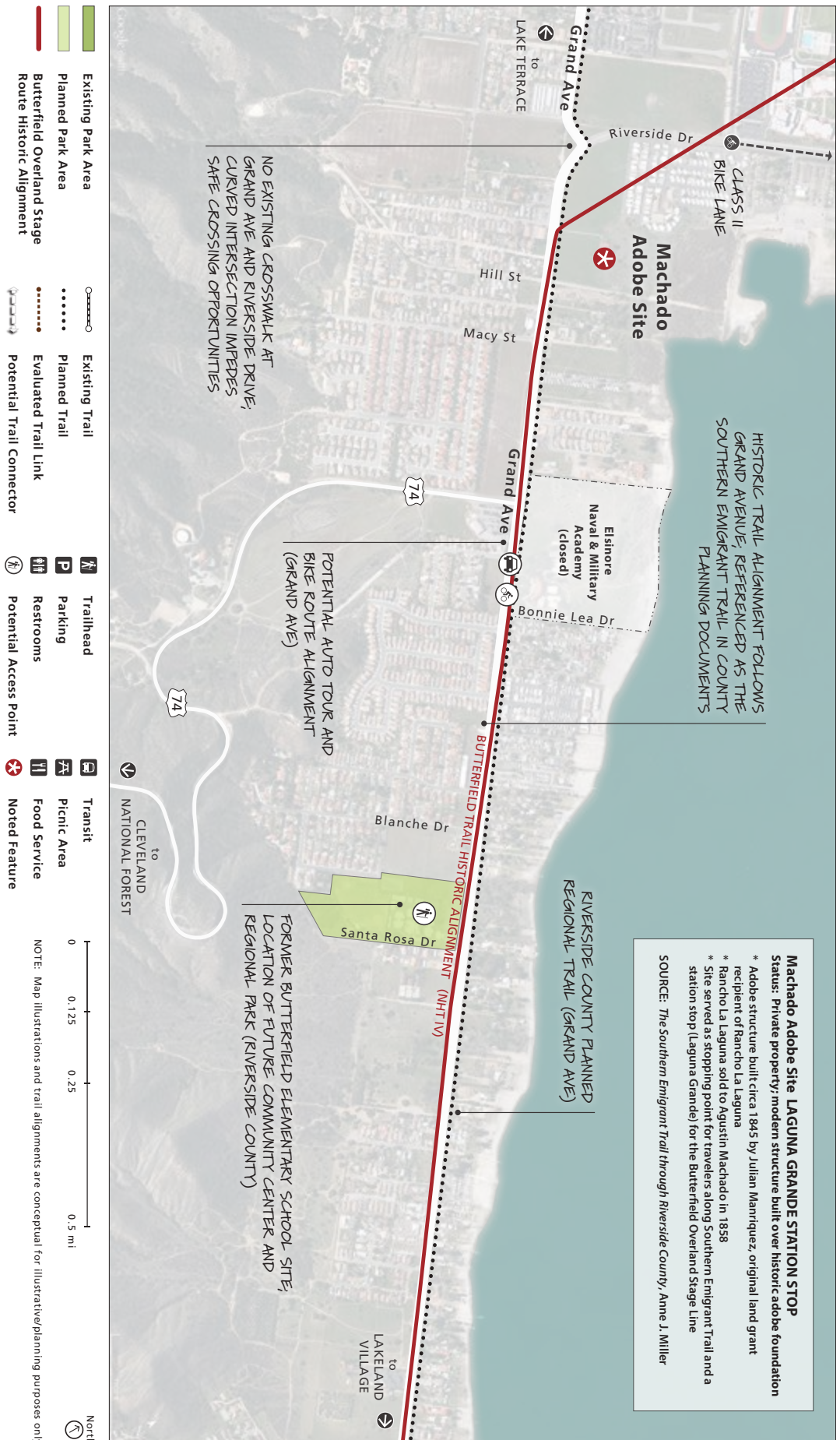


# Section 1 Inventory Map

Appendix



# Section 2 Inventory Map

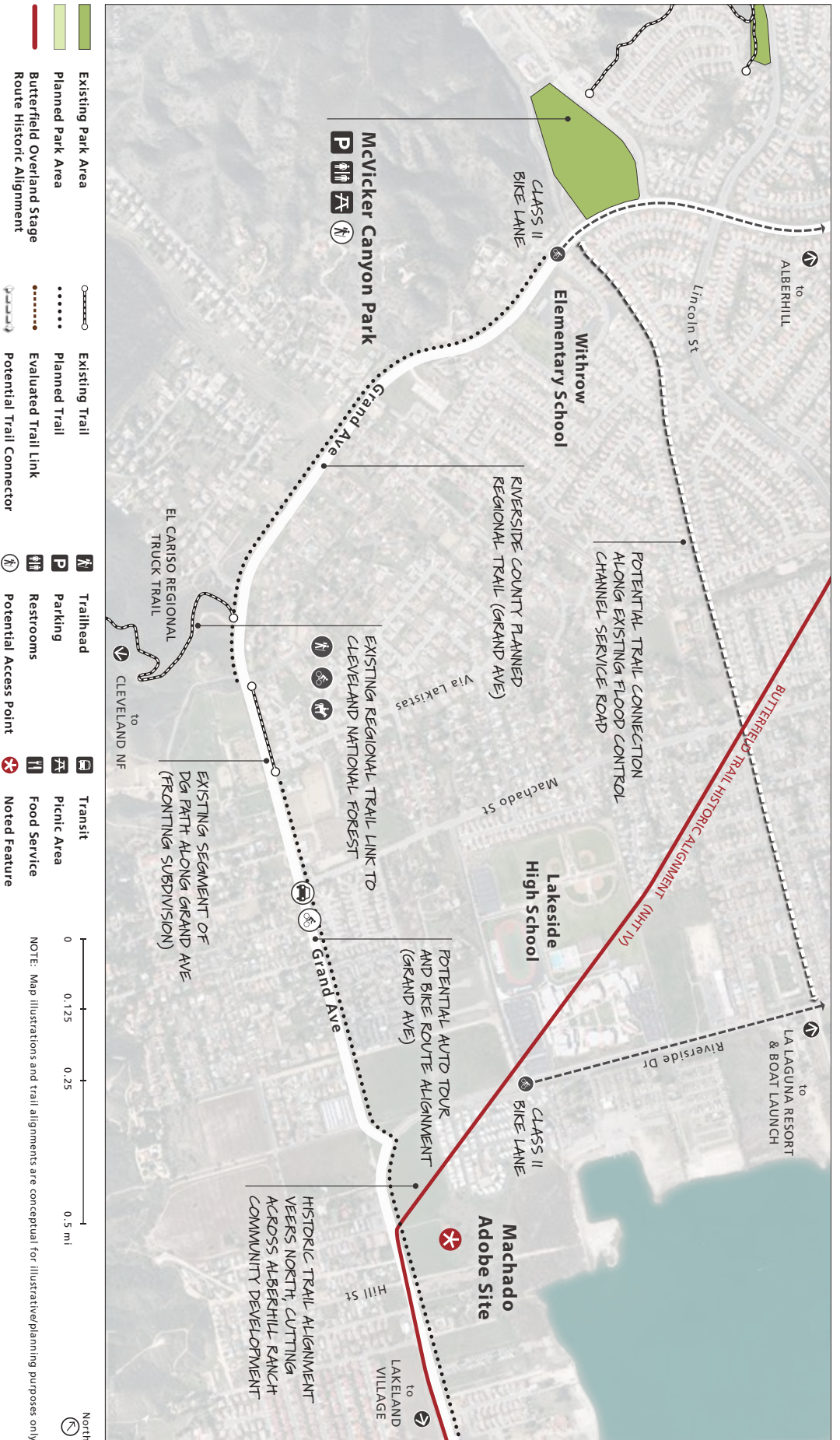


**Machado Adobe Site LAGUNA GRANDE STATION STOP**  
 Status: Private property; modern structure built over historic adobe foundation  
 \* Adobe structure built circa 1845 by Julian Manriquez, original land grant recipient of Rancho La Laguna  
 \* Rancho La Laguna sold to Agustin Machado in 1858  
 \* Site served as stopping point for travelers along Southern Emigrant Trail and a station stop (Laguna Grande) for the Butterfield Overland Stage Line  
 SOURCE: The Southern Emigrant Trail through Riverside County, Anne J. Miller

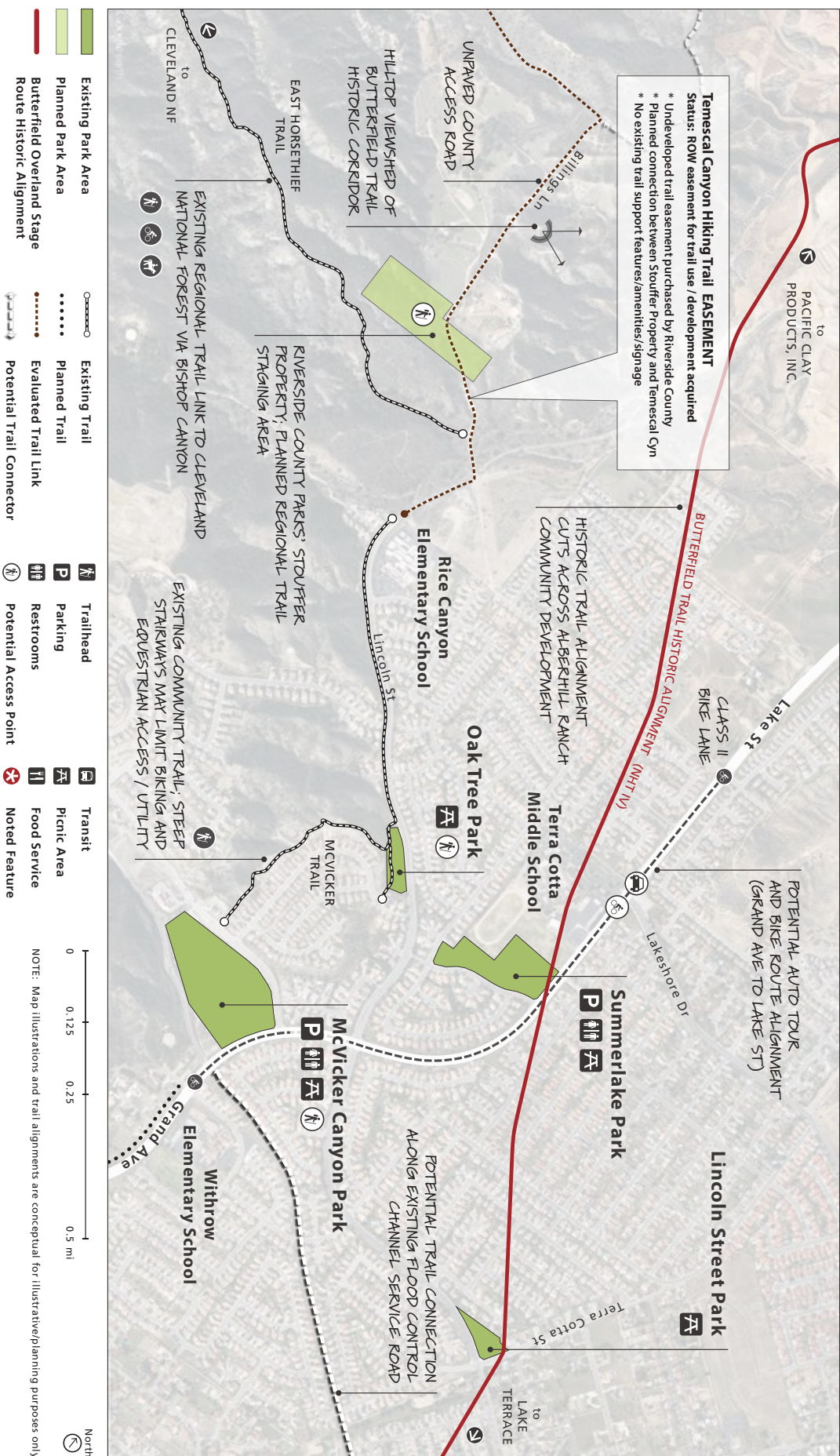
Butterfield Overland Trail Project - Temescal Valley Alignment Analysis. 2015. City of Lake Elsinore, City of Corona, Riverside County Regional Park and Open Space District, Riverside County Board of Supervisors, Riverside County Habitat Conservation Agency, and Riverside County Park District Advisory Commission

