

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

Presented by: Carl Valdez,
Retired Public Works Superintendent
Sr. Business Development Manager

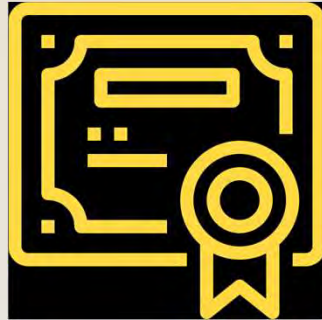
Joseph Ortega
Vice President, Operations and Sales

Precision Concrete Cutting Northern California





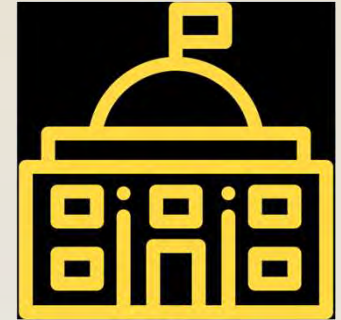
Global Leader
in Sidewalk Asset
Management



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?



Where did sidewalks originate?



Where did sidewalks originate?



Where did sidewalks originate?



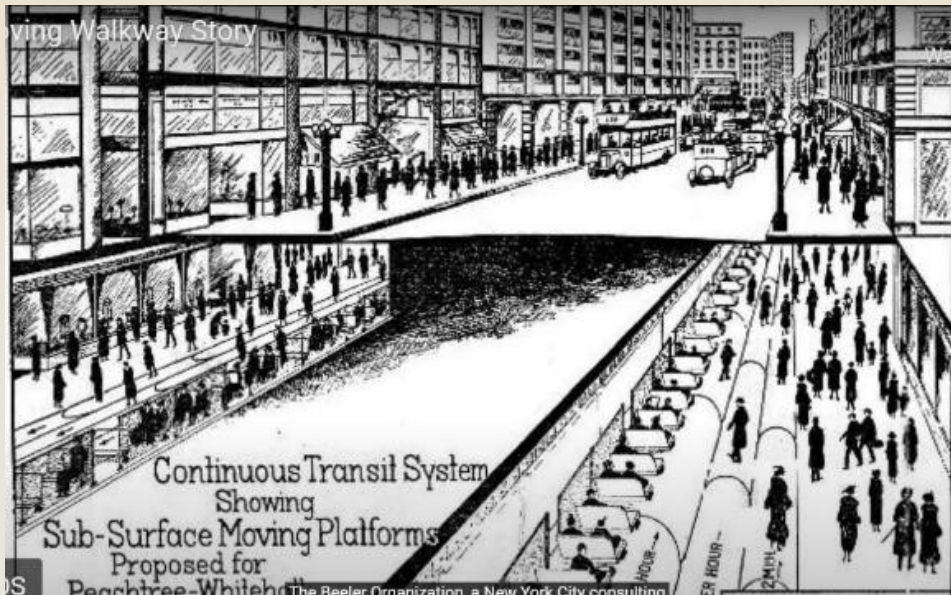
Sidewalks begin to Modernize



