



# A Brief Look at the Evolution of Public Sidewalks (and its Maintenance)

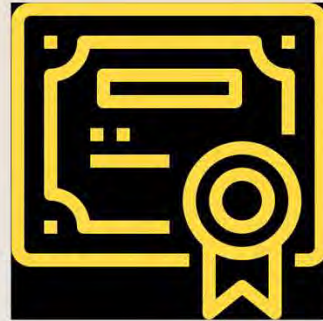
Presented by: Carl Valdez,  
Retired Public Works Superintendent

Joseph Ortega, Vice President  
Precision Concrete Cutting  
Northern California





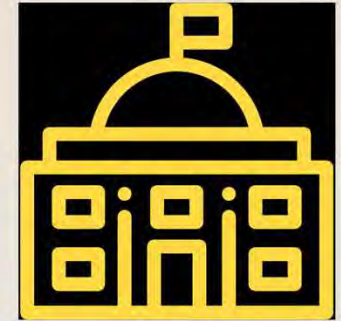
Global Leader  
in Sidewalk Asset  
Management



8 Patents awarded by  
the U.S. Patent and  
Trademark Office.



Northern California  
Franchise is the Largest  
of 60 Franchises  
throughout North  
America and Australia  
specializing in Sidewalk  
Inspection and Repair.



PCC Northern California  
has serviced over 100  
cities and thousands of  
HOA's and Schools. In  
operation for over 15  
years and growing.

# Carl Valdez



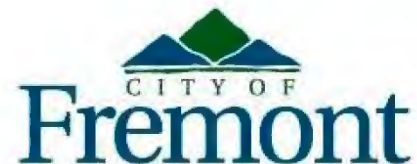
Retired Public Works Superintendent



Public Works career spanning 5 decades with 4 Public Agencies



Capital Improvement/Engineering Technician and Designer



# Carl Valdez



Pavement Maintenance Expert



Developed Sidewalk Maintenance Manuals



Supervised and Managed Sidewalk Maintenance staff nearly 15 years



Executive Board Leader of the Maintenance Superintendents Association (MSA) since 2013, APWA member since 2007



Joined Precision Concrete Cutting in early 2021 as a Sr. Business Development Manager and Safe Sidewalk Advocate



# Joseph Ortega



Vice President Precision Concrete Cutting



Sidewalk Maintenance & Repair Expert – 17 years +



Past President of American Public Works (APWA) Association and Maintenance Superintendents Association (MSA)



Supervised over 1,000,000 sidewalk repairs



# Today's Agenda



The Origins



Modernization



What We Want



The Move to the Suburbs



Safety, Funding, and  
Maintenance



# Today's Agenda



The Origins



Modernization



What We Want



The Move to the Suburbs



Safety, Funding, and  
Maintenance



# Today's Agenda



Trip Hazard Causes



CA Streets and Highway Code



Americans with Disabilities Act



Asset Management/Inspections



Solutions/Methods of Repairs

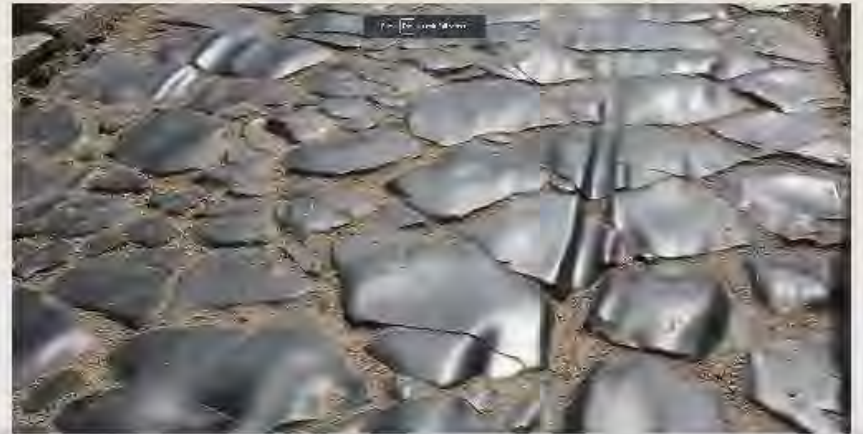




# Where did sidewalks originate?



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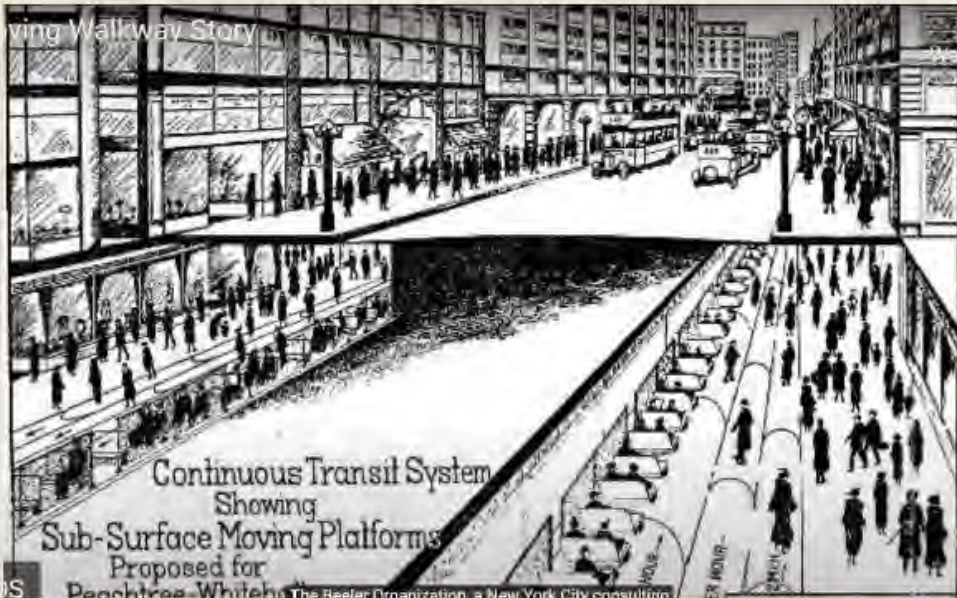
# Sidewalks begin to Modernize



# Sidewalks begin to Modernize



# Sidewalks begin to Modernize



Atlanta Sub Surface Moving Platforms



Modern day airports

# Sidewalks begin to Modernize



*“At one point in the day, everyone is a pedestrian” – NHTSA*



# Sidewalks begin to Modernize



# Sidewalks begin to Modernize



# Politics, Peddlers, Protest, and Prostitution



# Skateboards, Scooters, Schoolkids, Scaffolding



## The Modern Sidewalk

*“We must re-imagine sidewalks as spaces that can accommodate both enjoyable and disruptive activities.”*

Anastasia Loukaitou-Sideris and Renia Ehrenfeucht -  
“Vibrant Sidewalks in the United States”, Access magazine no. 36, Spring 2010

# The Modern Sidewalk

*Sidewalks have become:*

- . De-emphasized*
- . Gentrified*
- . Privatized*
- . Contained*

Anastasia Loukaitou-Sideris  
and Renia Ehrenfeucht -  
“Vibrant Sidewalks in the  
United States”, Access  
magazine no. 36, Spring  
2010



