

# Lecture 4: Planning for Bicycles

Creating Plans, Bicycle Research  
and Programs

# Creating a Bicycle Master Plan



# Active Transportation Program Plan Requirements

- Estimate number of bicycle and pedestrian trips in the plan area.
- Bicycle and pedestrian crash data.
- Map and description of existing and proposed land use.
- Map and description of existing and proposed bicycle transportation facilities.
- Map and description of existing and proposed bicycle parking.
- Description of existing and proposed related bicycle policies for bicycle parking in public, private parking garages and in new developments.
- Map and description of existing and proposed bicycle parking and links to other transportation modes.
- Map and description of existing and proposed pedestrian facilities at major transit hubs.

# Active Transportation Program Plan Requirements (con't)

- Description of bicycle and pedestrian wayfinding signage program.
- Description of policies and procedures for maintaining existing and proposed bicycle and pedestrian facilities.
- Description of bicycle and pedestrian safety, education and encouragement programs, local law enforcement efforts and their effect on reducing bicycle and pedestrian crashes.
- Description of citizen and community Involvement, including disadvantaged and underserved communities.
- Description of coordination with neighboring jurisdictions and regional plans.
- Description of projects and programs and their priorities.
- Description of past and future expenditures on bicycle and pedestrian facilities and programs, and future financial needs.
- Description of steps needed to implement the plan and reporting process that will be used.
- Resolution showing adoption of the plan.

# Bicycle Planning Process

1. Public outreach
2. Setting goals and objectives
3. Check existing bikeway, circulation, land use, etc. plans
4. Review existing ordinances and policies
5. Check existing bikeways, parking, amenities, links to transit
6. Check existing programs



# What Cyclists Need

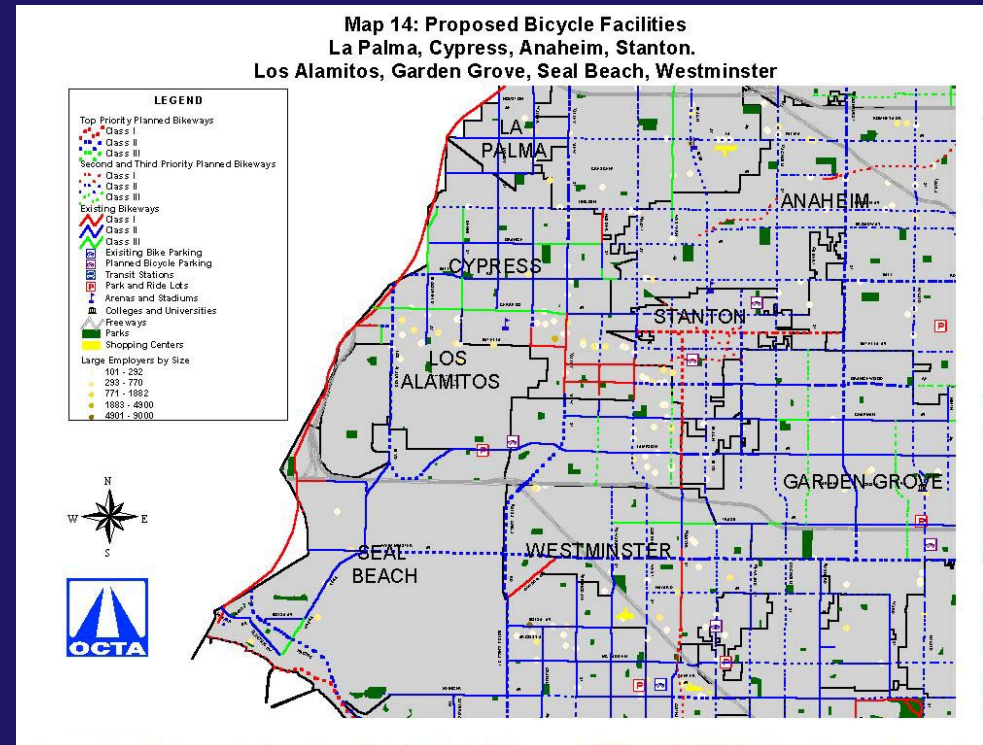
- Good streets or bikeways to ride on
- Parking
- Links to transit
- Showers and clothing lockers
- Education and promotion

# Bike Plan Chapters

- Introduction
- Planning Context
- Goals, Policies and Actions
- Existing Conditions
- Proposed Facilities
- Proposed Programs
- Funding and Implementation
- Design

# Planning Context

- Other plans within the city
  - Prior bike plans
  - Circulation element
  - General plan
  - Safe routes to school
- Regional plans
  - Countywide bike plan
  - Regional air quality, energy policies, etc.
- Neighboring jurisdictions' bike plans





# Bicycle Planning

- Goals
- Policies
- Actions



# Draft Pasadena Goals, Objectives and Actions

## GOALS

- Create an environment where people can circulate without a car.
- Increase the number of bicyclists in Pasadena by encouraging people to use their bicycles instead of driving.
- Increase the safety of bicycling in Pasadena.
- Promote the health of Pasadena residents by providing opportunities to bicycle for commuting, recreating, shopping and visiting.
- Facilitate the economic viability of Pasadena by making Pasadena an attractive place to live, shop and operate a business in.



# Draft Pasadena Goals, Objectives and Actions

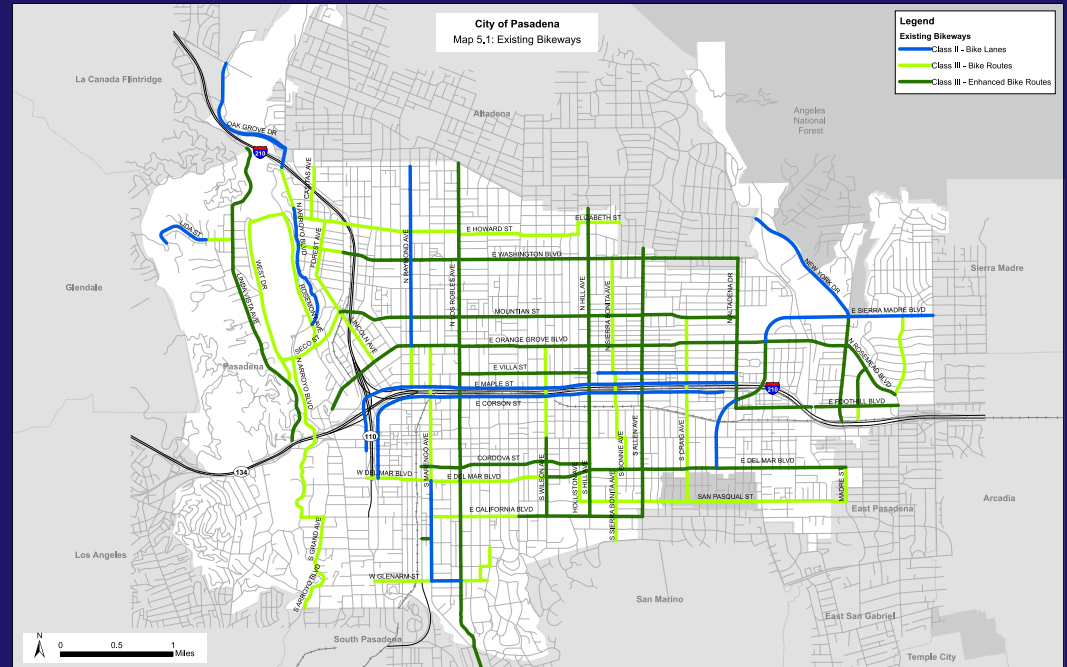
**Objective: Increase the proportion of utilitarian trips to schools, stores, parks and other destinations to 5 percent of the total.**

