

Discussion of alternatives to Charcot Extension project



SAN JOSE



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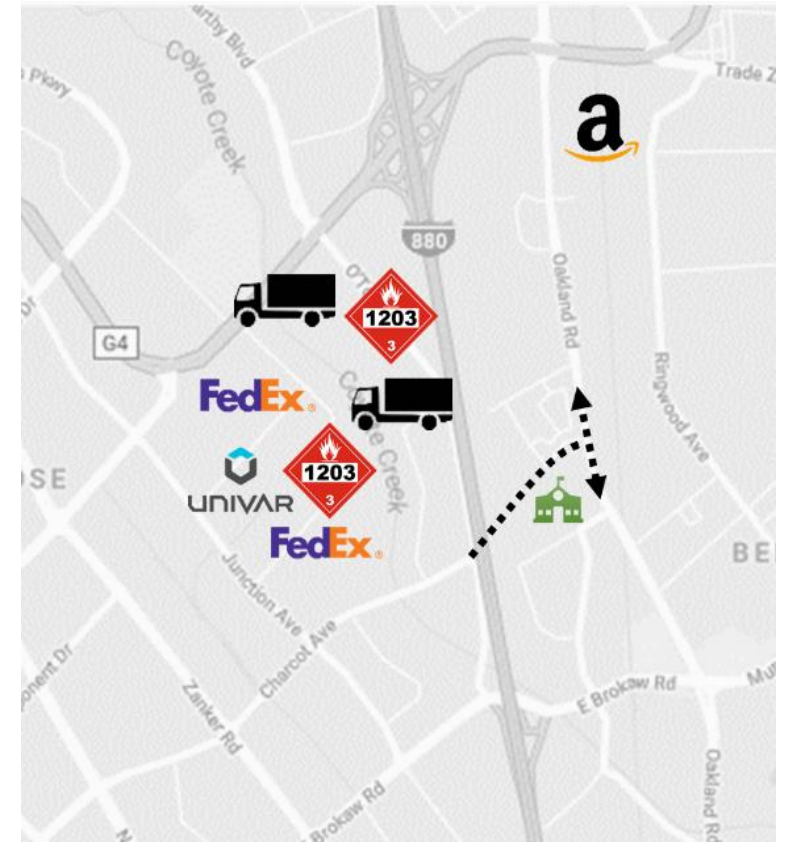
I. Issues of Charcot Extension

The Environmental Impact Report (EIR) which will describe the specific impacts of the project is not yet public. The concerns of the community are therefore based on the available draft designs as well as general observations of similar projects.

The **community's main concerns** are:

- **Conflicts with Vision Zero** and especially its Core Principle 2: “Human life and safety takes priority over mobility”. Given the close proximity of several logistic hubs, it is worrisome that the road will likely carry a significantly higher number of trucks than a typical road in a school zone;
- **Air Pollution;**
- **Impact on the size of Orchard School**, including the available recess area and sports field either because of eminent domain or new setback requirements; and
- **Safety risks:** The industrial area in NSJ bordering I-880 includes many businesses dealing with dangerous chemicals (e.g., Kinder Morgan Oil Terminal, Univar pesticides and petrochemical warehouse). Trucks carrying these chemicals travelling a just few feet away from classrooms on a continuous and frequent basis puts students at risk.

*Additionally, from an equity perspective it should be noted that the immediate affected neighborhood has been identified as a “**Community of Concern**” by the MTC and has a lower median income than most surrounding areas.*



Sources of potentially significant truck traffic

2. Transportation goals

City Transportation Goals (excerpt)

- **Decrease driving alone**—from 76% today to 40% by 2040 and 12% by 2050—by significantly increasing rates of walking, biking, and transit use.
- **Overall decrease of 40% in VMT by 2040**, Climate Smart furthers the goals to a 57% reduction by 2050
- **Vision Zero**

Goals of Charcot Extension

- Provide a **safe multi-modal facility** to improve the roadway network connectivity in the area.
- **Improve connectivity between residential areas** on the east side of I-880 and the **North San José commercial area** on the west side.
- Increase the **capacity*** for east/west travel across the I-880 corridor (besides Montague Expressway and Brokaw Rd.)
- Provide a **safe bicycle/pedestrian facility over I-880**.

[* TBD: capacity for vehicles or for people?]