# Section 3 Inventory Map

Appendix



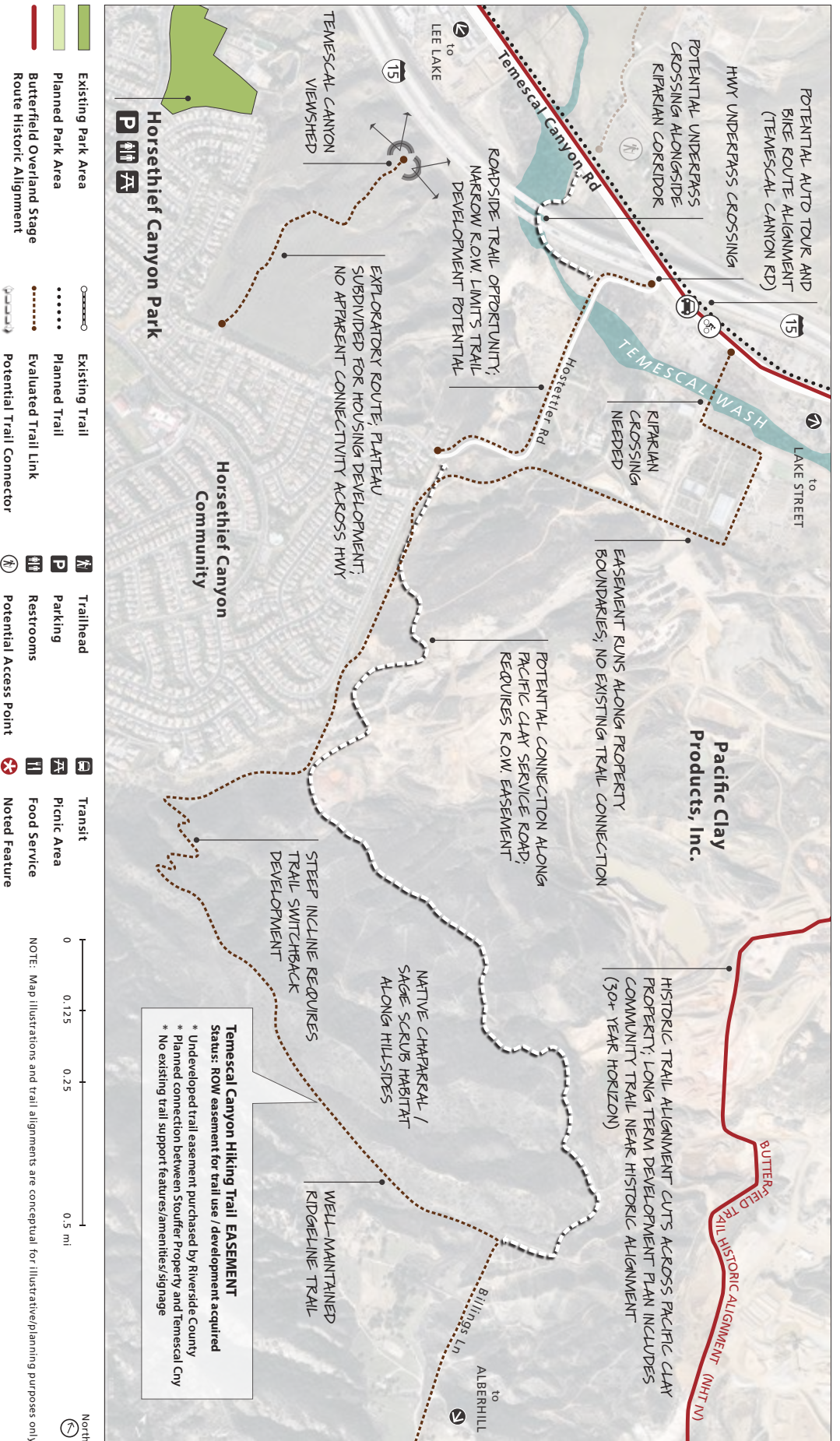
# Section 4 Inventory Map



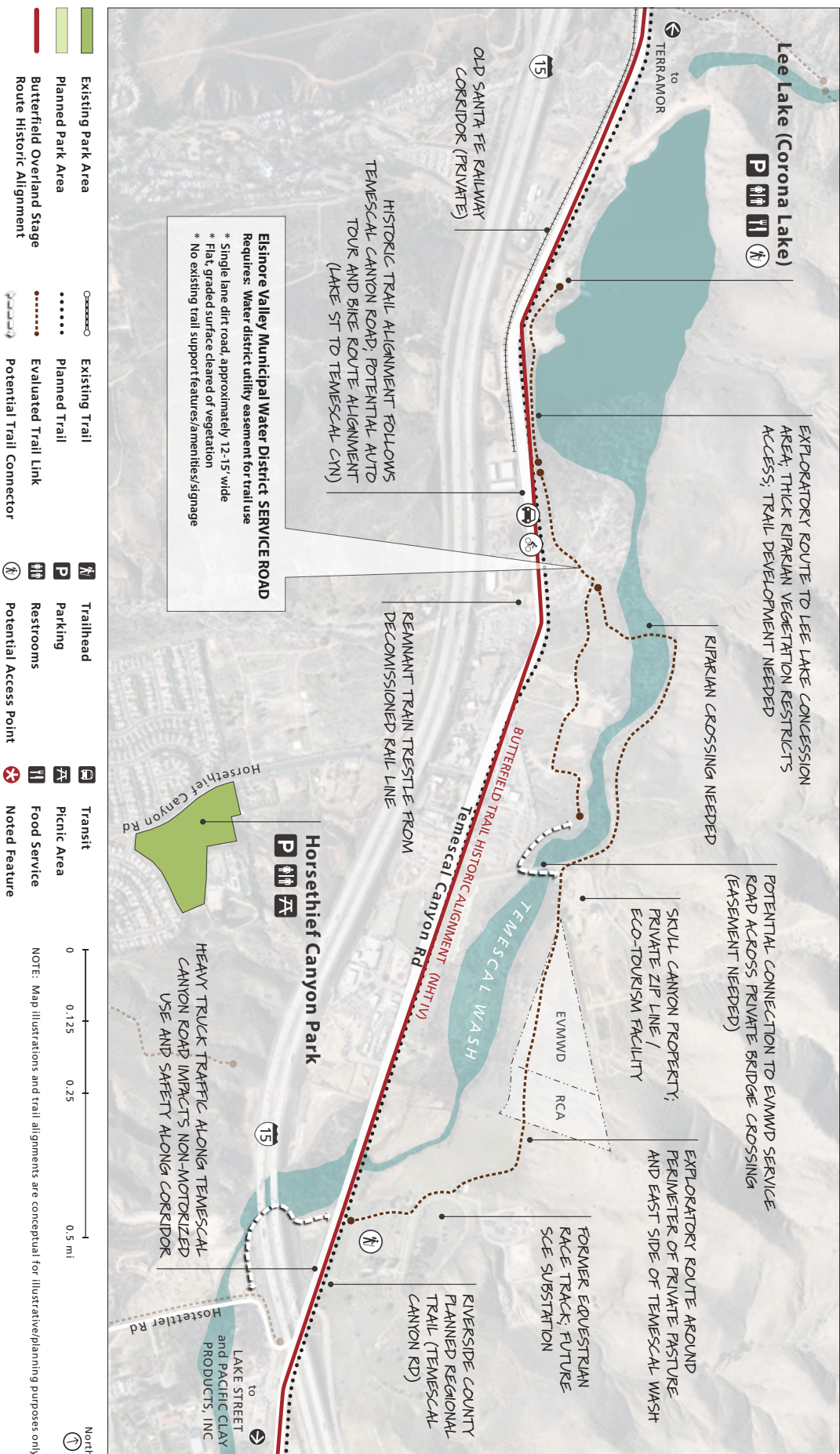
Butterfield Overland Trail Project - Temescal Valley Alignment Analysis. 2015. City of Lake Elsinore, City of Corona, Riverside County Regional Park and Open Space District, Riverside County Board of Supervisors, Riverside County Habitat Conservation Agency, and Riverside County Park District Advisory Commission

# Section 5 Inventory Map

## Appendix



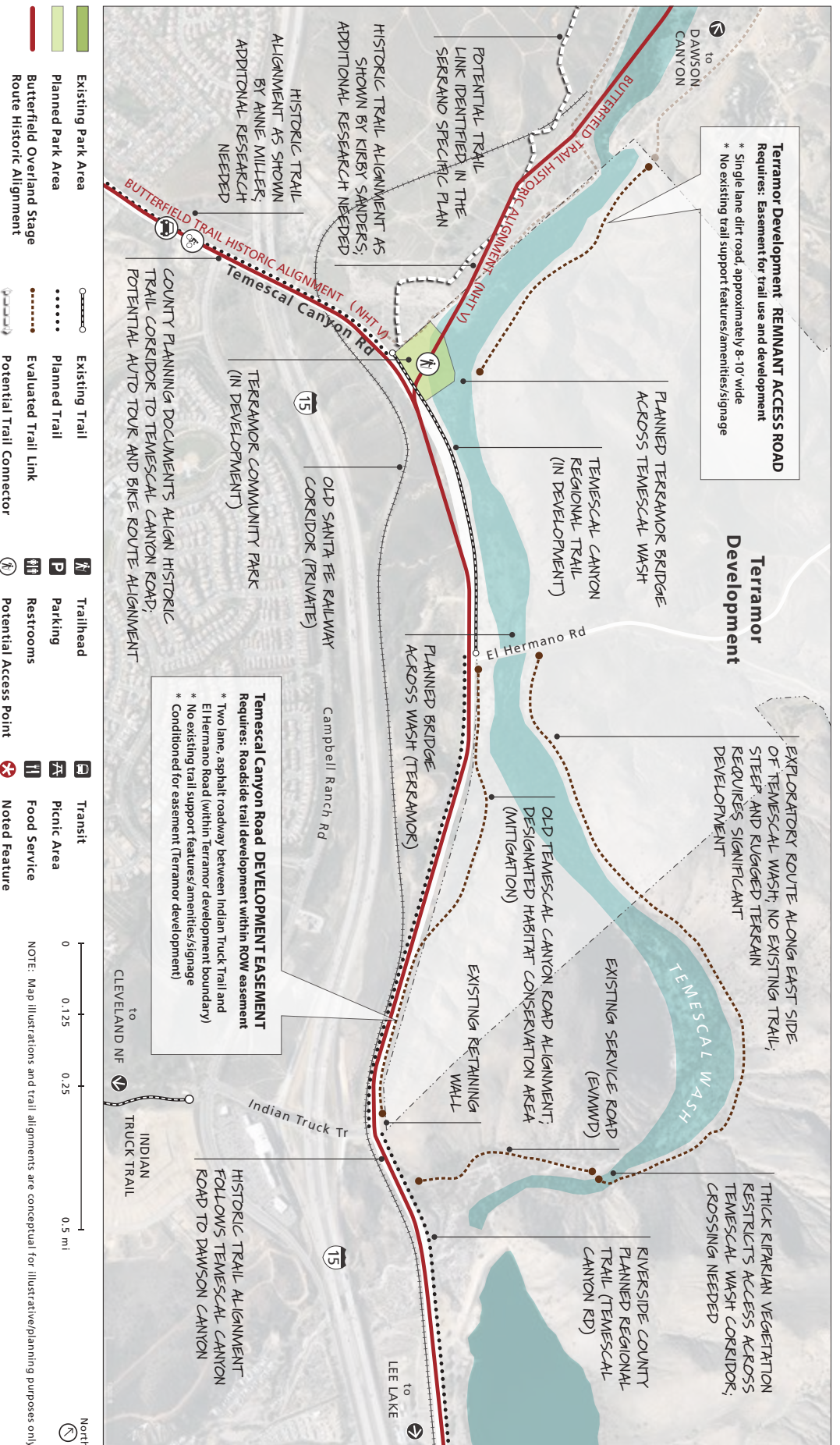
# Section 6 Inventory Map



Butterfield Overland Trail Project - Temescal Valley Alignment Analysis. 2015. City of Lake Elsinore, City of Corona, Riverside County Regional Park and Open Space District, Riverside County Board of Supervisors, Riverside County Habitat Conservation Agency, and Riverside County Park District Advisory Commission

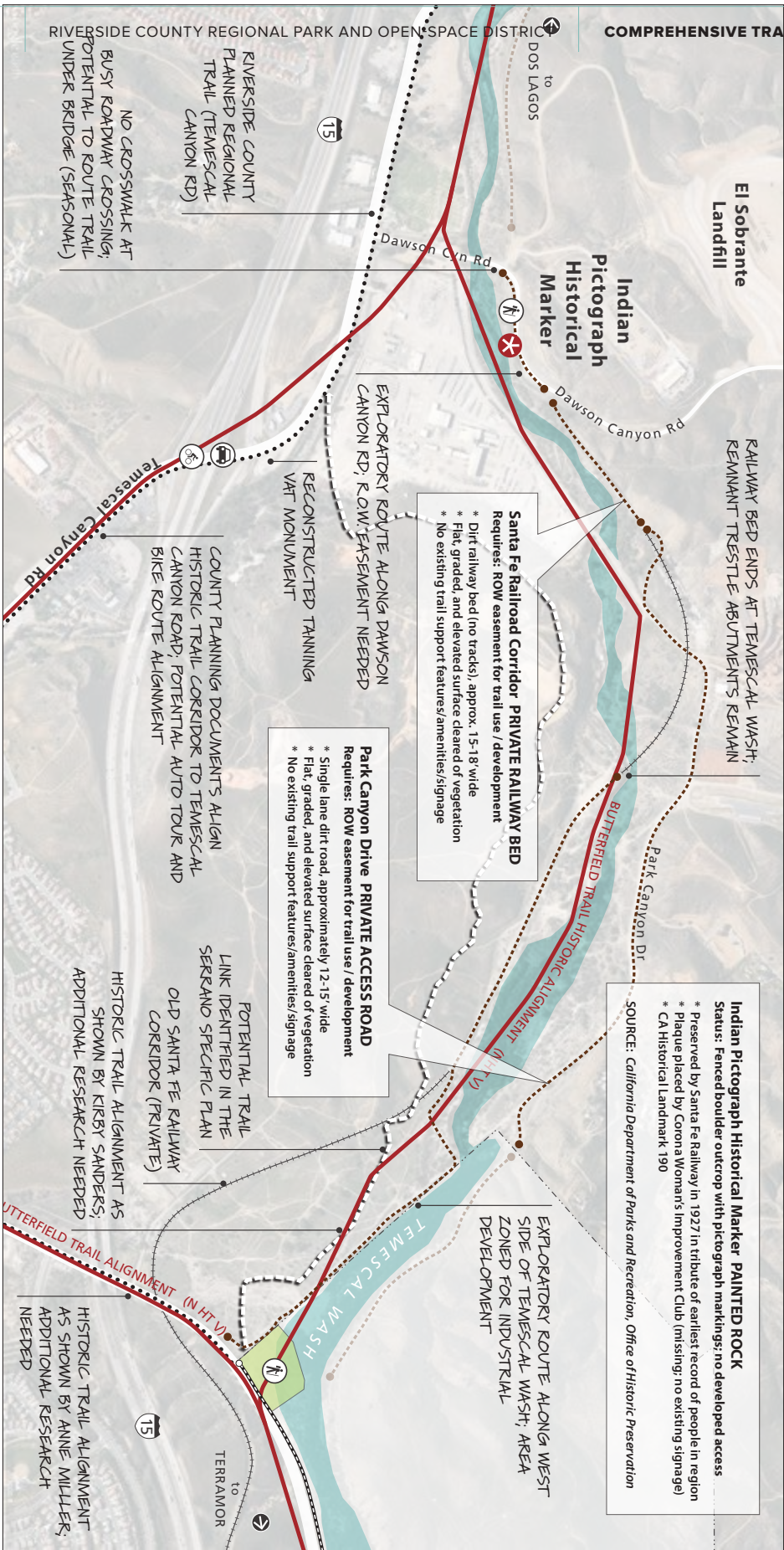
# Section 7 Inventory Map

## Appendix



# Section 8 Inventory Map

COMPREHENSIVE TRAILS PLAN



- February 2018
- Existing Park Area
- Planned Park Area
- Butterfield Overland Stage
- Route Historic Alignment
- Existing Trail
- Planned Trail
- Evaluated Trail Link
- Potential Trail Connector