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



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



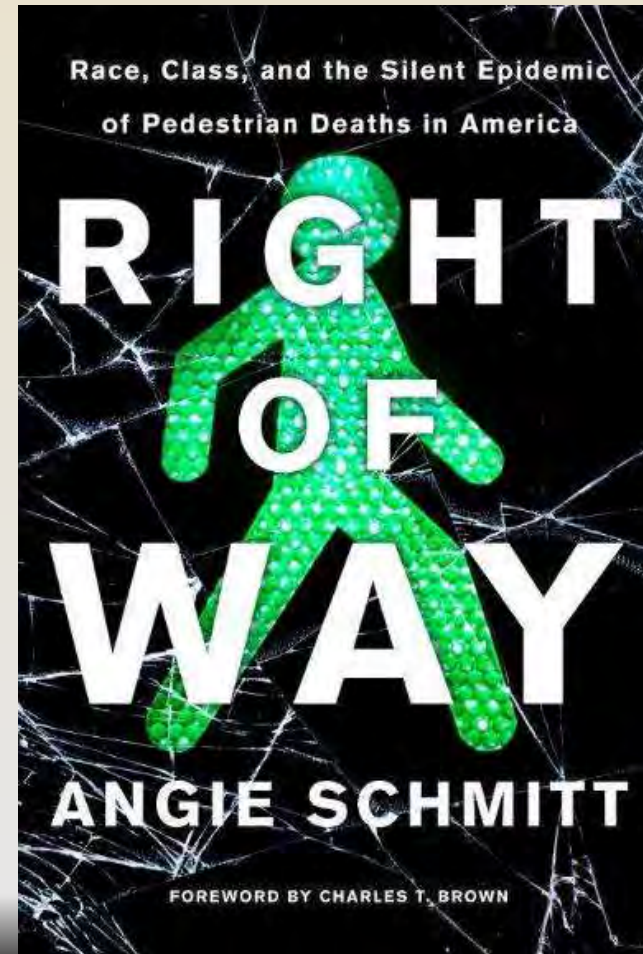
What We Want in a Sidewalk



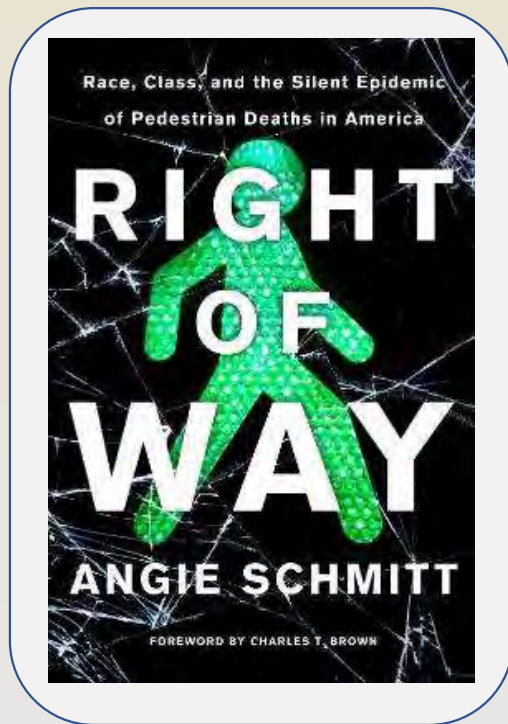
The Move to the Suburbs

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

By Angie Schmitt

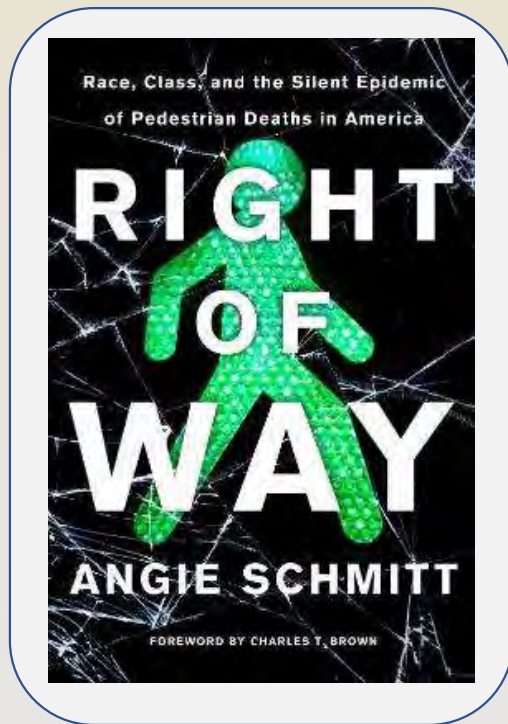


The Move to the Suburbs



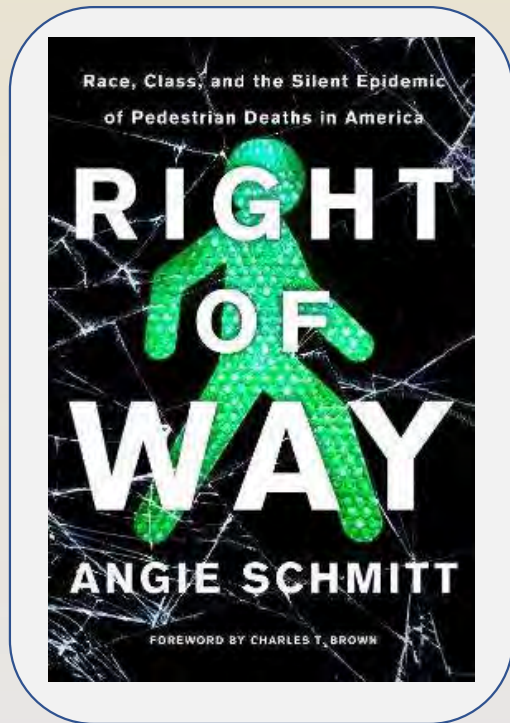
In the 1910's and 1920's, there was an intense political struggle over the role of the car in American city life. That struggle came down to a fight over who would control the streets: drivers or pedestrians.

