ChangeLab Solutions

Making the Connection: Complete Streets & Health

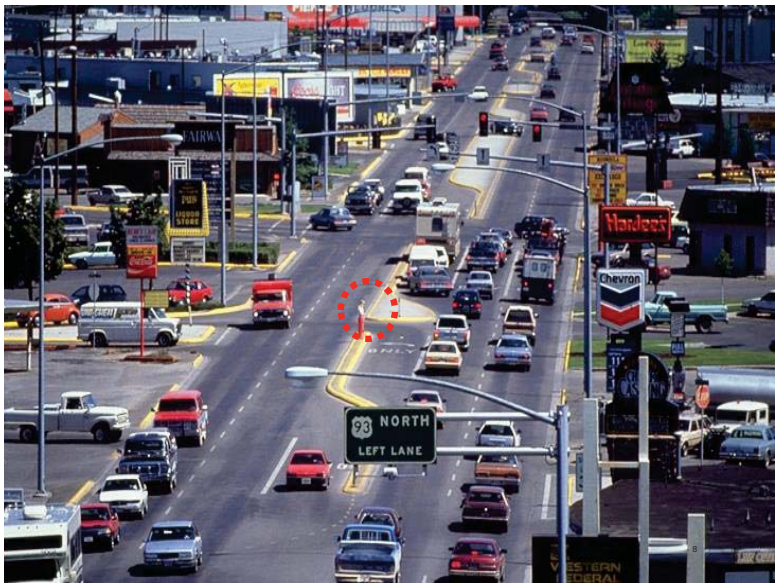
Diane Dohm, MSCRP
Transportation Planner

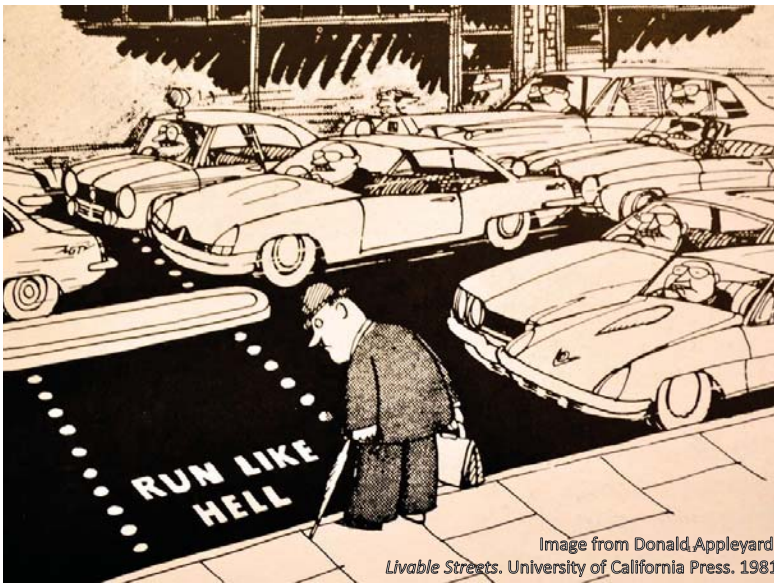
ChangeLab Solutions

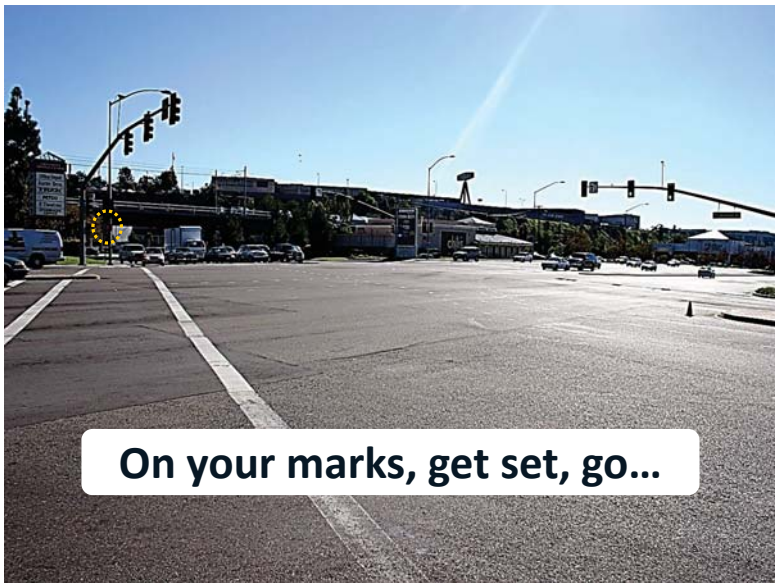
Healthier communities for all through better laws and policies.