- Trailhead
- Parking
- Restrooms
- Potential Access Point
- Transit
- Picnic Area
- Food Service
- Noted Feature

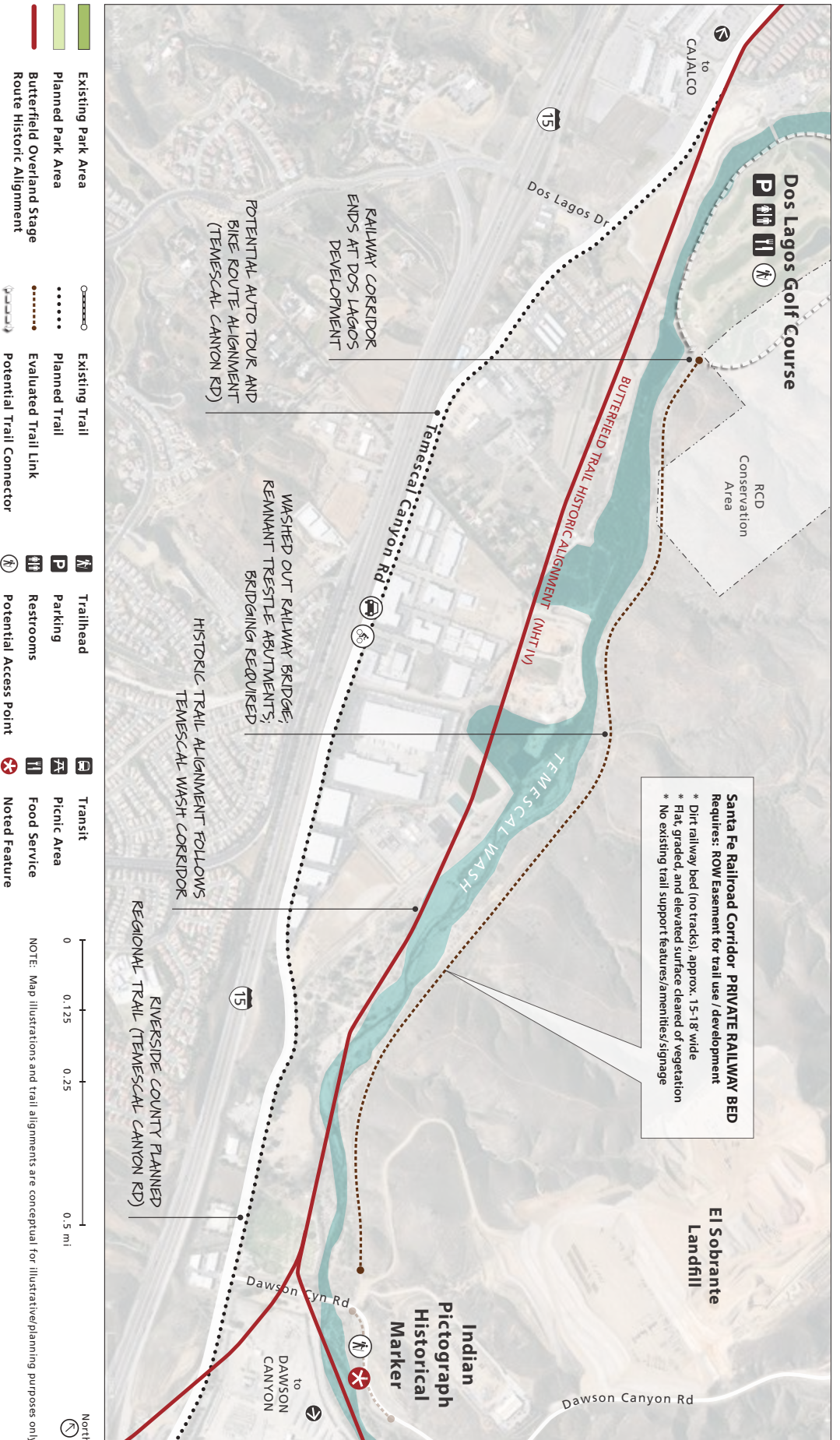
NOTE: Map illustrations and trail alignments are conceptual for illustrative/planning purposes only





# Section 9 Inventory Map

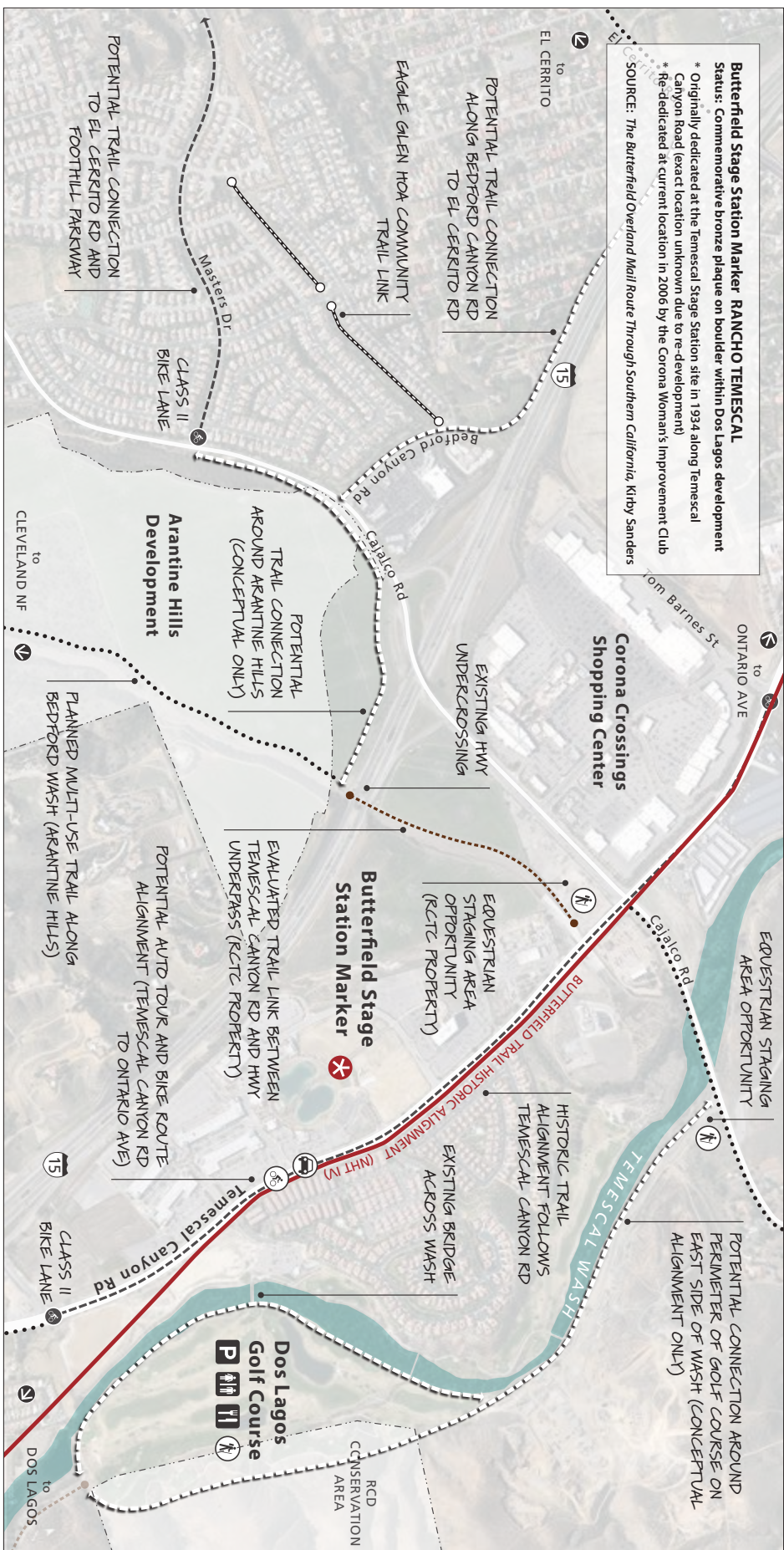
## Appendix



Butterfield Overland Trail Project - Temescal Valley Alignment Analysis. 2015. City of Lake Elsinore, City of Corona, Riverside County Regional Park and Open Space District, Riverside County Board of Supervisors, Riverside County Habitat Conservation Agency, and Riverside County Park District Advisory Commission

# Section 10 Inventory Map

**Butterfield Stage Station Marker RANCHO TEMESCAL**  
 Status: Commemorative bronze plaque on boulder within Dos Lagos development  
 \* Originally dedicated at the Temescal Stage Station site in 1934 along Temescal Canyon Road (exact location unknown, due to re-development)  
 \* Re-dedicated at current location in 2006 by the Corona Woman's Improvement Club  
 SOURCE: The Butterfield Overland Mail Route Through Southern California, Kirby Sanders



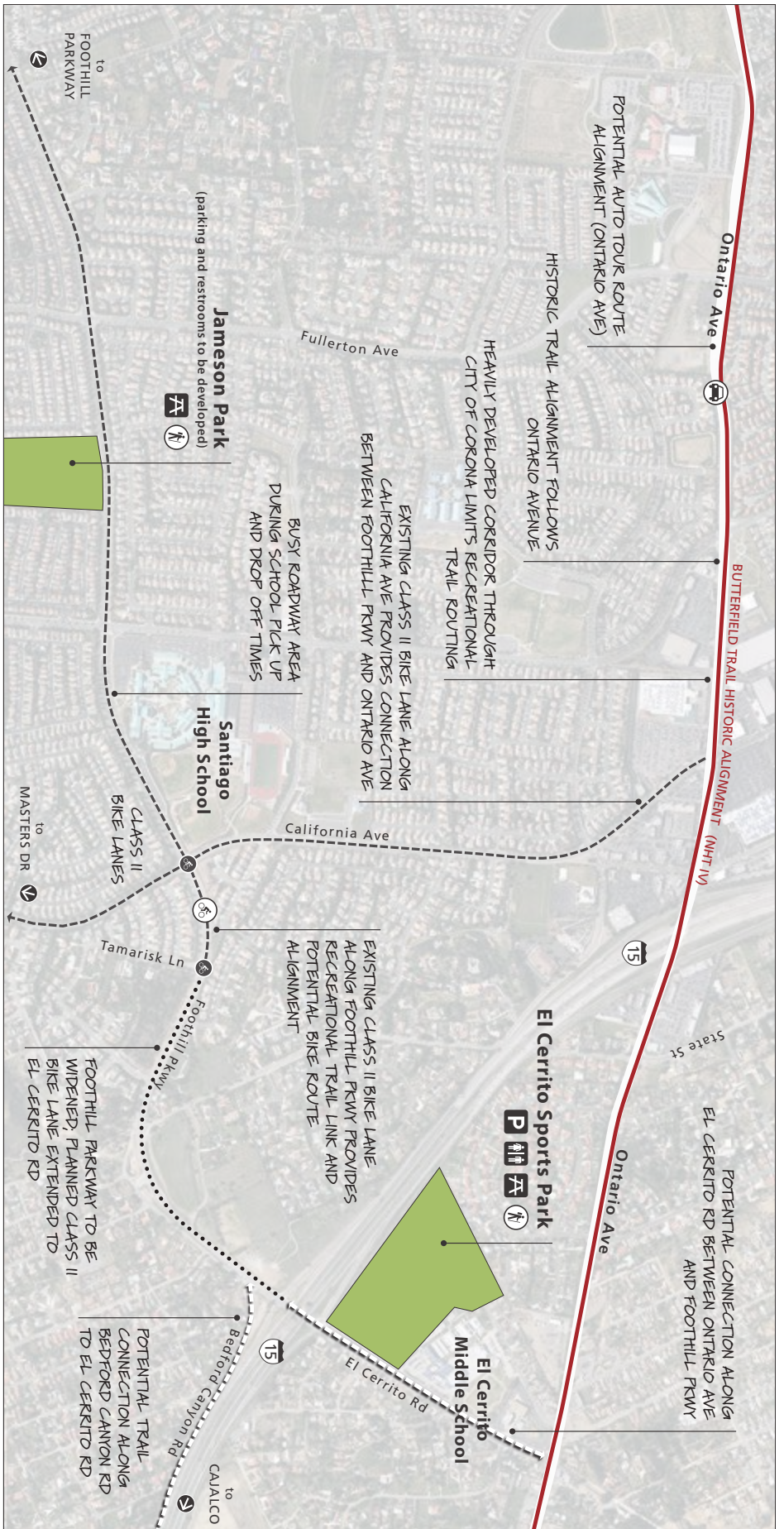
- Existing Park Area
- Planned Park Area
- Butterfield Overland Stage
- Route Historic Alignment
- Existing Trail
- Planned Trail
- Evaluated Trail Link
- Potential Trail Connector
- Trailhead
- Parking
- Restrooms
- Potential Access Point
- Transit
- Picnic Area
- Food Service
- Noted Feature



NOTE: Map illustrations and trail alignments are conceptual for illustrative/planning purposes only