## Actions

1. Implement planned citywide network of bikeways. Ensure that these bikeways serve children, intermediate cyclists, experienced cyclists and various recreational cyclists.
2. Maintain bikeway and roadway system.
3. Add bicycle parking to parks, schools, libraries, civic buildings, and along commercial streets.
4. Work with existing stores and offices to provide convenient bicycle parking for visitors.
5. Conduct periodic bicycle counts at various locations and upgrade the bikeway network.
6. Carry out promotional efforts to encourage bicycle use.
7. Work with the schools to implement Safe Routes to Schools programs. Maintain bike racks on ARTS buses. Replace racks with new 3-bicycle racks if needed.

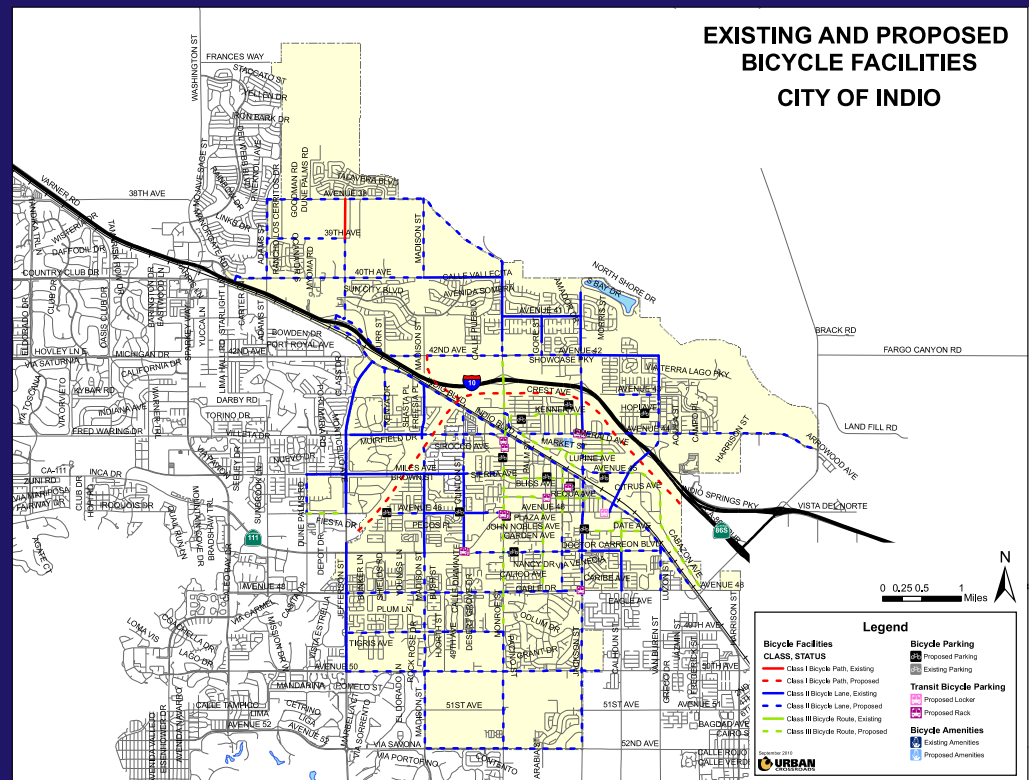
# Existing Conditions

- Bikeways
- Parking
- Links to transit
- End-of-trip amenities
- Programs
- Crash analysis