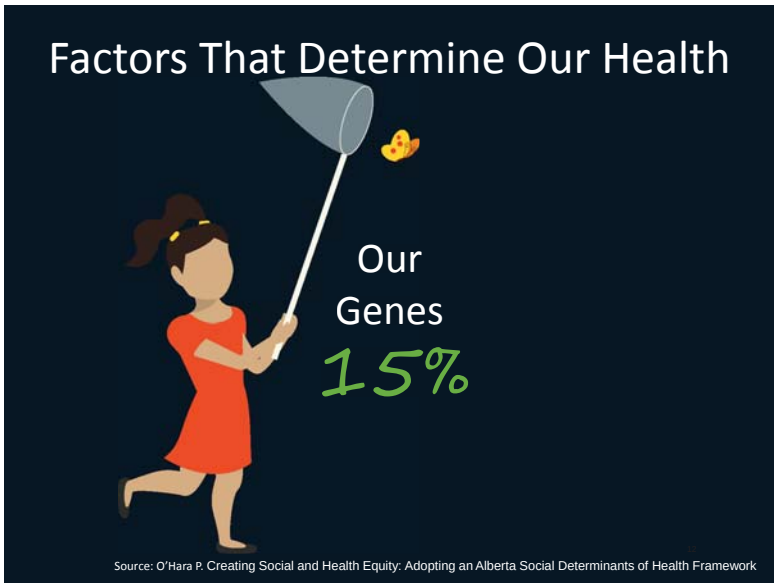
Why Complete Streets?


Every additional hour spent in a car per day is associated with a
6% greater risk of being obese
Source: Frank , Ma, and Schmid, 2004

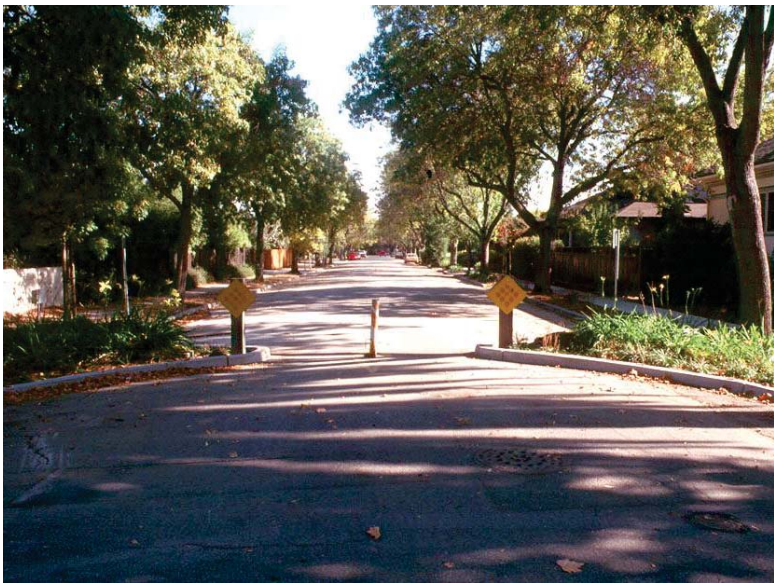

NORTH
LEFT LANE
Chevron


RUN LIKE HELL
Image from Donald Appleyard
Livable Streets. University of California Press. 1981


On your marks, get set, go…


Factors That Determine Our Health
Our Genes
15%
Source: O'Hara P. Creating Social and Health Equity: Adopting an Alberta Social Determinants of Health Framework

What is a Complete Street?



Benefits of Complete Streets

Complete Streets are for all sizes and types of communities.

Image Source: Complete Streets on Flickr

LOCAL JOBS CREATED PER $1 MILLION SPENT:

Bicycle projects: 11.4
Pedestrian projects: 10
Multi-use trails: 9.6
Road-only projects: 7.8

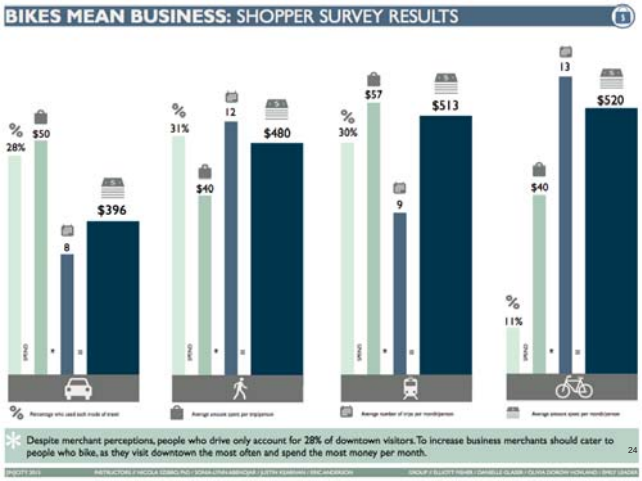
Source: Garrett-Peltier H. Pedestrian and Bicycle Infrastructure: A National Study of Employment Impacts.

context is key

"Complete Street design should be understood as a process, not a specific product."

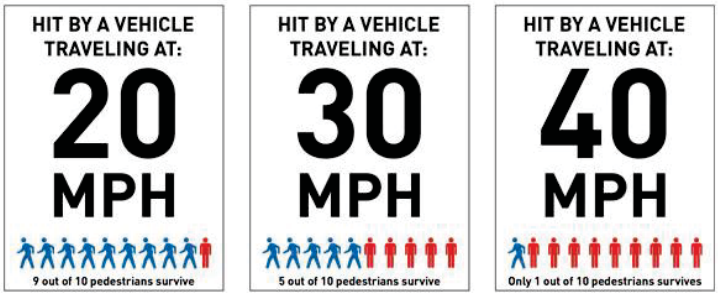
(Major and Collector Street Plan, Nashville)