# Section 11 Inventory Map

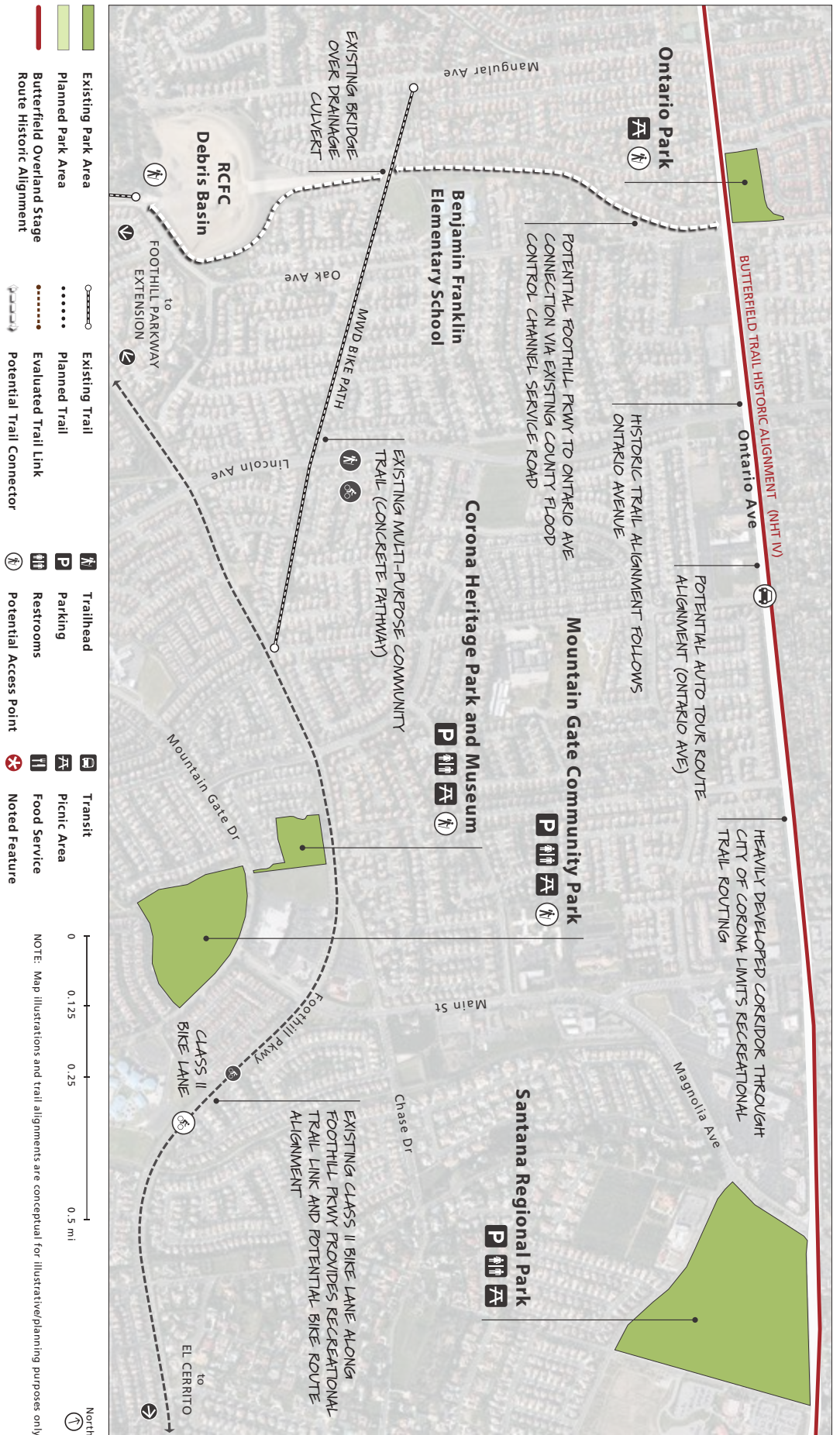
## Appendix



- Existing Park Area
  - Planned Park Area
  - Butterfield Overland Stage
  - Route Historic Alignment
  - Existing Trail
  - Planned Trail
  - Evaluated Trail Link
  - Potential Trail Connector
  - Trailhead
  - Parking
  - Restrooms
  - Potential Access Point
  - Transit
  - Picnic Area
  - Food Service
  - Noted Feature
- NOTE: Map illustrations and trail alignments are conceptual for illustrative/planning purposes only

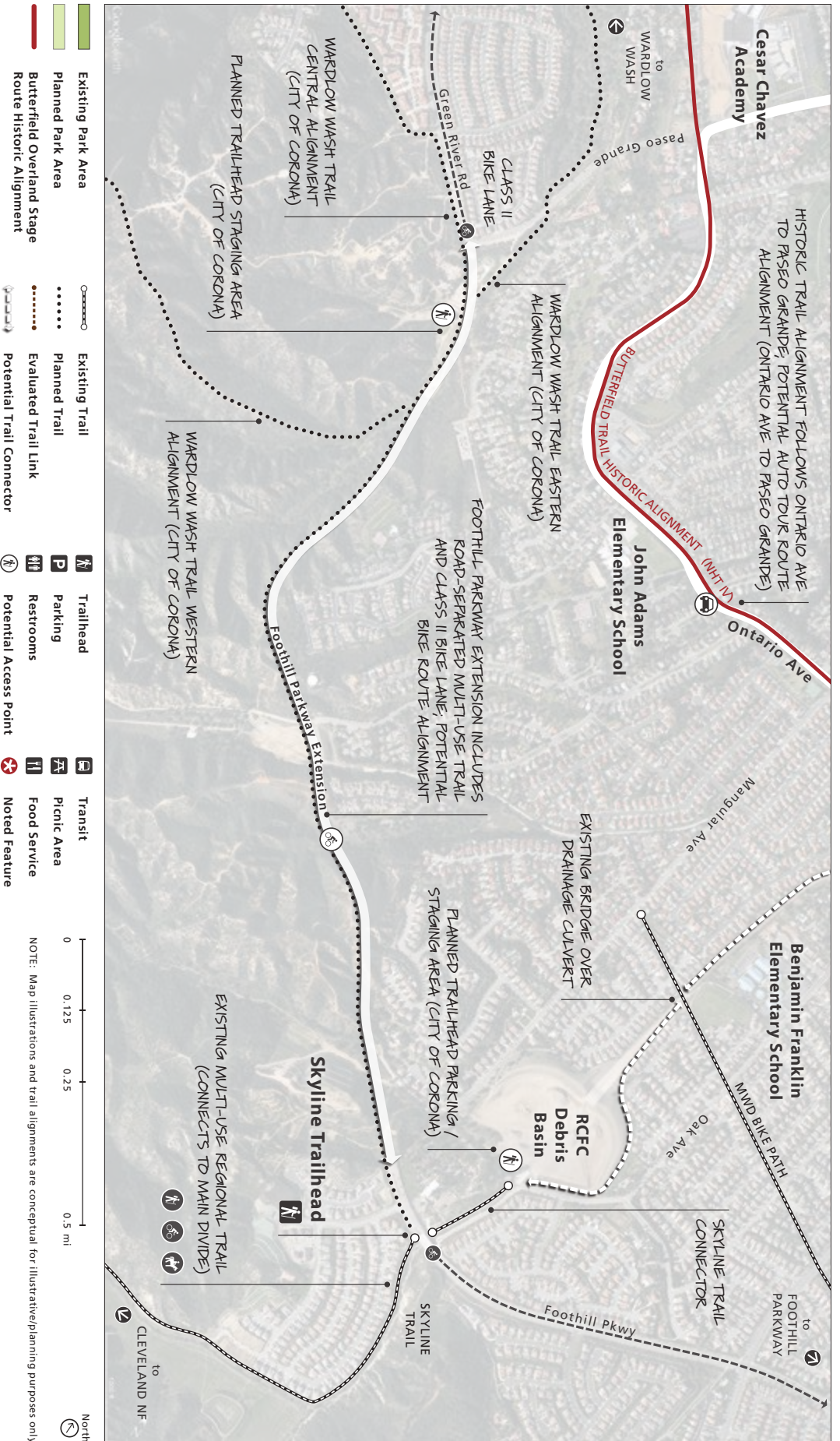


# Section 12 Inventory Map

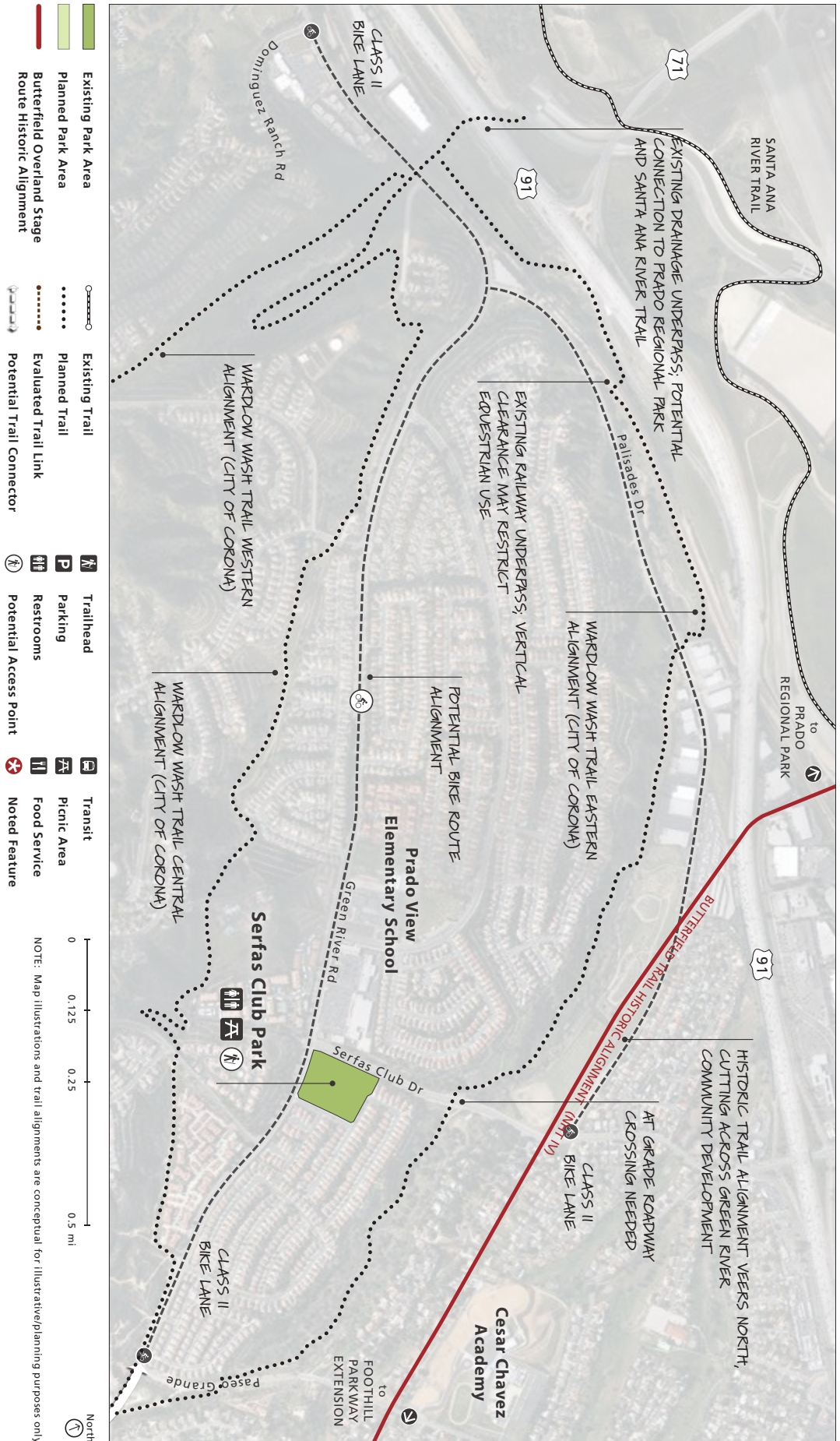


# Section 13 Inventory Map

## Appendix



# Section 14 Inventory Map

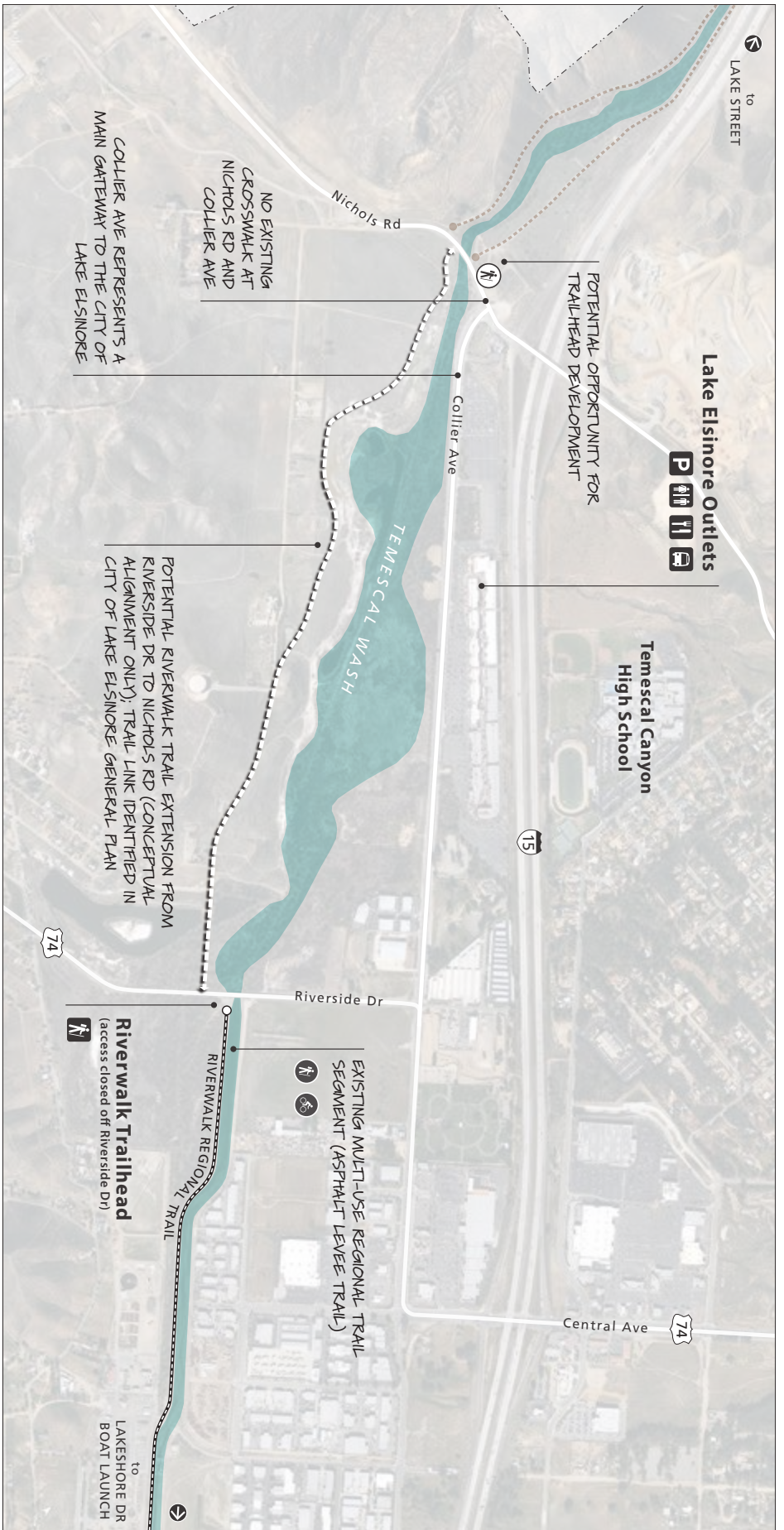


- |  |                                                     |  |                           |  |                        |  |               |
|--|-----------------------------------------------------|--|---------------------------|--|------------------------|--|---------------|
|  | Existing Park Area                                  |  | Planned Trail             |  | Parking                |  | Transit       |
|  | Planned Park Area                                   |  | Evaluated Trail Link      |  | Restrooms              |  | Food Service  |
|  | Butterfield Overland Stage Route Historic Alignment |  | Potential Trail Connector |  | Potential Access Point |  | Noted Feature |
- NOTE: Map illustrations and trail alignments are conceptual for illustrative/planning purposes only