# What We Want in a Sidewalk

## Five Basic Purposes of Sidewalks



Movement



Encounter



Confrontation



Survival



Beauty

# What We Want in a Sidewalk





# What We Want in a Sidewalk



# What We Want in a Sidewalk



# What We Want in a Sidewalk



# What We Want in a Sidewalk



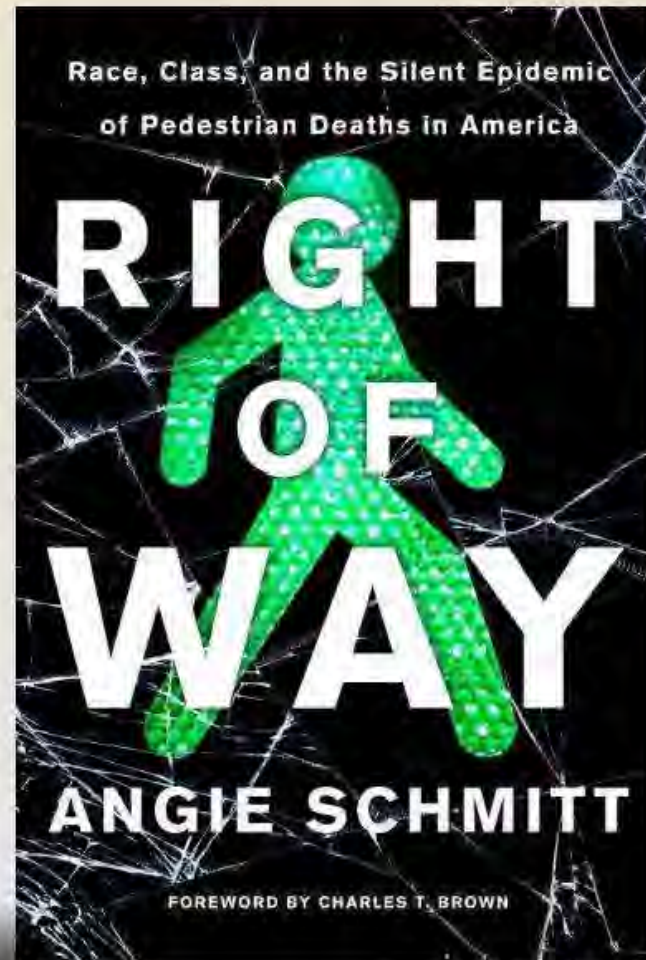
# What We Want in a Sidewalk



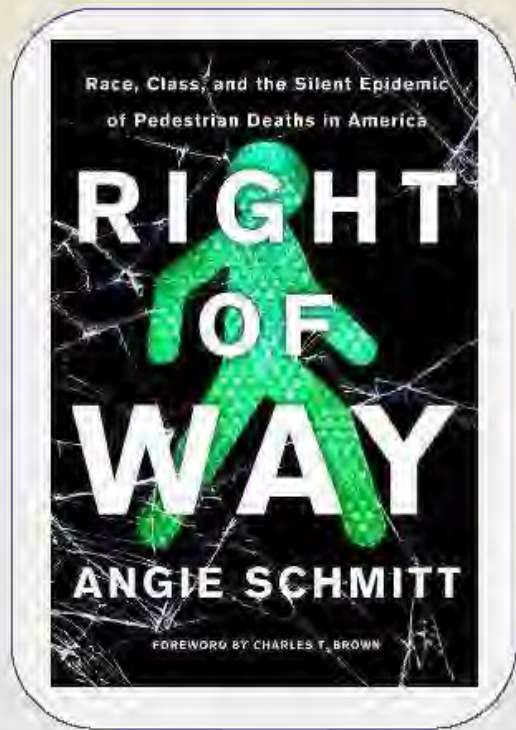
# The Move to the Suburbs

Right of Way: Race Class,  
and the Silent Epidemic  
of Pedestrian Deaths in  
America

By Angie Schmitt

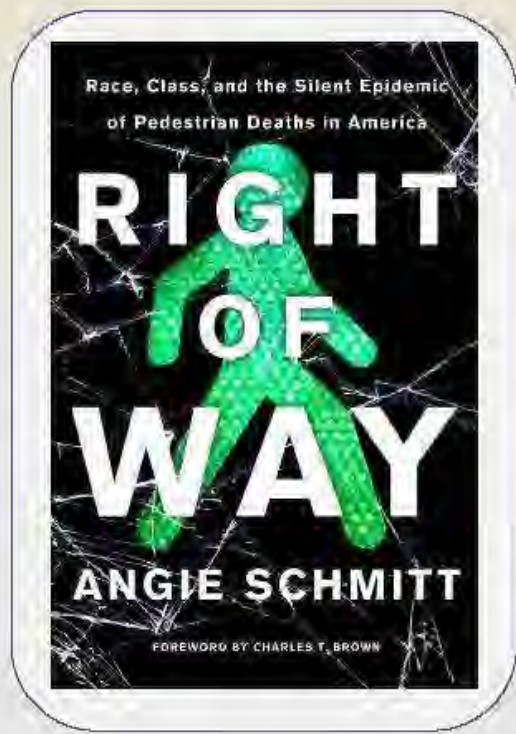


# The Move to the Suburbs



*In the 1910's and 1920's, there was an intense political struggle over the role of the car in American city life. That struggle came down to a fight over who would control the streets: drivers or pedestrians.*

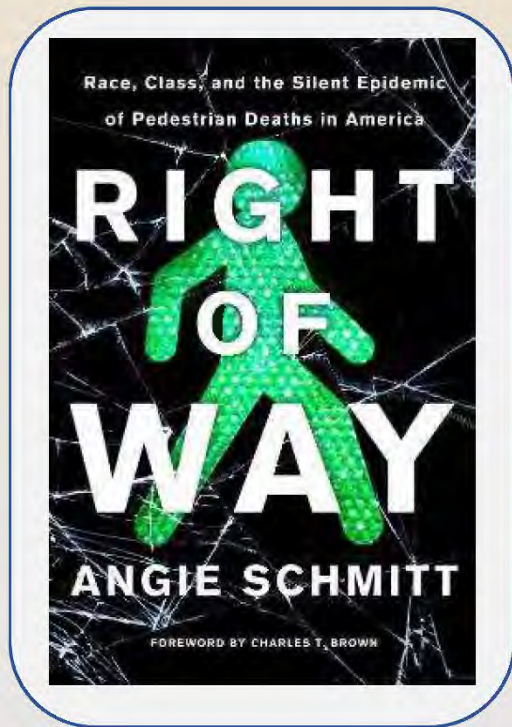
# The Move to the Suburbs



*Director of the National Complete Streets Coalition stated “we have the solutions. We actually have the funding; we’re just not spending it well. We just don’t have the political will”.*



# The Move to the Suburbs



*Bike and pedestrian crashes:*

*1 in 5 traffic deaths*

*cost = \$400 per American per year  
(2010 data)*



*Bicycle and Pedestrian Funding:*

*only about 1.5% of federal*

*transportation funding, or \$2.65 per  
American per year.*

# Pedestrian Safety

## Pedestrian Fatalities

6,516

PEDESTRIANS KILLED IN TRAFFIC CRASHES  
IN 2020

Source

## Pedestrian Fatalities

6,205

PEDESTRIANS KILLED IN TRAFFIC CRASHES  
IN 2019

Source

**GHSA projects at least 7,508 pedestrians were killed in traffic crashes in 2022, continuing the upward trend in recent years. This would be the most pedestrian deaths since 1981.**

