Issue 10: Alameda - Santa Cruz "Y"

Summary:

A critical point is at the "Y" intersection of Santa Cruz and the beginning of Alameda de las Pulgas. This intersection is unacceptably dangerous for cyclists, pedestrians, motorists, and those residents that have driveways there.

The engineering of this intersection is poorly done. The basic design is dangerous and unsafe. Yet no corrective actions have been done, even after several safety and traffic studies. The 2010 Berkeley Pedestrian Safety Assessment seems to have been ignored.

Just some of the many issues:

- Crosswalks are excessively long requiring long exposure of pedestrians
- Crosswalks are at unsafe angles to traffic flow and have poor visibility
- No stop limit lines at crosswalks to keep cars at safe distance
- NE corner is blind and no traffic control button to get to small island
- NW corner at Campo Bello blind - SB right turn can't see pedestrians
- NE Bound Santa Cruz is high speed turn and nearly always green
- Residents can't safely exit their properties along turn of Santa Cruz
- Absolutely no bike lane guidance or awareness - a no mans land
- Lack of mitigation of traffic speed, even on NE curve
- Unusual addition of a third NB traffic lane prior to the turn
- Excessive lane changes by NB traffic due to added lane
- No proper walkways or sidewalks north and east of "Y"
- Traffic signs and poles in middle of walkways

Problems:

- All crosswalks are extremely long and unsafe
- Blind corners
- Transition curve - too high of speed
- No bile/traffic lane guidance
- Added 3rd lane causes excessive lane changes
- Walkways are in unusable condition
- Residents do not have safe egress
- Crosswalks are not ladder painted

Positives of Solution(s):

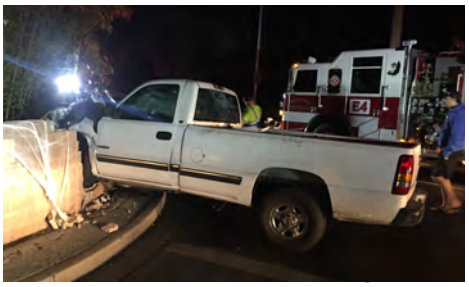
- Short, safer crosswalks
- Mitigation of dangerous curve
- Dedicated bike lanes clearly marked
- Blind curves eliminated
- Pedestrian median island
- Stop limit lines for crosswalks

Considerations:

- Fire Department has good access
- Green median helps calm traffic
- Bulbouts provide visibility, shorter crosswalks