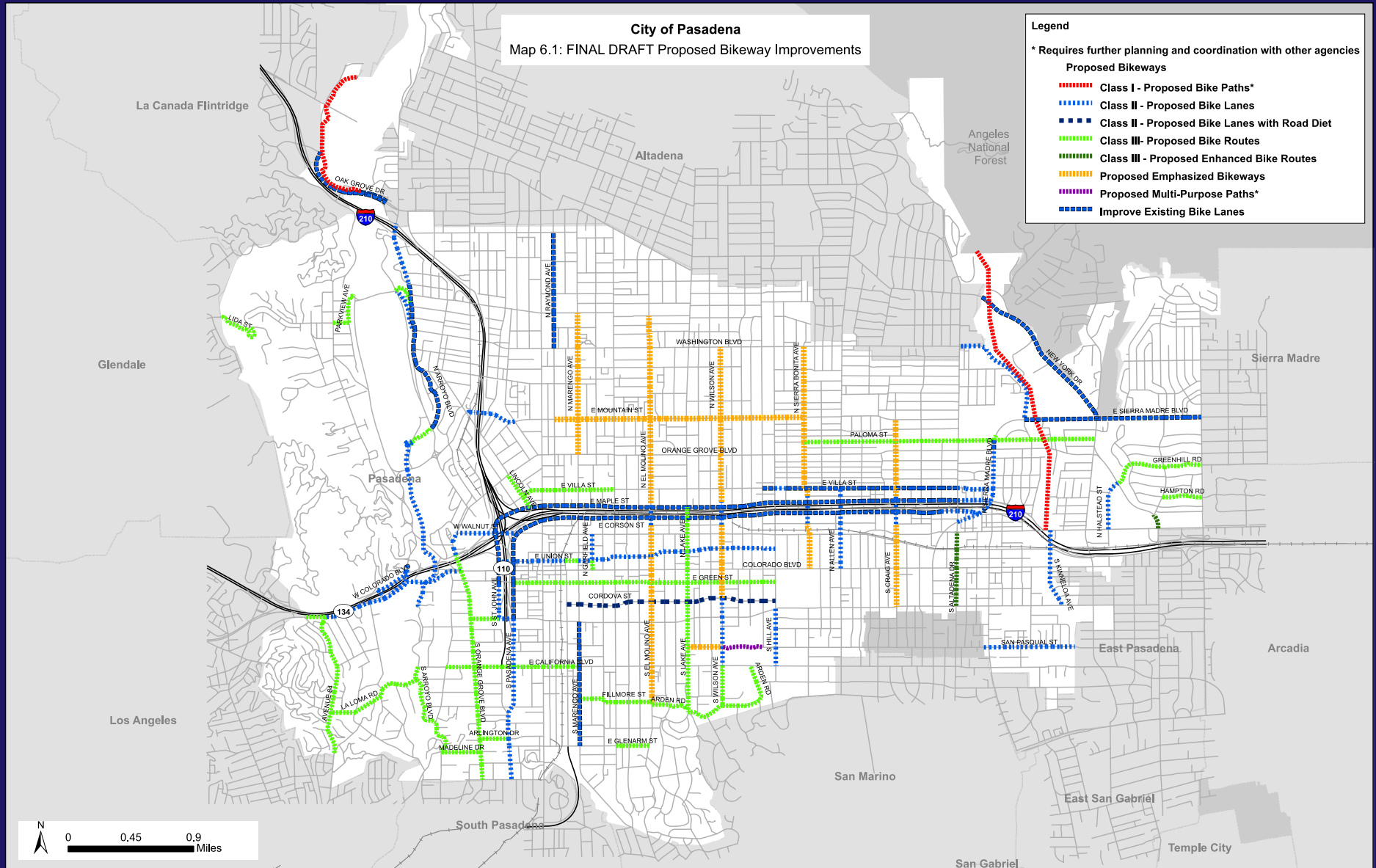


# Proposed Projects

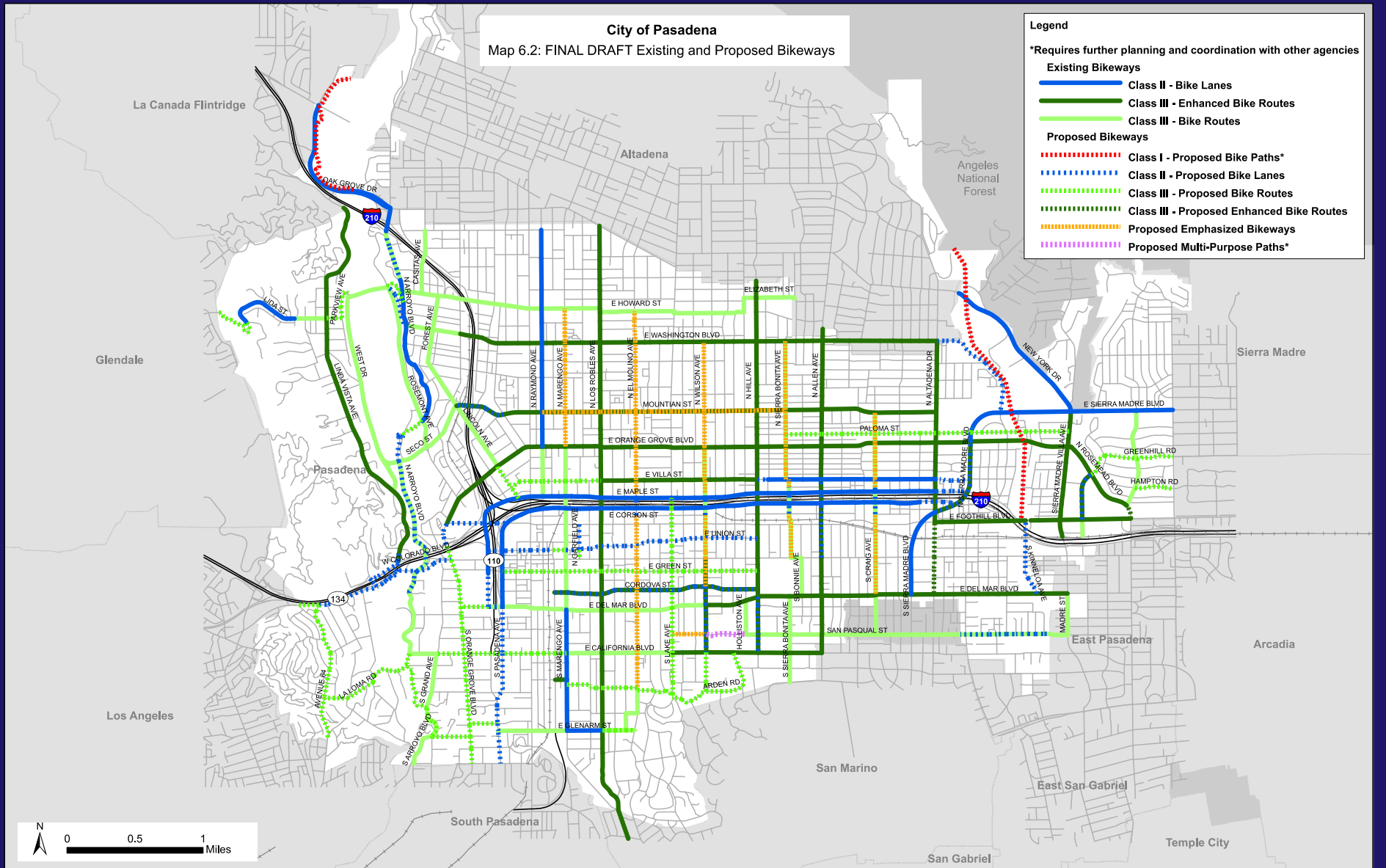
- Bikeways
- Parking
- Links to transit
- End-of-trip amenities
- Bikesharing



# Proposed Bikeway Changes



# Proposed Bikeways





# Parking



# End of Trip Amenities





# Amenities Requirements

- Require bicycle parking
- Require showers
- Require clothing lockers
- With location and spacing specifications
- By ordinance, developer agreement or incentive
- Based on square footage of building (approx. 1 employee per 250 s.f. of office)
- Example:
  - 1 bike parking space for every 5,000 s.f.
  - 1 shower per gender for every 50,000 s.f.
  - 1 clothing locker per gender for every 10,000 s.f.



# Links to Public Transit



# Transit Link Types

- On front of bus
- Inside bus or train
- Parking at stop or station





# Safe Routes to School programs

- Make walking and bicycling safe ways to get to school
- Encourage more children to walk and bike to school



## 2. Individual barriers to walking and bicycling to school

- |                        |     |
|------------------------|-----|
| ■ Long distances       | 62% |
| ■ Traffic danger       | 30% |
| ■ Adverse weather      | 19% |
| ■ Fear of crime danger | 12% |

*(CDC, 2005)*

# Steps in creating a SRTS program

- Bring together the right people
- Gather information and identify issues
- Find solutions
- Make a plan
- Get the plan funded
- Act on the plan
- Evaluate and make changes if needed



# 1. Bring together the right people

- Teachers
- Students
- Parents
- Neighbors
- City planners
- Engineers
- Local bike clubs
- Advocacy groups
- School Board and other elected leaders
- Health professionals
- Police



# Elements of Safe Routes to School programs

- Education
- Encouragement
- Enforcement
- Engineering
- Evaluation





# Education

- Teaches safety skills
- Creates safety awareness
- Fosters life-long safety habits
- Includes parents, neighbors and other drivers





# 1. Educating children

- Pedestrian and bicyclist safety
- Personal safety
- Health benefits
- Environment