INCREASE LOCAL TAX REVENUE



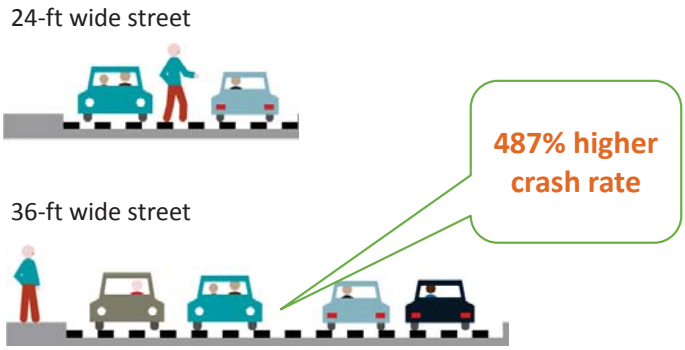
Source: University of California - Berkeley

INCREASE STREET SAFETY



Source: http://visionzeronetwork.org/ [25]

NARROW STREETS = FEWER CRASHES



Source: Swift P, Painter D, Goldstein M. Residential Street Typology and Injury Accident Frequency. [28]

WIDER LANES = HIGHER SPEEDS

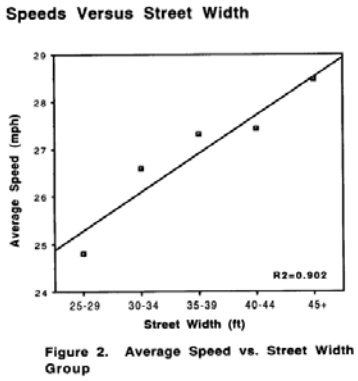
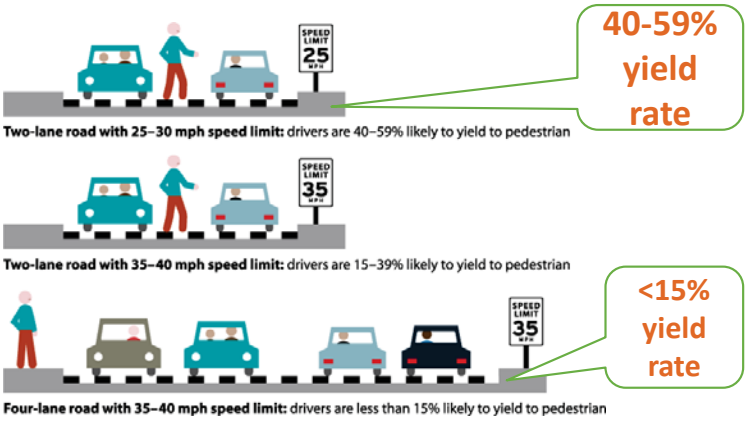


Figure 2. Average Speed vs. Street Width Group

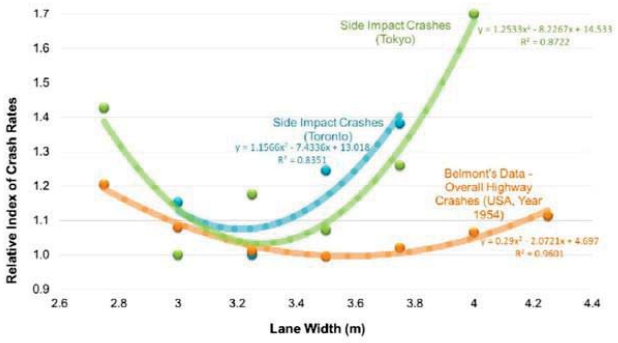
Source: Daisa JM and Peers JB. Narrow Residential Streets: Do They Really Slow Down Speeds? [26]

NARROW, SLOW SPEED = SAFER



Source: Schneider RJ and Sanders RL. Pedestrian Safety Practitioner's Prespectives of Driver Yielding Behavior across North America. [29]

10-FT LANES = FEWEST CRASHES



Source: Karim DM. Narrower Lanes, Safer Streets. [27]

INCREASE HEALTHY OUTCOMES

For *each hour* walked per day, people are about *5% less likely to be obese*.

Adults who bicycle enjoy *lower weight* and blood pressure, and are *less likely to become diabetic*.

A man who lives in a *walkable, mixed-use area* is *10 pounds lighter* than a similar man who lives in a car-oriented area.

Residents living in *walkable environments* are more likely to *know their neighbors* and participate in social activities.

[30]

903 INCREASE HEALTHY OUTCOMES

Almost **1/3** of Americans who commute to work via public transit meet their daily requirements for physical activity by **walking as part of their daily life.**

Source: Besser and Dannenberg, 2005.

Image Source: www.pedbikeimages.o

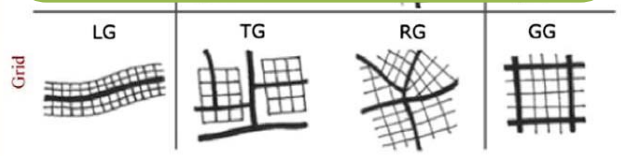
Complete Streets improve *our health.*

INCREASE HEALTHY OUTCOMES

Major Street Network

Minor Street Network

- ✓ 15 percent reduction in obesity rates
- ✓ 10 percent reduction in high blood pressure rates
- ✓ 6 percent reduction in heart disease rates



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Source: Marshall W, Piatkowski D, Garrick N. Community, Design, Street Networks and Public Health

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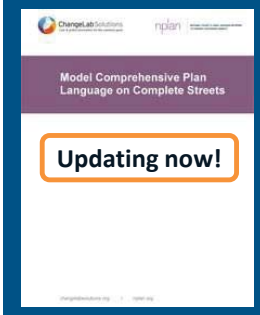
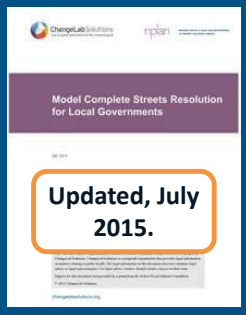
COMPLETE STREETS RESOURCES



Updating now!