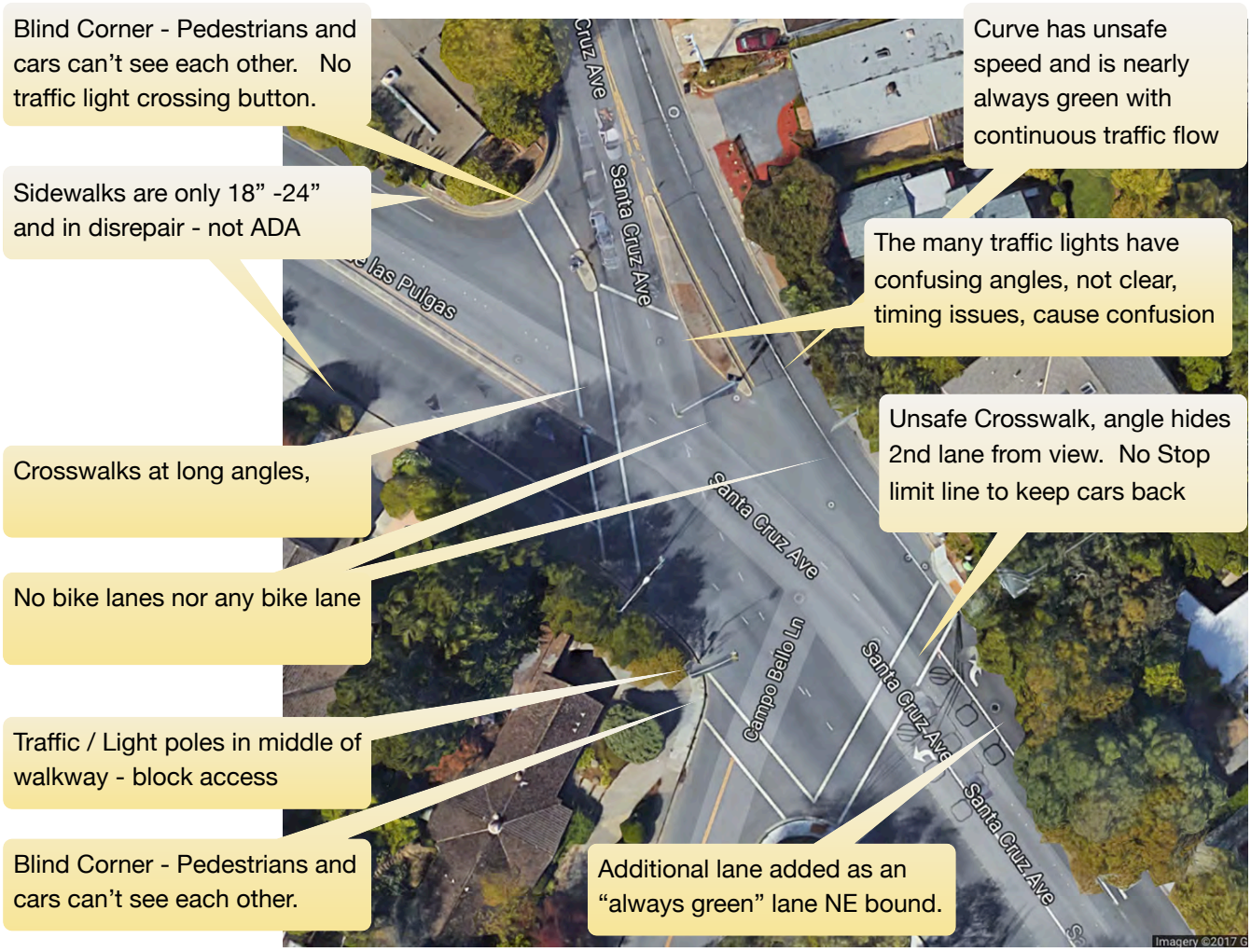
Traffic often underestimates the safe speed for the NB curve at the "Y". Neighborhood children live in these houses and in the example below, the children's lemonade stand is just a few feet from traffic that is whizzing by at 35mph along a curve that only gives seconds of reaction time to conditions hidden by the curve.

The other photos here show the disrepair of the walkways, sign poles that block access to the path, and results of out of control vehicles. Thank–fully there were no pedestrians on that pathway when the truck struck.



The goal in this annotated photo is to insure an understanding that this intersection is poorly engineered and extremely unsafe for all that use it. On the following pages there are various potential solution options, some based on the 2010 Berkeley Pedestrian Safety Assessment, the preferred solution option is 10.5, the result of building upon prior ideas. Keep in mind, there are far more serious issues than those shown here.

Currently at Santa Cruz/Alameda "Y"



In this Report's section, there are several proposals, most based or influenced by the 2009 Berkeley Pedestrian Safety Assessment These are presented as Safety Solution Options 10.1 through 10.5. An interesting suggestion is the **10.4 Roundabout**.

Of these, the **10.5 solution** option has good support and achieves the most safety advantages.

Proposed Solution Option 10.1: Berkeley Safety Assessment

The Berkeley Pedestrian Safety Assessment[5] suggested several revisions to create a safer intersection. Significant amongst these was altering the junction of Santa Cruz to be more perpendicular, allowing traffic to make the continuation transition at a slower speed.

This **Option 10.1** solution removes the dangerous high speed turn to be one more perpendicular, similar to what is done a few blocks further down Santa Cruz at Avy Ave. As you will see later on Option 10.5, this concept used.