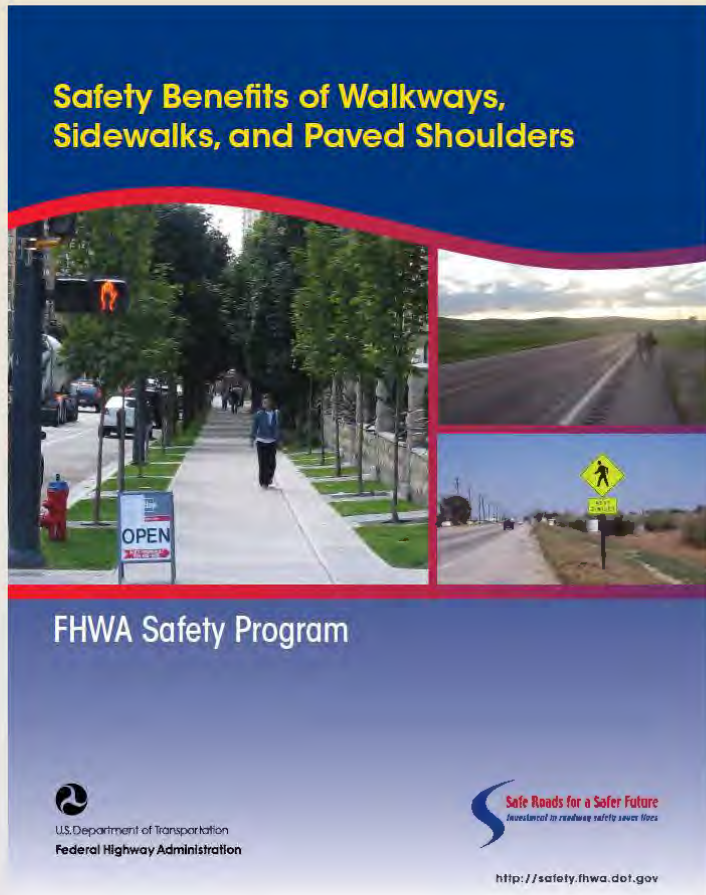


**7508**



# Pedestrian Safety

***“Accessible sidewalks or pathways should be provided and maintained along both sides of streets and highways in urban areas, particularly near school zones and transit locations, and where there is frequent pedestrian activity.”***



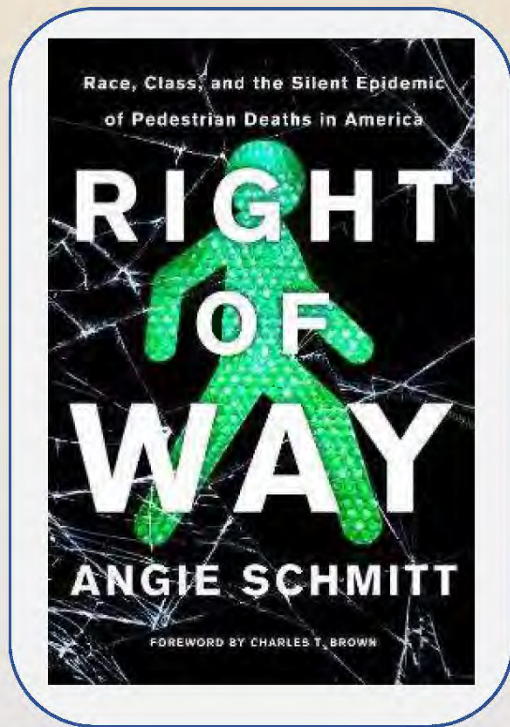
# Safety, Funding, Maintenance



# Pedestrian Safety



# The Move to the Suburbs



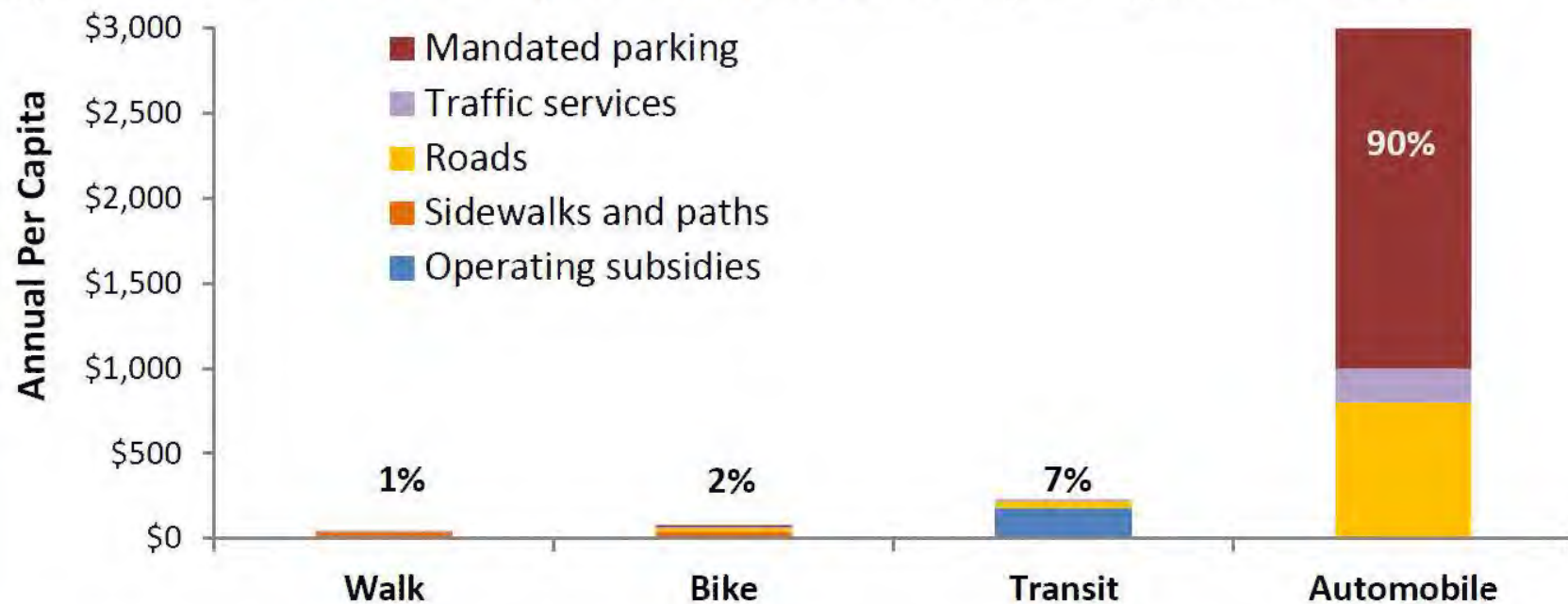
# Safety, Funding, Maintenance



# Safety, Funding, Maintenance

**Figure 1**

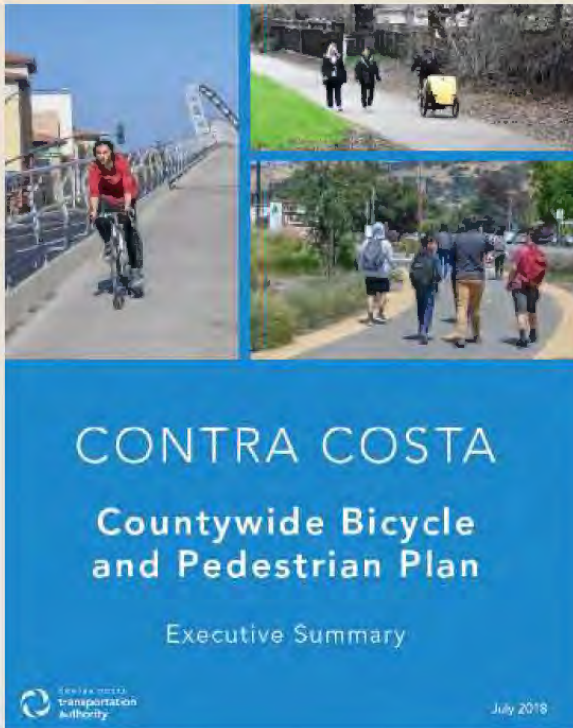
**Estimated Transportation Infrastructure Spending (Litman 2023)**