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.

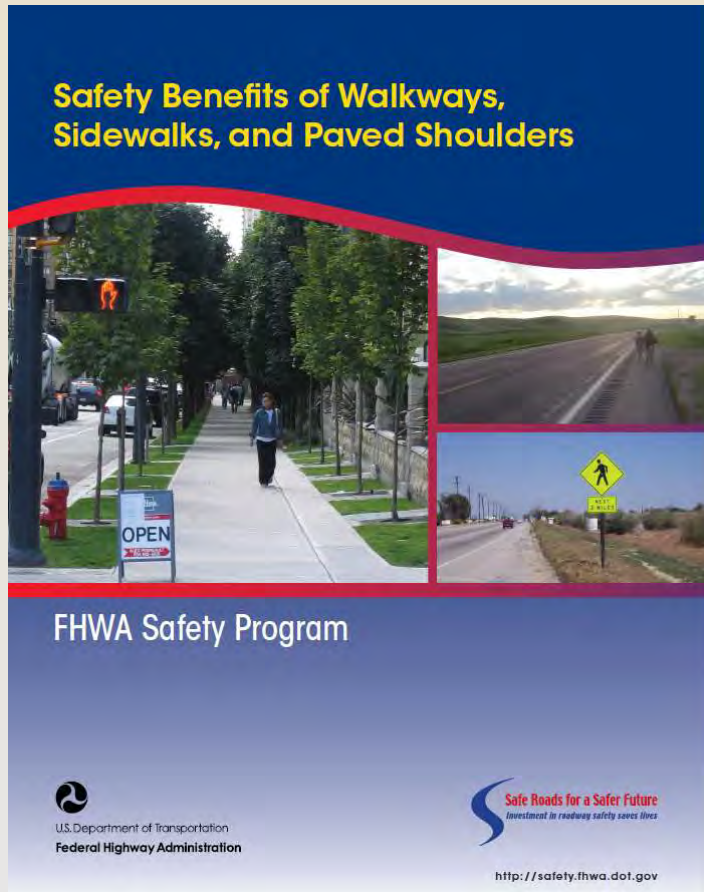


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Pedestrian Safety

“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.”