Updated, July 2015.

Coming Soon…

Complete Streets Implementation Guide

www.changelabsolutions.org

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Our environment shapes *our health.*

DISCLAIMER

The information provided in this discussion is for informational purposes only, and does not constitute legal advice. ChangeLab Solutions does not enter into attorney-client relationships.

ChangeLab Solutions is a non-partisan, nonprofit organization that educates and informs the public through objective, non-partisan analysis, study, and/or research. The primary purpose of this discussion is to address legal and/or policy options to improve public health. There is no intent to reflect a view on specific legislation.

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Thank You!

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Complete Streets: Avoiding Legal Hurdles

Sara Zimmerman, JD
Technical Assistance Director

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For legal advice, consult your own attorney, who should be licensed to practice law in your state.

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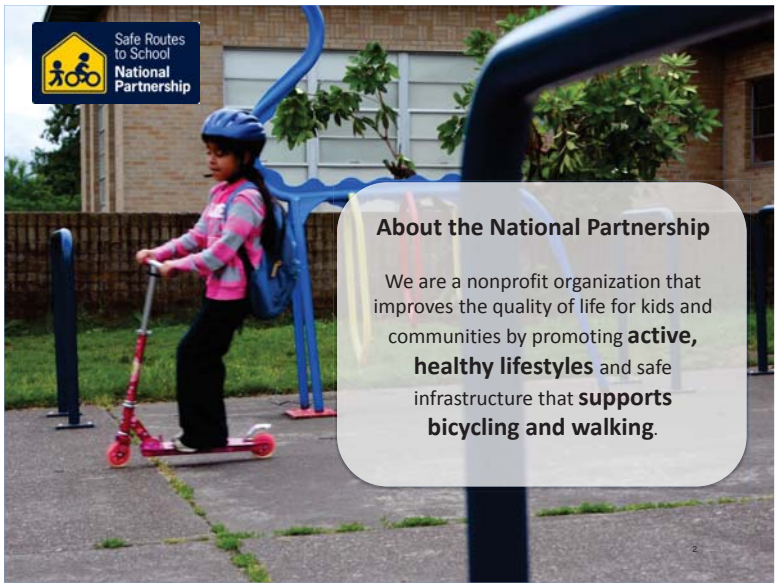


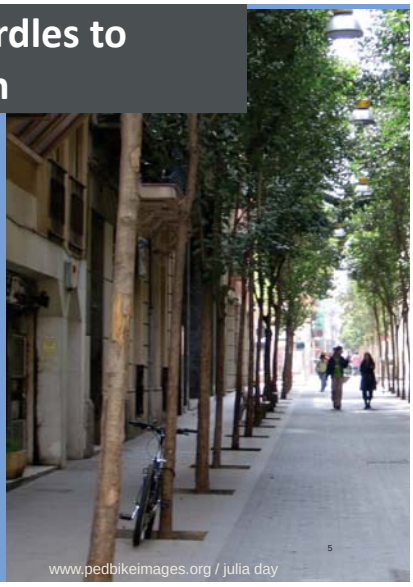
About the National Partnership

We are a nonprofit organization that improves the quality of life for kids and communities by promoting **active, healthy lifestyles** and safe infrastructure that **supports bicycling and walking**.

2

Two Core Legal Hurdles to Good Street Design

- Is it allowed?
- Will we be sued?



www.pedbikeimages.org / julia day

5

What We Do

- Create support for safe, healthy, active communities
- Advance policy change
- Focus on equity
- Share our deep expertise

3

Is it allowed?

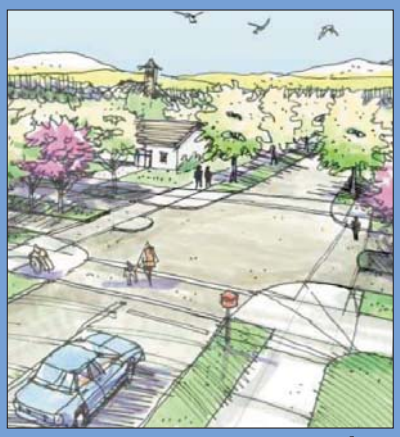
- Local policies and practices
- State and federal laws
- National design guidelines and manuals

www.pedbikeimages.org

6

Local, State & Federal Laws

- **Subdivision/land development codes**: detailed requirements for how streets and neighborhoods must be built
- **Municipal codes**
- **General plans**
- **State and federal laws and regulations**



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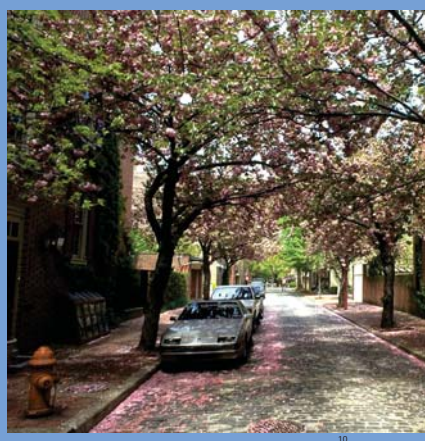
Narrow Streets

