## WORKING TOWARD A SAFE, VIBRANT & WALKABLE COMMUNITY

MAY 1, 2015 REDDING, CALIFORNIA





Safe Transportation Research & Education Center



CALIFORNIA OFFICE OF TRAFFIC SAFETY

## **Community Pedestrian Safety Training Program**

A project of the UC Berkeley, Safe Transportation Research & Education Center, funded by the California Office of Traffic Safety, through the National Highway Traffic Safety Administration

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Planning & Policy Manager, California Walks

**Jill Cooper** Co-Director, UC Berkeley SafeTREC







## Agenda

Welcome & Introductions

- Walking Means Business: The Economic Case for Streetscape & Safety Improvements
- 6 E's Approach to Pedestrian Safety & Walkability: Overview of Best Practices

Walk Assessment



## Agenda

- Overview of Funding Opportunities
- Small Group Work, Action Planning & Recommendations
- Small Group Report Backs
- Wrap Up & Evaluations
- Adjourn



# Community Conditions Can Make Walking Difficult or Unsafe

Wide Roads High Speeds High Traffic Volumes Minimal Signage/Markings Lack of Sidewalks

# Sometimes When Conditions Are Good, No One is Walking



# 6 E's Approach to Pedestrian Safety & Walkability

- Community
  <u>Empowerment</u>
- □<u>E</u>valuation
- □<u>E</u>ngineering

# □<u>E</u>nforcement

- □<u>E</u>ducation
- <u>Encouragement</u>

# **E**MPOWERMENT

# **Community Solutions for Community Issues**

□The range of expertise gathered in one room today provides a unique opportunity.

■We can utilize our time to create positive and substantial solutions right away.

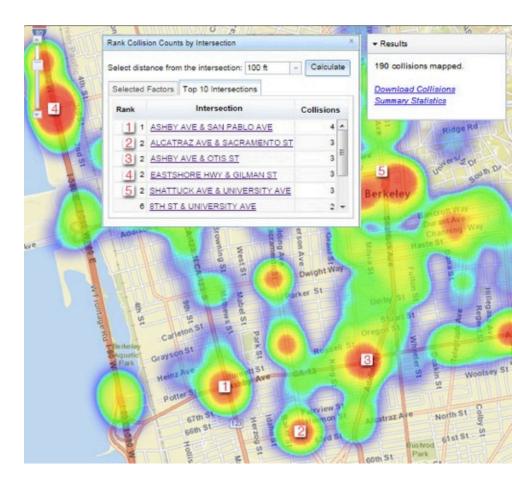
# **E**VALUATION

# **Collision Data**

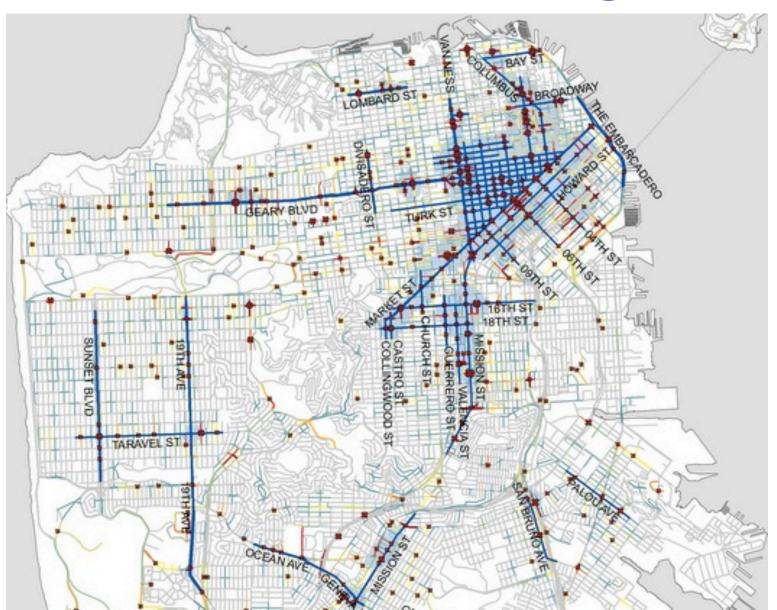
Data collection on existing pedestrian collisions

## Prioritize use of limited resources

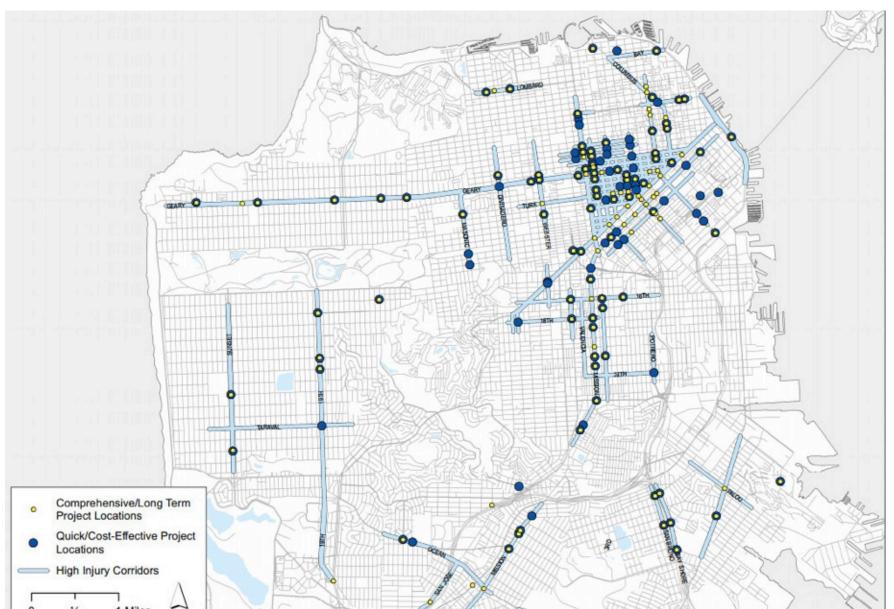
Measure our progress



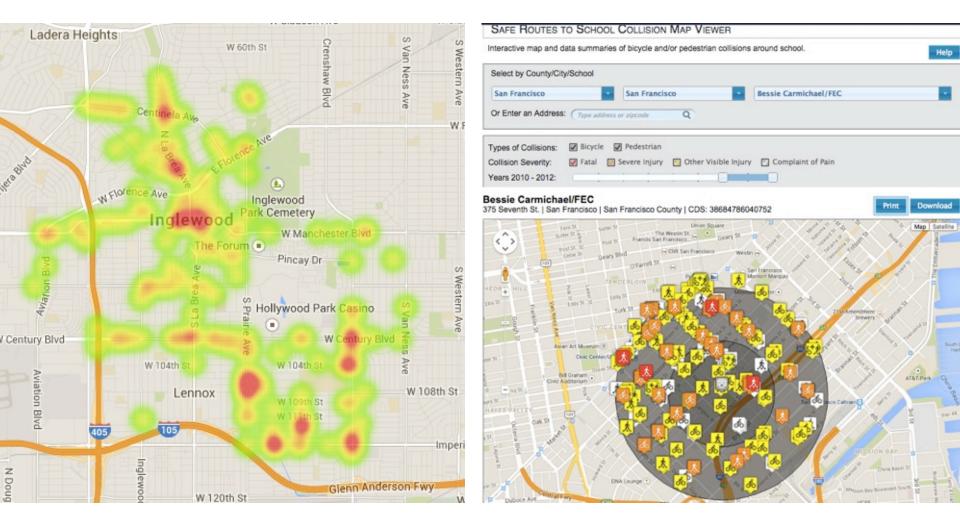
## **Data-Driven Decision Making**



# **Data-Driven Decision Making**



## Transportation Injury Mapping System (TIMS) www.tims.berkeley.edu



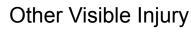
# Redding Pedestrian Collisions (2008-2012)