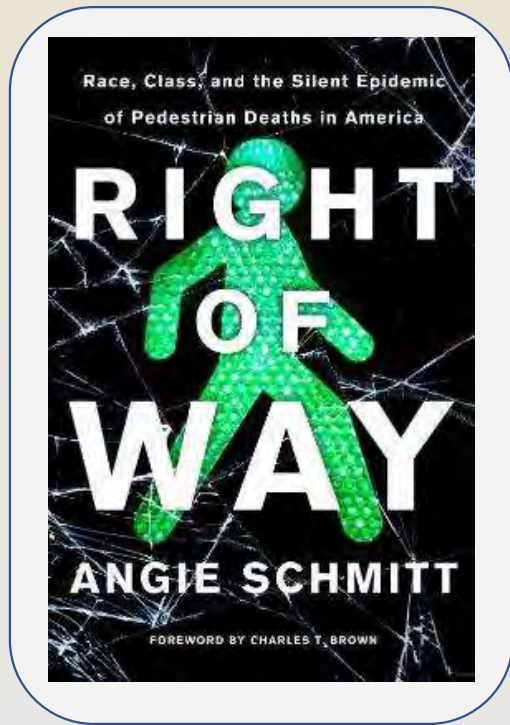
Safety, Funding, Maintenance



Pedestrian Safety



The Move to the Suburbs



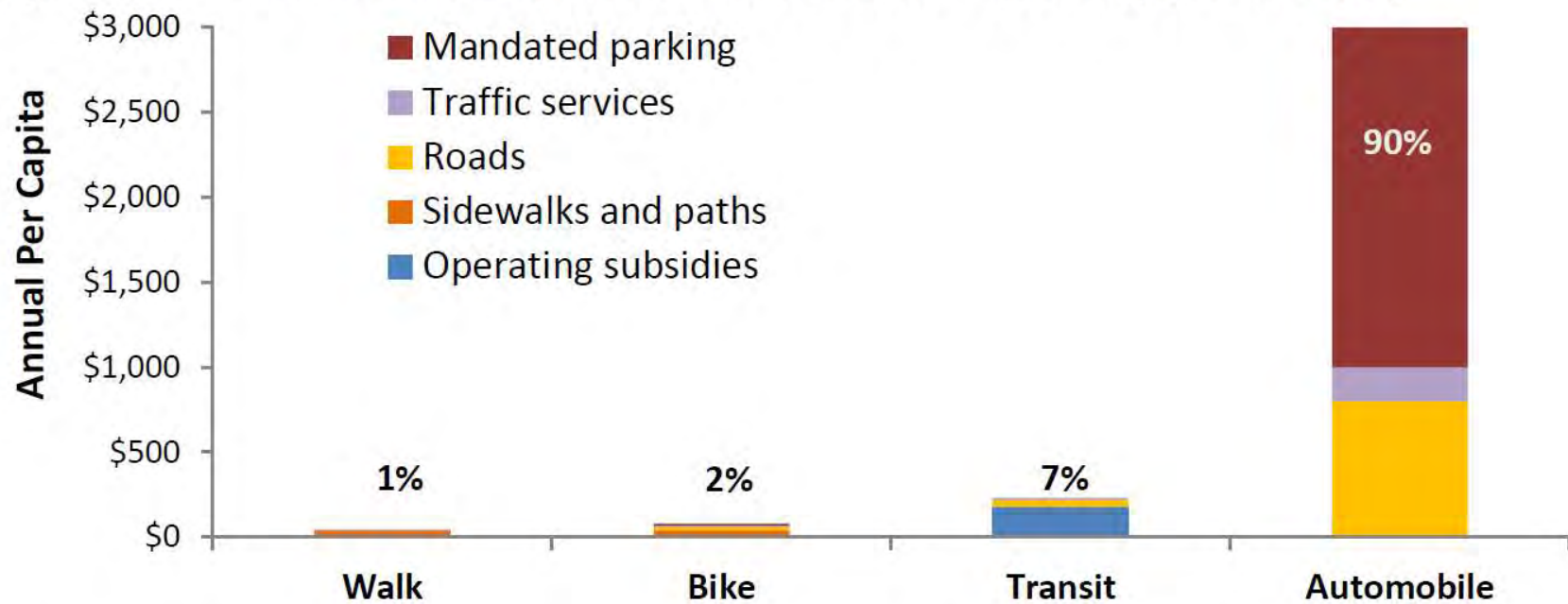
Safety, Funding, Maintenance



Safety, Funding, Maintenance

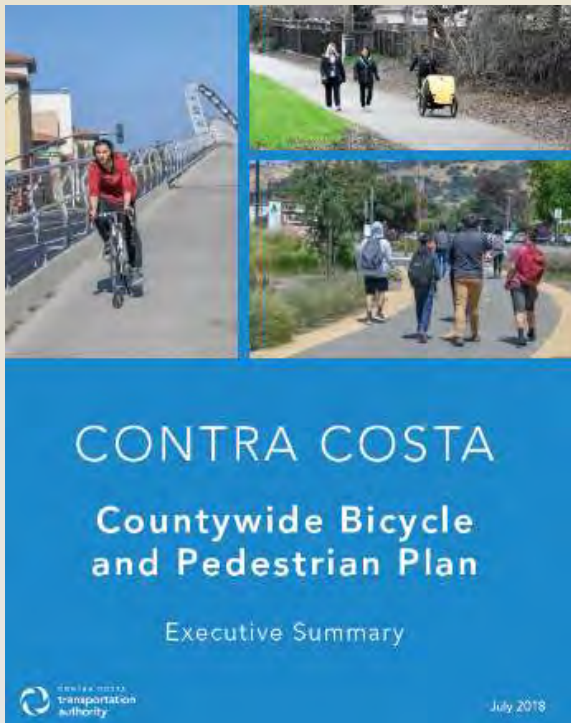
Figure 1

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



2008

the Great Recession

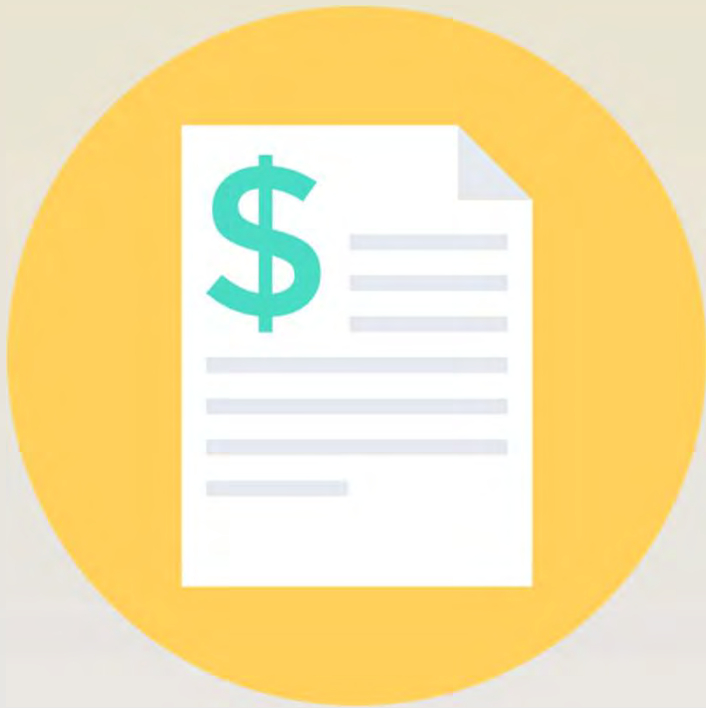
Safety, Funding, Maintenance



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

Safety, Funding, Maintenance

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