*Currently only about 1% of total transportation infrastructure spending is devoted to walking facilities.*



# Safety, Funding, Maintenance



# Safety, Funding, Maintenance

*“[we need to] develop, build, and maintain a pedestrian network that is accessible to all.... ADA Compliance” - (SacDOT Pedestrian Master Plan)*

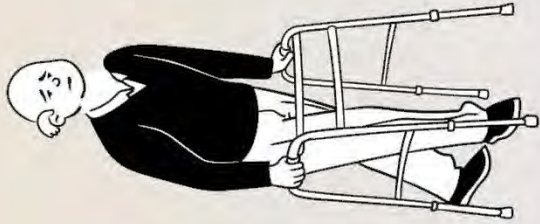


*“Sidewalks... Shall be designed, constructed, operated, and maintained so that all pedestrians, including people with disabilities, can travel safely and independently”- (USDOT).*

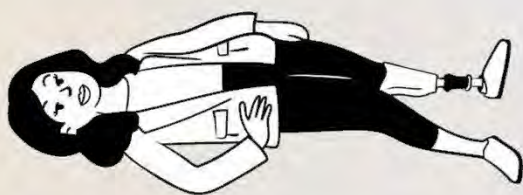


# Safety, Funding, Maintenance

*“To move about safely and comfortably, pedestrians need well-designed and maintained walkways and crosswalks that provide access to jobs, homes, shopping, schools, transit stations, parks, and other common destinations.” - (Contra Costa County Transportation Authority)*



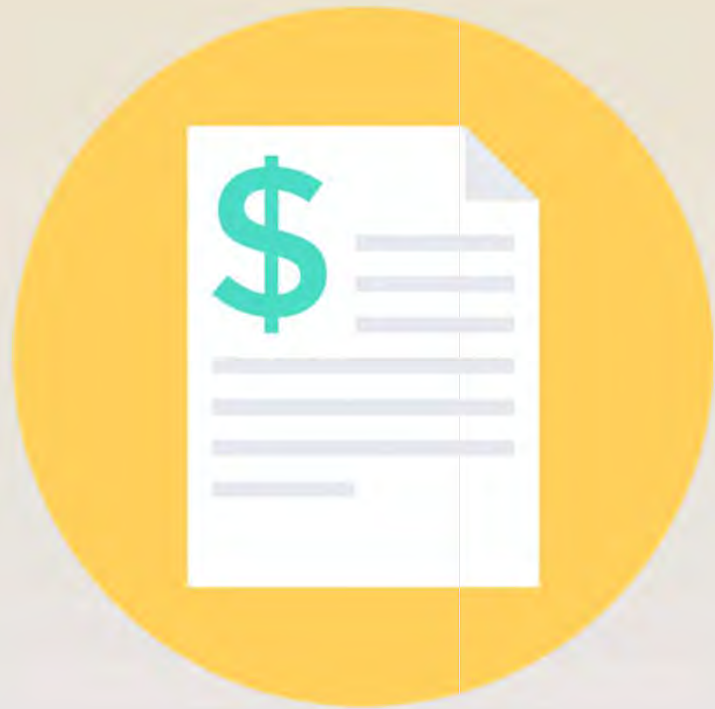
*“[this plan can] Identify, develop, and maintain a complete and convenient pedestrian network” - (City of Santa Clara Pedestrian Master Plan)*



# Safety, Funding, Maintenance

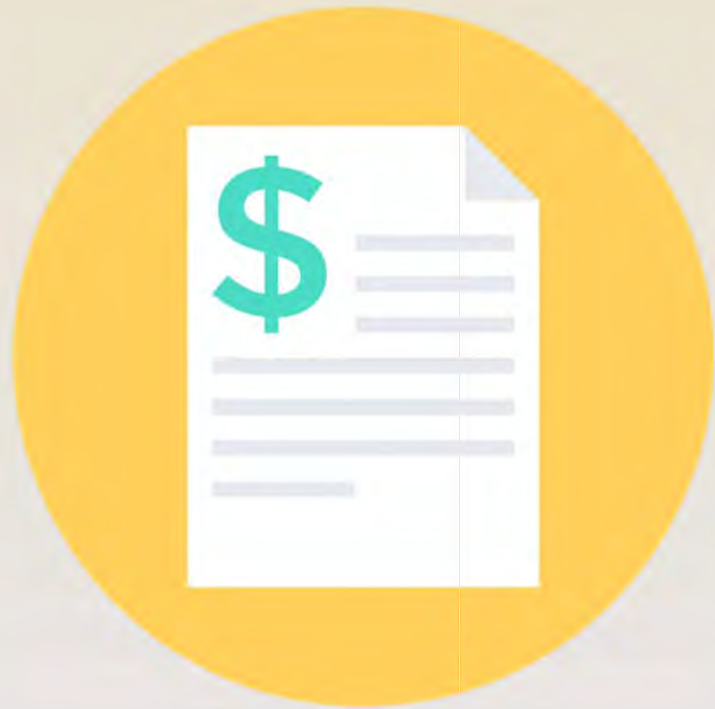


Safety, Funding, Maintenance



***We need an  
effective and  
efficient sidewalk  
maintenance  
program***

Safety, Funding, Maintenance



***WHO  
IS RESPONSIBLE  
FOR  
MAINTENANCE OF  
SIDEWALKS?***

# Trip Hazard Causes



TREE ROOTS—  
#1 Cause for  
lifted sidewalks

FREEZE / THAW-  
Mainly affects  
concrete near  
ponds, lakes, rivers



UTILITY BOXES-  
Typically installed by a  
utility company  
but often sink or lift

# Trip Hazard Causes

GROUND SETTLING –  
(or expansive  
/contractive soils)



CURB & GUTTER -  
People often trip on lifted  
curb or gutter when  
getting out of cars  
or crossing the street

HEAT-

When concrete expands  
and causes sidewalk to  
buckle or heave





# CA Streets and Highway Code

5610. The owners of lots or portions of lots fronting on any portion of a public street or place when that street or place is improved or if and when the area between the property line of the adjacent property and the street line is maintained as a park or parking strip, shall maintain any sidewalk in such condition that the sidewalk will not endanger persons or property and maintain it in a condition which will not interfere with the public convenience in the use of those works or areas...

# CA Streets and Highway Code

**Wait!!!**

**WHAT????**

# CA Streets and Highway Code



## **But It's Your Sidewalk! Sidewalk Repair and Liability**

Thursday, May 8, 2014 General Session; 2:15 – 4:15 p.m.