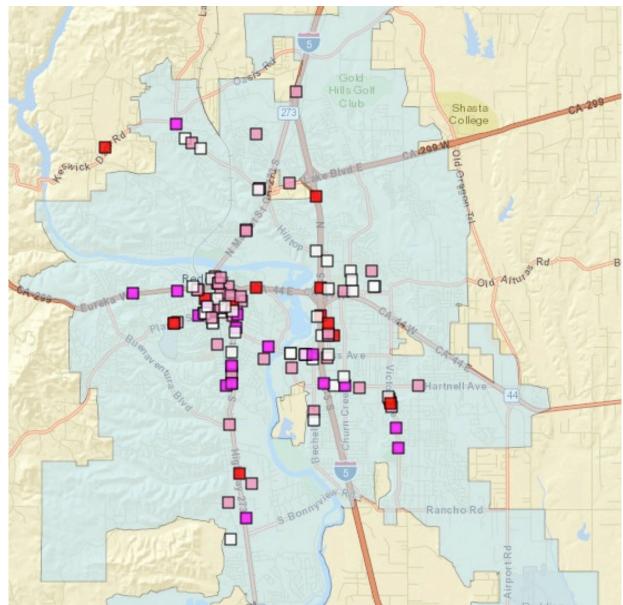
Fatality



Severe Injury



Complaint of Pain



# Downtown Redding Pedestrian Collisions (2008-2012)

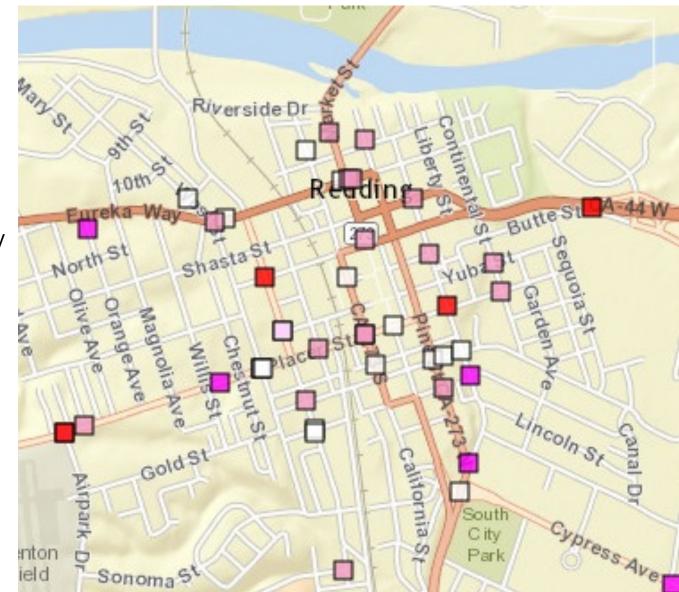


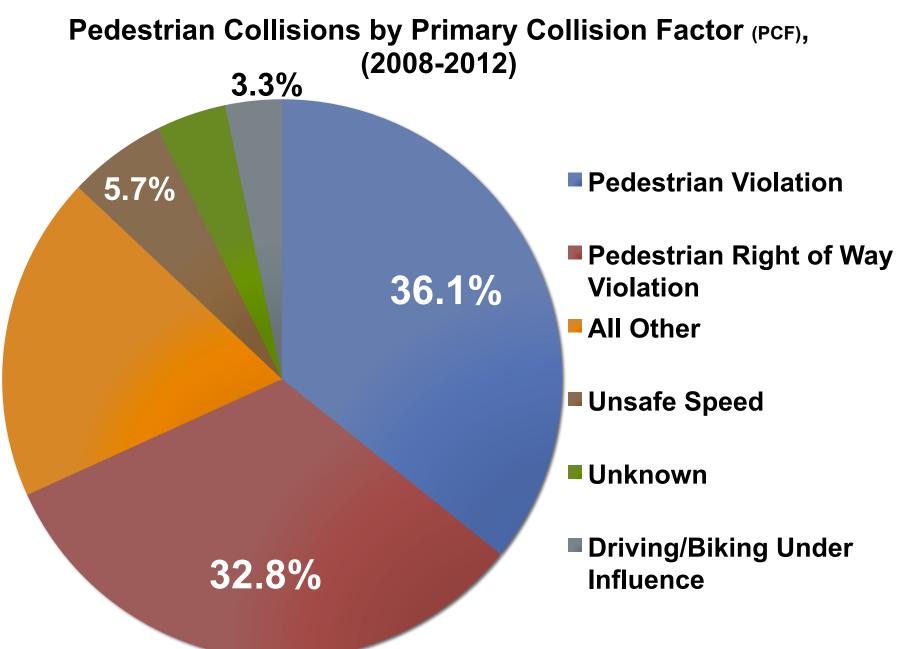
Fatality

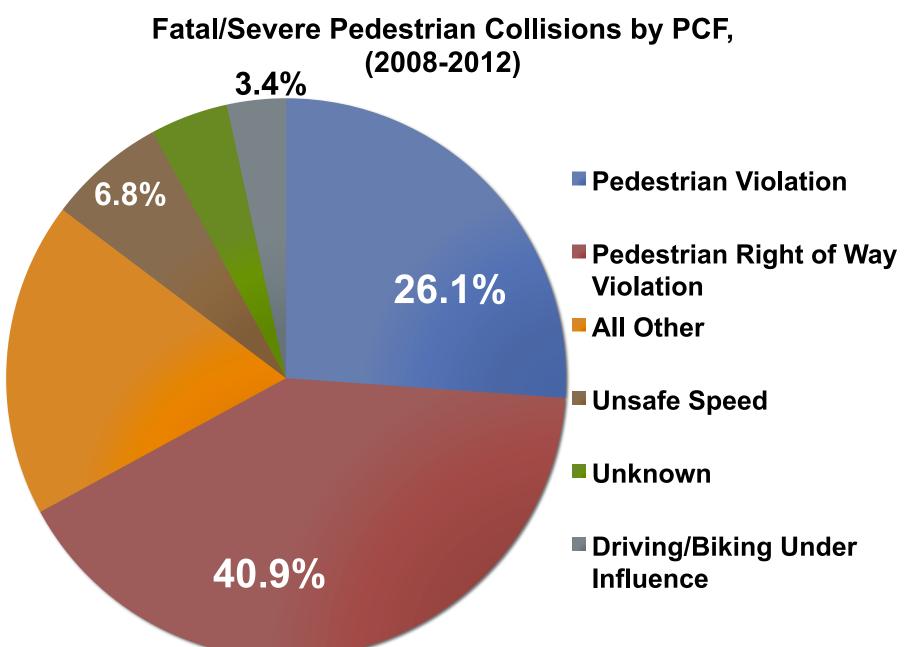


Severe Injury

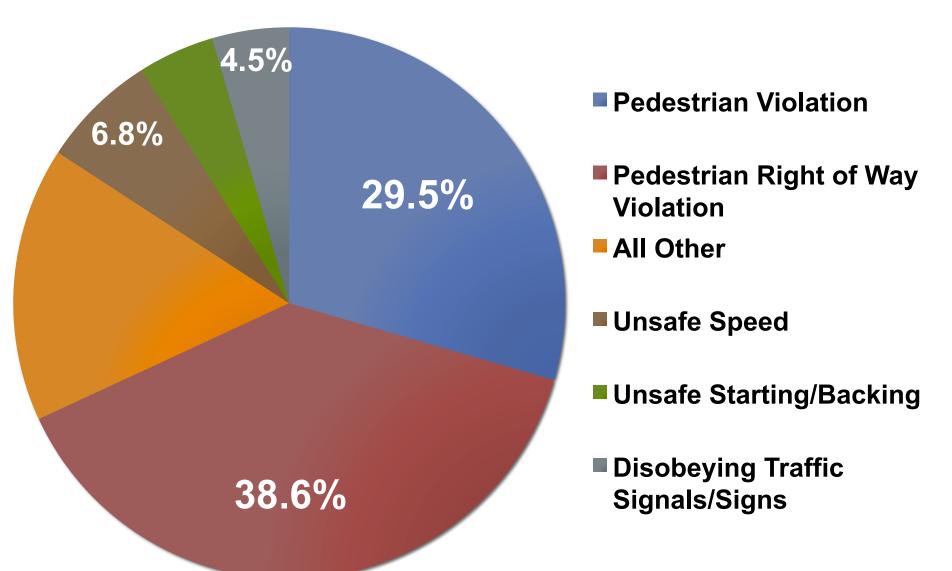
- Other Visible Injury
- Complaint of Pain