# Section A1 Inventory Map

## Appendix



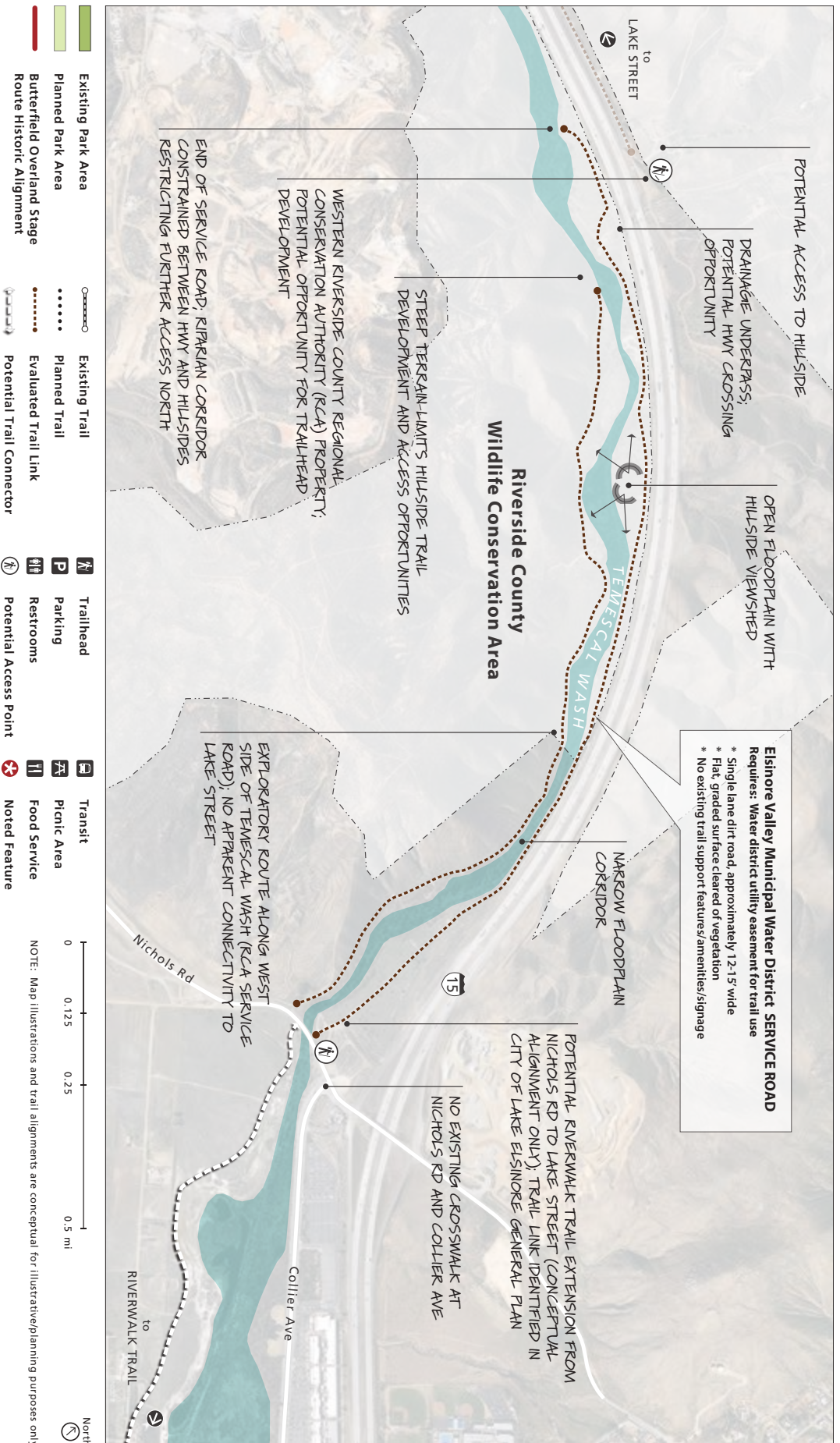
- Existing Park Area
- Planned Park Area
- Butterfield Overland Stage
- Route Historic Alignment
- Existing Trail
- Planned Trail
- Evaluated Trail Link
- Potential Trail Connector
- Trailhead
- Parking
- Restrooms
- Potential Access Point
- Transit
- Picnic Area
- Food Service
- Noted Feature

0 0.125 0.25 0.5 mi

North

NOTE: Map illustrations and trail alignments are conceptual for illustrative/planning purposes only

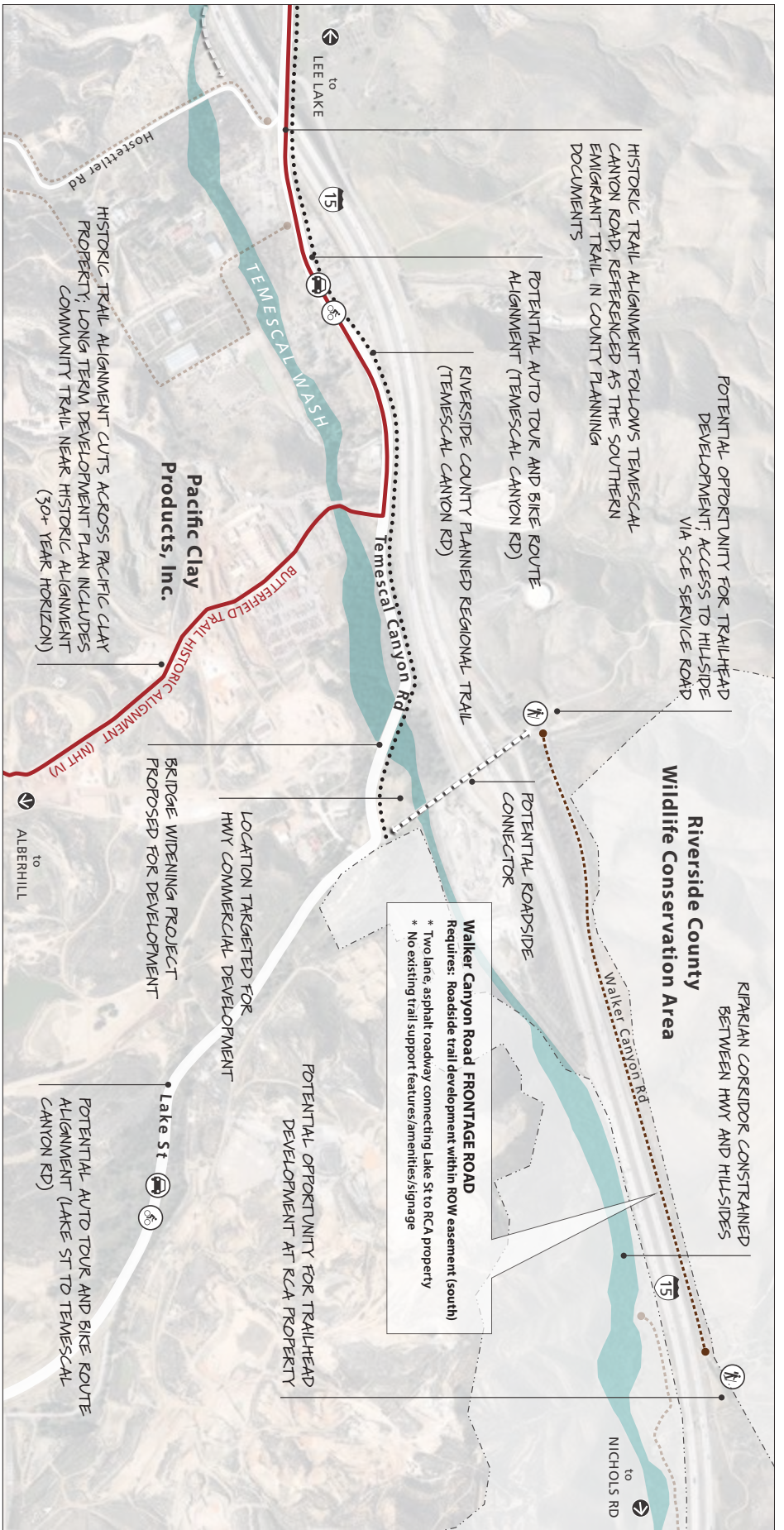
# Section A2 Inventory Map

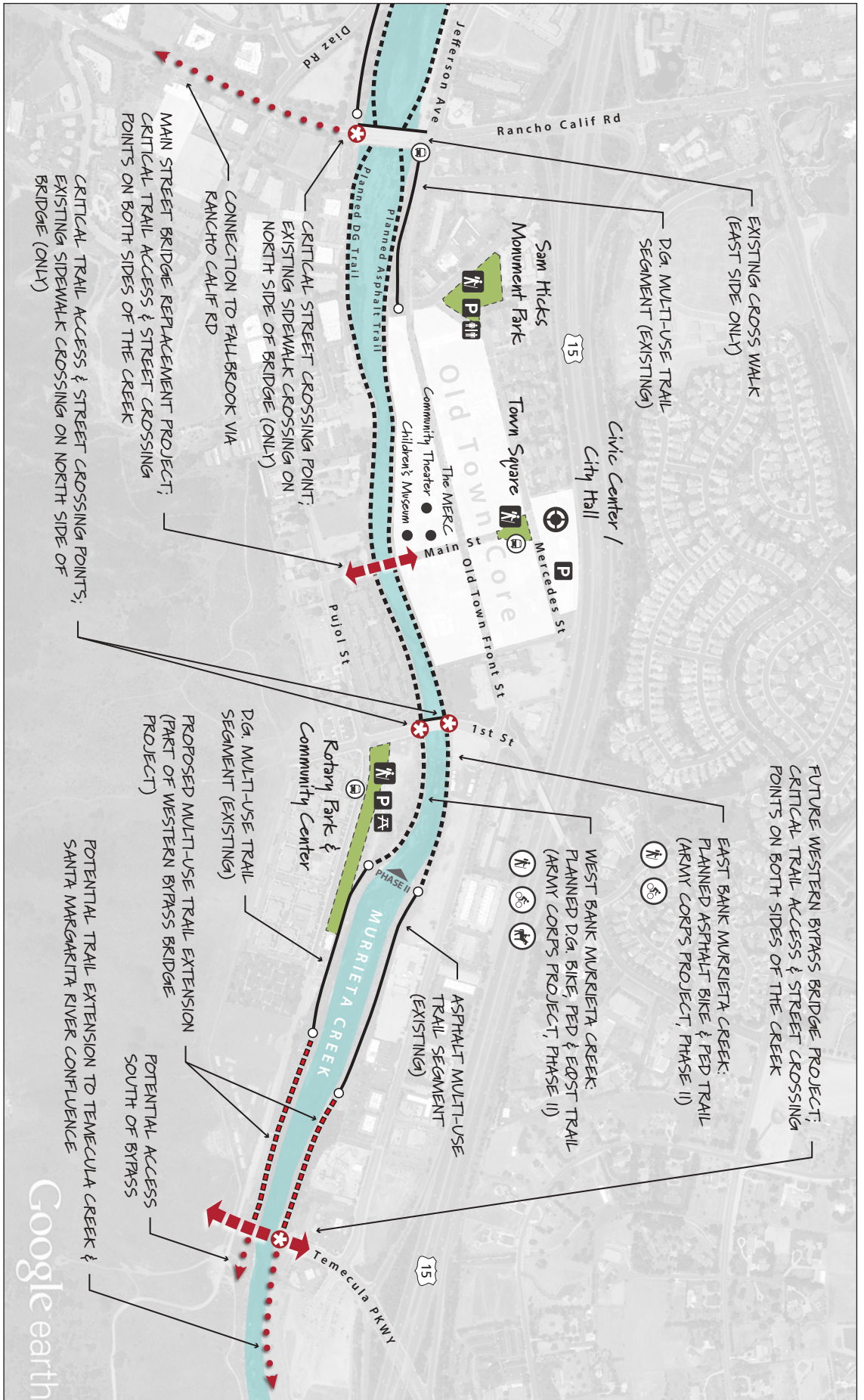




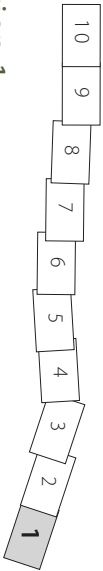
# Section A3 Inventory Map

## Appendix





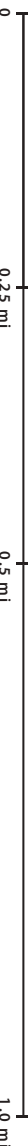
# murrieta creek trail conceptual alignment