Gerald C. Hicks, Supervising Deputy City Attorney, Sacramento

# CA Streets and Highway Code

1929 – Great Depression

1935 – just a few years after the Great Depression, California Governor Frank Merriam in a speech,



# CA Streets and Highway Code

1935 – just a few years after  
the Great Depression,  
California Governor Frank  
Merriam in a speech,

*“government itself cannot  
indefinitely assume the  
responsibility for meeting  
all the demands of this  
depression and this  
emergency”*

# CA Streets and Highway Code

1935 – just a few years after  
the Great Depression,  
California Governor Frank  
Merriam in a speech,

*“This we must do without  
imposing intolerable taxes  
upon the people and without  
undertaking obligations not  
absolutely essential to the  
public service”*

# CA Streets and Highway Code



Property Owners are responsible to Maintain Fronting Sidewalk (Sect. 5610 – is the process)



City Still has an obligation to make the hazard safe (ADA not into effect for almost 50 years)



**Ordinance is only as strong as its implementation and needs consistent enforcement**



Property Owner Responsible for the Cost to Repair – not necessarily liability (without an ordinance)



Political hot potato, residents don't fully understand

# CA Streets and Highway Code



Arash Arjang  
VARGA LAW GROUP

ADVOCATE  
November 2017 Issue

## Issues to consider when litigating a sidewalk case

YOU MUST DEAL WITH MANY ISSUES IN TAKING ON A SIDEWALK FALL CASE,  
BUT FIRST UP IS BEATING THE INEVITABLE SUMMARY JUDGMENT MOTION

*“... although a city can add liability to a property owner, it cannot legislate away its own liability by an ordinance.”*



# Americans with Disabilities Act



# Americans with Disabilities Act

The Americans with Disabilities Act (ADA)-nation's first comprehensive civil rights law prohibiting discrimination for people with disabilities.

TITLE II REGULATIONS. The Department of Justice's regulation implementing title II, which prohibits discrimination on the basis of disability in all services, programs, and activities provided to the public by State and local governments.

- BARDEN v. CITY OF SACRAMENTO Landmark Case Establishes Nationwide Standard for Public Sidewalks
- Title II thus applies to the maintenance of public sidewalks, which is the normal function of a municipal entity
- \*\*\* 2015 L.A. agrees to spend \$1.3 billion to fix sidewalks in ADA case




# Americans with Disabilities Act

## THE FIRST ACCESS RAMPS




# Americans with Disabilities Act


## THE FIRST ACCESS RAMPS


-  1940-50's Illinois coach built ramps for disabled soldiers
-  Michigan - a WWII veteran, convinced City Council to make ramps
-  Ed Roberts, Berkeley, Late 1960's – central to the movement



# Americans with Disabilities Act

 1960's and 70's, activists pouring concrete in the middle of the night to make ramps

 1980 Denver, wheelchairs protested by blocking traffic

 In 1990, while the ADA was signed being signed, disabled demonstrators left their wheelchairs and crawled up the steps of the Capitol building to witness



# Americans with Disabilities Act



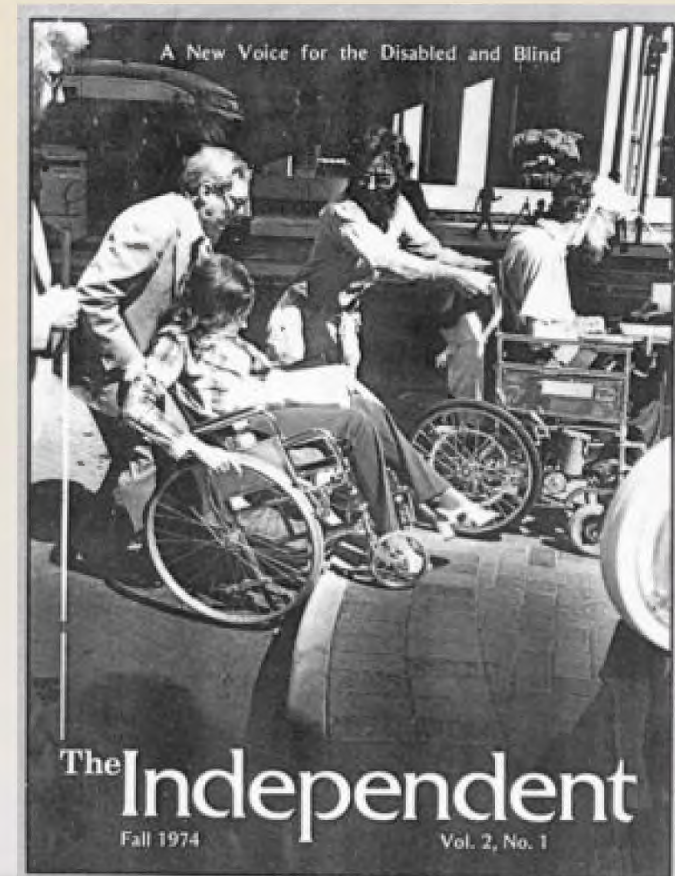
Ed Roberts, Berkeley – disabled, Pioneering Leader of Disability Rights



First student who relied on a wheelchair to attend the University of California, Berkeley.



“The Rolling Quads” - advocating for curb cuts, opening access to the wider community



# Americans with Disabilities Act



Led the development of a major project in Berkeley, California, curb cuts up and down Telegraph and Shattuck Avenues



Later appointed to Director of the California Department of Vocational Rehabilitation



# Americans with Disabilities Act





# Americans with Disabilities Act



# Americans with Disabilities Act



1976 Los Angeles took over responsibility of the sidewalks, but did not allocate funding



Over next 25 years more than 3,800 ADA sidewalk request



In 2015 LA agreed to pay \$1.4 Billion in ADA lawsuit



In 2017 alone - paid out more than \$20 million



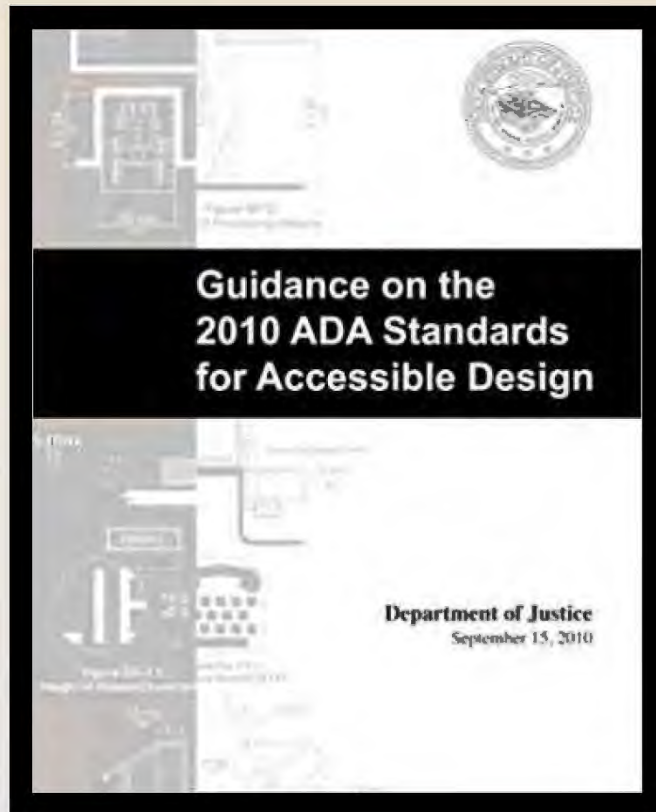
Trip and Fall settlement for \$3 Million in 2018



City trying to catch up, but takes time



# Americans with Disabilities Act



## Changes in Level

Excerpts from Department of Justice 2010 Standards:

**303.2 Vertical.** Changes in level of 1/4 inch (6.4 mm) high maximum shall be permitted to be Vertical.

**303.3 Beveled.** Changes in level between 1/4 inch (6.4 mm) high minimum and 1/2 inch (13 mm) high maximum shall be beveled with a slope not steeper than 1:2.