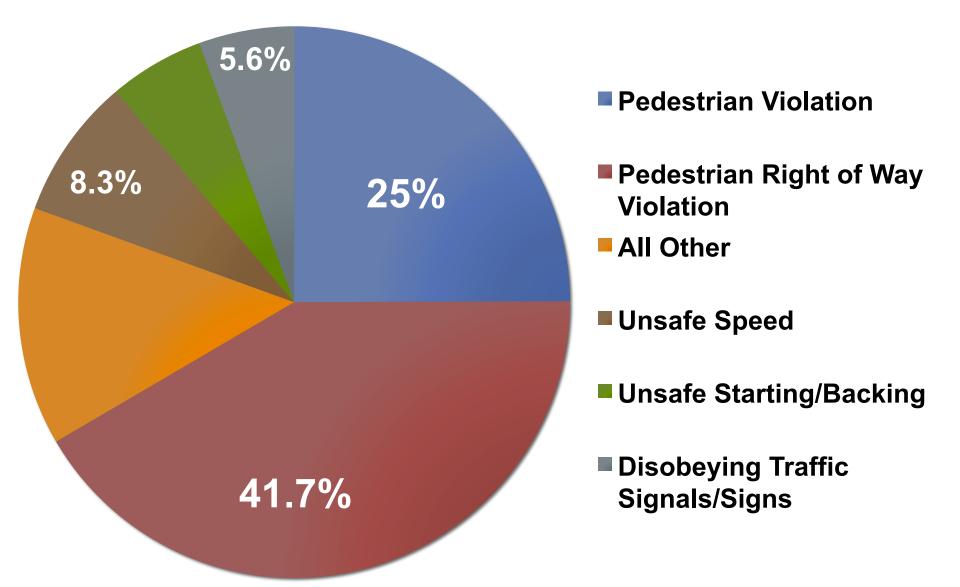




# Downtown Redding Pedestrian Collisions by PCF (2008-2012)



#### Fatal/Severe Downtown Redding Pedestrian Collisions by PCF (2008-2012)



# Walkability Assessment



Data collection on existing conditions and needs

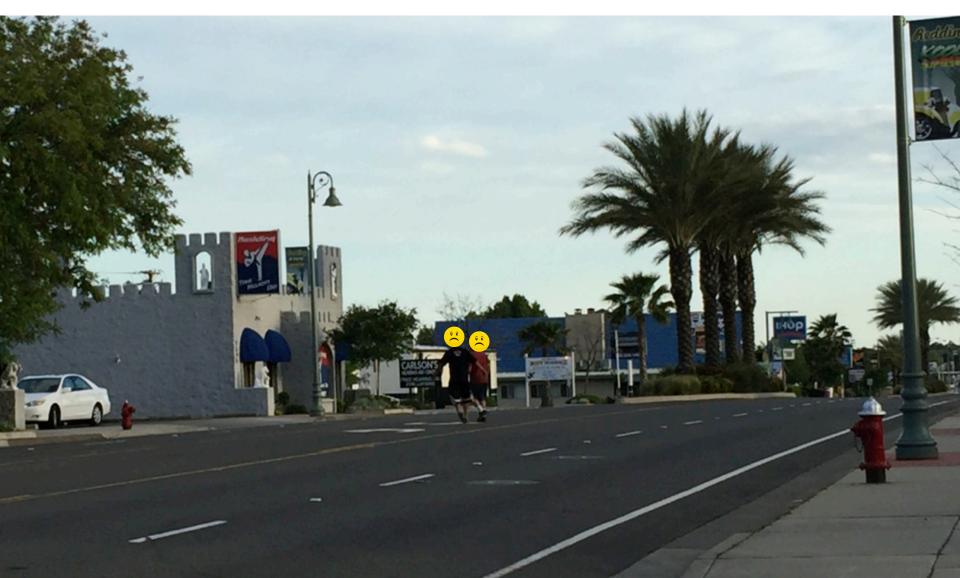
Both qualitative and quantitative

Perfect avenue for community engagement

# **Challenges: Motorists Not Yielding**



# **Challenges: Insufficient Crossings**



# Challenges: Lack of Pedestrian Scale



# Challenges: Wide Streets, High Speeds



# **E**NGINEERING

## **Speed Increases Severity**

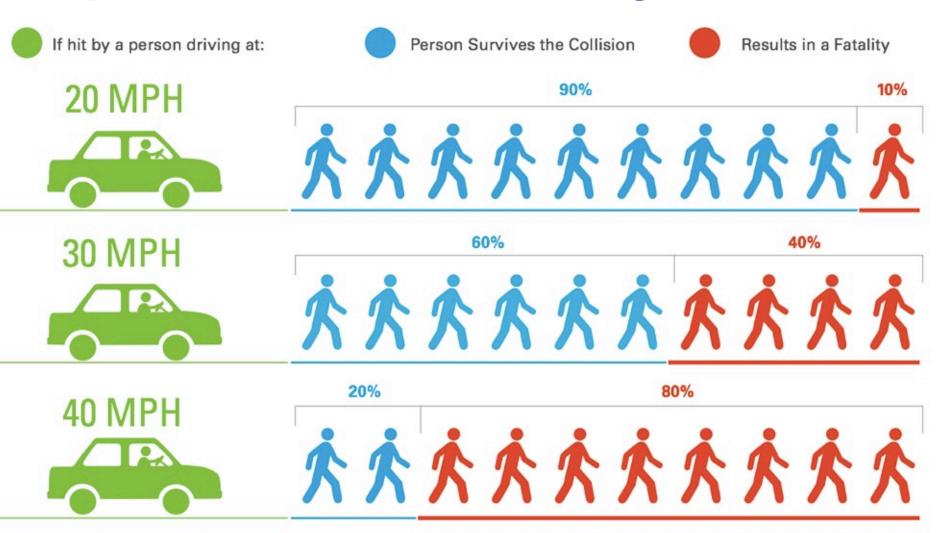
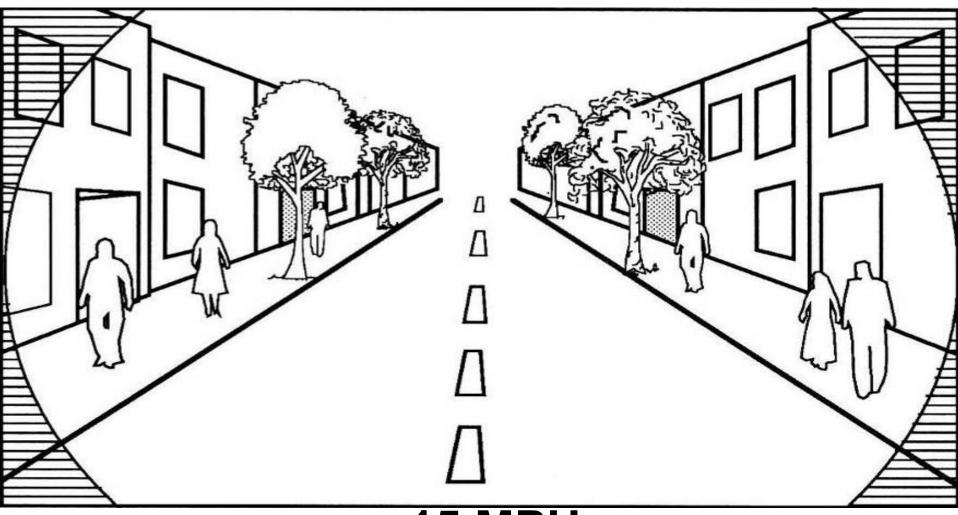


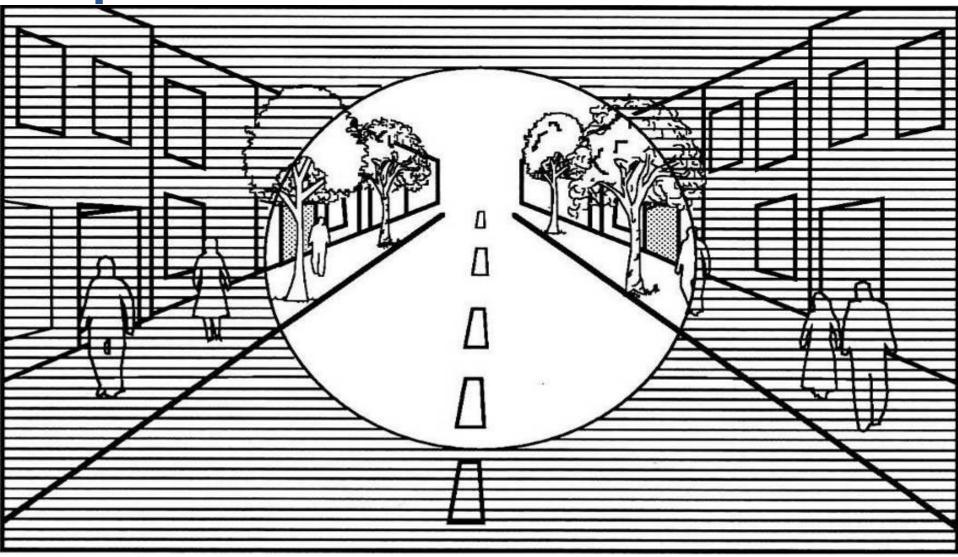
Image Credit: Vision Zero San Francisco : Two-Year Action Plan, February 2015