## 2. Educating parents

- Pedestrian and bicyclist safety guidelines to reinforce with children
- Safe driving near the school
- School pick up and drop off procedures





# 3. Educating neighbors

- Watch for / yield to pedestrians and cyclists
- Drive slowly
- Keep sidewalks clear
- Prune plants



# Encouragement

- Increases popularity of walking and biking
- Is an easy way to start SRTS programs
- Emphasizes fun of walking and biking





# Encouragement programs

1. Events
2. Walking school buses
3. Individual competition
4. Contests
5. Park and walk sites
6. Route map promotion



# Enforcement

- Increases awareness of pedestrians and bicyclists
- Improves driver behavior
- Helps children follow traffic rules
- Decreases parent perceptions of danger





# School and community efforts



- Safety patrol
- Driveway monitors
- Crossing guards
- Neighborhood speed watch programs

# Engineering

- Creates safer settings for walking and biking
- Can influence the way people behave





# Evaluation

## SURVEY ABOUT WALKING AND BIKING TO SCHOOL - FOR PARENTS -

Dear Parent or Caregiver,

Your child's school wants to learn your thoughts about children walking and biking to school. This survey will take about 10 - 15 minutes to complete. We ask that each family complete only one survey per school your children attend. If more than one child from a school brings a survey home, please fill out the survey for the child with the next birthday from today's date.

After you have completed this survey, send it back to the school with your child or give it to the teacher. Your responses will be kept confidential and neither your name nor your child's name will be associated with any results. Thank you for participating in this survey!

These first few questions gather some general and background information. Remember, all information will be confidential, and no identifying information will be released.

1. What is the grade of the child who brought home this survey? (K - 8) \_\_\_\_\_ grade
2. Is the child who brought home this survey male or female? ☐ MALE ☐ FEMALE
3. How many children do you have in Kindergarten through 8<sup>th</sup> grade? \_\_\_\_\_ children
4. What is your ZIP Code? (please provide ZIP +4 if known) \_\_\_\_\_ ZIP code  
(note: many utility bills will show your ZIP +4)
5. How far does your child live from school? (choose one)
 

<input type="checkbox"/> a. less than 1/4 mile	<input type="checkbox"/> d. 1 mile up to 2 miles
<input type="checkbox"/> b. 1/4 mile up to 1/2 mile	<input type="checkbox"/> e. More than 2 miles
<input type="checkbox"/> c. 1/2 mile up to 1 mile	<input type="checkbox"/> f. Don't know

6. On most days, how does your child arrive at school and leave for home after school? (circle one choice per column)

Arrive at school	Leave for home
a. Walk	a. Walk
b. Bike	b. Bike
c. School Bus	c. School Bus
d. Family vehicle (only with children from your family)	d. Family vehicle (only with children from your family)
e. Carpool (going with children from other families)	e. Carpool (going with children from other families)
f. Transit (city bus, subway, etc.)	f. Transit (city bus, subway, etc.)
g. Other (skateboard, scooter, inline skates, etc.)	g. Other (skateboard, scooter, inline skates, etc.)

## SAFE ROUTES TO SCHOOL STUDENT ARRIVAL AND DEPARTURE TALLY SHEET

School Name: \_\_\_\_\_ Grade: \_\_\_\_\_ # of students enrolled in class: \_\_\_\_\_

Teacher: \_\_\_\_\_ Monday's Date: \_\_\_\_\_

School's Zip Code: \_\_\_\_\_ (used to identify weather conditions)

Teachers, here are simple instructions for using this form:

- Please conduct these counts each of the five days of the assigned week.
- Before asking your students to raise their hands to indicate the one answer that is correct for them, read through all potential answers so they will know what the choices are.
- Ask your students as a group the question "How did you arrive at school today?"
- Read each answer and record the number of students that raised their hands for each.
- Follow the same procedure for the question "How do you plan to leave for home after school?"
- Please conduct this count regardless of weather conditions (i.e., ask these questions on rainy days, too).

Step 1. Fill in the weather conditions and number of students in class each day			Step 2. Ask students "How did you arrive at school today?" and "How do you plan to leave for home after school?" (record number or hands for each answer)						
Weather (Is sunny Is rainy Or cloudy Or snow)	Number of Students (in class when count made)		Walk	Bike	School Bus	Family Vehicle (only with children from your family)	Carpool (going with children from other families)	Transit (city bus, subway, etc.)	Other (skate- board, scooter, inline skates, etc.)
Mon AM									
Mon PM									
Tues AM									
Tues PM									
Wed AM									
Wed PM									
Thur AM									
Thur PM									
Fri AM									
Fri PM									

Comments: (Please list any disruptions to these counts or any unusual travel conditions for the school on the days of the tally):

# Is the program making a difference?

# SRTS Resources

- <http://safety.fhwa.dot.gov/saferoutes/index.htm>
- <http://www.saferoutespartnership.org/>
- <http://www.saferoutesinfo.org/>
- <http://www.walkingschoolbus.org/>
- <http://www.saferoutesinfo.org/training/>
- <http://www.saferoutestoschools.org/Programs/Workshops.htm>

# Educational Programs





# Promotional Campaigns







# Bike Sharing Programs

Barcelona





Taipei





Hangzhou





Minneapolis



# Events















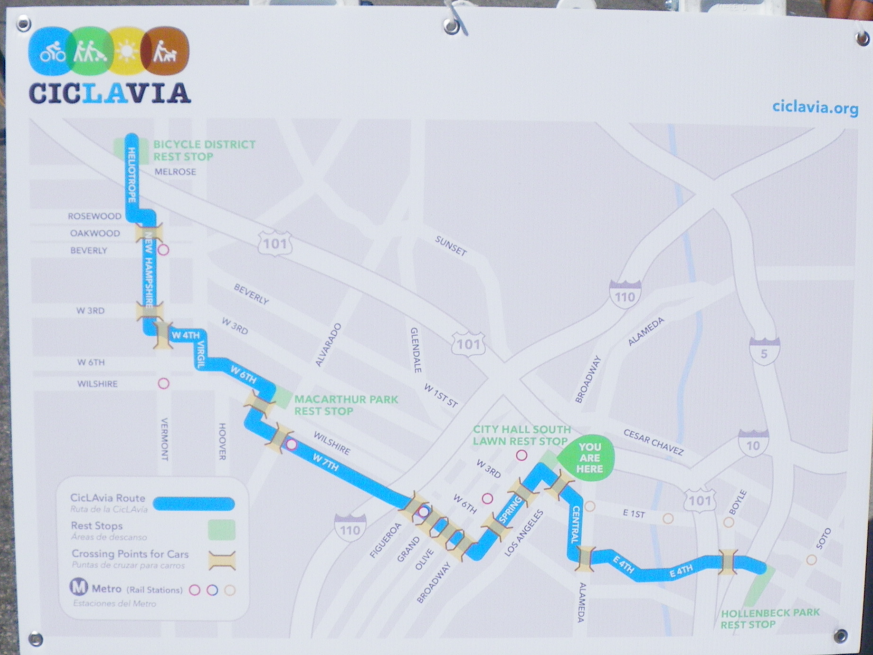






















































# Setting Priorities

- Preferences expressed by local cyclists at the public workshops and through comments received from the public via email and personal contact
- Preferences expressed by the Technical Advisory Committee
- Priorities established in the Community Opinion Survey
- City staff preferences
- Destinations served
- Completion of a network
- History of bicycle-involved crashes
- Improvement of program that serves an immediate safety need
- Current availability and/or suitability of right-of-way
- Likelihood of attracting large numbers of users
- Connectivity with the regional bikeway system
- Links to other transportation modes
- Cost effectiveness