QUESTION:

Are there alternatives

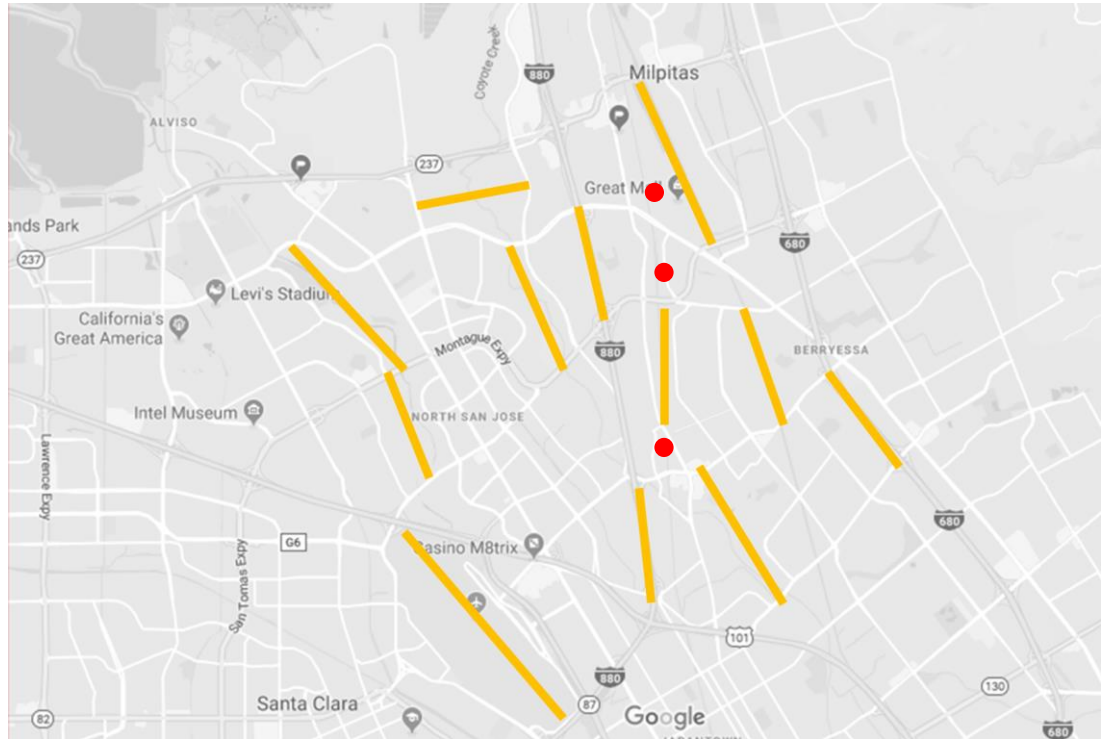
- more effective at achieving project and/or city goals (benefit);
- that are cheaper (cost);
- with less harmful impact (impact);

that should replace or be prioritized over Charcot?

3. Reasons for peak hour congestion east-west corridor **NOT** addressed by Charcot Extension

- **Regional imbalance of housing and jobs**
- Currently **limited** convenient **transit** options
- **Bottlenecks** with ~7 lanes merging into 3-4 (on Trimble/Montague eastbound and Trade Zone/Montague westbound)
- **At-grade rail crossings** causing back up which can take time to dissolve
- Large number of **SOV commuters**
- **Suburban layout of Berryessa** promotes car usage
- Large number of **available parking in NSJ** promotes car usage
- Remaining **major barriers** (see map)
- Remaining **large street grid** (see annex)

NOTE: Distance between Berryessa and jobs in NSJ generally <6 miles (i.e. within biking distances for significant part of the population if sufficient safe and attractive facilities are provided)