# **Speed & Field of Vision**



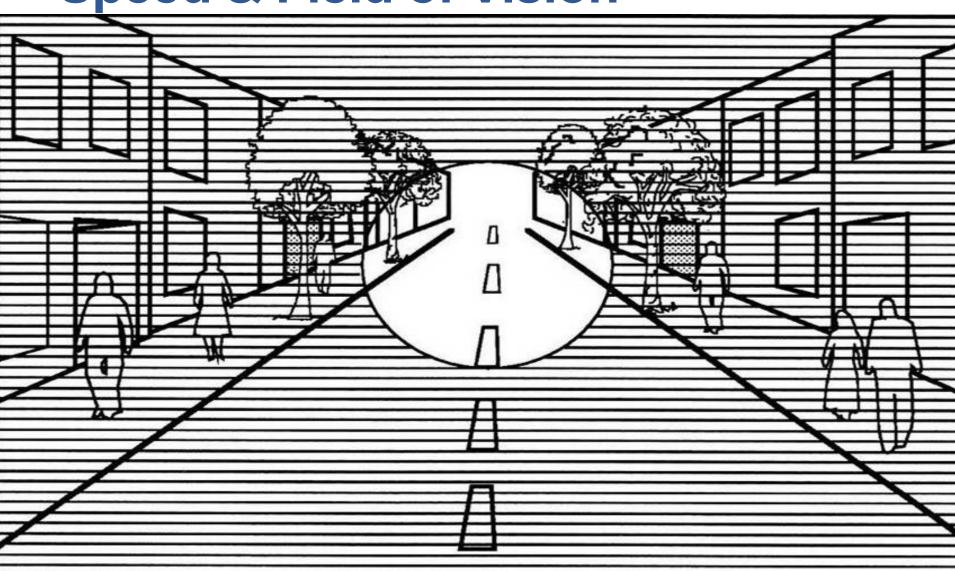
## **15 MPH**

## **Speed & Field of Vision**



## **25 MPH**

## **30 MPH**



# **Speed & Field of Vision**

Engineering

# **Complete Streets**

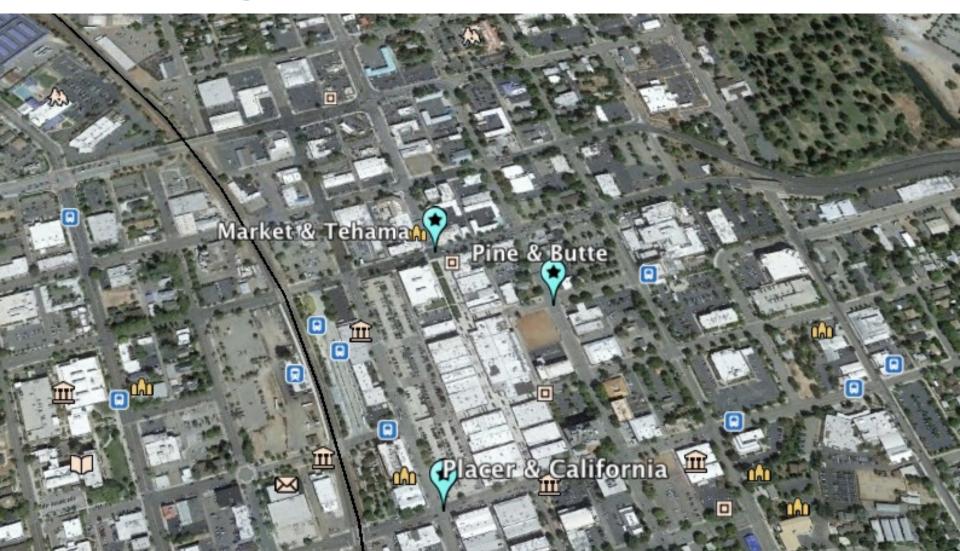


Designed for all users, all ages, all abilities

## Focus on Low Cost, Easy to Implement Solutions



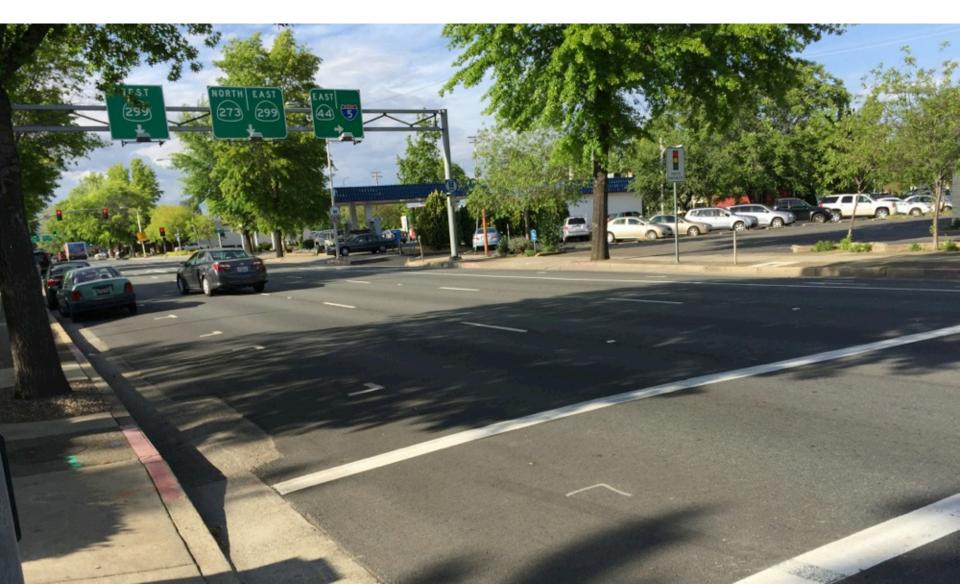
# What Can We Apply to Downtown Redding?



# Market & Tehama



# **Pine Street**



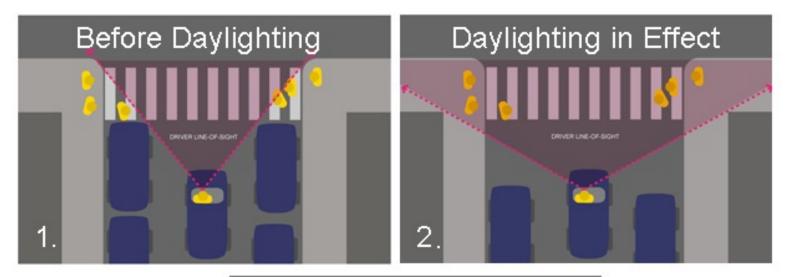
## **Placer & California**



# Cypress & Market (CA-273)



# **Corner Parking Restrictions**





# #2 Lane, Passenger Position

Paradise, CA

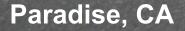
ANTIQUE MALL

# **#2 Lane, Driver Position**

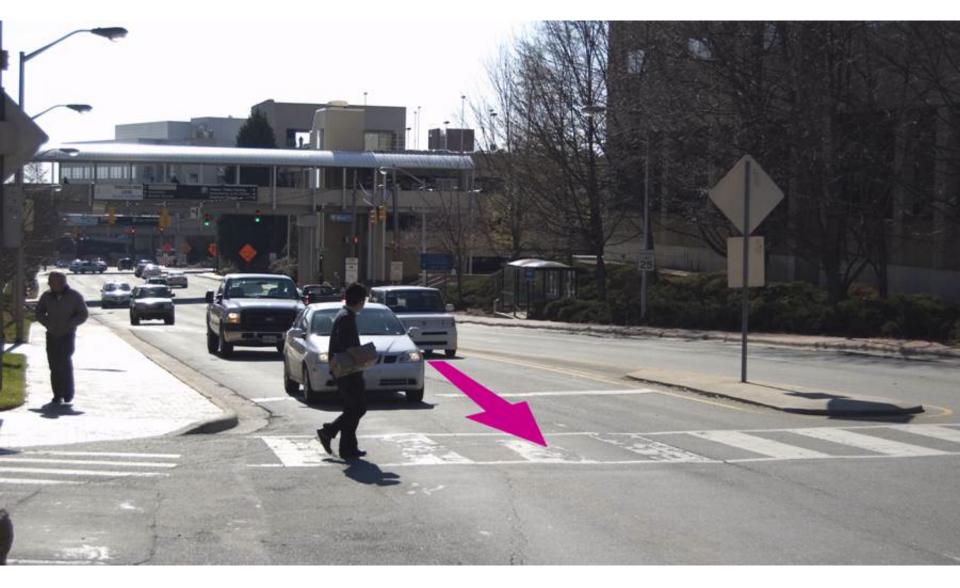
Paradise, CA

TOUE MALL

# #1 Lane, Passenger Position



# **Advanced Yield Lines**



### **Advanced Yield Lines**



### **Pedestrian Countdown Signals**



# **Pedestrian Recall**



Only about 50% of pedestrians actually push the buttons\*

If pedestrian fails to push button, longer wait time results—increasing potential for disobeying signals

### Consider placing signals into automatic pedestrian recall

\*Source: Zegeer C. V., Opiela K. S., Cynecki M. J. (1985). Pedestrian signalization alternatives final report. (Report No. FHWA/RD-83-102). Washington, DC: Federal Highway Administration

# **Leading Pedestrian Interval**



# **Turning Restrictions**





# **Rectangular Rapid Flashing Beacon**







### **Pedestrian Hybrid Beacon**



### **Pedestrian Hybrid Beacon**



















# **Pedestrian Hybrid Beacon**



















# **Pedestrian Hybrid Beacon**



#### Crescent City, CA (On US-101)

# **Pedestrian Hybrid Beacon**



### San Francisco, CA

(On CA-35/Sloat Blvd.)