Trip Hazard Causes

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



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



TREE ROOTS-
#1 Cause for
lifted sidewalks



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
YARRA 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



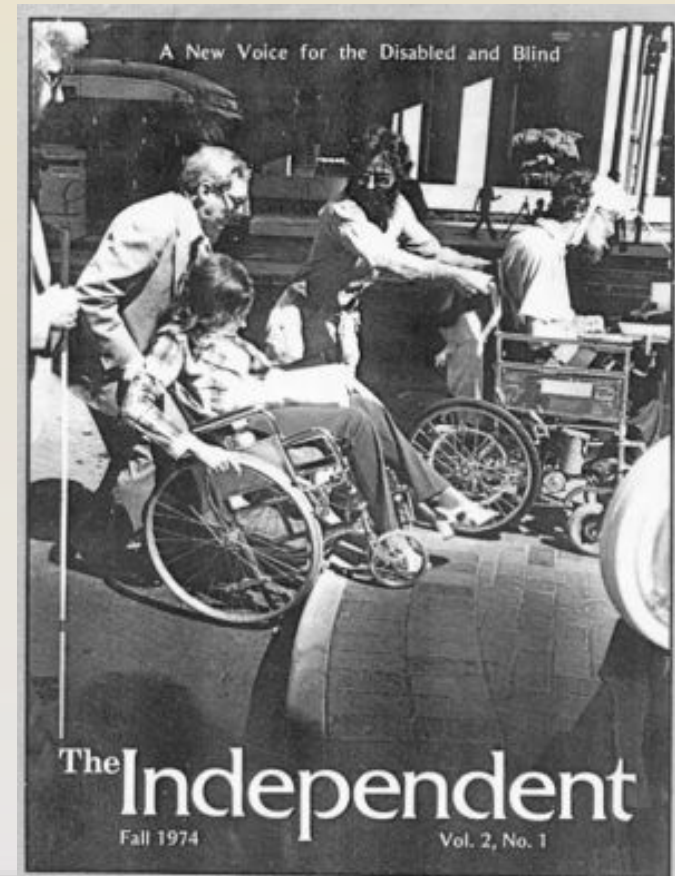
Ed Roberts, Berkeley – disabled, Pioneering Leader of Disability Rights



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, curbing 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