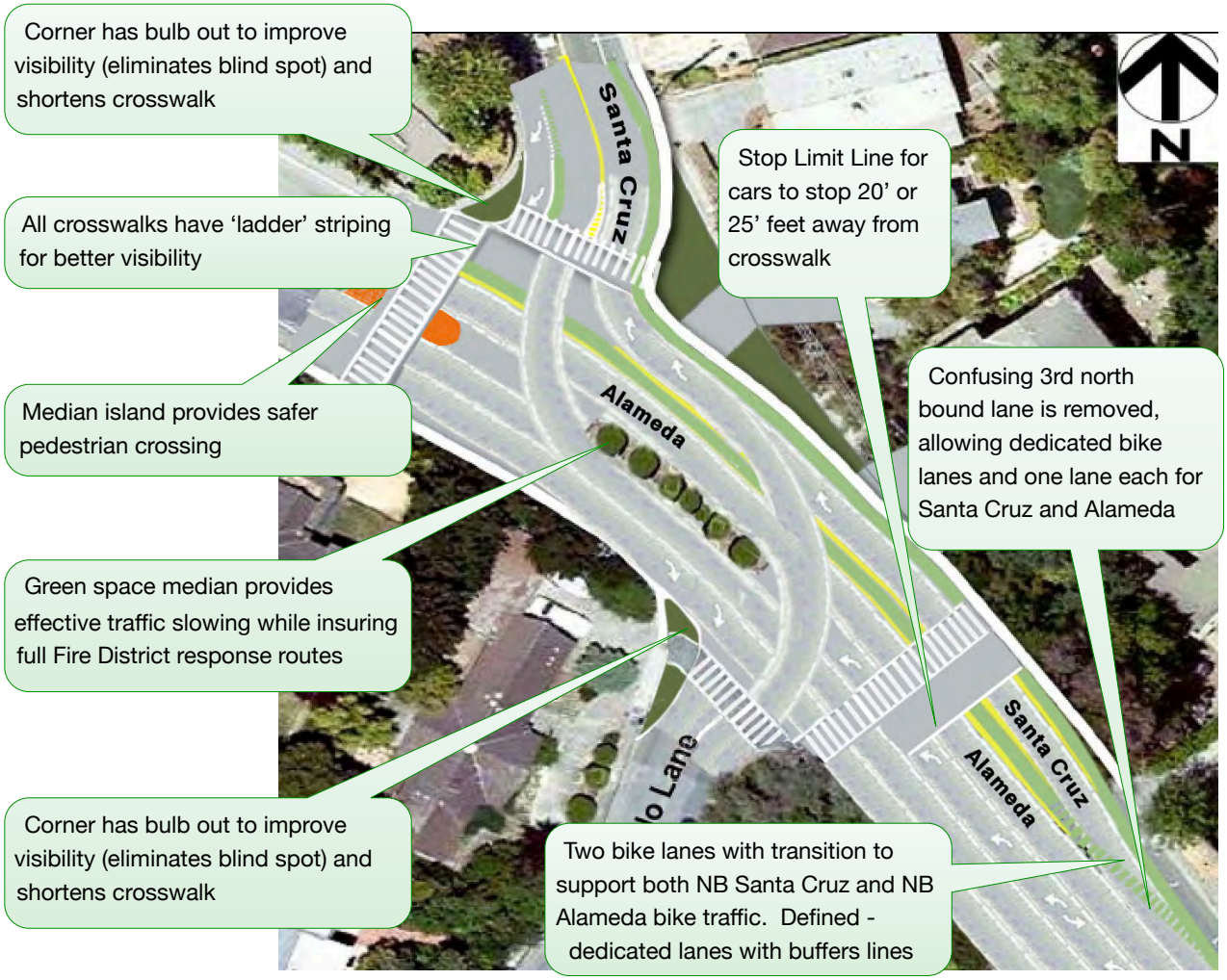
Berkeley PSA - Modified "Y"

Update: Feb 2020: We have modified our older 10.5 community safety option design for the Y to be a 'best of all' design, incorporating County's Alts A thru C, input from MPFD, our community designs (here), and created a solid, simple, road design that handles all the traffic volume (today's and forecasted) but not at the expense of pedestrian and residential safety. Please refer to that 10.5 section below.