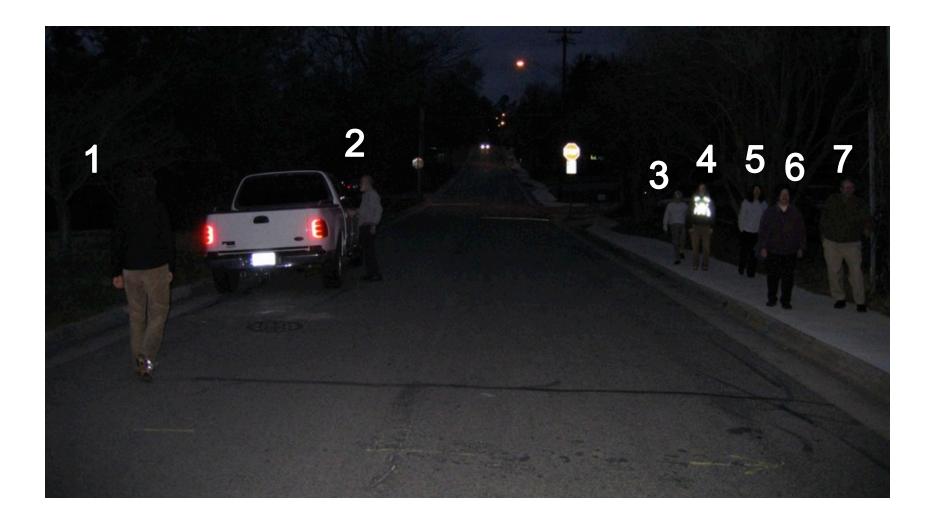
# **Traffic Signal Timing**



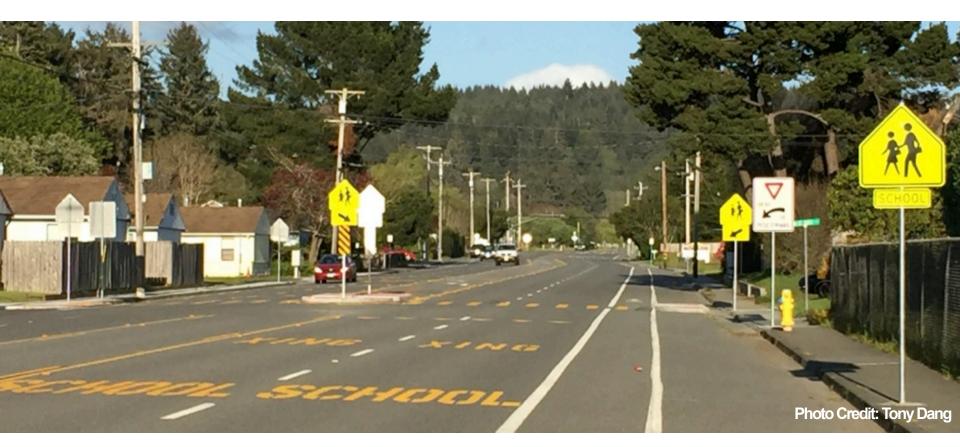
# **Pedestrian Lighting**



# **Pedestrian Lighting**

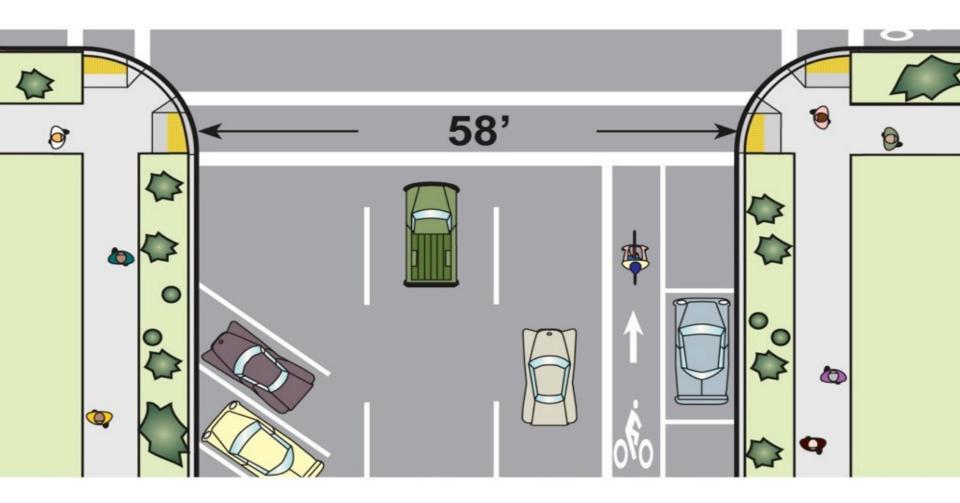


# Pedestrian Safety Islands/ Raised Medians

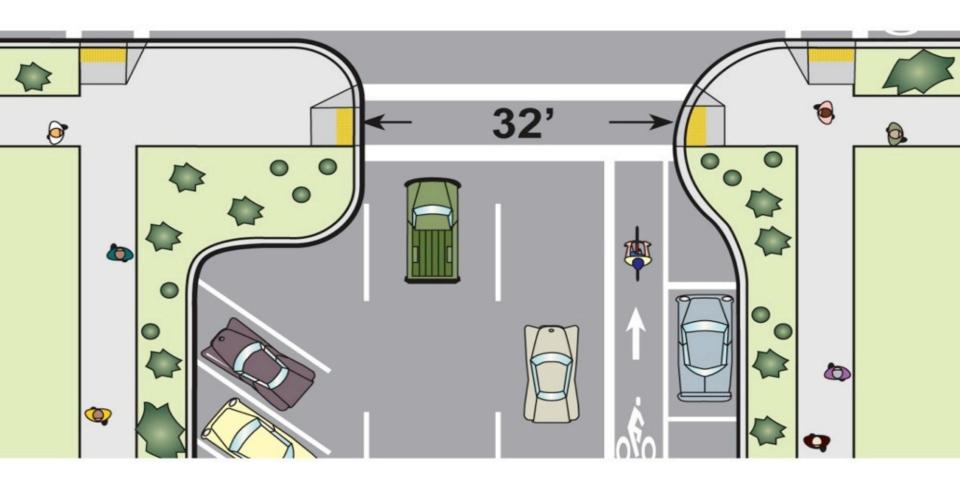


### McKinleyville, CA

# **Bulb Outs / Curb Extensions**



# **Bulb Outs / Curb Extensions**



# **Bulb Outs / Curb Extensions**



### **Painted Curb Extensions**



# **Temporary Curb Extensions**



### **Retrofitted Curb Extensions**



### **Raised Crosswalk**



#### Boulder, CO

# **Raised Crosswalk**



Windsor, CA

# **Convert One-Way Streets to Two-Way**

### One-way streets tend to:

- Encourage higher speeds
- Facilitate less cautious left-turning movements
- Create poorer sight lines of pedestrians for left-turning drivers
- Create multiple crash threat conditions
- Decrease automobile accessibility to businesses

Conversion generally results in fewer pedestrian crashes & reduced speeds due to:

- Fewer turning movements
- Increased perceived friction along roadway

Source: Federal Highway Administration, Pedestrian Safety Guide and Countermeasure Selection System. Available at pedbikesafe.org/pedsafe/countermeasures\_detail.cfm?CM\_NUM=23/RD-83-102). Washington, DC: Federal Highway Administration

# **Road Diet/Right Sizing – Before**



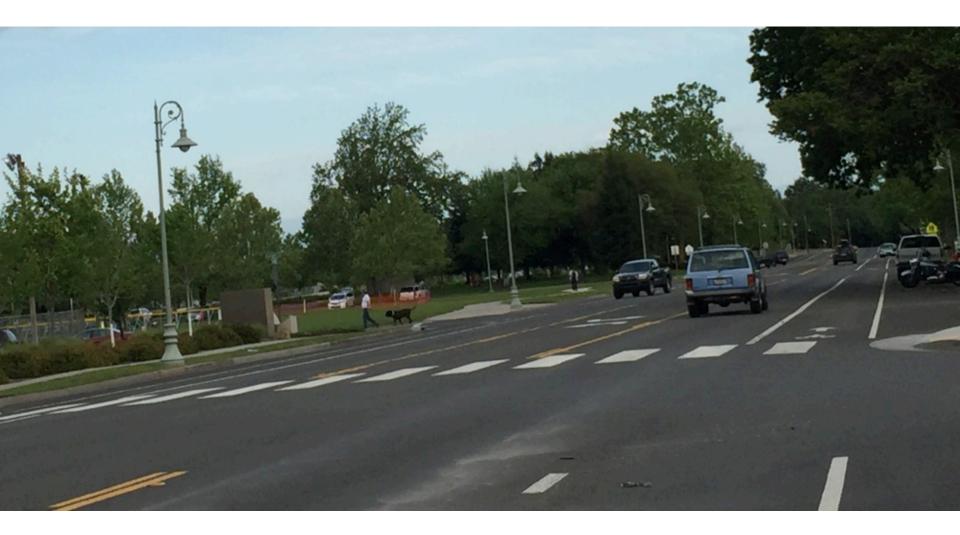
# **Road Diet/Right Sizing – After**



# Road Diet/Right Sizing w/ Safety Island



# **Parkview Road—Rightsized**



# **California Street—Rightsized**



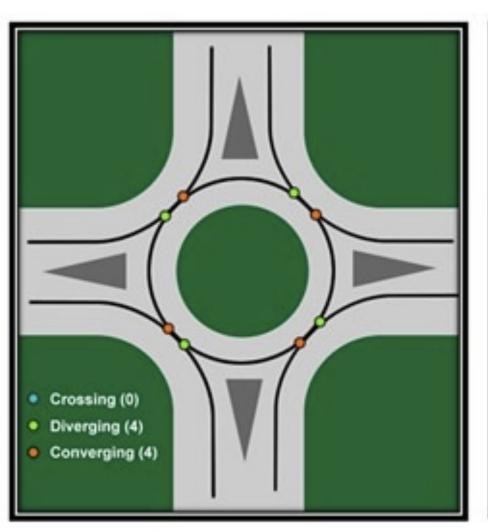
# **Roundabouts**

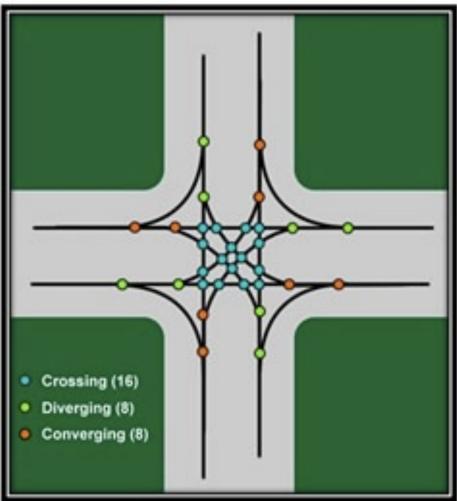


#### Sonoma County, CA

#### Engineering

### **Roundabouts**





Engineering

# Create a Policy and/or Toolbox of Treatments

#### Caltrans Traffic Operations Policy Directive 12-03, Crosswalk Enhancements

STATE OF CALIFORNIA• DEPARTMENT OF TRANSPORTATION POLICY DIRECTIVE TR-0011 (REV 9/2006)

TRAFFIC OPERATIONS POLICY DIRECTIVE	NUMBER: 12-03	PAGE: 1 of 7
ROBERT COPP, Chief Division of Traffic Operations	DATE ISSUED:	EFFECTIVE DATE:
11/2	June 27, 2012	June 27, 2012
SUBJECT:	DISTRIBUTION All District Directors	
Crosswalk Enhancements Policy		