2004 Green Book: Allows lane widths from 10-12 ft – 12 ft "most desirable"

2011 Green Book: Encourages 10 ft widths



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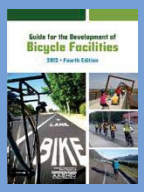
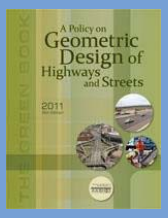
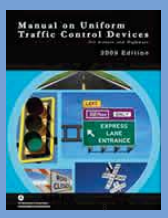
National Manuals and Guidelines

- Some of the manuals are binding, some are advisory
- Some provisions within them are binding and others are not
- Good news: increasing bike/ped friendly







Upshot:

- Understand and **comply with legal requirements**
- Many aspects of manuals **are flexible**
- A lot of **great complete street design is already fully authorized**
- **Encourage** ongoing improvements to guidelines and laws

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Will we be sued?

If someone gets hurt, will we be found liable?

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Myth Versus Reality

Myth: Sticking to the tried and true ways will protect you from liability issues.

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California public entities have strong protection from liability under design immunity where:

- The design was formally approved &
- There was an informed, reasonable exercise of engineering judgment that balanced relevant considerations.
  - CA: standard is met "as long as reasonable minds can differ concerning whether a design should have been approved."

Defenses: Immunity

Myth Versus Reality

Myth: Sticking to the tried and true ways will protect you from liability issues.

Reality: Failure to adopt new & safer practices can increase the likelihood of liability.

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Is this a guarantee that you won't get sued?

No, it is not.

Defenses: Immunity

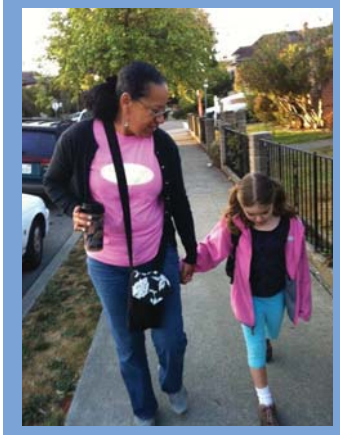
Immunity for Design Decisions

Liability and Street Design

California lawsuits usually don't get to underlying questions of negligence.

- But you should still avoid it
- Note that acting reasonably relates to the reasonable exercise of engineering judgment aspect of immunity, as well as to negligence itself.

In Conclusion



Liability should not be a barrier to complete streets

Reasonable Care = Being Responsible

- Consider possible **dangers and hazards to all users**
- **Take reasonable steps** to protect against those hazards
- Have **evidence or logic** supporting decisions

Reasonable Care

Safe Routes to School National Partnership

Sara Zimmerman, JD
Technical Assistance Director

sara@saferoutespartnership.org

The Big Picture

What's the best way to avoid liability?

Make sure no one gets hurt in the first place.

Safe Routes to School National Partnership

Providing Safer Mobility for All Transportation Users

Major policy and organizational changes happened over the past seven years

2008	Complete Street Policy Deputy Directive 64-R1 updated
2010	Complete Streets Implementation Action Plan released (completed 2013)
2011	Program Review initiated by Director Malcolm Daugherty
2012	Highway Design Manual update incorporating Complete Streets design
2013	New California State Transportation Agency (CalSTA) formed
2013	Agency Secretary, Brian Kelly, commissioned State Smart Transportation Initiative (SSTI)

1

Photo: Jake Nicol, OaklandNorth.net

Providing Safer Mobility for All Transportation Users

Accomplishments

"Road Diet"

- Sloat Blvd (SR 35), San Francisco
- Speed & Crash Reduction

Providing Safer Mobility for All Transportation Users

2014	Caltrans Improvement Project was launched to address SSTI recommendations
2014	Transformation and cultural shift began with the development of a new Mission, Vision and the Strategic Management Plan
2015	Complete Streets Implementation Action Plan 2.0 released in January
2015	District 4 executed its Design Delegation Agreement on January 30, 2015 (transfer decision making authority from Headquarters to the districts)
2015	CT Strategic Management Plan released in April – Aggressive Goal: by 2020 triple bicycle usage, double pedestrian and transit usage

2

Photo: Jake Nicol, OaklandNorth.net

Providing Safer Mobility for All Transportation Users

Accomplishments

- Green bike lanes
  - Alpine Rd at I-280
  - Blanket approval for CA from FHWA
  - Guidance in FHWA Interim Approval Memo
  - More green lanes on the way

Providing Safer Mobility for All Transportation Users

Actions Underway

- Updating California MUTCD to incorporate previously experimental features
- Further redefine Highway Design Manual
- Engaging in outreach with partners and district regarding design flexibility and innovative design
- Developing Class IV Bikeways (separated bikeways) Design Guidance

3

Providing Safer Mobility for All Transportation Users

Accomplishments

"Top of the Hill" Daly City Project

Old Redwood Highway at 101

Caltrans' Use of Flexible Design Criteria and Tort Liability

Bruce D. McGagin
Deputy Attorney
Caltrans

This presentation is not intended to provide legal advice. The presentation is only a demonstration of Caltrans' current approach. Factual differences in the approval process, the use of previously approved standards, and other factors will lead to differing outcomes and solutions. Thus, the information conveyed in the presentation cannot be applied to any particular matter. Attendees should seek the advice of their attorneys for any specific questions they may have.