Proposed Solution Option 10.2: Improved Berkeley Safety Assessment

This **Option 10.2** proposed solution builds upon the Berkeley Pedestrian Safety Assessment (Solution Option 10.1). This is not the preferred solution (see 10.5) but it does have several key points:

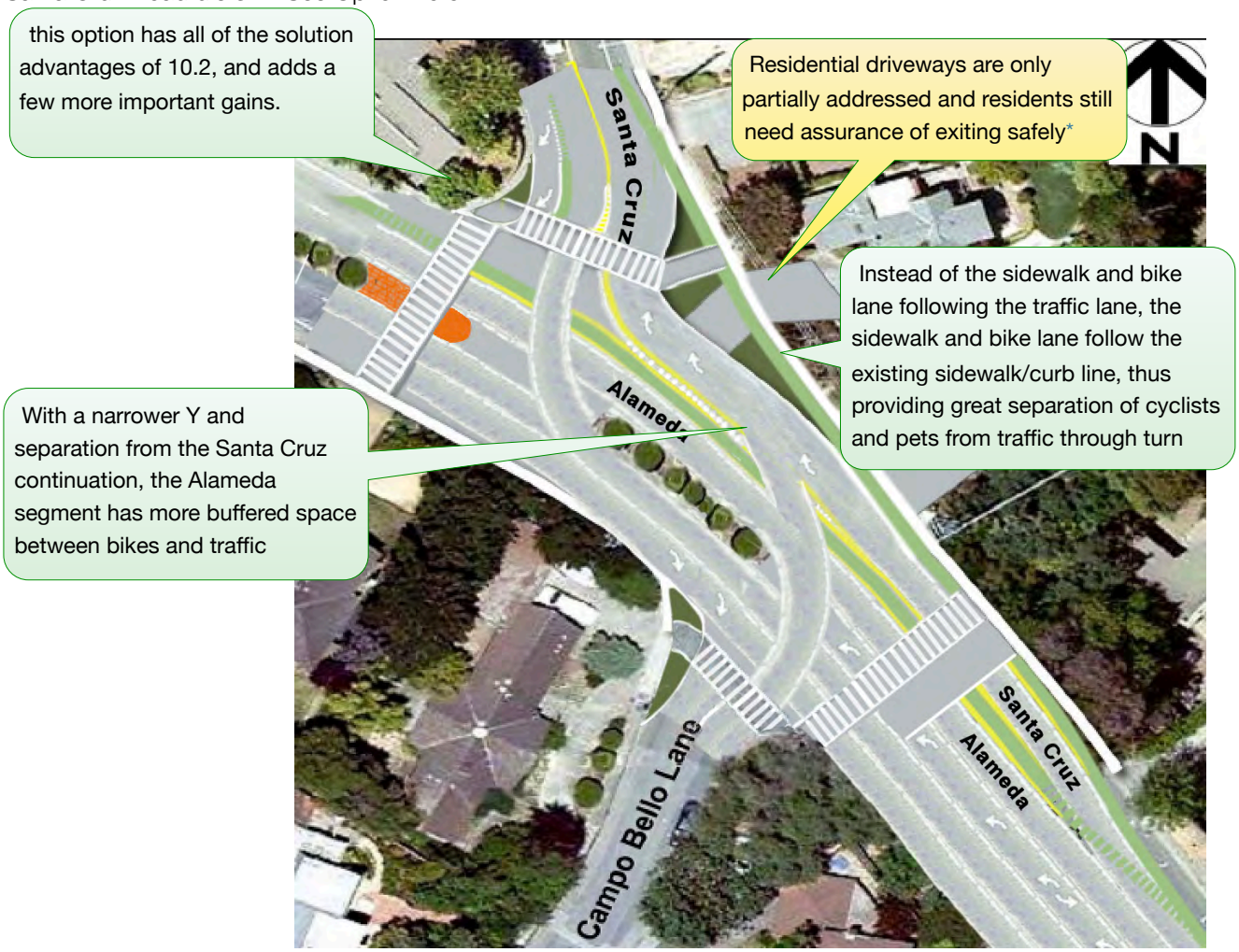
- Adopts the suggestion of road consistency for Alameda (Issue #1), making it same as the rest of Alameda. These short 4 blocks would consist of bike lanes each direction, a center turn lane, and one lane of traffic each direction. This has the potential advantage of providing room for ADA compliant walkways.
- Creates bulb out at NE corner and the NW (at Campo Bello) to correct the blind corners and further shorten the crosswalks
- Retains good fire department access through Alameda and the "Y"
- Creates green median to provide support for slower traffic speeds
- both Campo Bello and Santa Cruz enter intersection at a more perpendicular approach
- Dedicated Bike lanes thru intersection for both NB Santa Cruz and NB Alameda



Note that traffic flow lanes are shown in the map to better understand traffic flow but are not meant to mean that these lines would be painted as such. <u>This design work does NOT incorporate the road diets.</u> The bike - traffic lane separation markings that provide an extra buffer between traffic and cyclists should be implemented.