# STATE FUNDING SOURCES

Funding Source	Eligible Bicycle Projects			Disbursing Agency	Approximate Annual Amount Available
	Commute	Recreation	Safety Education		
Active Transportation Funds	Yes	Yes	Yes	Caltrans/Metro	\$129 million statewide
TDA Article 3 (SB 821)	Yes			Metro / Local	\$9.5 million LA County 2014
Highway Safety Improvement Program (HSIP)	Yes			Caltrans	\$150 million
Office of Traffic Safety (OTS) Funds			Yes	Office of Traffic Safety (OTS)	N/A
AB 2766	Yes			SCAQMD	See info on each local jurisdiction in Chapter 4
Prop 84: Urban Greening Projects	Yes	Yes		State Resources Agency	\$70 million / 3 years
Wildlife Conservation Board Public Access Program		Yes		Wildlife Conservation Board	\$1 million annually
Transportation Planning Grant Program	Yes			Office of Community Planning	\$3 million annually



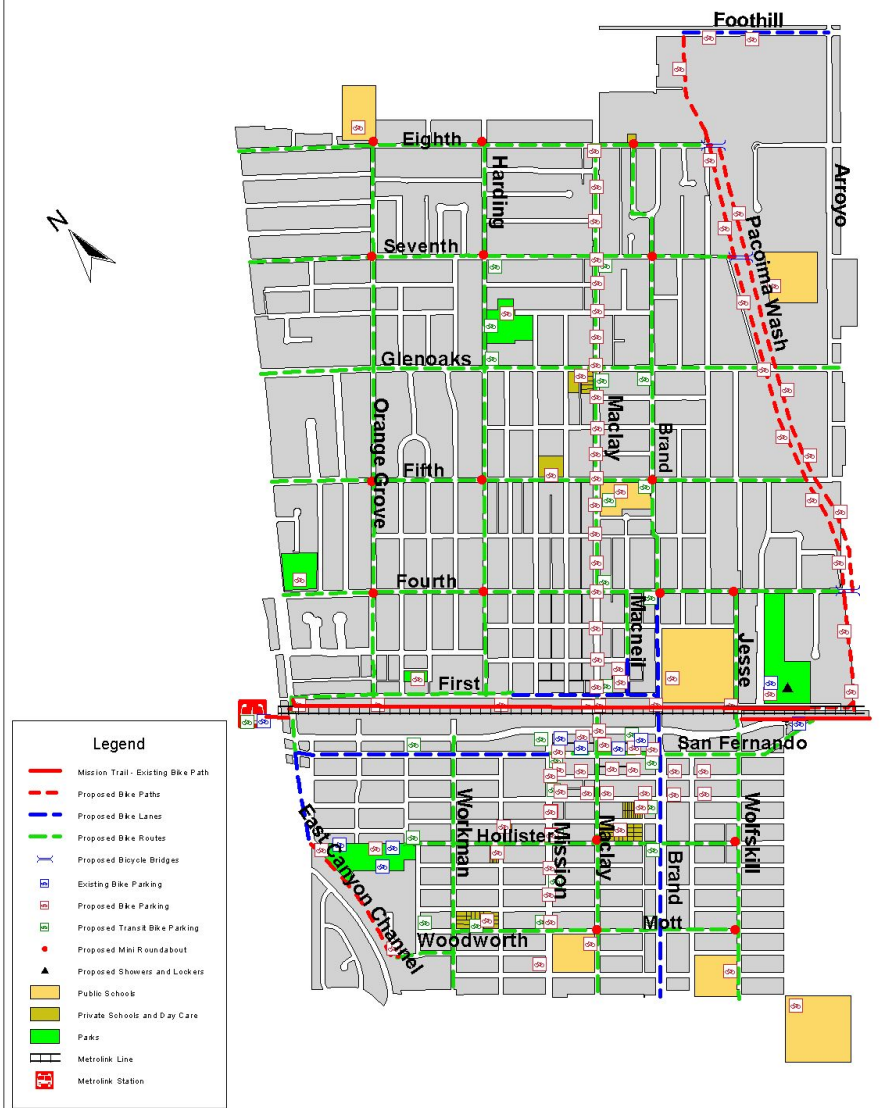
# LOCAL FUNDING SOURCES

Funding Source	Eligible Bicycle Projects			Disbursing Agency	Approximate Annual Amount Available
	Commute	Recreation	Safety Education		
Proposition C	Yes	Yes		Metro	N/A
Proposition R	Yes			Metro/Local	N/A
Resurfacing & Repaving	Yes			Local Jurisdiction	N/A
New Construction	Yes	Yes		Local Jurisdiction	N/A
Impact Fees & Developer Mitigation	Yes	Yes	Yes	Local Jurisdiction	N/A
Benefit Assessment Districts	Yes	Yes		N/A	N/A
Business Improvement Districts	Yes			N/A	N/A
Parking Meter Revenues	Yes	Yes	Yes	Local Jurisdiction	N/A
Property Taxes and Bonds	Yes			Local Jurisdiction	N/A
Adopt-a-Path Program		Yes		Local Jurisdiction	N/A
General Funds	Yes	Yes	Yes	Local Jurisdiction	N/A