Available at www.dot.ca.gov/hq/traffops/policy/12-03.pdf

# Create a Policy and/or Toolbox of Treatments

#### **Pedestrian Crossing Policy at Mid-Block & Uncontrolled**

(Washington County, OR)

Tier	Standard	Additional Treatments Considered	
Tier One	Crosses a 2-lane street with or without an Island/ refuge—install high visibility mounted signs and markings	Refuge islands, curb Extensions, staggered pedestrian refuges	
Tier Two	Crosses a 3-lane street with Island/ refuge —install high visibility signs and markings	Flashing Beacons, Pedestrian Actuated Signal/Beacon	
Tier Three	Crosses a 3-lane street without Island/ refuge or 4-lane street with Island/ refuge —install high visibility signs and markings or pedestrian actuated signal	Pedestrian Actuated Signal/Beacon	
Tier Four	Crosses a 4-lane or greater street without an Island/ refuge —install pedestrian actuated signal or beacon	Pedestrian Actuated Signal, Pedestrian over or undercrossing	

Available at http://www.co.washington.or.us/LUT/upload/MidbockCountyPolicy2010.pdf

# 2014 CA-MUTCD Updates

- Crosswalk enhancements across uncontrolled intersections (Sec. 3B.18.09)
- Updated crossing time guidance for seniors & people w/ disabilities (2.8 feet/ second) (Sec. 4E.06.10a)

High-visibility crosswalk guidance for high pedestrian volume locations w/o traffic control devices (Sec. 3B.18.14, Sec. 7C.02)

### **2014 Highway Design Manual Updates**

Reduction in the curb extension minimum setback from 4 feet to 2 feet. (Index 303.4; Figs. 303.4A, 303.4B)

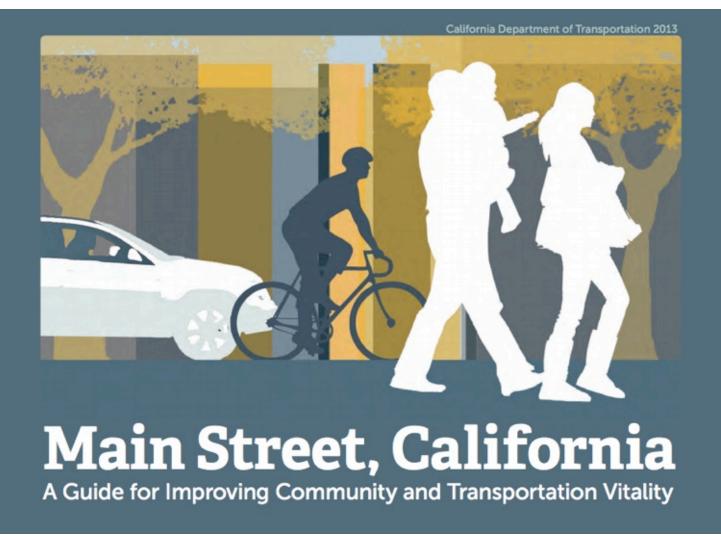
### Reduction in Design Speeds

(Index 101.1 and 101.2)

- **30 mph** for State Routes in downtowns & city centers
- 30-40 mph for rural & suburban main street State Routes

#### Engineering

### **Design Flexibility**



www.dot.ca.gov/hq/LandArch/mainstreet/main\_street\_3rd\_edition.pdf

### **Design Flexibility**

#### Complete Intersections:

A Guide to Reconstructing Intersections and Interchanges for Bicyclists and Pedestrians



www.dot.ca.gov/hq/tpp/offices/owd/academy\_files/ Oct\_2012\_Workshop/Wednesday/Complete\_Intersections.pdf

#### Engineering

## **Design Flexibility**





OVERVIEW

OCTOBER 2012

#### What's to Come

The NACTO Urban Street Design Guide has been orga-Street network design principles will be discussed nized to analyze the street from multiple perspectives. mainly as they relate to the design of individual corfrom the bird's eye view to the granular details. This ridors. Materials, lighting and street furniture are deoverview is the first product in the development of a design guide for urban streets. The chapters highlight- ter and application. ed here illustrate some of the greatest street design practices around the country and synthesize these national efforts.

emphasized here due to their inherently local charac-

The NACTO Urban Street Design Guide is slated for release in Summer 2013.

#### Outline for the 2013 NACTO Urban Street Design Guide

Items highlighted in **bold** are discussed in this overview.

- Streets and Intersections
- Very Large Streets Speed and Safety
- Large Streets
- Medium Streets
- Small Street
- Very Small Streets
- · Alleys and Passageways
- Pedestrian Streets
- Shared Streets and Home Zones
- Transit Streets
- Complex Intersections
- · Compact Intersections
- Reorganizing Intersections
- Multi-leg intersections
- Public Plazas
- Driveways

NACTO Urban Street Design Guide Overview 5

#### Available free, online at nacto.org/usdg

#### Treatments & Elements

- · Parklets, Pop-ups & Street Seats
- Low Impact Design
- Moving the Curb
- Bus Stops
- Stormwater Management
- · Parking
- Sidewalk Configurations
- · Crosswalks and Crossings Level of Service
- · Curbside Management
- · Design and Control Vehicle
- Functional Classification
- · One-way vs. Two-way

Design vs. Target Speed

· Corner Design and Turning

- Traffic Control Devices
- · Visibility and Sightlines
- Clear Zones

Critical Issues

Radii

· Lane Width

Transit Lanes

- Access Management

# LAW ENFORCEMENT



# **Enforcement Strategies**

- Traditional policing on most dangerous behaviors
- Crosswalk Enforcement Actions







#### **Enforcement**

### **Targeted Hotspot/Corridor Enforcement**



 High Injury Locations
 Most Dangerous Behaviors



#### <u>Enforcement</u>

### **Crosswalk Enforcement Actions**

High-Visibility Enforcement on Driver Compliance With Pedestrian Right-of-Way

Laws



Figure ES-3. The Mean Percentage of Drivers Yielding to Pedestrians at Enforcement Sites During Each Condition of the Program

Averages Across All 6 Enforcement Sites



Available at

www.nhtsa.gov/staticfiles/nti/pdf/ 811786.pdf





#### **Enforcement**

### **Crosswalk Enforcement Actions**



#### Moreno Valley, CA

### **Enforcement**

### Media Outreach

- Key to educating public to change behavior
- Greatly extends reach of enforcement efforts
- Proactive media
   outreach can involve
   community members
   as well as law
   enforcement



# **E**DUCATION

### Forming Lifelong Habits & Practices

Who needs to be educated? And what approaches should be taken?

- Children
- Parents
- Older Adults
- Neighbors & Drivers
- □Others?





# **Community Campaigns**

### Publicity on:

- Buses
- Bus Shelters
- Billboards
- Car bumper
- Others?

Her. Walkers ...

#### TOMORROW YOU MAY FEEL LIKE A TRUCK HIT YOU. TONIGHT, M≮KE SURE ONE DOESN'T.

Cross only at corners and obcy traffic signals.

Remember, pedestrian safety is a two-way street.



\*Approximate figures









Hey. Drivers ...

### EVERY CORNER IS A CROSSWALK.

Yep... every single one.

Even those without painted lines, signs or stop lights.

Hey. Walkers ...

### LOOK AG<sup>\*</sup>IN BEFORE YOU CROSS.

Make sure the driver sees you and will step.

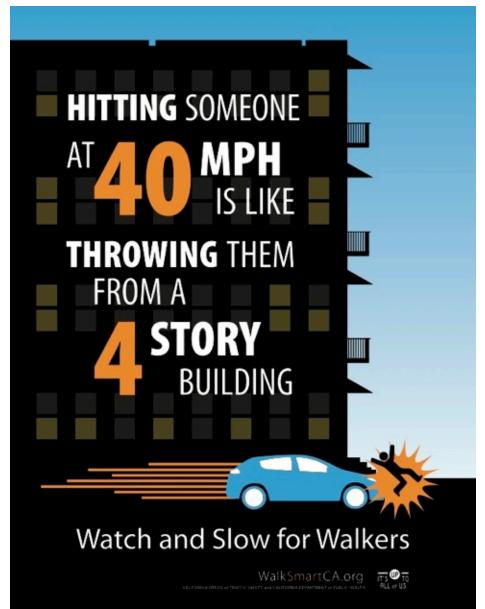
# It's Up to All of Us

- Campaign of PedSafe Program (California Dept. of Public Health)
- Free and ready-to-use campaign materials