Proposed Solution Option 10.3: Added Improvement to Berkeley Safety Assessment

This Solution **Option 10.3** builds upon the prior two solution options, keeping those improvements and adding one significant one: Moves the sidewalk to current sidewalk path and provides for the bike lane for this section to follow adjacent to the sidewalk instead of the traffic lane. **NOTE:** This design does not incorporate the Alameda and Santa Cruz Road diets — See Option 10.5.



*While this and the prior options (Solution Options 10.1 and 10.2) greatly improve safety, and the safety issue of the residents along the Santa Cruz curve at the "Y" still need consideration, and so Safety Issue #5,Safe Egress - "Y" Residents, is still required.

Note that traffic flow lanes are shown in the map to better understand traffic flow but are not meant to mean that these lines would be painted as such. However, some form of bike lanes should be clearly marked as well as the suggested bike - traffic buffer separation markings that provide an extra space between traffic and cyclists**.**

Proposed Solution Option 10.4: Roundabout Concept Proposed by Berkeley Study

This Solution **Option 10.4** is a direct copy of an "outside the box thinking" concept floated in the Berkeley assessment. It may be feasible if both compromises on Santa Cruz Avenue are made for roundabout configuration.

If Issue #1, Alameda de las Pulgas reconfiguration, occurs then Alameda would then have a configuration that would easily adapt to this concept.

This suggests a 3-leg Modern Roundabout, plus a stop controlled T for the low-volume Campo Bello leg.

Between 100' and 110' of diameter appears to be available – likely enough space to accommodate the turning radius needs of a tractor trailer. Campo Bello is far enough away that one car would fit between it and a roundabout's yield line.

There are several adjacent driveways, but similar driveways have been handled in other roundabout designs. A feasibility analysis of these concepts was beyond the scope of the Berkeley report or this Safety Issues report; however, it should be part of the dialog and examined for feasibility.

Update Feb 2020: It seems that the complexity of trying to incorporate Campo Bello into the traffic circle is not easily solved. Additionally, this circle may require more space than is available.

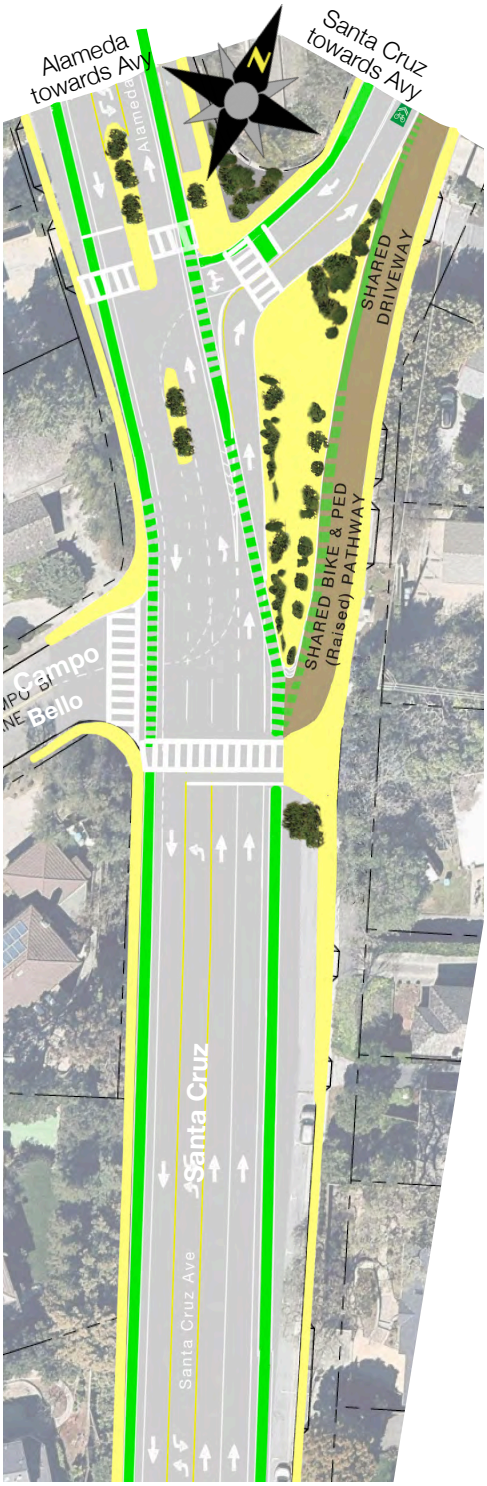
Follow this link for an interesting and informative video on roundabouts:

https://www.youtube.com/watch?v=-vzDDMzq7d0

Proposed Solution Option 10.5: A preferred Option @ Y

This **Solution Option** 10.5 is a preferred option by many, as it depends on and builds upon several of the safety issue solutions in this document. It provides for all of the other safety issue implementations and helps facilitate a structure where traffic flow is simple, less confusing, guaranteed to be slower and calmer, yields significant safety gains for pedestrians and residents This design shows the road diets for ALDP and SCA.

SAFE Issue #1 - Alameda Safe Lane Consistency
SAFE Issue #5 - Safe Egress - "Y" Residents
SAFE Issue #7 - Crosswalk at Alameda & Sharon Rd
SAFE Issue #8 - Bike Lane Santa Cruz - Sand Hill to Y (Solution #8.3)
SAFE Issue#11 - Safe Sidewalks - Alameda - North of Y
SAFE Issue#12 - Safe Sidewalks - SantaCruz - Oak Hollow to Y



While this option builds on the prior options Solution Options 10.1, 10.2, and 10.3, it also builds off of the road diet of the Alameda (#1) and allows then for the subsequent road diet of the southern section of Santa Cruz Ave (#8.3), all of the above options working in unison for a safer result — safer by an order of magnitude.

Here is a general summary of key safety objectives met by this Option (see Y design - Pro-Con).

A. General Y Safety Advantages

1) Significantly reduced the West-East width of the Y
2) Narrower width of this approach yielded more East side design room
3) Median island provides enhanced pedestrian safety and traffic separation
4) Addresses a safer and appropriate north Santa Cruz lane (Calmer)
5) Blindspots at the NorthEast sharp corner (Molly's house) eliminated
6) Blindspot/dangerous confusing right turn lane on to Camp Bello fixed
7) Extra buffer and traffic breaks for residents along the Curve (see issue #5)

B. Crosswalks

1) Significantly reduced widths of all Crosswalks (by as much as50')
2) Adds East side Crosswalk so that the intersection has full crosswalks
3) Use Ladder striping for improved visibility
4) 10' pedestrian safety median

C. Cyclists - Bike Lane

1) All bike lanes are 5' and have 2' traffic lane buffers
2) Completes the bike route connectors for this section of the County