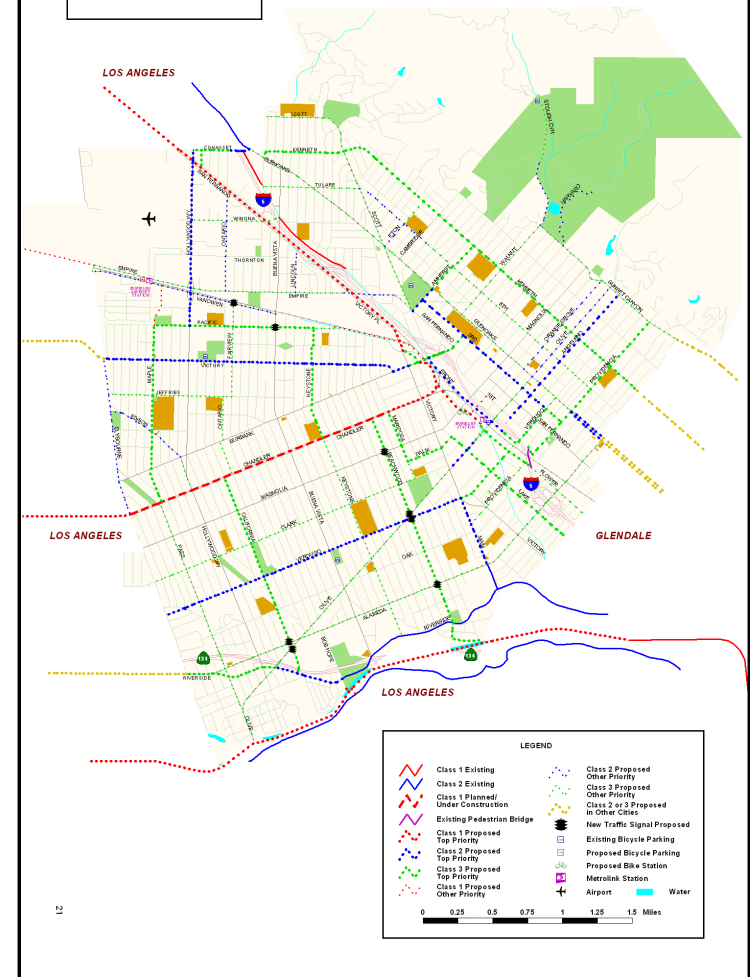


# Plan Product

Map 4: Existing and Proposed Bicycle Facilities

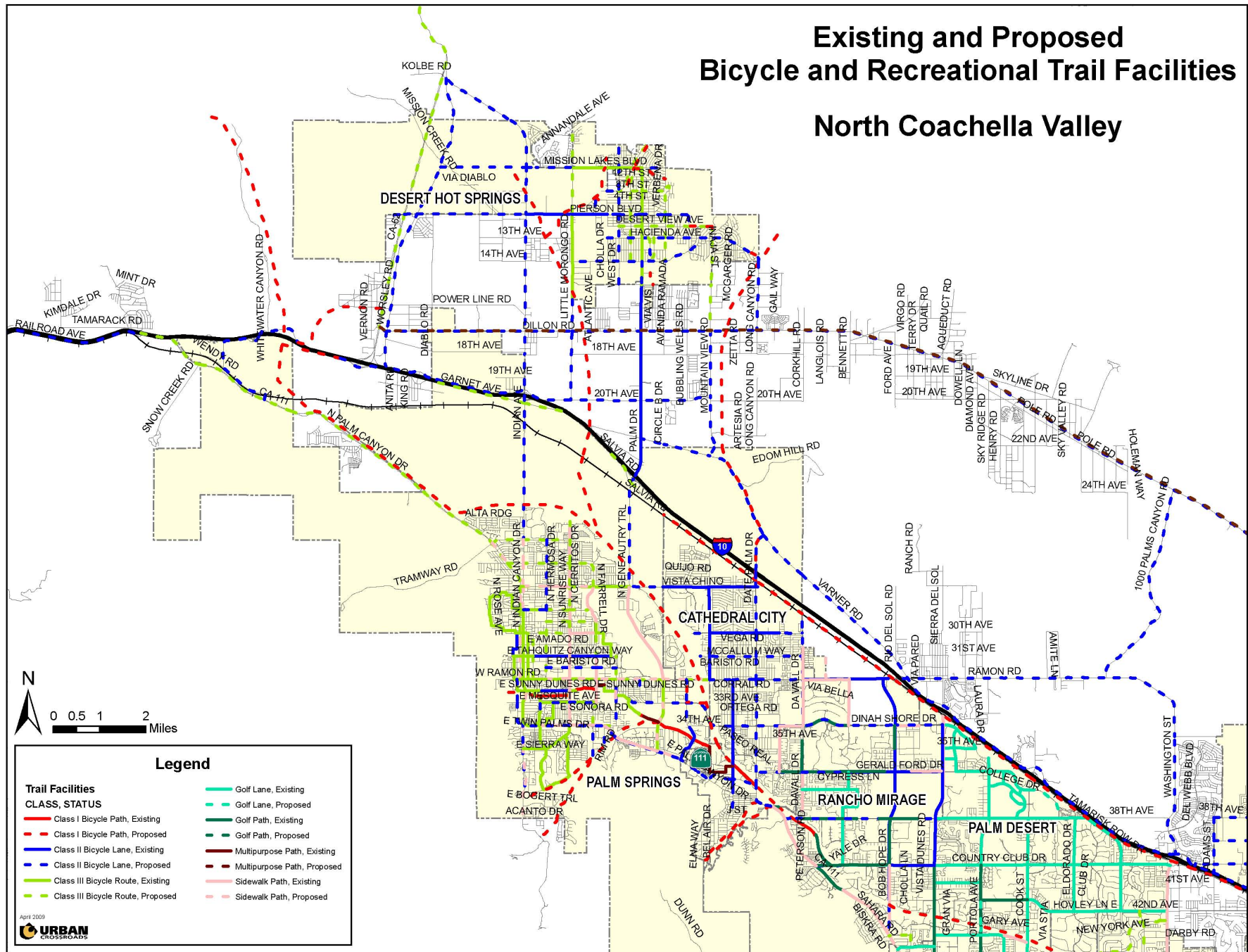


Map 4.1  
City of Burbank  
Proposed Bicycle Facilities