DESIGN IMMUNITY

- Government Code section 830.6 elements
  - The design feature must have caused the injury alleged
  - The design was approved prior to construction by someone with the authority to do so and the feature was built in accordance with the design
  - The design was reasonable

Caltrans' Current View of What Design Flexibility Is

- It's not a new way of doing things
- It's a process based on common sense
- It's using reasonable engineering judgment
- It incorporates context sensitive solutions, Complete Streets, and other flexible design concepts based on innovations/designs to address a problem

Caltrans' Approach to Liability Concerns Raised by Flexible Design

- There should be no concerns provided:
  - The design decision was fully documented
  - Design decision is logical and well thought out
  - Reasonable engineering judgment was applied

Caltrans' View of Liability for "Variations" from Existing Design Standards

- Should not lead to increased liability provided the engineer in charge:
  - Uses reasonable engineering judgment creating "variation"
  - Documents decision for the "variation" by, e.g.:
    - Showing "variation" previously used in similar, well-defined situations (e.g., cycle tracks, 11-foot lanes, roundabouts)
    - Analyzing why use of "variation" suitable in particular instance
    - Supporting decision by reference to other guidance (e.g., NACTO, Green Book, etc.)

Reasonable Engineering Judgment and Liability

- Guidelines affecting use of engineering judgment can affect liability
  - Where conditions are inherently variable, designs based on engineering judgment should **not** increase liability
    - **Example: Range for stop bar**
- What is reasonable under the circumstances?

Safety and Other Design Considerations

- Where design flexibility varies from accepted standards or guidelines, exposure to liability may be reduced **if**:
  - the engineer who designs/approves the project is "up front" about their engineering judgment when documenting the justification
  - mitigates by other special design features (e.g., reduced speed limits, warning signs, traffic calming measures, etc.)

Caltrans' Challenges

- Getting the appropriate documentation supporting design decisions, particularly for innovative designs
  - Design-Build
  - Local Entity Designs on state highway system
  - Consultant Design Engineers

Santa Clara County Expressways

Complete Streets & Design Challenges

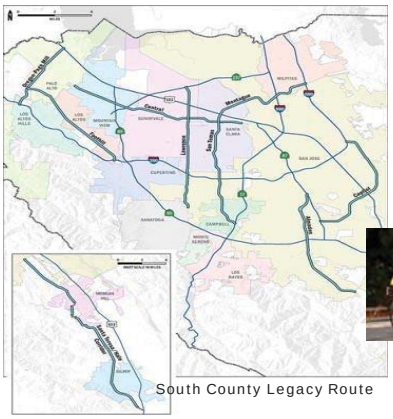
Presented as part of County Partnerships to Improve Community Health Project

Panel Discussion

September 24, 2015

By

Dan Collen, Deputy Director, Infrastructure Development
Roads & Airports Department



Santa Clara County Expressways

Eight Expressways:
62 CL miles

1.5 Million
Vehicle Trips Daily

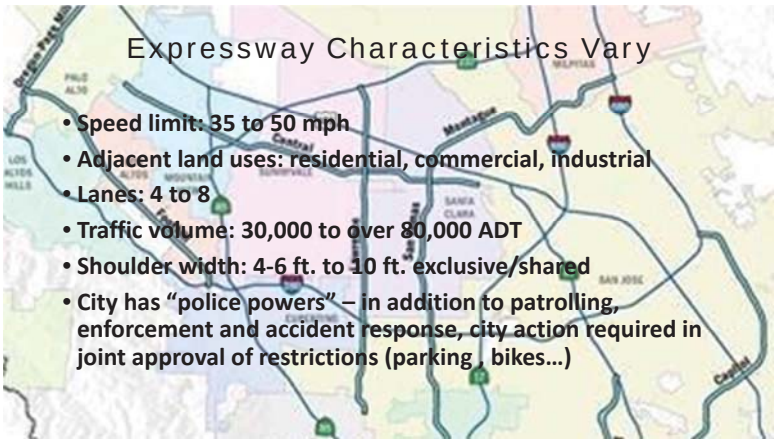
South County Legacy Route

In the Beginning...

MEASURE (A) Ballot text:

"Shall the County… [sell bonds to construct]… County highways and expressways, including…interchanges, grade separations and highway bridges…"

…the vision was a system of local freeway-like roadways that would "end traffic jams!!!"



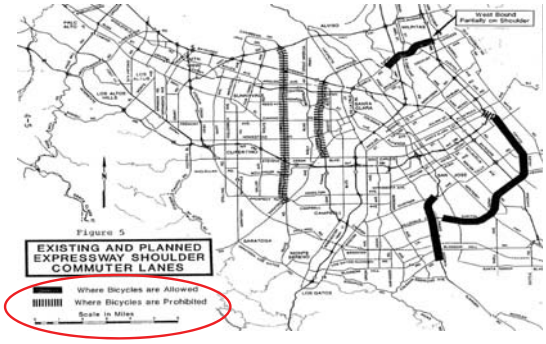
Expressway Characteristics Vary

- **Speed limit: 35 to 50 mph**
- **Adjacent land uses: residential, commercial, industrial**
- **Lanes: 4 to 8**
- **Traffic volume: 30,000 to over 80,000 ADT**
- **Shoulder width: 4-6 ft. to 10 ft. exclusive/shared**
- **City has "police powers" – in addition to patrolling, enforcement and accident response, city action required in joint approval of restrictions (parking , bikes…)**