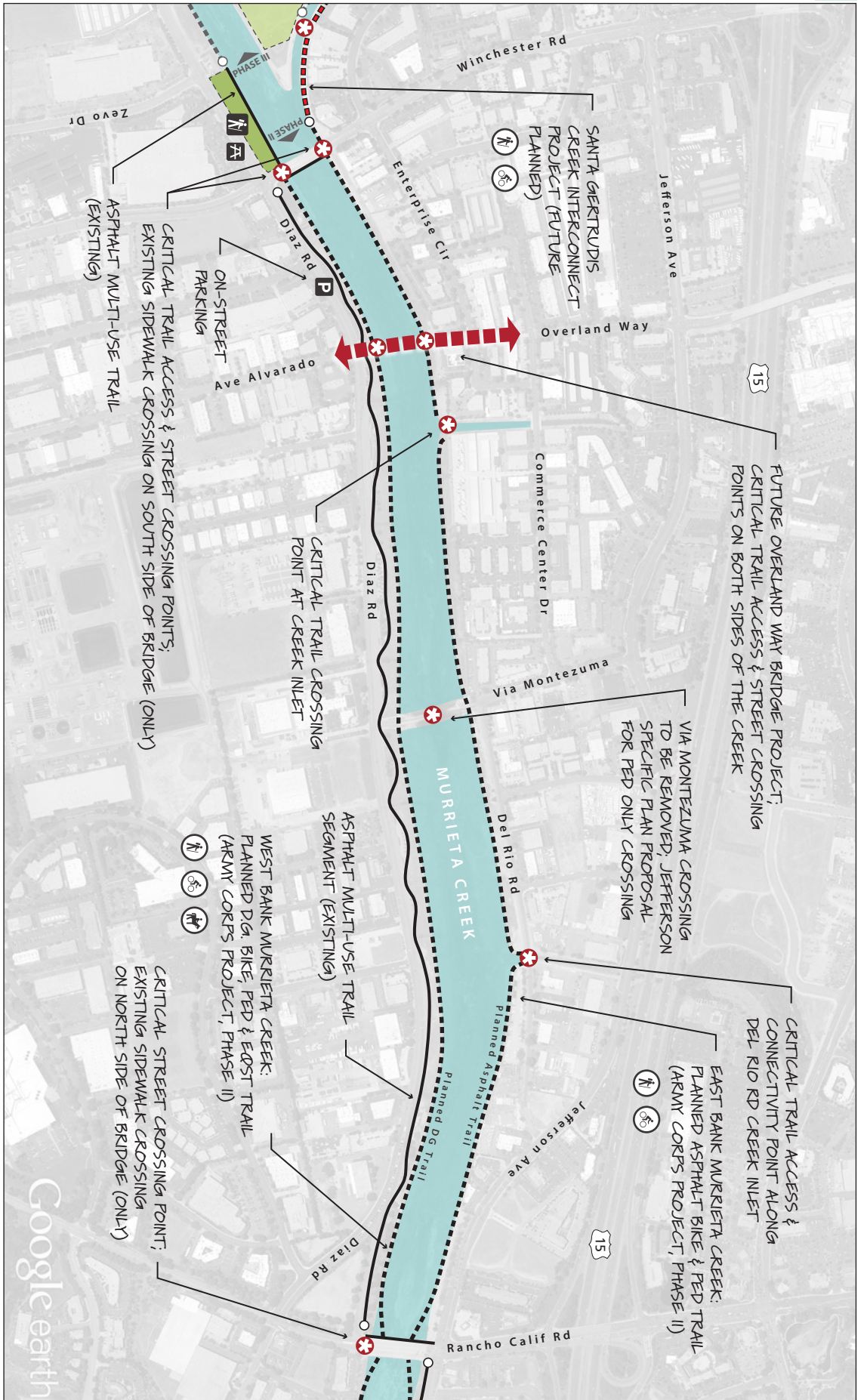
section 1:  
temecula parkway to rancho california road

**LEGEND**

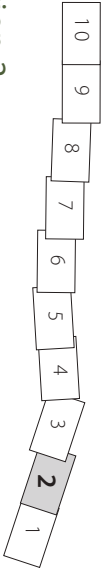
|  |              |  |                                  |
|--|--------------|--|----------------------------------|
|  | Trailhead    |  | Transit Stop                     |
|  | Staging Area |  | Key Area                         |
|  | Parking      |  | Existing Park Area               |
|  | Restrooms    |  | Planned Park Area                |
|  | Picnic Area  |  | Existing Trail                   |
|  |              |  | Army Corps Levee Trail (current) |
|  |              |  | Army Corps Levee Trail (future)  |
|  |              |  | City Planned / Proposed Trail    |
|  |              |  | Potential Trail (conceptual)     |
|  |              |  | Un-Improved Trail Corridor       |



NOTE: Map illustrations and trail alignments are conceptual for illustrative/planning purposes only



# murrieta creek trail conceptual alignment

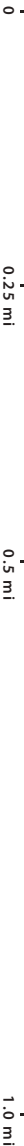


section 2:

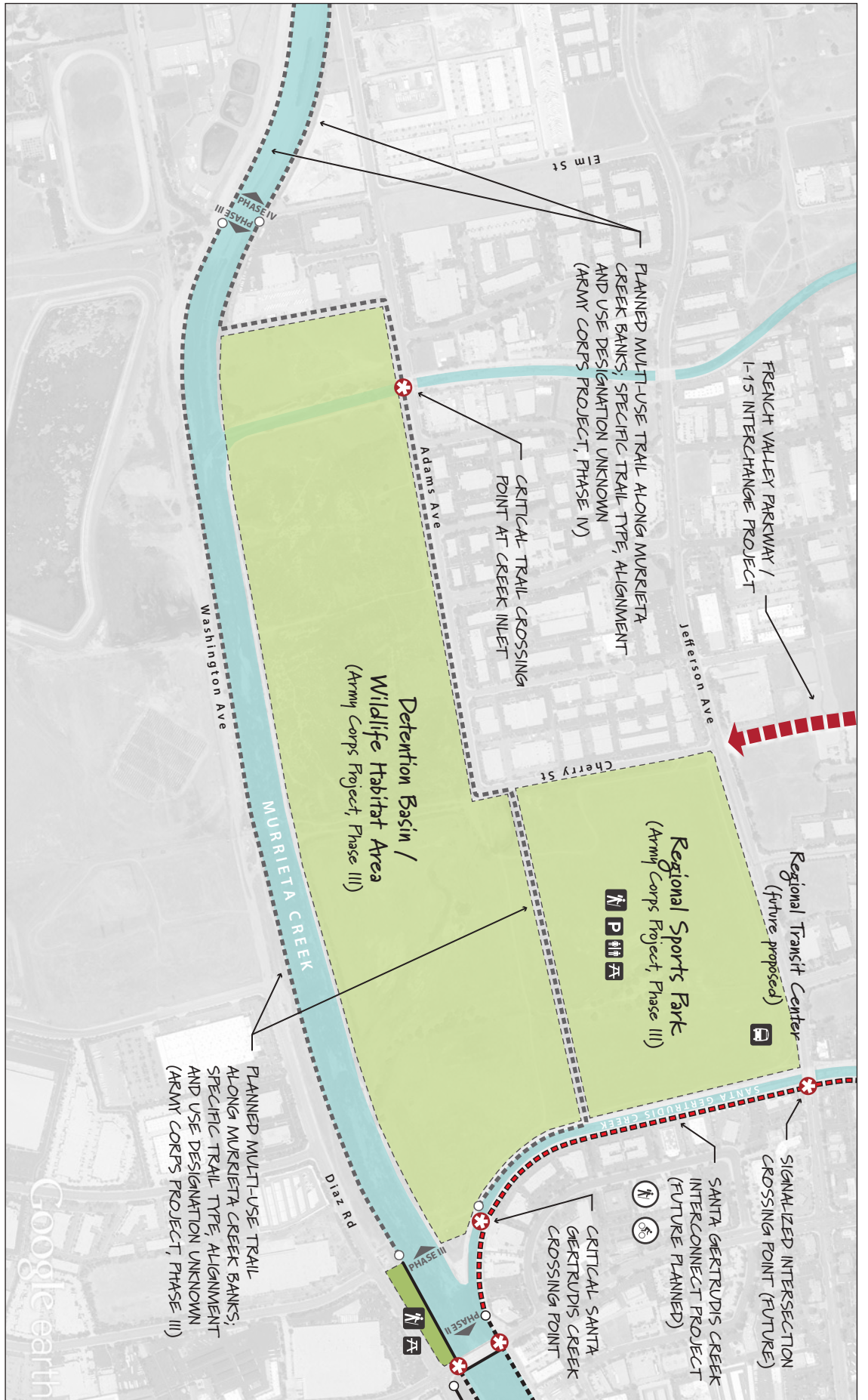
rancho california road to winchester road

## LEGEND

- |  |                                  |  |                                 |
|--|----------------------------------|--|---------------------------------|
|  | Trailhead                        |  | Transit Stop                    |
|  | Staging Area                     |  | Key Area                        |
|  | Parking                          |  | Existing Park Area              |
|  | Restrooms                        |  | Planned Park Area               |
|  | Picnic Area                      |  | Existing Trail                  |
|  | Army Corps Levee Trail (current) |  | Army Corps Levee Trail (future) |
|  | City Planned / Proposed Trail    |  | Potential Trail (conceptual)    |
|  | Un-Improved Trail Corridor       |  |                                 |

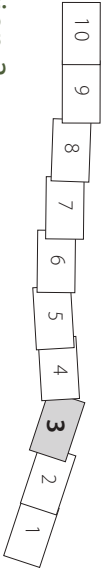


NOTE: Map illustrations and trail alignments are conceptual for illustrative/planning purposes only



# murrieta creek trail

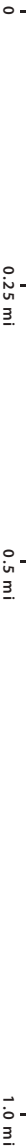
## conceptual alignment



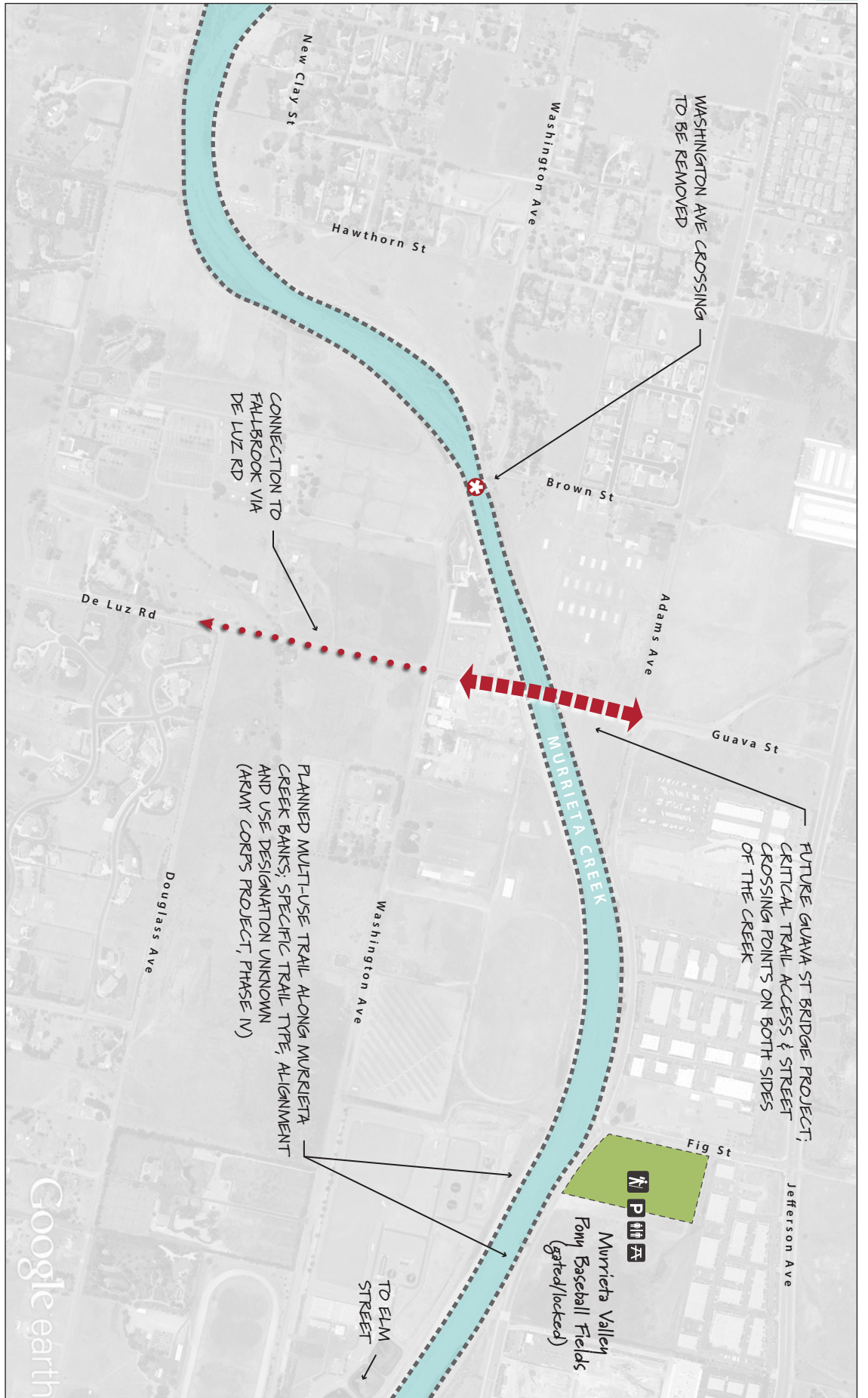
section 3:  
winchester road to elm street

**LEGEND**

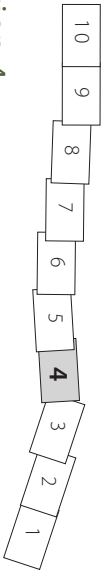
|  |              |  |                                  |
|--|--------------|--|----------------------------------|
|  | Trailhead    |  | Transit Stop                     |
|  | Staging Area |  | Key Area                         |
|  | Parking      |  | Existing Park Area               |
|  | Restrooms    |  | Planned Park Area                |
|  | Picnic Area  |  | Existing Trail                   |
|  |              |  | Army Corps Levee Trail (current) |
|  |              |  | Army Corps Levee Trail (future)  |
|  |              |  | City Planned / Proposed Trail    |
|  |              |  | Potential Trail (conceptual)     |
|  |              |  | Un-Improved Trail Corridor       |



NOTE: Map illustrations and trail alignments are conceptual for illustrative/planning purposes only



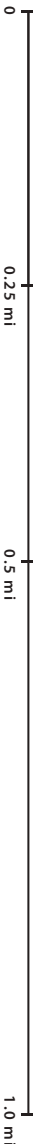
# Murrieta Creek Trail Conceptual Alignment



section 4:  
elm street to hawthorn street

**LEGEND**

|  |              |  |                                  |
|--|--------------|--|----------------------------------|
|  | Trailhead    |  | Transit Stop                     |
|  | Staging Area |  | Key Area                         |
|  | Parking      |  | Existing Park Area               |
|  | Restrooms    |  | Planned Park Area                |
|  | Picnic Area  |  | Existing Trail                   |
|  |              |  | Army Corps Levee Trail (current) |
|  |              |  | Army Corps Levee Trail (future)  |
|  |              |  | City Planned / Proposed Trail    |
|  |              |  | Potential Trail (conceptual)     |
|  |              |  | Un-improved Trail Corridor       |

