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
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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
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

- **Lawrence HOV Concept**
  - Mid 1980's

- **Transportation 2000 Bicycle Element Working Paper**
  - Oct. 1986

- **Board Adopted Bike/Ped Policy**
  - 1991

- **Lawrence Expwy Shoulder Stripe for Bike Area**
  - 1997

- **Bicycle Route Study by D.J. Powers & Associates**
  - July 1986

- **Board Adopted Bike Policy**
  - 1989

- **Lawrence Expwy HOV Project Grand Opening**
  - Late 1996
1988 Lawrence Expwy HOV Design

Pre-project lane widths: 12’ 12’ 12’ 10’ & var. shldr.

Proposed post project: 11’ 11’ 11’ 13’ w/some widen.

- 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
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:
1991 Policy on Bicycle & Pedestrian Usage of 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
ABLE LED MESSAGE SIGN

TYPE 1

CHANGEABLE MESSAGE SIGN (TYPE 1)

600' MERGING AREA

DETAIL 29
DETAIL 30
DETAIL 31

500' +/- TO STOP BAR

DETAIL 29
DETAIL 30

CHANGEABLE MESSAGE SIGN (TYPE 2)

EXIT ONLY

MESSAGE ALTERNATES

PEAK COMMUTE HOURS

OK TO USE

OFF PEAK HOURS

CHANGEABLE LED MESSAGE SIGN

TYPE 2
Policy Documentation and Approval


- “Delineate, don’t designate”
  - 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

  - Expressways: Bicycles are permitted on all County expressways. The expressways generally carry high volumes of traffic at high speeds. Bicyclists are therefore advised to exercise caution. Although there are bicycle lanes on some of the expressways, the expressways should only be used by bicyclists with advanced skills.

- **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
Figure ES-4 - Cross-Section of Bicycle/Pedestrian Corridor

Future Opportunities – Lawrence Below Grade