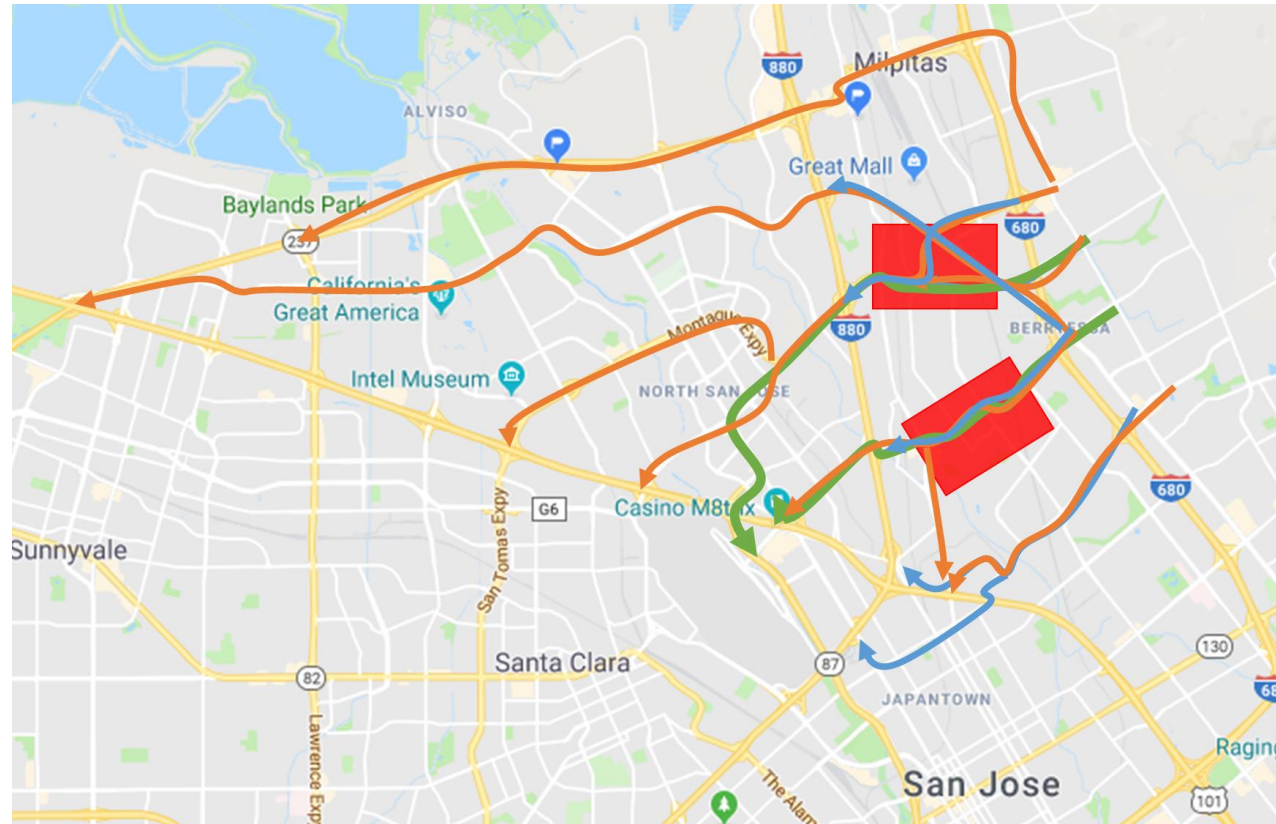


Major barriers (i.e. \pm 1 mile between crossings) and at-grade rail crossings between Berryessa, North San Jose and employment centers further west after Charcot is extended over 880.

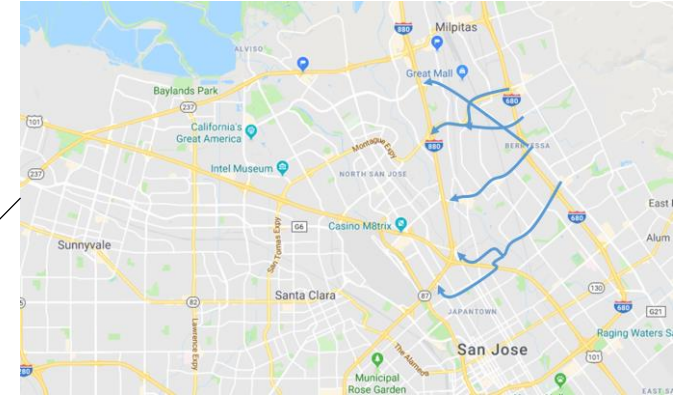
4. Assumed travel patterns

Assuming commuters choose shortest/most direct routes, most people working west of Berryessa are going through the areas marked in red, making these areas prone to congestion.

GPS based driving (see Annex) might result in additional, longer routes.