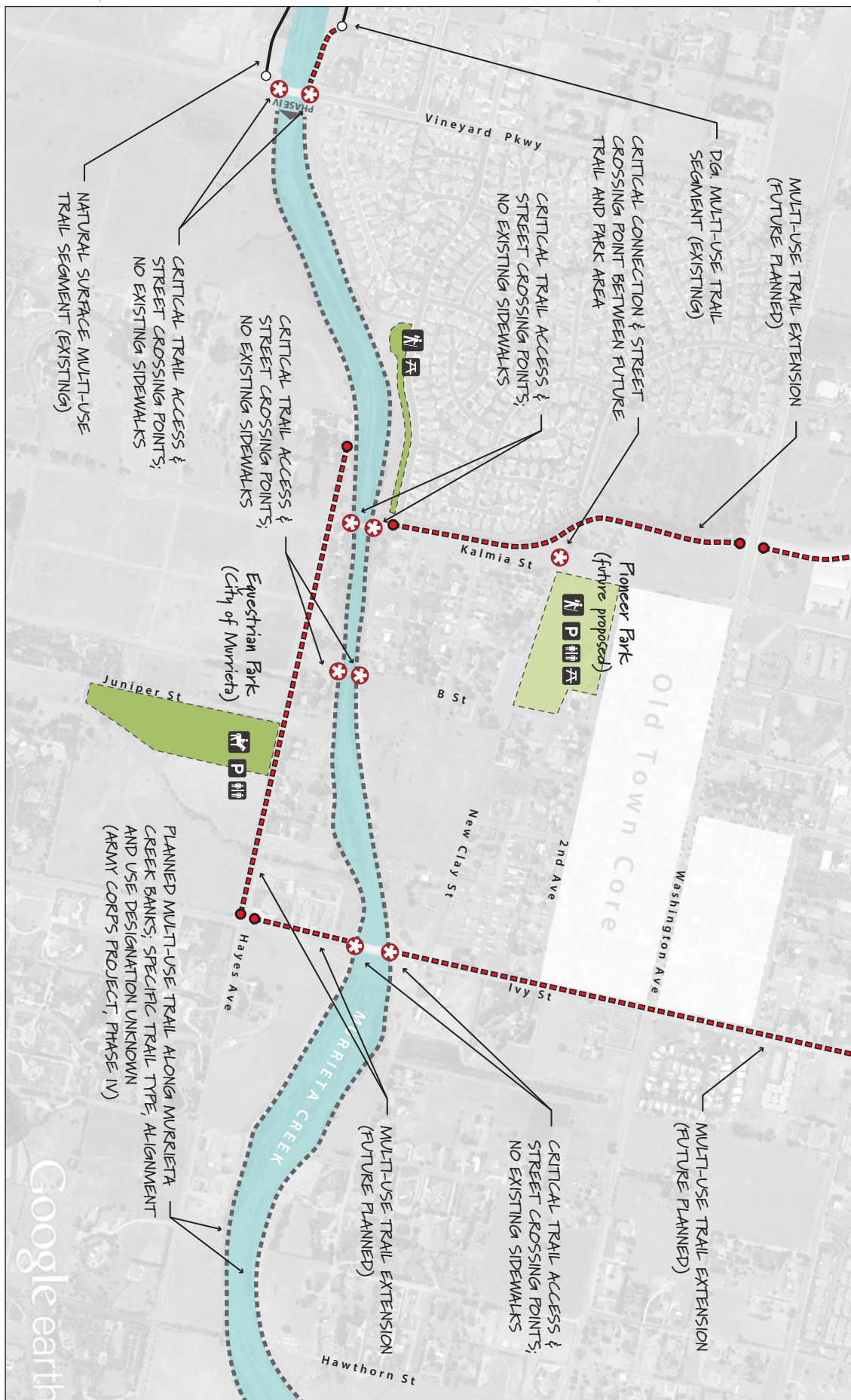
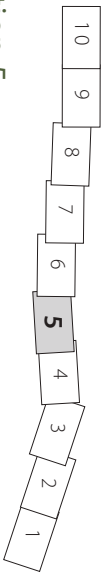


NOTE: Map illustrations and trail alignments are conceptual for illustrative/planning purposes only

section 5:  
hawthorn street to vineyard parkway

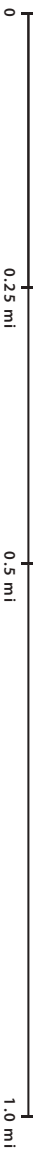
# murrieta creek trail

## conceptual alignment

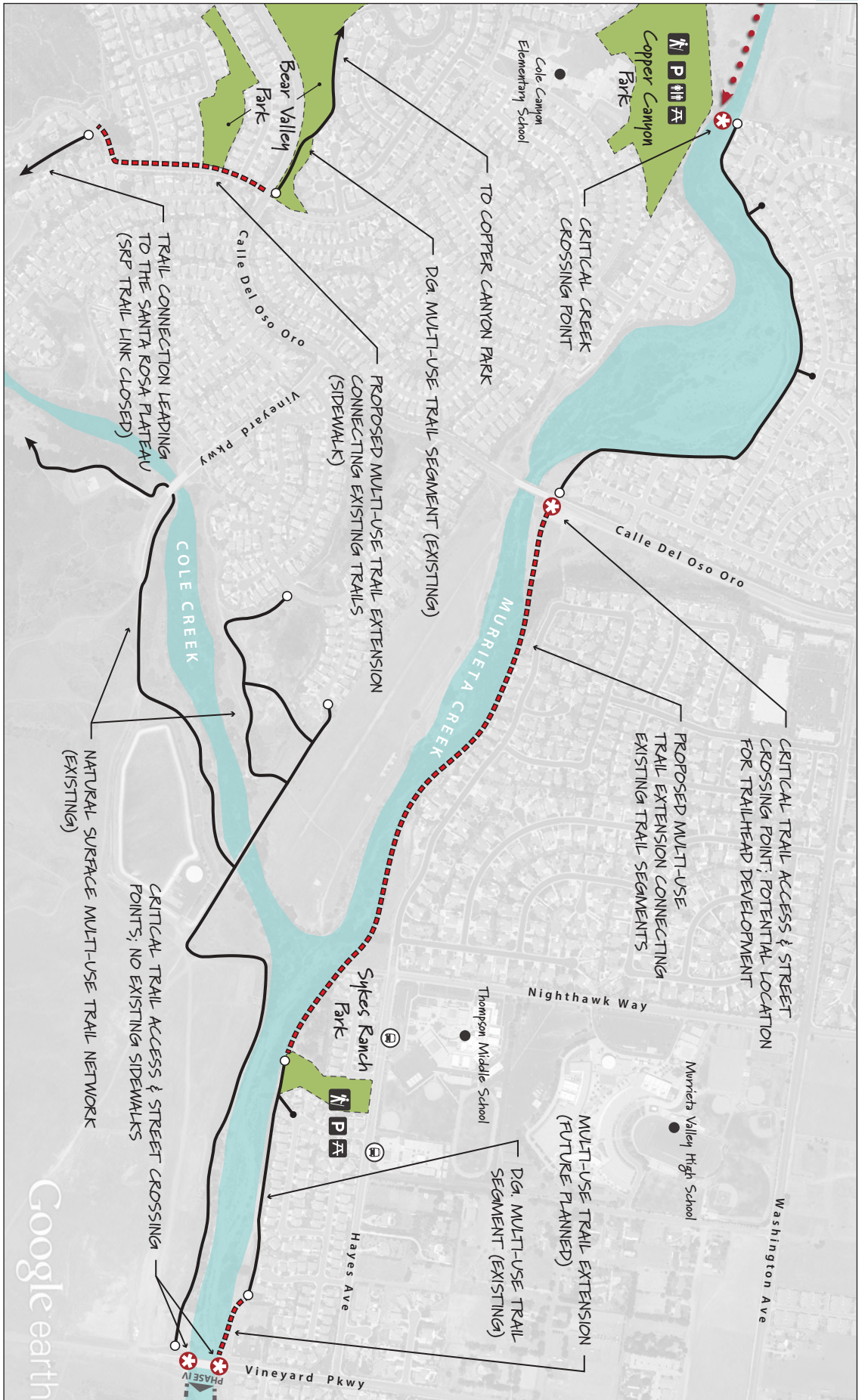


### LEGEND

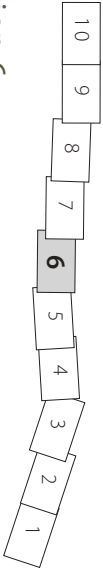
- Trailhead
- Staging Area
- Parking
- Restrooms
- Picnic Area
- Transit Stop
- Key Area
- Planned Park Area
- Existing Trail
- Army Corps Levee Trail (current)
- Army Corps Levee Trail (future)
- City Planned / Proposed Trail
- Potential Trail (conceptual)
- Un-Improved Trail Corridor



NOTE: Map illustrations and trail alignments are conceptual for illustrative/planning purposes only



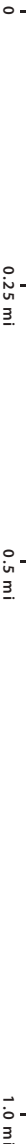
# murrieta creek trail conceptual alignment



section 6:  
vineyard parkway to copper canyon park

## LEGEND

- Trailhead
- Staging Area
- Parking
- Restrooms
- Picnic Area
- Transit Stop
- Key Area
- Existing Park Area
- Planned Park Area
- Existing Trail
- Army Corps Levee Trail (current)
- Army Corps Levee Trail (future)
- City Planned / Proposed Trail
- Potential Trail (conceptual)
- Un-improved Trail Corridor

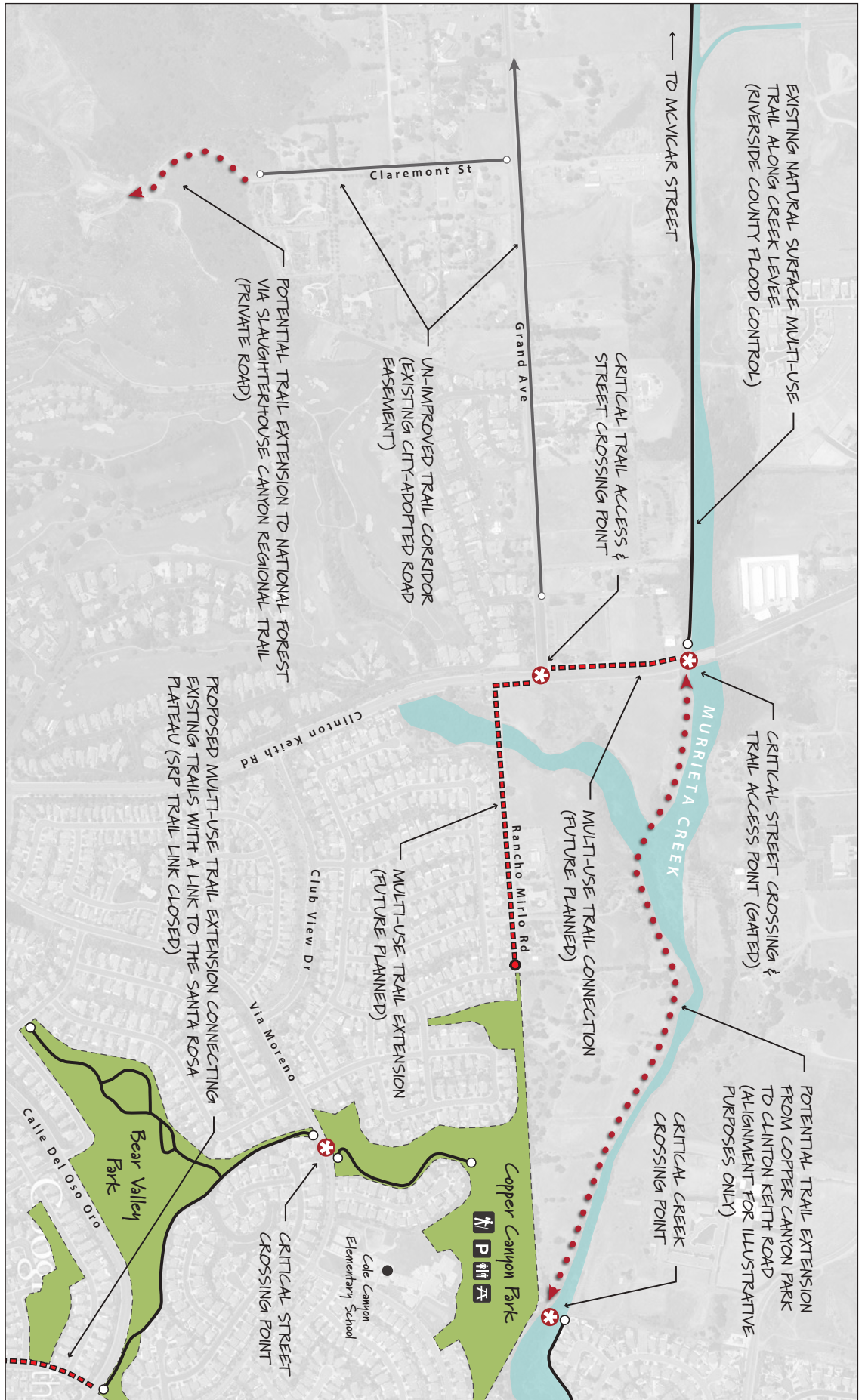
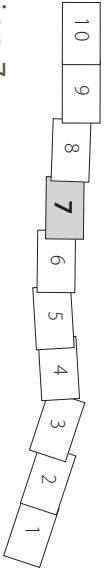


NOTE: Map illustrations and trail alignments are conceptual for illustrative/planning purposes only