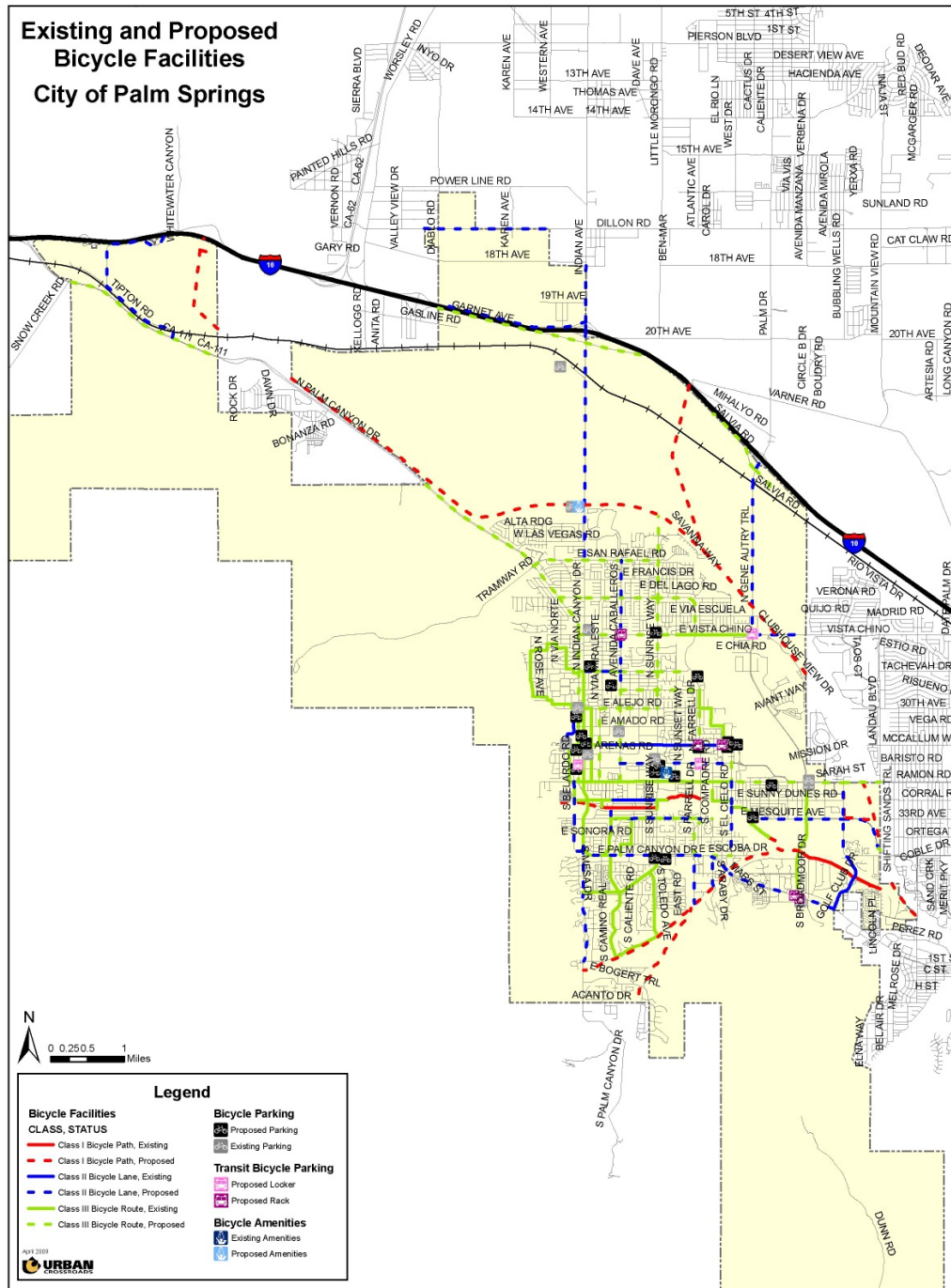


# Existing and Proposed Bicycle and Recreational Trail Facilities North Coachella Valley





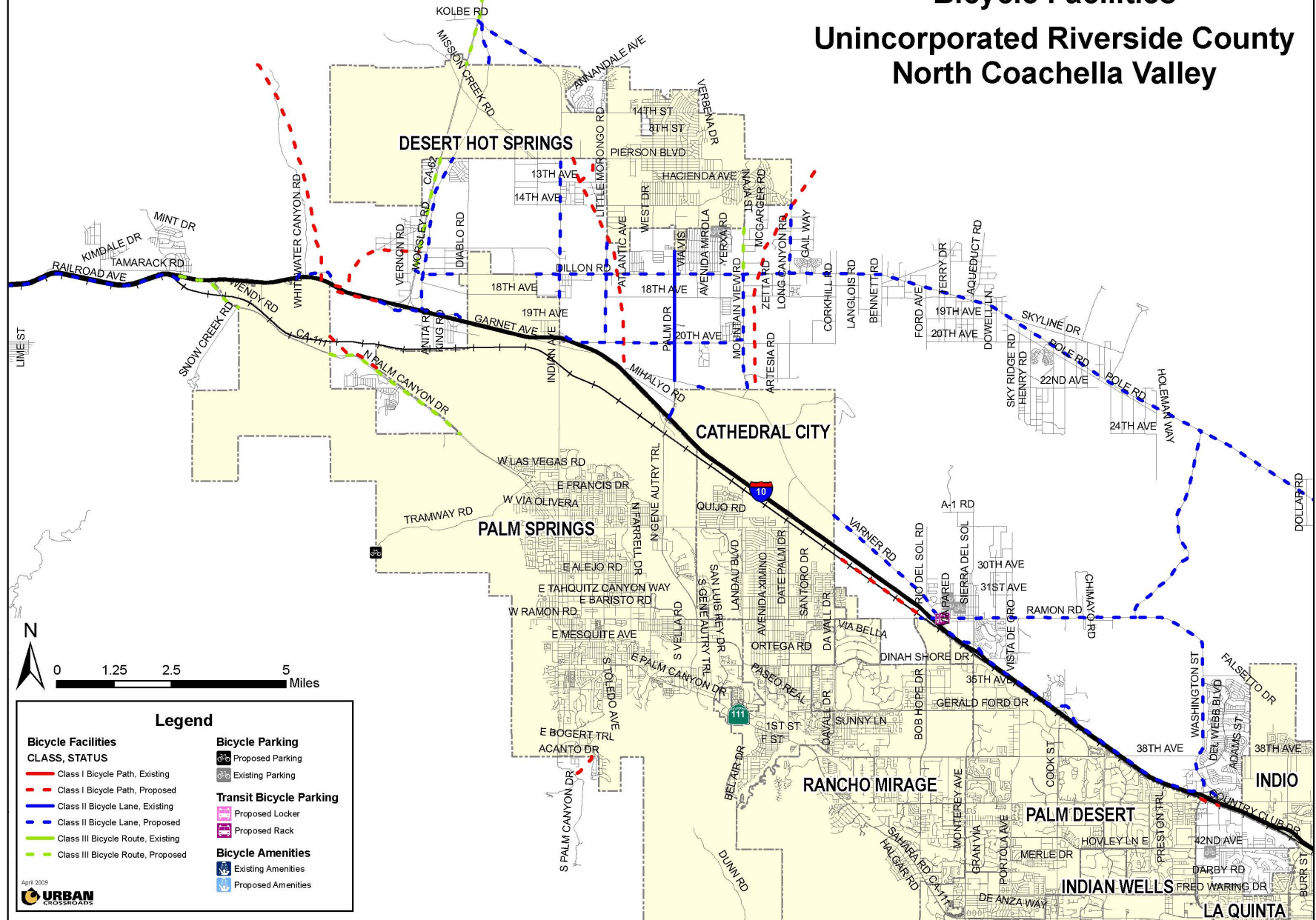
# Existing and Proposed Bicycle Facilities City of Palm Springs