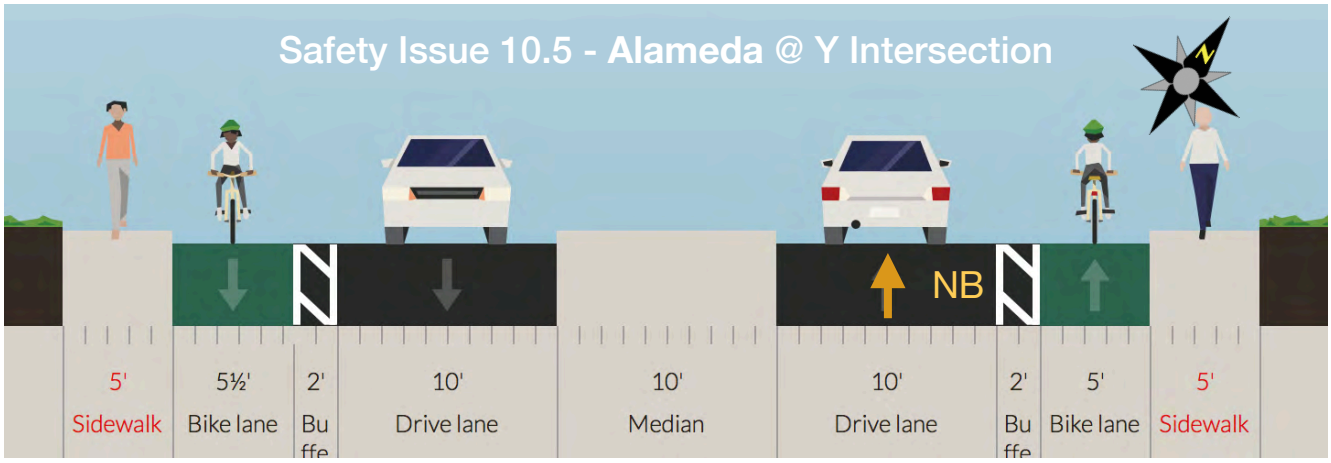
D. Sidewalks

1) All sidewalks are 5', gained from reduced width of roadway (not taken from residents property)
2) Sidewalks at Crosswalks use bulb outs / provided space for greenery
3) Allows sidewalk re-alignment on East side where Y had been 80+ feet, now less than 60'.

Crosswalks at the Y

Current crosswalks are dangerous, unnecessarily long, and angled. They are not safe. This sub-section of this 10.5 solution explores details of the crosswalks for the Alameda and the south Santa Cruz sides.

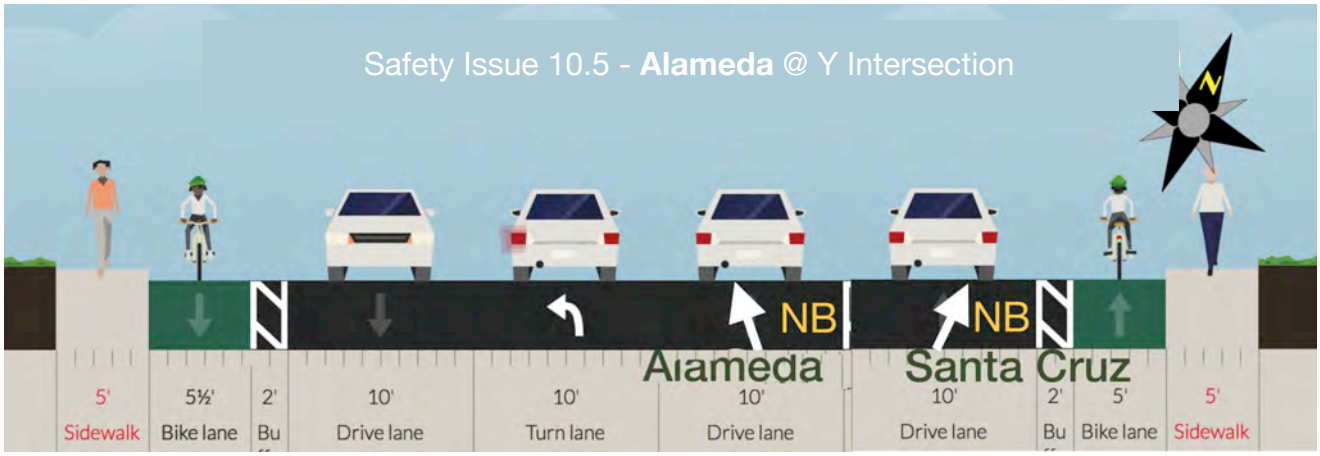
Proposed Alameda Intersection at Y: This is the northern most crosswalk at the beginning of Alameda



Features:

- All Bike Lanes Buffered
- Reduced Lanes - 1 lane each direction
- Good separation for Pedestrians, Cyclists, and Cars
- Crosswalk width reduced by approx 50'
- Pedestrian safety median
- 5' Sidewalk at intersection
- Significantly reduces length of light signal
- Blind Corner on Santa Cruz eliminated

Proposed Santa Cruz Intersection at Y: This is the Southern most Y crosswalk on Santa Cruz Ave