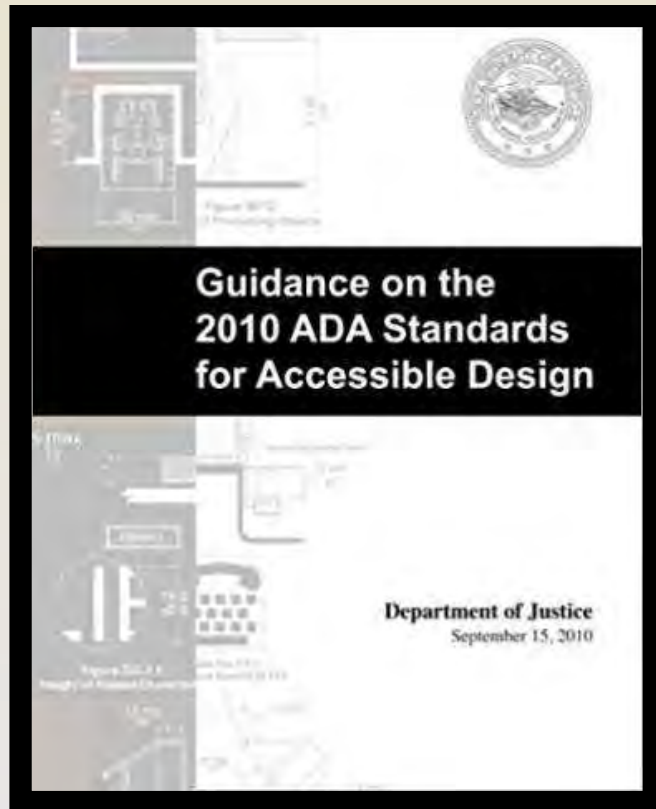


City trying to catch up, but takes time

Los Angeles Times



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 ¹	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




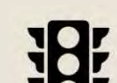

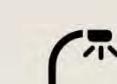

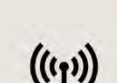


Asset Management



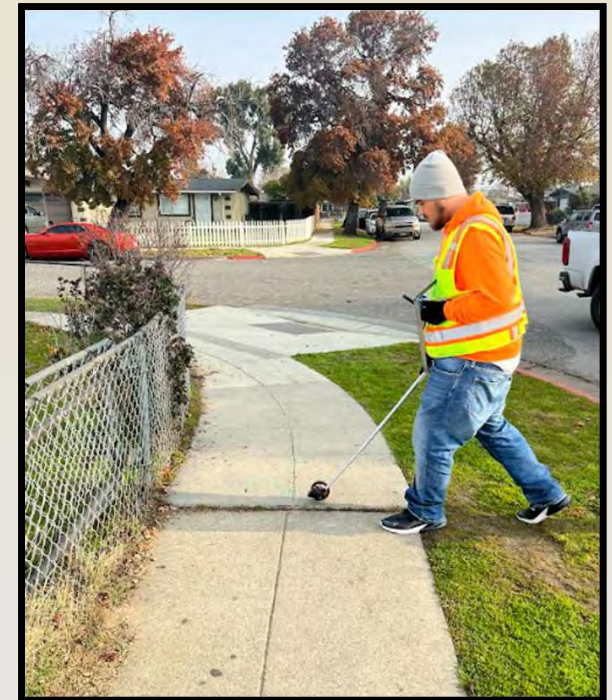
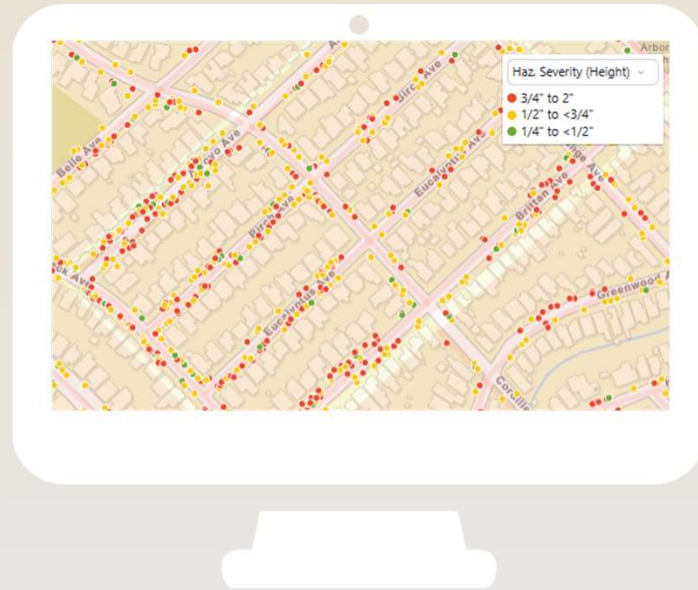
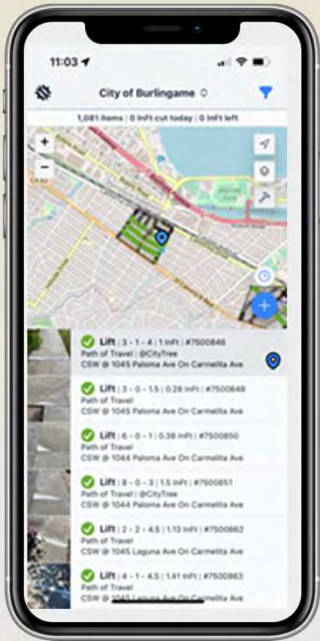
Asset management is realizing the value and the process of maintaining assets in the most cost-effective manner