# murrieta creek trail

## conceptual alignment

section 7:  
copper canyon park to mcvicar street

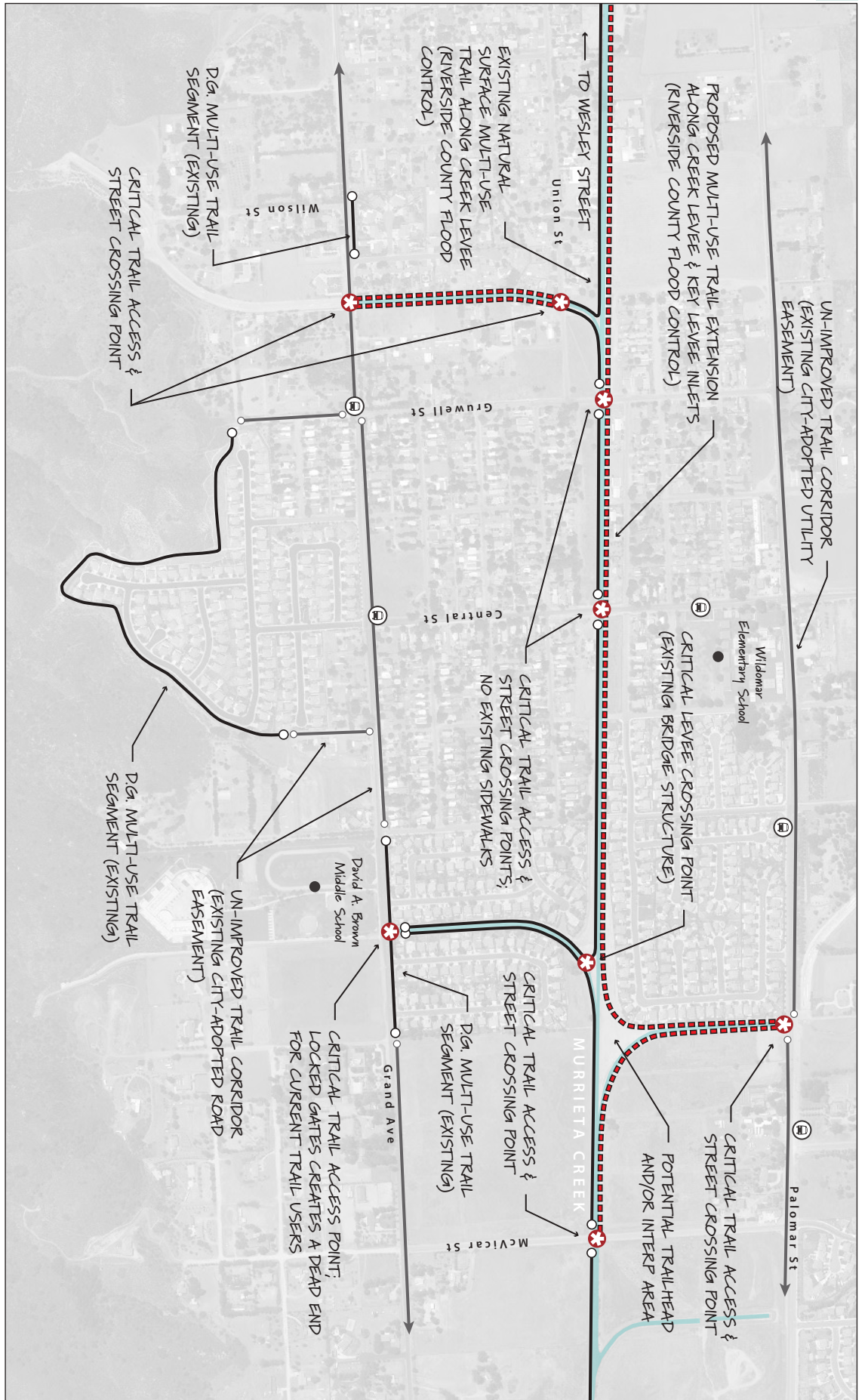


### LEGEND

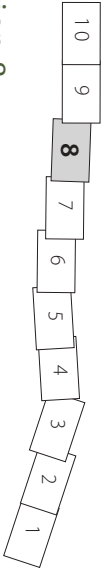
- Trailhead
- Staging Area
- Parking
- Restrooms
- Picnic Area
- Transit Stop
- Key Area
- Existing Park Area
- Planned Park Area
- Existing Trail
- Army Corps Levee Trail (current)
- Army Corps Levee Trail (future)
- City Planned / Proposed Trail
- Potential Trail (conceptual)
- Un-Improved Trail Corridor

NOTE: Map illustrations and trail alignments are conceptual for illustrative/planning purposes only





# murrieta creek trail conceptual alignment

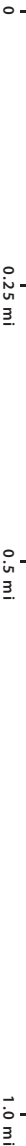


section 8:

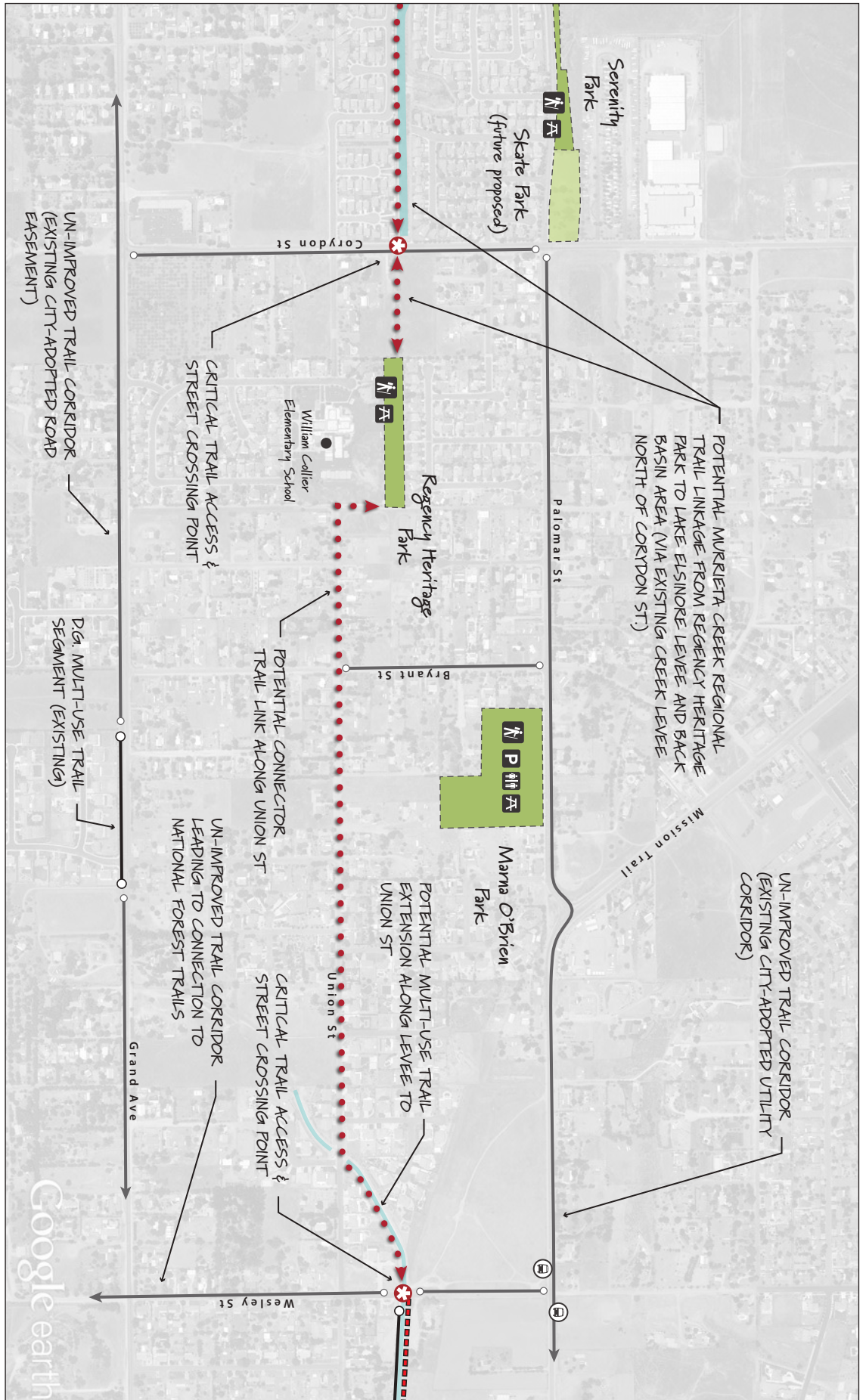
mcvicular street to wesley street

## LEGEND

- Trailhead
- Staging Area
- Parking
- Restrooms
- Picnic Area
- Transit Stop
- Key Area
- Existing Park Area
- Planned Park Area
- Existing Trail
- Army Corps Levee Trail (current)
- Army Corps Levee Trail (future)
- City Planned / Proposed Trail
- Potential Trail (conceptual)
- Un-Improved Trail Corridor

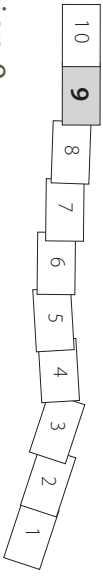


NOTE: Map illustrations and trail alignments are conceptual for illustrative/planning purposes only



# murrieta creek trail

## conceptual alignment

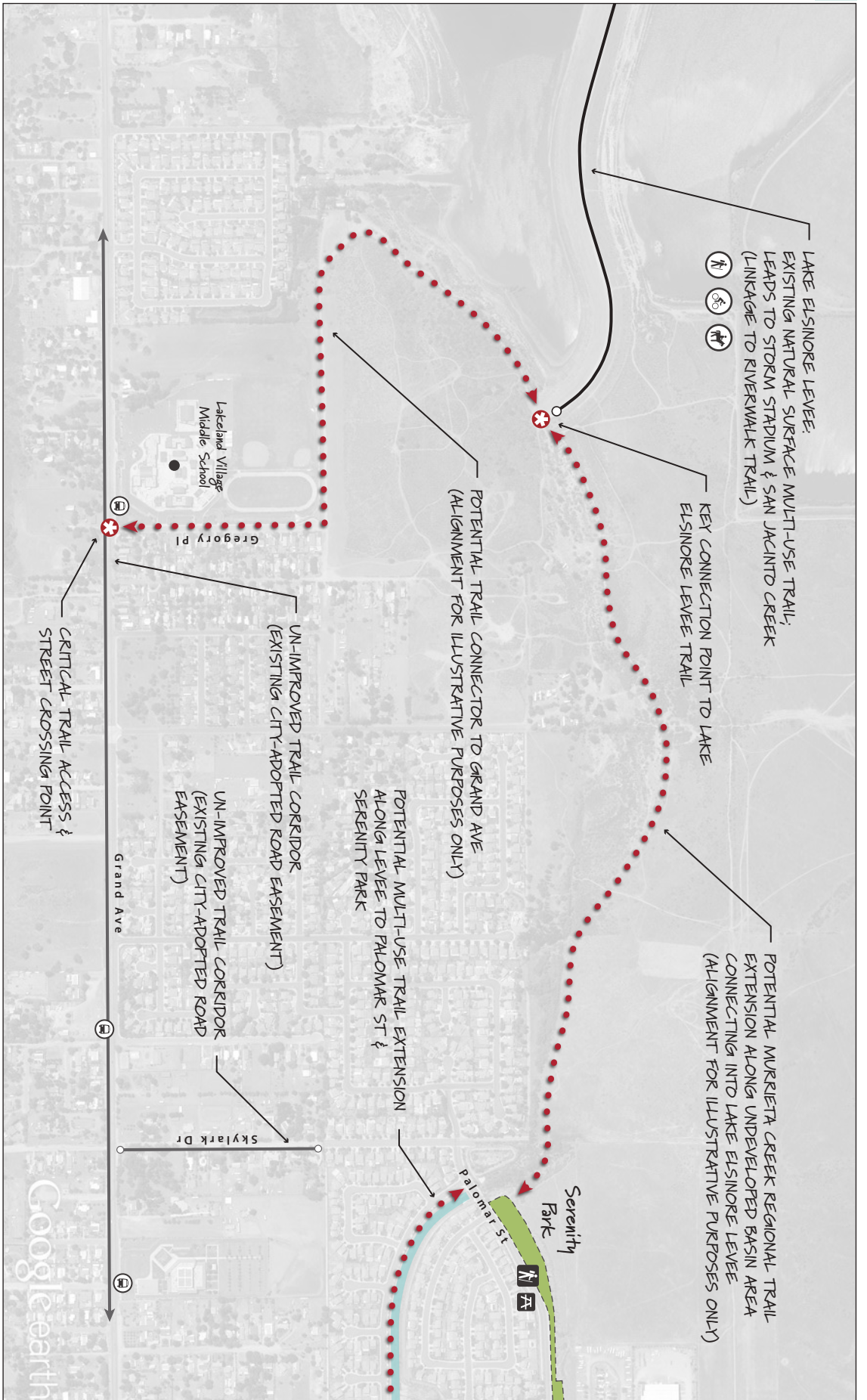


section 9:  
wesley street to serenity park

| LEGEND |                                  |
|--------|----------------------------------|
|        | Trailhead                        |
|        | Staging Area                     |
|        | Parking                          |
|        | Restrooms                        |
|        | Picnic Area                      |
|        | Transit Stop                     |
|        | Key Area                         |
|        | Existing Park Area               |
|        | Planned Park Area                |
|        | Existing Trail                   |
|        | Army Corps Levee Trail (current) |
|        | Army Corps Levee Trail (future)  |
|        | City Planned / Proposed Trail    |
|        | Potential Trail (conceptual)     |
|        | Un-improved Trail Corridor       |

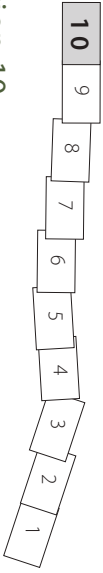
NOTE: Map illustrations and trail alignments are conceptual for illustrative/planning purposes only





# murrieta creek trail

## conceptual alignment



section 10:  
serenity park to lake elsinore levee trail

**LEGEND**

|  |              |  |                                  |
|--|--------------|--|----------------------------------|
|  | Trailhead    |  | Transit Stop                     |
|  | Staging Area |  | Key Area                         |
|  | Parking      |  | Existing Park Area               |
|  | Restrooms    |  | Planned Park Area                |
|  | Picnic Area  |  | Existing Trail                   |
|  |              |  | Army Corps Levee Trail (current) |
|  |              |  | Army Corps Levee Trail (future)  |
|  |              |  | City Planned / Proposed Trail    |
|  |              |  | Potential Trail (conceptual)     |
|  |              |  | Un-improved Trail Corridor       |

0 0.25 mi 0.5 mi 1.0 mi

NOTE: Map illustrations and trail alignments are conceptual for illustrative/planning purposes only