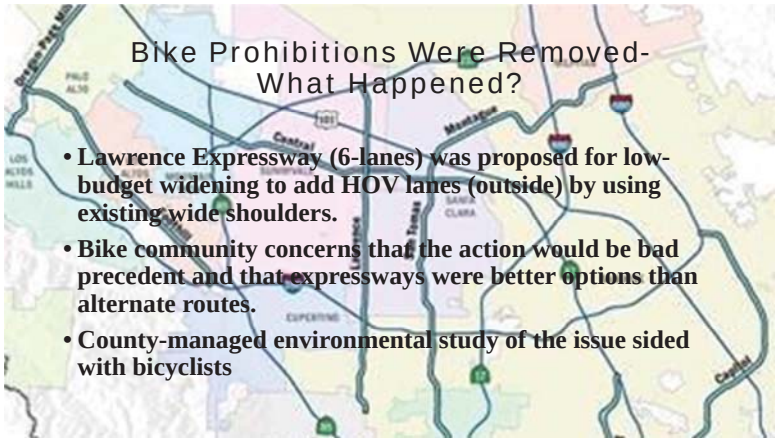
Bicycle Accommodation Varied

- **Sign used where County and City agreed expressways too freeway-like, after County freeway resolution and city counsel action**
- **Signs referring to "Bicycles" removed or revised after 1989/1991 policies adopted by Board**

1986 Transportation 2000 Bicycle Element

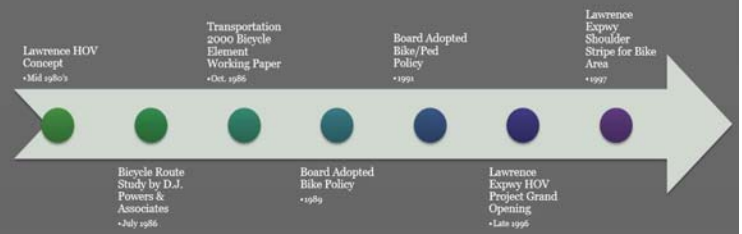


Bike Prohibitions Were Removed- What Happened?

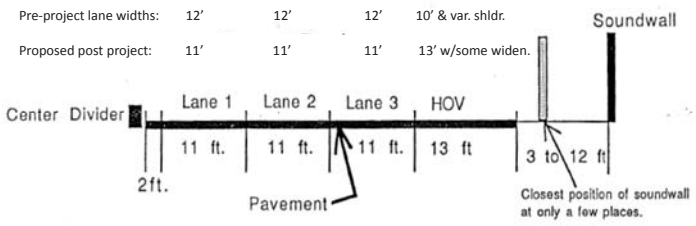


- **Lawrence Expressway (6-lanes) was proposed for low-budget widening to add HOV lanes (outside) by using existing wide shoulders.**
- **Bike community concerns that the action would be bad precedent and that expressways were better options than alternate routes.**
- **County-managed environmental study of the issue sided with bicyclists**

History of Bicycle Accommodation:
Lawrence Expressway was catalyst and rallying point



1988 Lawrence Expwy HOV Design



- **13 ft shared shoulder was proposed**

Who designed *this*?

- **Engineering Consultant: Nolte Associates**
  Project Engineer: Gloria Garcia (Collen)

- **In fairness, given constrained revenue and assuming bike prohibitions would remain, the plan was logical, efficient. County provided direction to consultant.**

Game changer…

- **Federal demonstration grant provided for costs of additional widening**

1986 Lawrence Expwy and Alternative Routes for Bicycles by David J. Powers & Associates

Conclusion:

Although there are other north-south roadways [than] …the expressway, conditions such as on-street vehicular parking and numerous driveways and cross-streets make them less suitable for bicycle commute use than Lawrence Expressway.

And thus the policy statements (1991):

BICYCLE USE ON EXPRESSWAYS:

- Board Policy Statement:

  At its meeting on October 17, 1989 the Santa Clara County Board of Supervisors adopted the following statement of policy regarding bicycle use on expressways.

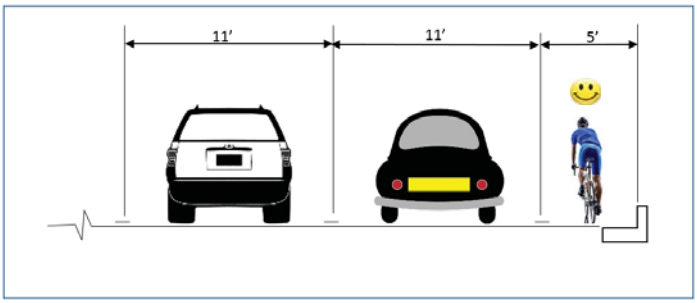
  The Santa Clara County Board of Supervisors is supportive of action by Cities to allow bikes on expressways.