CALIFORNIA OFFICE of TRAFFIC SAFETY and CALIFORNIA DEPARTMENT of PUBLIC HEALTH

### Walk Smart CA



### Walk Smart

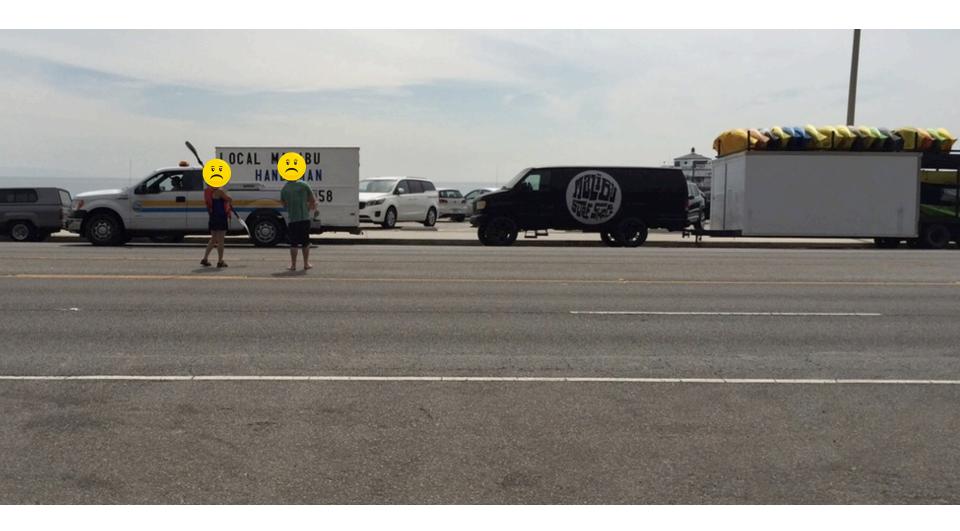


### **Smart Phone Dumb Move** Eyes Up. Phone Down.



CALIFORNIA OFFICE OF TRAFFIC SAFETY and CALIFORNIA DEPARTMENT OF PUBLIC HEALTH WalkSmartCA.org

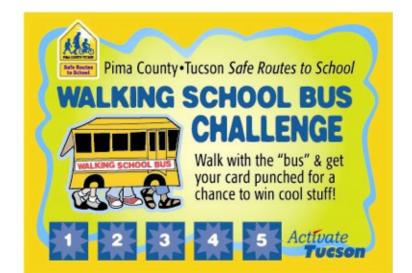
### **Set Good Examples (Not Bad Ones)**



# **ENCOURAGEMENT**

### **Competitions/Challenges**

Walking School Bus
Walking Wednesdays
Walking Challenges
Group Mileage Goals
Walking Clubs
Others?



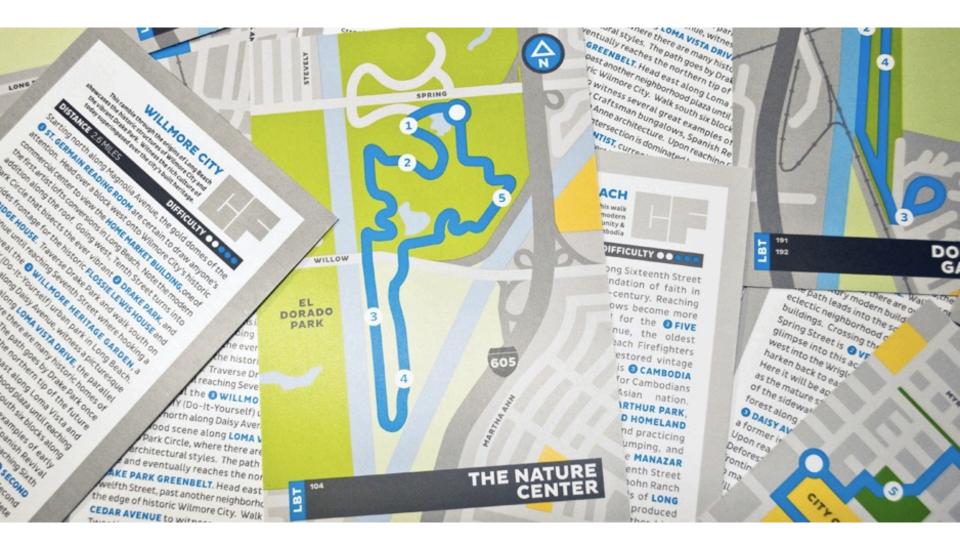


### **Community Events**

Walk to School Day
Open Streets / Play Streets
Other?



### Walking Maps/Guides



### Walking Maps/Guides

Redding Walks

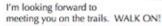
#### Message from the Mayor

Creating safe, accessible and interesting walking trails is a central component in attaining Redding's goal of a healthier community. To that end, Redding has partnered with Healthy Shasta to create this updated Redding Walks Guide.

The new guide is divided into 4 different regions and highlights 22 distinct walking routes within those regions. The variety of trails allows walkers of all ages unique access to the natural beauty of Redding, as well as the opportunity to visit some historic locations. The gem of the trail system is the awardwinning Sacramento River Trail – extending over 15 miles through the heart of the City – featuring attractions such as soaring eagles, fish jumping, and the world-famous Sundial Bridge... all part of the outdoor splendor to be experienced!

These walking trails also serve as key links between neighborhoods and provide access to various services, connections that help build stronger communities and offer residents alternative transportation options.

I hope this informative and easy-to-use guide leads to you enjoying our unbelievable trail system and helps contribute to your healthier lifestyle!



Missy McArthur Mayor, City of Redding



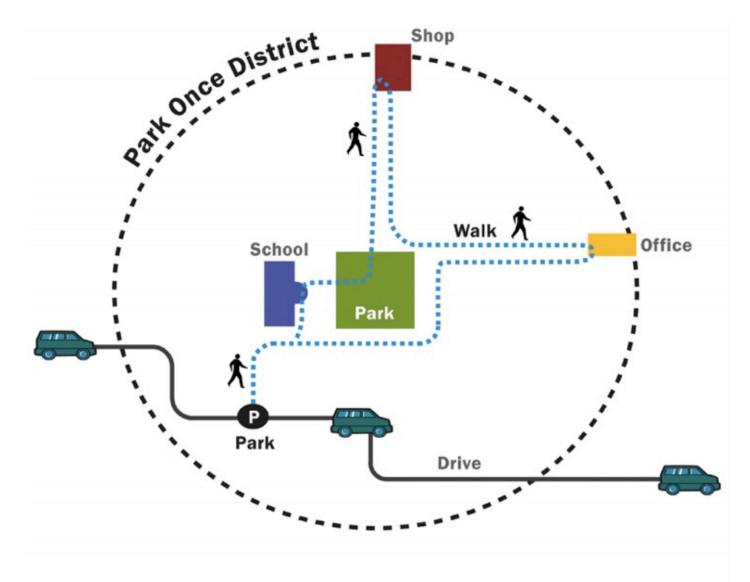
Mayor McArthur and son Rob

#### Walking Tips

- When walking on trails shared with bicyclists, be aware of their presence and keep to the right.
- Drink water before you feel thirsty before, during, and after exercise.
- Walk briskly, but make sure you can maintain a conversation while walking. Stop if you feel pain, severe fatigue, light-headedness, dizziness, or significant shortness of breath.
- Set goals to walk for a specified amount of time rather than distance. An average pace of brisk walking is one mile in 18-20 minutes. Beginners should strive for a 30-minute permile pace.
- Work up to 30-60 minutes a day, five days a week, of walking or other moderate physical activity. Several short walks a day (10-20 minutes each) can be as effective in improving and maintaining health as one long walk.
- Wear comfortable, sturdy shoes with good arch support, a firm heel, and plenty of room for your toes.
- Warm up and cool down with five minutes of slow walking and some light stretching to prevent injuries and increase flexibility.
- Before you start a walking program, check with your doctor if you have a health or safety concern.
- For current walking maps, visit www.healthyshasta.org

This Redding Walks guide is offered free to encourage physical activity and enjoyment of our beautiful area. Neither the City of Redding, ENPLAN, the County of Shasta, or Healthy Shasta endorse or assume responsibility or liability for the condition of any of the locations or programs described in this guide.

### **Park Once District**



Based on an original illustration by Walter Kulash.

### **Park Once District**

#### DOWNTOWN CHICO BUSINESS ASSOCIATION



#### A Walkable Downtown

A Pedestrianization Project Strategy for Parking Management

Objective	Owner	Status	
Meter Revenue Reinvestment			
Policy			
Adopt 85% parking space occupancy goal	City Council	Completed	
Adopt two-prong parking structure decision process	City Council	Completed	
Adopt "Park Once" strategy	City Council	Completed	
Modify parking requirements policy	City Council	Proposed	
Allocate Fund 853 funds for reinvestment priorities	City Council	In Progress	
Establish residential neighborhood parking districts	City Council	Proposed	
Reinvestment			
Convert surface lots to smart meters	CapProj	Proposed	
Install Smart Meters for new spaces	CapProj	Proposed	
Convert Sub-Area 1 to smart meters	CapProj	Proposed	
Convert remainder of Zone A to smart meters	CapProj	Proposed	
Increase Parking Inventory			
Convert curbside parking to diagonal	CapProj	In Progress	
Site new parking structure	CapProj	Proposed	
Convert private parking to better land uses	CapProj	Proposed	