Asset Management

EXAMPLES OF CITY ASSETS

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

Maintenance & Repair Sidewalk Assessments

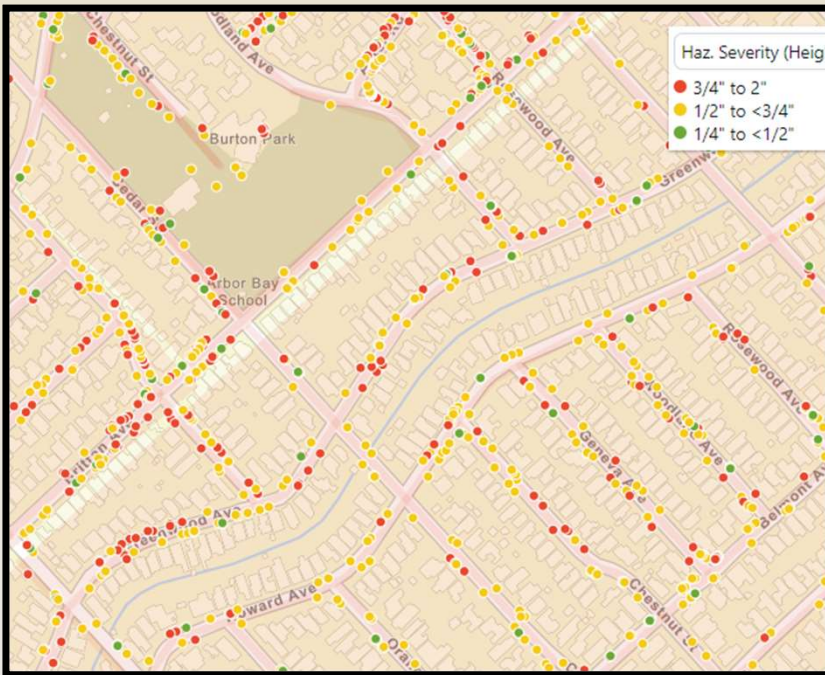


Maintenance Assessments

- 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



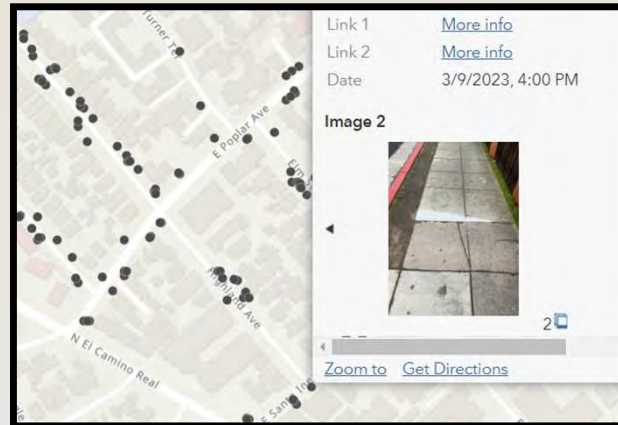
Sidewalks Assessments



➤ Don't forget curb, gutter and ADA Ramps

- 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








Digital Record Keeping



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

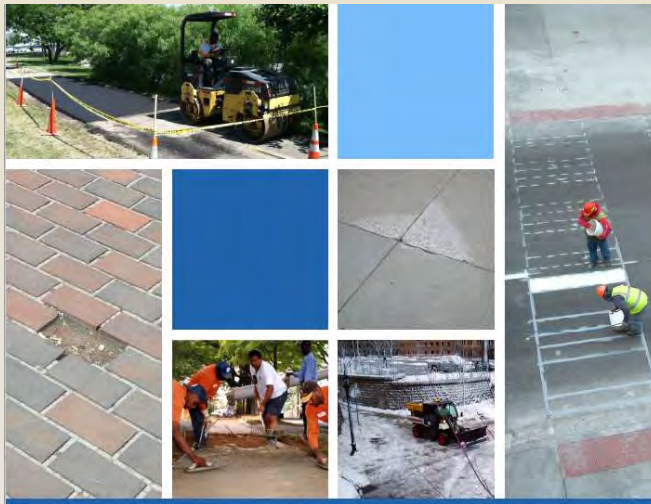
Sidewalk Assessments

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](https://highways.dot.gov/sites/.dot.gov/files/2022-06/fhwasa13037.pdf)