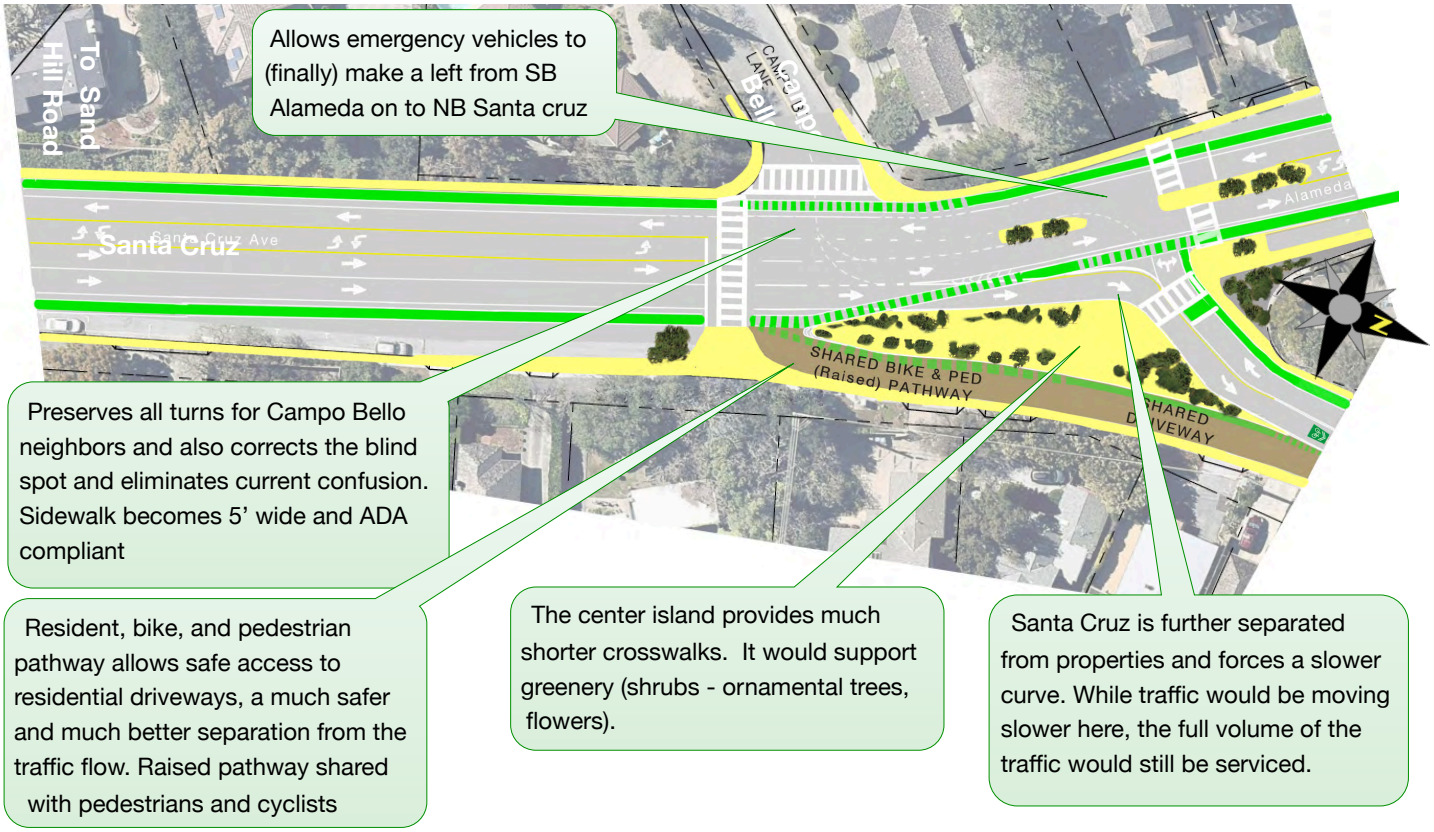


Features:

- All Bike Lanes Buffered
- Dangerous 3rd slip lane eliminated
- Reduced Lanes - 1 lane Alameda - 1 Santa Cruz
- Good separation for Pedestrians, Cyclists, and Cars
- Crosswalk width reduced by approx 30'
- 5' Sidewalk at intersection with added bulb out
- Significantly reduces length of light signal
- Stop Limit Line at Crosswalk

A bigger picture of the Santa Cruz and Alameda (Sand Hill off to the left, Avy Ave off to the right). Roadways are perpendicular to the main roadway, providing a simpler and more concise intersection.

Because the intersection is narrower, traffic flow is calmer, more room is available for improving safety for pedestrians and residents. The whole ambience of the intersection is improved and much more oriented to a residential community than the current expressway look and feel.



NOTE: Please view the Pros vs Cons page for the various Y intersection design alternatives. That page has interactive comparisons between the designs and discusses pros and cons for each.

https://UnivPark.org/safe/y/pro-con