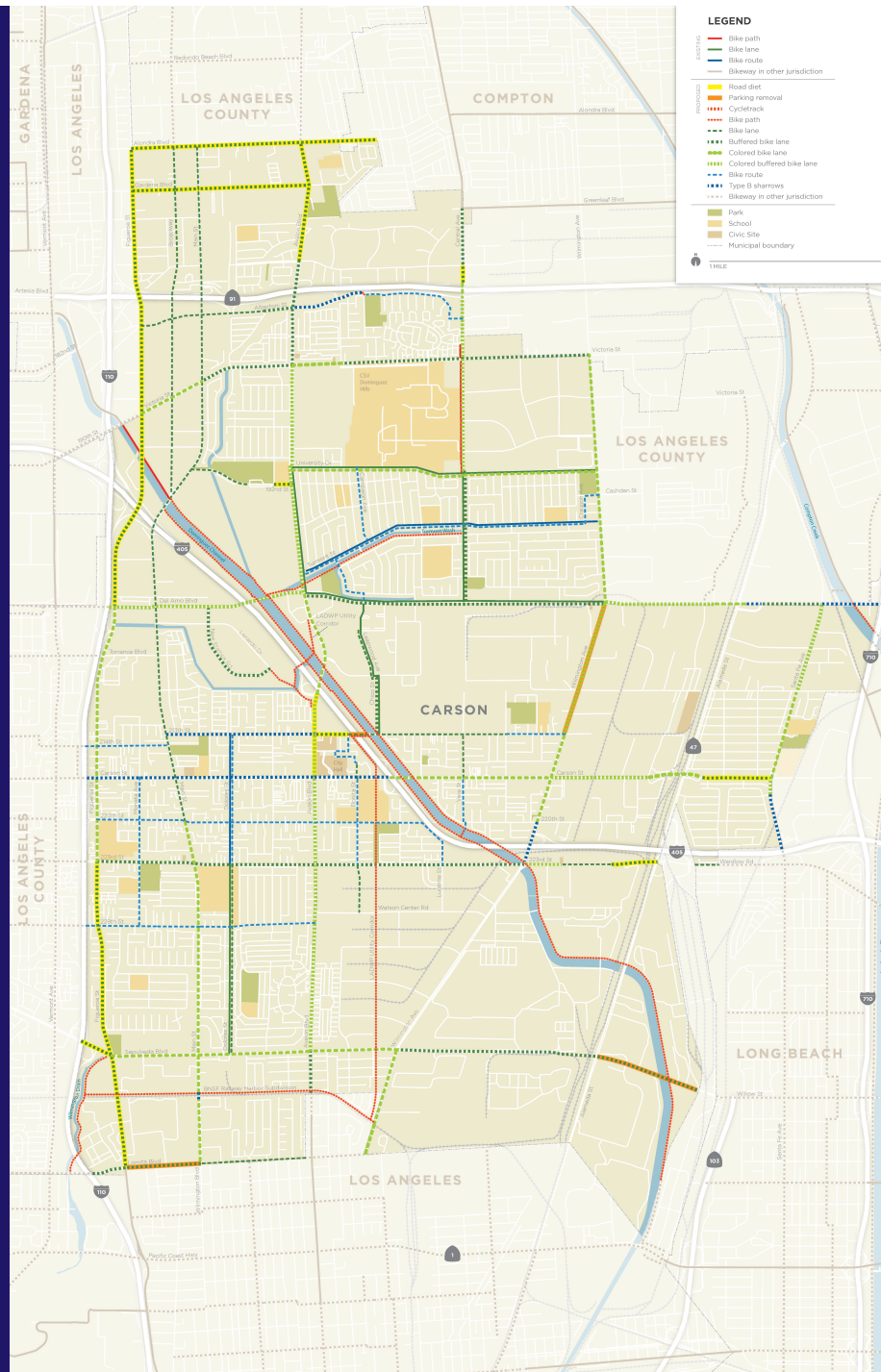


# Existing and Proposed Bicycle Facilities

## Unincorporated Riverside County North Coachella Valley









# Community Outreach

- Workshops
- Walkabouts
- Surveys



# Workshops









**Bikeways on North-South Routes**

Priority	Bikeway Improvements	From	To
	Melrose Ave./ Ave. 54 bike route	Colorado Blvd	South City Limit
	Linda Vista Ave. bike route	Northern City Limits	CA-134 Freeway
	Linda Vista Ave./Colorado Blvd. connection bike lanes	Linda Vista Ave.	Colorado Blvd. @ San Rafael Ave.
	Rose Blvd/Loop bike lanes and bike route	Rosemont Ave. / W. Washington Blvd.	West Drive / Seco St.
	Oak Grove Dr. bike lanes	Berkeley Ave.	Unincorporated County Line
	Arroyo Blvd. bike lanes	I-210 Freeway	Rosemont Ave.
	Arroyo Blvd./California Blvd./Grand Ave. bike route	Rosemont Ave.	Columbia St.
	Carlton Ave./Howard St./Forest Ave./Lincoln Ave. bike route	North City Limit	Maple St.
	Raymond Ave. bike lanes and bike route	Montana St.	Maple St.
	Warringo Ave. bike lanes and emphasized bikeway	Howard St.	Clematis St.
	Wilcox Ave. emphasized bikeway	Washington Blvd	Ardon Road
	4th Ave. bike lanes and bike route	North City Limit	California Blvd
	Seco/Bentley Ave. emphasized bikeway	Washington Blvd	South City Limit
	Allen Ave. bike lanes and bike route	North City Limit	California Blvd
	Craig St. emphasized bikeway	Mountain Ave.	South City Limit
	Aladana Dr./Santa Anita Ave. bike route	North City Limit	Del Mar Blvd
	Sierra Madre Blvd. bike lanes	East City Limit	Del Mar Blvd
	Kennett Ave. bike lanes	Foothill Blvd	Del Mar Blvd
	New York Drive bike lanes	West City Limit	Sierra Madre Blvd
	Sierra Madre Villa Ave. bike route	Sierra Madre Blvd	I-210
	Holmes St. bike lanes	Rosemead Blvd	End of St. South of Foothill Blvd
	Rosemead Blvd. bike route	Sierra Madre Blvd	Foothill Blvd
	Hedding Ranch Dr. bike route	Sierra Madre Blvd	Rosemead Blvd
	Arroyo Seco bike path	Huamanga Watershed Park	I-210
	Cotton Wash bike path		



# Walkabouts



# Writing a Successful Grant Application

- Good project that fits the fund eligibility guidelines
- Demonstration of community input and support
- Data to support the application – crashes, counts, speed surveys, etc.
- Well written: concise, to the point, well organized
- Meet what the agency is looking for



# Conducting Counts

- At numerous locations that represent overall travel behavior (busy streets, quiet ones, bikeways, no designated bikeway, etc.)
- During the week and on the weekend
- All hours of the days when cyclists are likely to ride
- Ideally during at least two times of the year
- At the same times every year
- At the same places every year
- With the same methodology every year
- On representative normal days; not holidays, etc.
- SEE SCAG/UCLA REPORT and clearinghouse <http://www.bikecounts.luskin.ucla.edu>

# Collecting Other Data

- Crash data: <http://tims.berkeley.edu/resources/srts/main.php#maps>
- Crash data: from the City or California Highway Patrol SWITRS
- Crash data: County Department of Public Health: <http://publichealth.lacounty.gov/epi/data.htm>
- Traffic volumes: city counts
- Speed surveys: city records