**303.4 Ramps.** Changes in level greater than 1/2 inch (13 mm) high shall be ramped, and shall comply with 405 or 406.

A change in level of 1/2 inch (13 mm) is permitted to be 1/4 inch (6.4 mm) vertical plus 1/4 inch (6.4 mm) beveled. However, in no case may the combined change in level exceed 1/2 inch (13 mm). Changes in level exceeding 1/2 inch (13 mm) must comply with 405 (Ramps) or 406 (Curb Ramps).

**405.2 Ramp Slope.** Ramp runs shall have a running slope not steeper than 1:12. In existing sites, building and facilities, ramps shall be permitted to have running slopes steeper than 1:12 complying with Table 405.2 where such slopes are necessary due to space limitations.

TECHNICAL

CHAPTER 4: ACCESSIBLE ROUTES

Table 405.2 Maximum Ramp Slope and Rise for Existing Sites, Buildings, and Facilities

Slope <sup>1</sup>	Maximum Rise
Steeper than 1:10 but not steeper than 1:8	3 inches (75 mm)
Steeper than 1:12 but not steeper than 1:10	6 inches (150 mm)

1. A slope steeper than 1:8 is prohibited.

# Maintenance Responsibilities



*What day-to-day maintenance is a public agency responsible for under the ADA?*

As part of maintenance operations, **public agencies'** standards and practices **must ensure that the day-to-day operations keep the path of travel** on pedestrian facilities open and **usable for persons with disabilities**, throughout the year....

# Maintenance Responsibilities

## PASADENA MUNICIPAL CODE Section 12.04.031



*The city shall inspect the condition of the sidewalk abutting or fronting on a particular piece of property prior to the issuance of any single-family or multifamily occupancy permit. . .*

Bloomberg.com






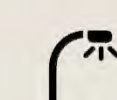




# Asset Management



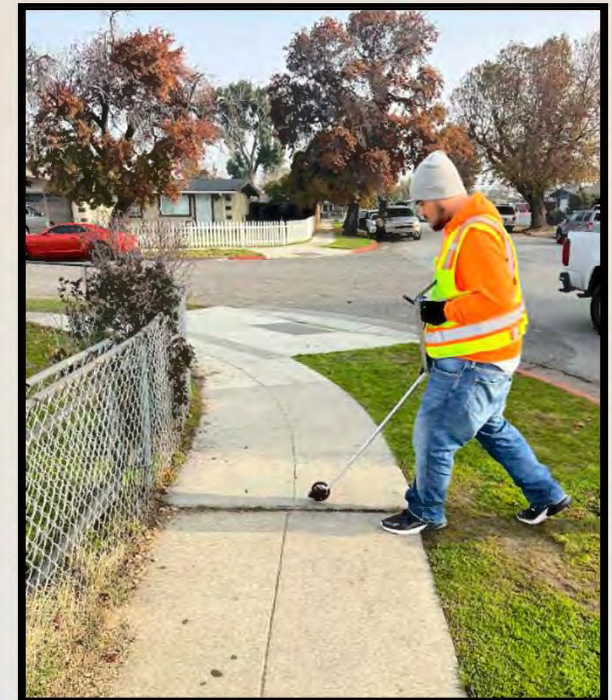
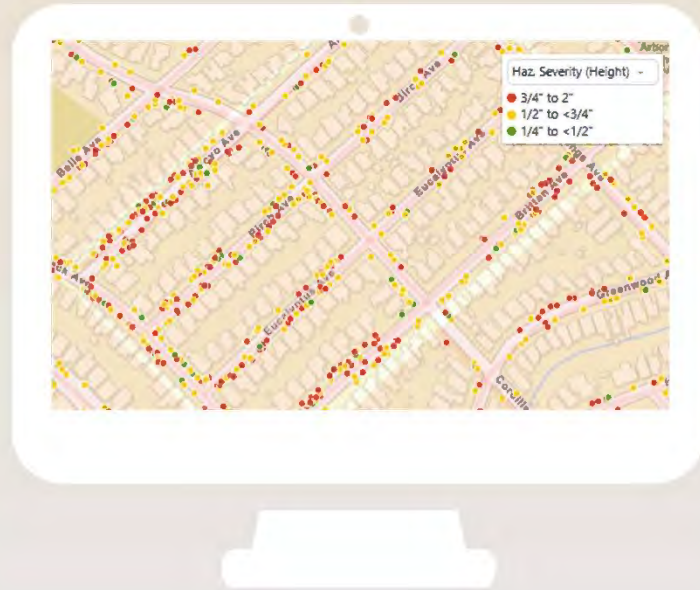
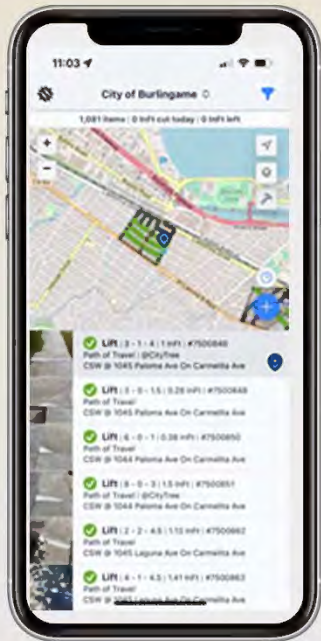
**Asset management** is realizing the value and the process of maintaining assets in the most cost-effective manner

# Asset Management

## EXAMPLES OF CITY ASSETS

- |  |                             |   |                        |
|--|-----------------------------|---|------------------------|
|    | <b>Vehicles/equipment</b>   |    | <b>STAFF/RESOURCES</b> |
|    | <b>Facilities/buildings</b> |    | <b>TRAFFIC SIGNALS</b> |
|    | <b>Parks/grounds</b>        |    | <b>STREET LIGHTS</b>   |
|  | <b>Utilities</b>            |  | <b>TECHNOLOGY</b>      |
|  | <b>Trees</b>                |  | <b>ROADS</b>           |

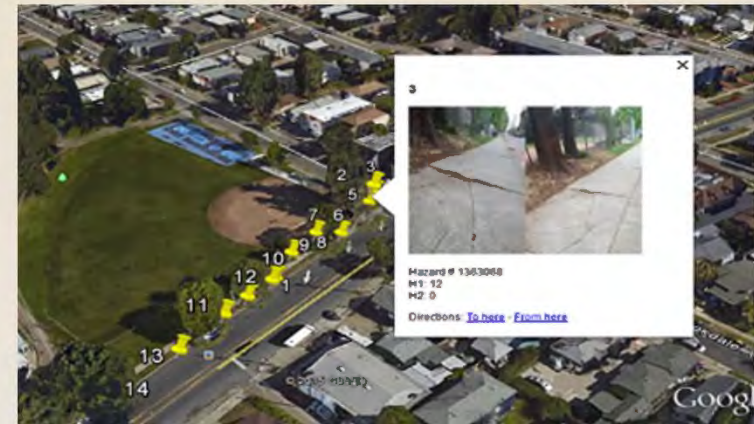
# Maintenance & Repair Sidewalk Assessments