- Agency Policy:

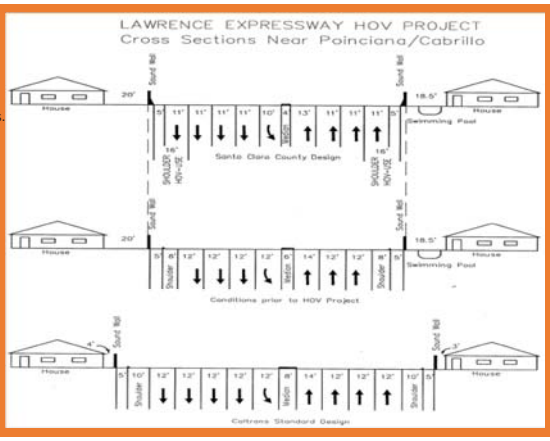
  It is the policy of the Transportation Agency to encourage the cities to remove the bicycle prohibition signs, except where the shoulder area is less than four (4) feet wide:

Board Policy on Bicycle & Pedestrian Access on Expressway

- The Board of Supervisors is committed to accommodating pedestrians, bicycles, and automobiles wherever possible, subject to safety considerations and fiscal constraints.
- The Transportation Agency is committed to accommodating all modes of traffic on County Expressways, subject to safety considerations and fiscal constraints.

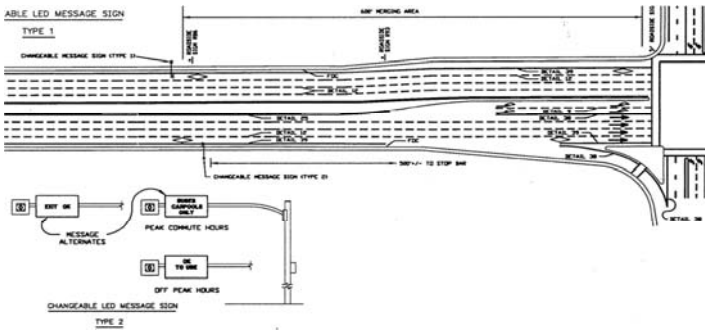


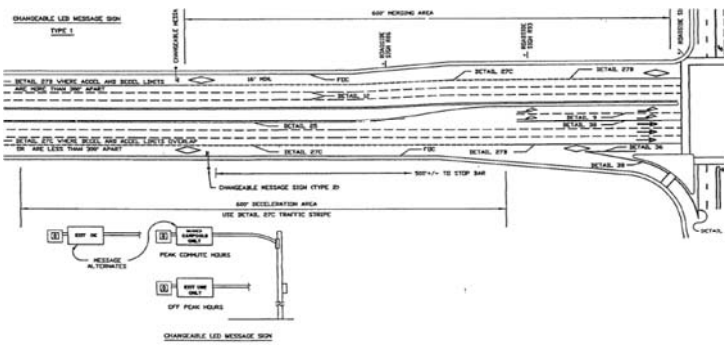
Winner!
No R/W
Paved wall to wall
Peds on parallel rds.



Pre-project

Standard
widening
consumes
backyard





Policy Documentation and Approval

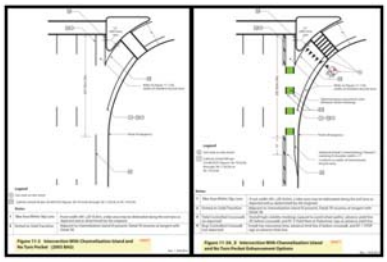
- **Expressway Study Process, Policy Advisory Committee, and Report (first edition 2001-2003). Process uses tech working group, PAB, City and County governing boards**
- **<u>"Delineate, don't designate"</u>**
  - **Provide wide shoulders: 6'- 8'**
  - **Bike slot at stop bar**
  - **Bike slot at gore points**
  - **Use of dash in locations to continue path of bike**
  - **Provide bike presence/crossing warning signage**
  - **No bike lane pavement marking or roadside signs**
  - **Exceptions: legacy bike lanes on lower speed (Page Mill), lower volume (Foothill) expressways**

Current Update Process

- **Hired subject matter expert to conduct update**
- **Drafts to VTA Bicycle & Pedestrian Advisory Committee for comment**
- **Led by County Transportation Planner, working closely with County Traffic Engineer**

Potential Changes to BAG

- **Allow but not require use of "toolbox" elements as appropriate and needed for specific conditions, requiring judgement of Traffic Engineer.**



Current Policy Coordination

- **External messaging: expressways are for advanced bicyclists only**

- **Internal policies, i.e. sweeping, brushing, construction traffic control**

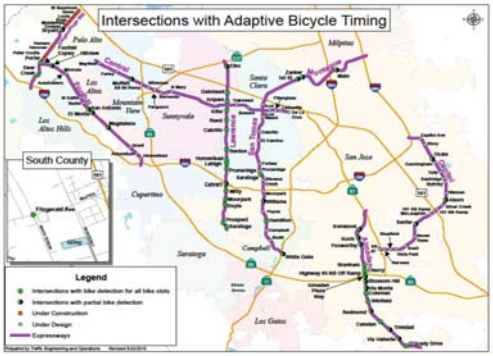
Potential Unintended Consequences in Expwy. Context

- Square corners –Truck turning geometry can track rear wheels through pedestrian waiting area.
- Bike guidance through weaving areas – some serious bike riders object to being told where to be, want freedom to react to differing conditions, situations
- Marked crosswalks – concern with artificial sense of security and need for alertness

Design concern: What happens when unique treatments become standard? Is it more safety, or more routine, which becomes routinely ignored?

Metaphor: flu shot or antibiotics?

Sometimes Following, Sometimes Leading



This Exhibit:
Bike Adaptive Traffic Signals

See video on website:
www.countyroads.org

See also:
Pedestrian Adaptive Traffic Signals

Future Opportunities – Lawrence Below Grade