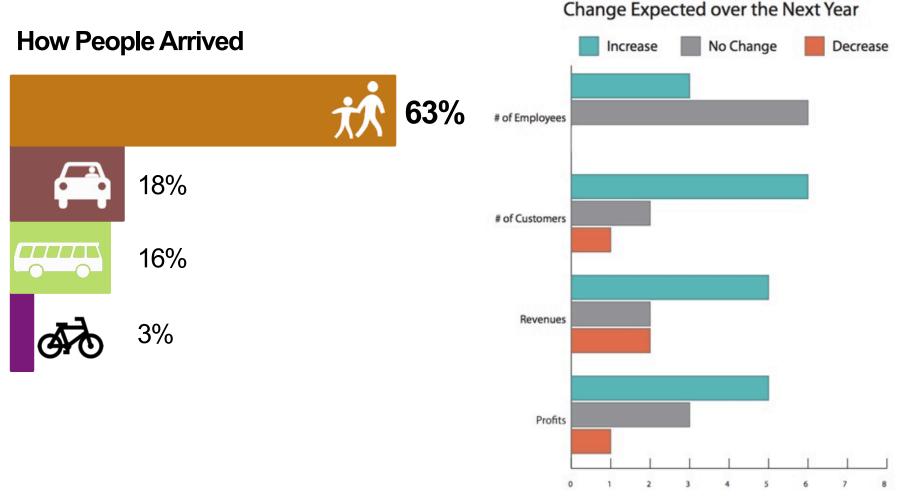
### **Parklets**



### Spring Street Parklet (Downtown LA)



### Spring Street Parklet (Downtown LA)



Source: UCLA Luskin School of Public Affairs, "Reclaiming the Right of Way Evaluation Report: An Assessment of the Spring Street Parklets," 2013. Available at www.its.ucla.edu/wp-content/

uploads/sites/6/2014/06/parkletassessment.pdf

### **Parklets**



### **Temporary Demonstrations**



### **Temporary Demonstrations**



Photo Credit: Local Government Commission

### **Temporary Demonstrations**



Photo Credit: Local Government Co ssion

#### Encouragement

## **Temporary Demonstrations**



Photo Credit: Local Government Commission

#### Encouragement

### **Temporary Demonstrations**



Photo Credit: Local Government Commission

# WALK ASSESSMENT

# Conducting a Walk Assessment Walk | Observe | Discuss

- □What is the walking experience like...
  - □...for you?
  - Intersection of the section of th
  - □...for a child?
  - Intermediate in the second second

What problems are you encountering?

**What can be done to fix them?** 

# **Conducting a Walk Assessment**

#### Record your observations

- **Where are the key problems?**
- What needs to happen to make it safer?
- Use maps and take notes

Take Photos

Discuss with a Walking Buddy

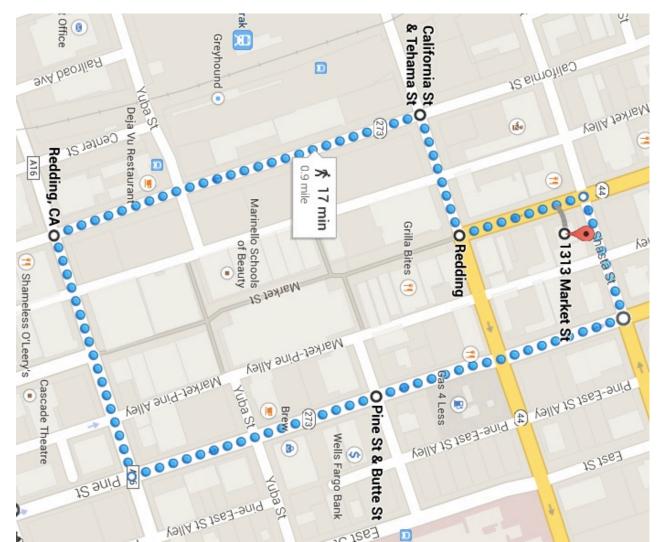
#### Walk Assessment—Route 1

### Cypress/Market/Pine (Drive to Site)



Walk Assessment—Route 2

# Pine-Placer-California-Tehama-Market (0.9 mi)



- Parking Benefits District
- Local Transportation Fund (LTF)— 2% Non-Motorized Program
- Highway Safety Improvement Program (HSIP)
- Affordable Housing Sustainable Communities (AHSC)—Integrated Connectivity Projects
- Active Transportation Program (ATP)

#### Parking Benefits District

Reinvest net revenues for sidewalk & streetscape improvements into area where revenue collected

Focus on creating <u>availability</u>, not <u>price</u>

Effective way to generate local match for outside grants



#### Local Transportation Fund (LTF)— 2% Non-Motorized Program

- Administered by Shasta Regional Transportation Agency
- Projects must conform to Regional Transportation Plan and any adopted non-motorized plan
- Claims submitted annually and approved dependent upon available revenues

#### Highway Safety Improvement Program (HSIP)

- \$\frac{\$150 million}{\$150 million} available to all communities on statewide competitive basis
- HSIP funds for projects to improve safety—including for pedestrians & bicyclists—on any publicly owned roadway
- Awards determined by Benefit/Cost (B/C) Calculation; minimum B/C ratio for Cycle 7 is 5.0

Call for projects April 27 through July 31, 2015

### AHSC—Integrated Connectivity Projects

- □ 30% of available AHSC funds (\$120M in FY14/15)
- Projects must reduce vehicle miles traveled (VMT)
- Requires concept proposal to be invited to apply
- Active transportation infrastructure and noninfrastructure projects eligible expenses





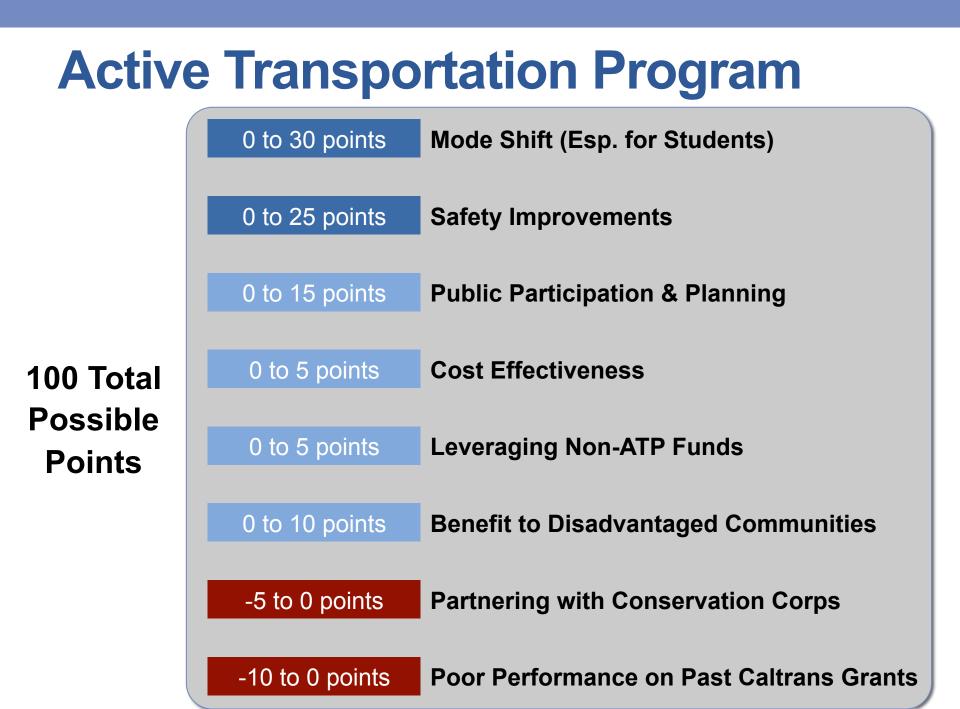
#### Active Transportation Program (ATP)

- \$\begin{aligned}
  \$\b
- \$36 million available to Small Urban/Rural communities
- Redding eligible for Statewide and Small Urban/ Rural Components
- □ Applications due June 1, 2015

# Active Transportation Program (ATP) Goals

Increasing walking & biking for transportation Improve safety for people walking & biking Reduce vehicle use & greenhouse gas emissions

Enhance public health & reduce childhood obesity Ensure benefits to disadvantaged communities



# **Lessons Learned from ATP Cycle 1**

#### □High-scoring applications...

- Demonstrated strong partnerships b/w agencies & w/ community members
- Meaningfully incorporated non-infrastructure components
- Broad stakeholder support & strong community engagement
- □ Chose multi-site or corridor-wide projects
- Leveraged data to explain community need
- Clearly explained assumptions & sources

# WHAT ARE THE MOST CRITICAL ISSUES FOR DOWNTOWN REDDING?

# **Small Group Discussions**

### **Ground Rules**

Each group will be assigned one topic w/ formal switch half-way through

If your group finishes with assigned topic, move to second topic

Assign note taker & reporter <u>before beginning</u>

Keep walk observations in mind (both good & bad)

### **Small Group Discussions**

 Develop solutions along 6
 E's—Formulate concrete action items.

As a group, prioritize solutions/actions for each of the 6 E's.



# **Round 1 Topics**

#### Taming Downtown Arterials: Pine, California, Market

- Placer & California: Proposed scramble?
- Pine Street: Road diet? Protected bike lane?
- o Cypress/Market/Pine: Roundabout?
- Convert Downtown One-Ways into Two-Ways

#### Market Street Promenade

- Market & Tehama: Yielding issues?
- Market & Placer: 3-way stop control working?
- Reopening Market to Cars?

# BREAK

# **Round 2 Topics**

#### Policy Changes

- Downtown pedestrian signals?
- Daylighting intersections?
- o Downtown parking?
- Crosswalk policies? Mid-block? Enhancements?
- o Parklets?

### Short-Term Improvements

- Temporary installations?
- Tactical urbanism (e.g., wayfinding)?
- o Others?

#### **Report Backs**

# Share your top action/ solution for each of the 6 E's



### **Next Steps**

#### □Final Report by Cal Walks/SafeTREC

□To be shared with City by May 15

#### Walk Audit Findings to Inform:

Downtown Redding Transportation Plan
Potential ATP application(s)
City engineers/planners

# Secure support letters for ATP application



# **THANK YOU**

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Many of the resources in this presentation are from the FHWA <u>How to Develop a</u> <u>Pedestrian Safety Action Plan</u> and FHWA <u>Residents' Guide to Safe and Walkable</u> <u>Communities</u>