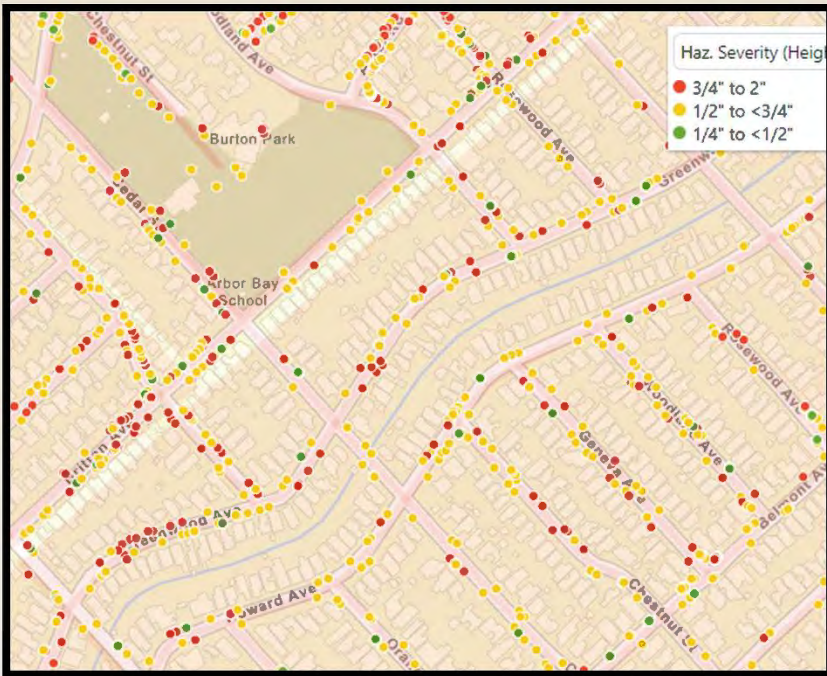


# Maintenance Assessments

- PCC performing sidewalk inspections throughout Northern California for the last 15 years
- Delivering Data you need to make critical decisions in real time
- Priced by the Mile or Facility
- Determine Priority, Schedule/Plan
- GIS Compatible



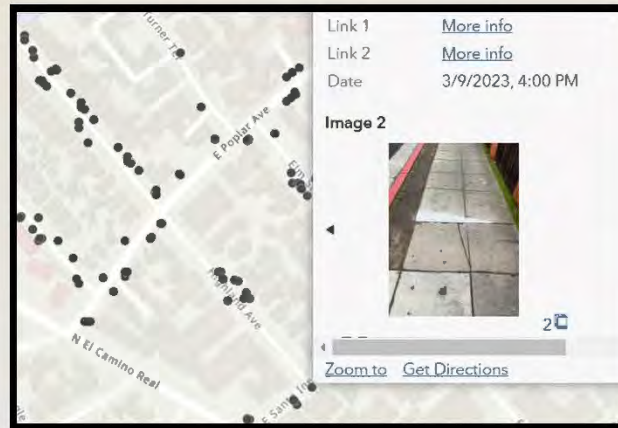
# Sidewalk Assessments



- Confirm City Sidewalk Locations
- Determine Priorities, Schedule/Plan/Budget
- Virtual Audit, ideal for Risk Management
- Organize Ongoing Sidewalk Maintenance & Completed Repairs
- Ensure data is GIS compatible

➤ Don't forget curb, gutter and ADA Ramps








# Digital Record Keeping



- Leverage Technology
- Assessment Date
- Repair Date
- Measurements
- Photographs
- Mapping

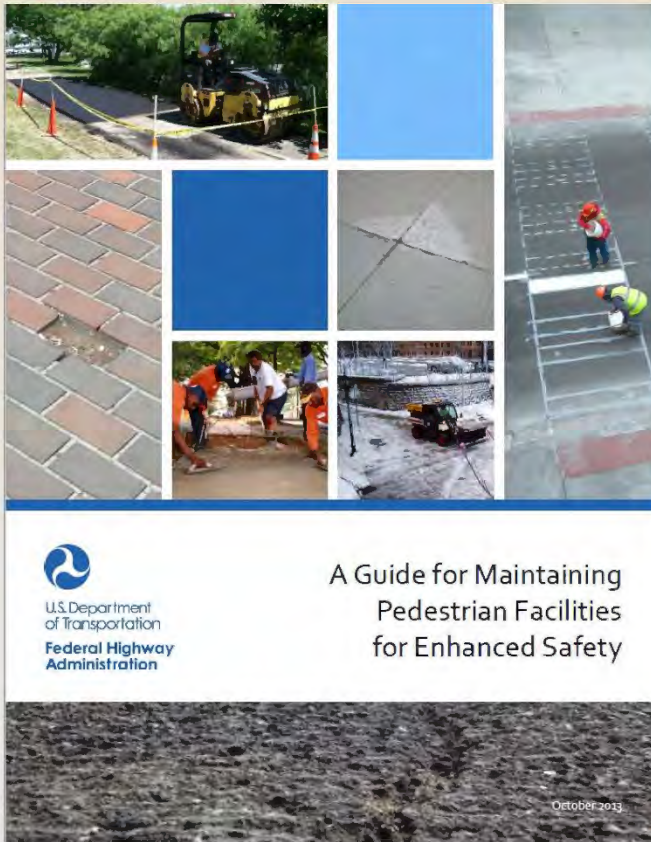
# Sidewalk Assessments

## TIPS FOR A SUCCESSFUL PROGRAM

-  Have an inspection program in place
-  Inspect Zones or specific areas of the City
-  Develop a schedule to complete an entire City
-  Inspect your Downtown and high pedestrian traffic areas annually
-  Develop an action plan
-  Have a plan in place to repair locations identified during inspection
-  Leverage technology and use GIS to manage Data



# Methods of Repair



U.S. Department of Transportation  
Federal Highway Administration

## “A Guide for Maintaining Pedestrian Facilities for Enhanced Safety”

<https://highways.dot.gov/sites/.dot.gov/files/2022-06/fhwasa13037.pdf>

# Methods of Repair



# Methods of Repair



## Asphalt Patch



Ramping up to the higher panel using asphalt filler



# Methods of Repair



Concrete Grinding

Pounding Steel

Carbide Rods or Bits

Rotating Drum

A rotating drum pulverizes surface with downward pressure.  
i.e. Scraping of the Surface