Methods of Repair



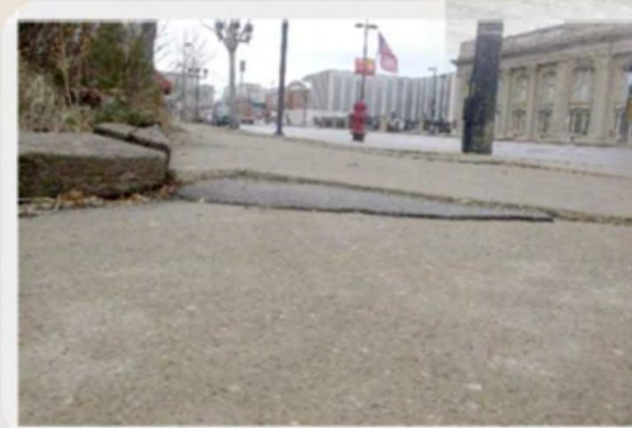
Methods of Repair



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



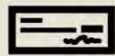
ADA Compliant



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.



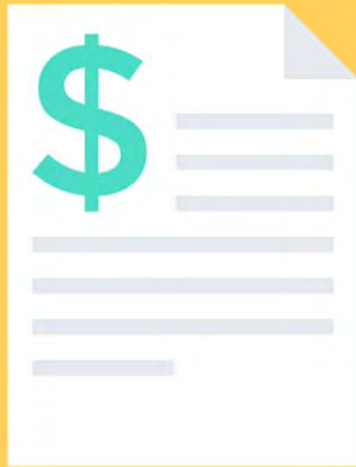
Cities and Counties seen as deep pockets.



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

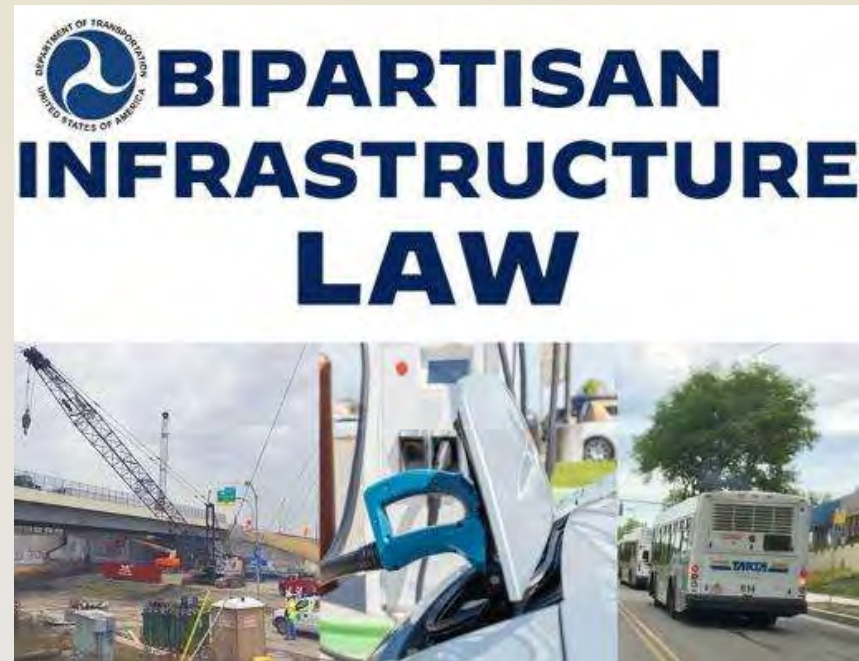
- Green Points - Reduce the impact to landfills and the environment as a result of our service.

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

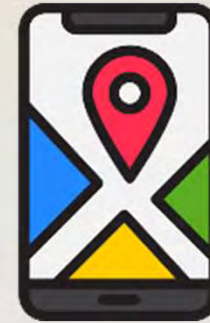
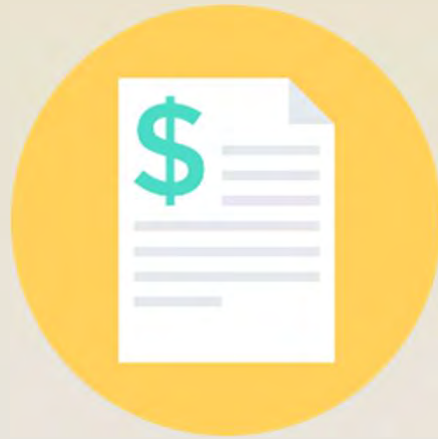


Increased Property Values



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

Questions???



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

YOU MAKE THE CALL

 **PRECISION
CONCRETE CUTTING**
Trip Hazard Removal Specialists

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cvaldez@pccnorcal.com

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