# Methods of Repair



## Remove and Replace



Break up the concrete



Remove Debris



Form

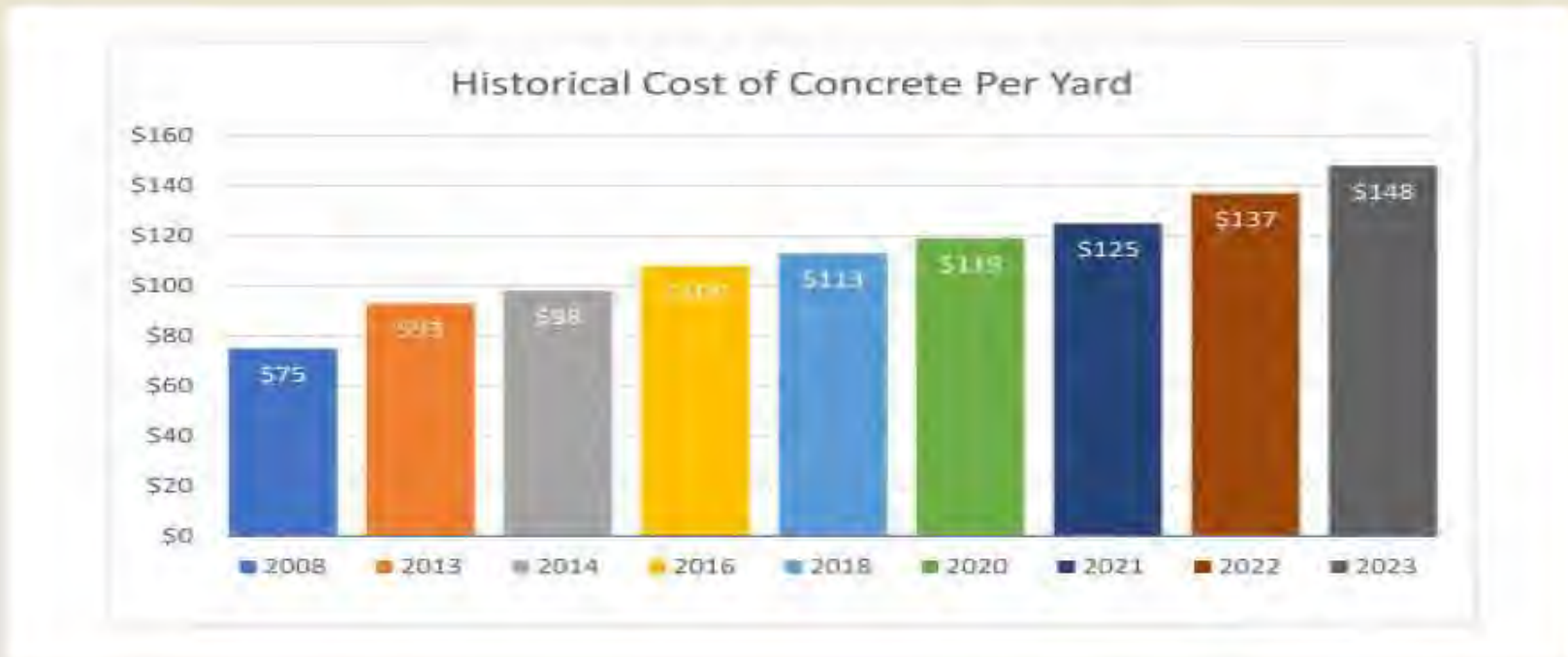


Re-pour concrete



YOU ARE STILL DISTURBING  
THE TREE

# Methods of Repair



*\*Yard is measured as "cubic yard" of concrete. Cost is for material (concrete) only and does not include labor or other equipment.*

# Methods of Repair



## Concrete Shaving/Cutting



Removes the liability



Fast and Efficient, cost effective



No Sidewalk Closures



Aesthetically pleasing



Environmentally Friendly



No heavy machinery



ADA Compliant



# Trip and Fall Liability



Sidewalk Trip and Fall Claims - Approx. 20% of Total Claims for Cities and Counties



The average claim is between \$15,000 - \$30,000.



Cities and Counties seen as deep pockets.



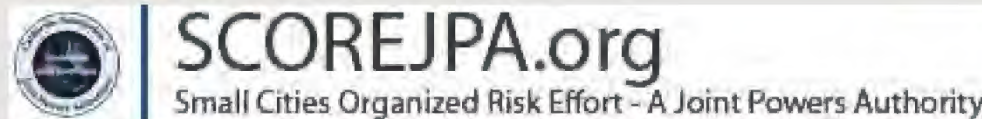
ADA Compliance Claims much more expensive and difficult to defend



Streets and Highway Code 5610 was not written with ADA in mind









# Trip and Fall Liability



# Fast, Effective, Economical



# Fast, Effective, Economical

-  Pay only for the concrete removed
-  Can repair slab 3 or 4 times before replacement
-  No heavy machinery or sidewalk closures
-  Repair off-set up to 2 inches
-  70-90% Cost Savings vs. R & R
-  **NO WATER** used during the process



# Environmental Impact

- Green Points - Reduce the impact to landfills and the environment as a result of our service.

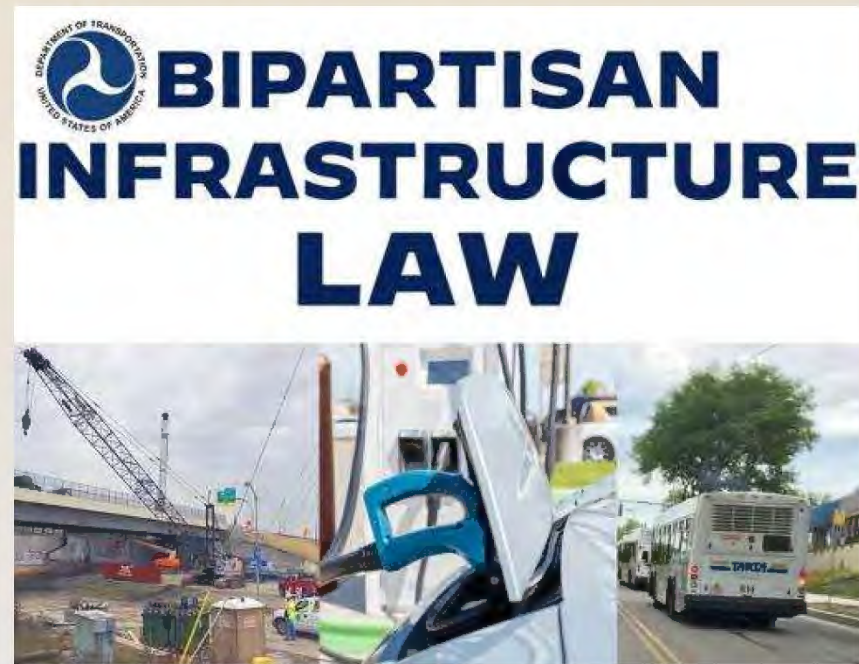
For Instance...

- Removing and replacing 100 panels result approx. 56 tons of concrete being wasted
- Using PCC 100 sidewalk repairs results in 0.3 tons of concrete removed and recycled
- 141 gallons of gasoline saved
- Reduction of 1.3 metric tons of CO2.





# Maximize Transportation Funding



# Safe Sidewalks for All

Safe Sidewalks mean:



Safer community



More Exercise



Commute, go green



Asset Management

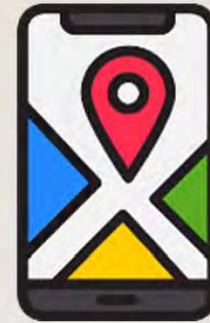
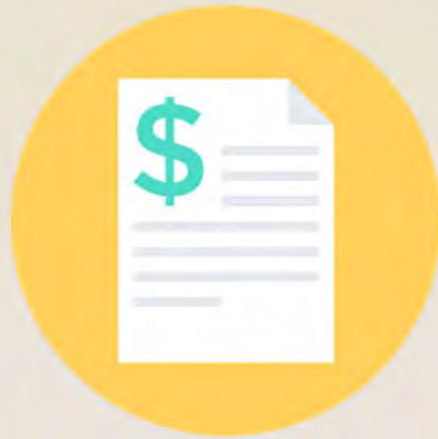


Increased Property Values



Walkability Connects the Community

# Safe Sidewalks for All



# We've Come A Long Way



# But We've Got a Way to Go



# Re-Envisioning Sidewalks

*“[Sidewalks] are the meeting places of the people, .... [people] go to meet one another ... The city sidewalks connect every household.”*

- Charles Beard (American Historian), 1913



PARMA Annual Conference  
February 20-23, 2024  
Indian Wells, CA

THE COST OF **1 LAWSUIT** COULD BE THE SAME COST OF  
**FIXING ALL** YOUR TRIP HAZARDS...

**YOU MAKE THE CALL**



Questions???

[www.pccnorcal.com](http://www.pccnorcal.com)  
[cvaldez@pccnorcal.com](mailto:cvaldez@pccnorcal.com)

650-418-4915

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