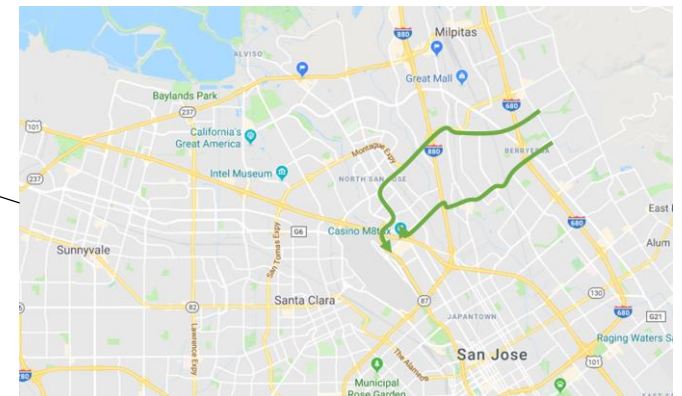
to 880



to 101

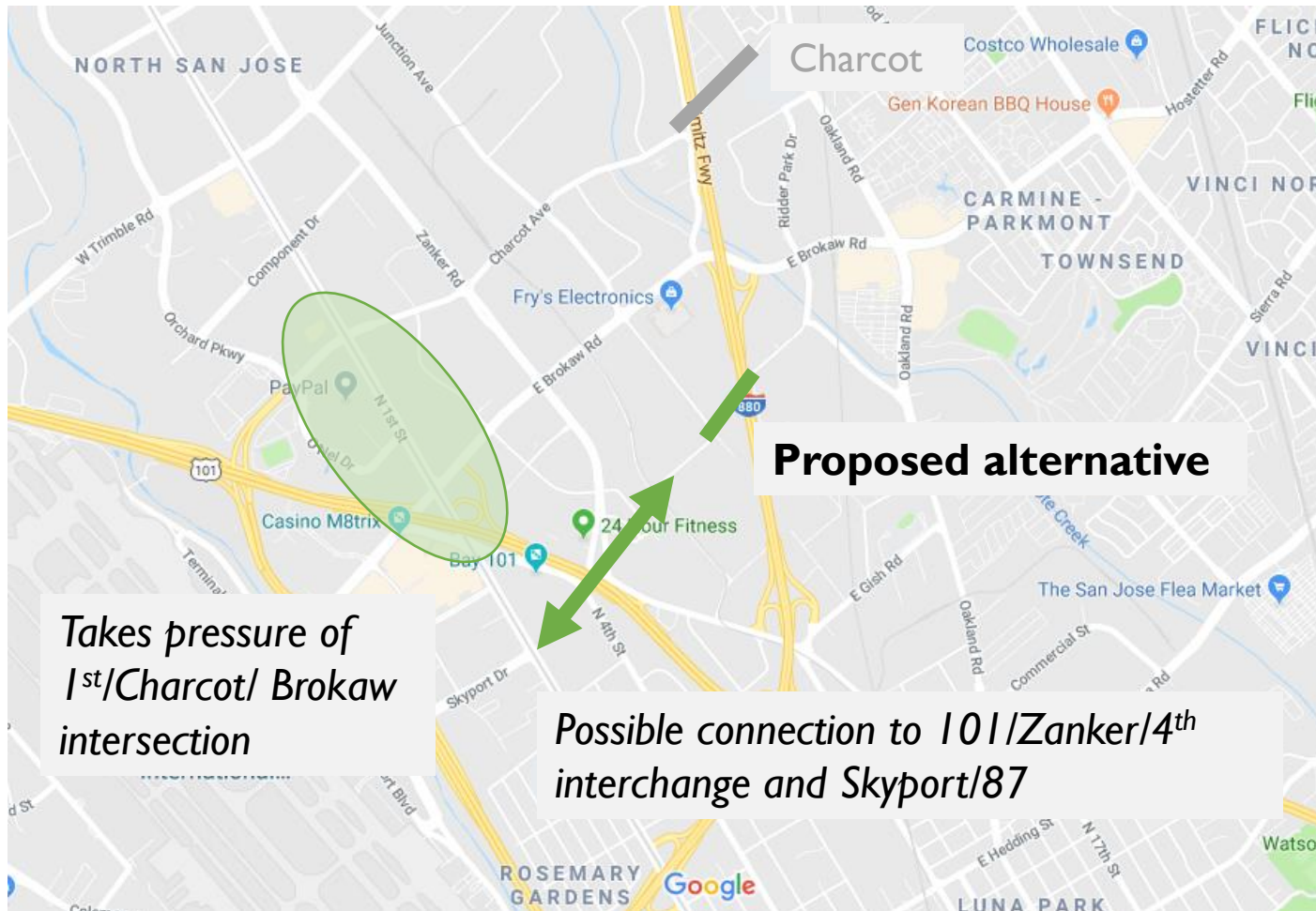


to 87



I. Most similar alternative & Single Occupancy Vehicles (SOV) increasing alternatives

I.I. Overpass from Ridder Park to Junction Ave



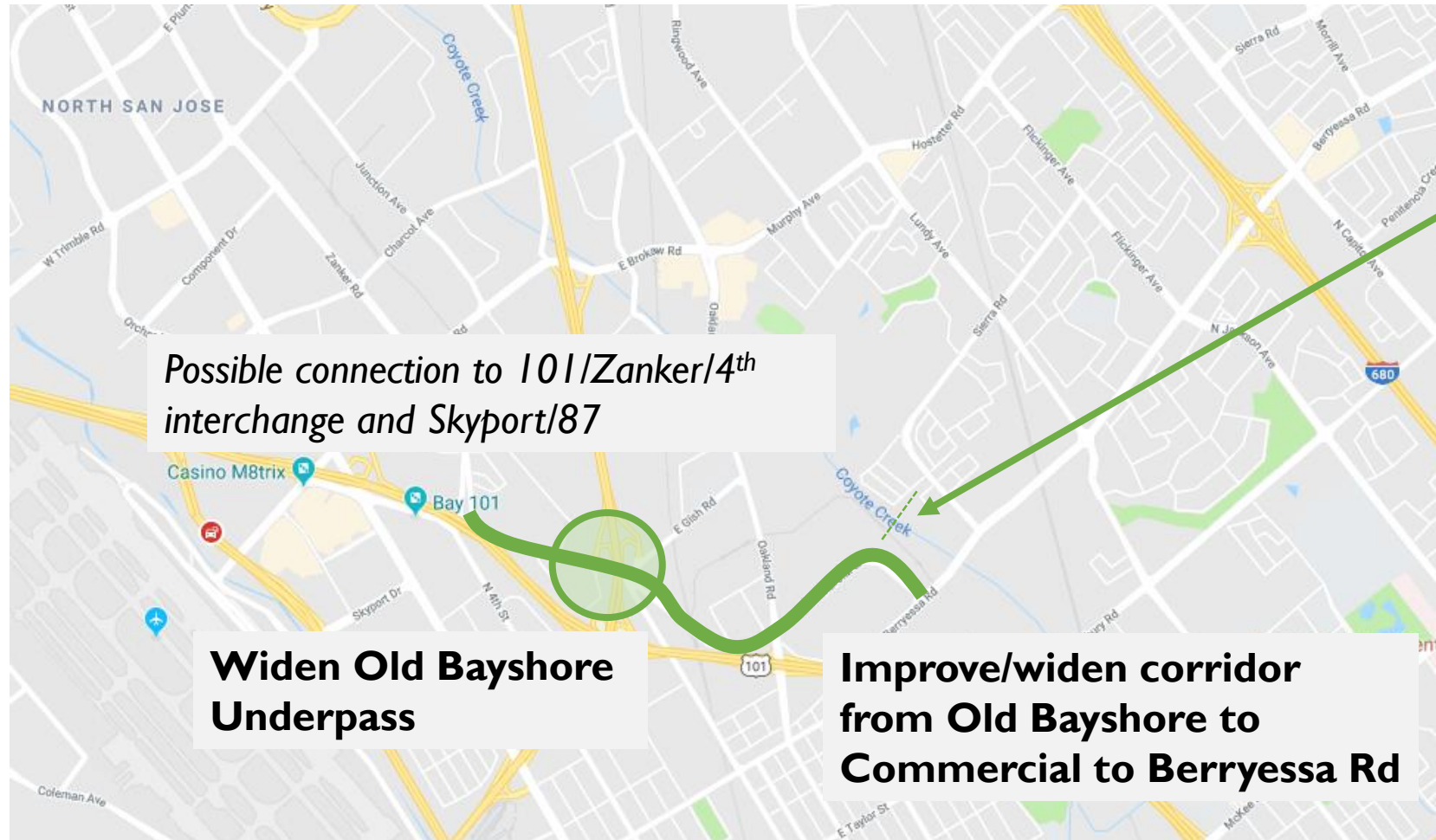
ADVANTAGES

- Impact only on business/industrial area
- Improves connection for regional traffic (101/87)
- Could improve intersection of 1st and Charcot/Brokaw which is heavily congested PM peak – allows traffic to bypass NSJ.

CONCERNS

- Right-of-way
- No relief for traffic east of Oakland (similar issues exist with Charcot)
- Potentially no relief for Montague (no evidence so far available that Charcot would provide relief for Montague)

I.2. Improving South Corridor access to NSJ



Previous plans have also considered connecting Commercial to Sierra Rd over Coyote Creek as well as e.g. State Route 87 extended north to State Route 237. Staff has since come to the conclusion that “these improvements are no longer feasible due to developed land uses along the routes and will cause significant environmental impact.” (1994 NSJ Deficiency Plan)

I.3. Capacity increasing alternatives (not considered further below)

Widening Montague to 10 lanes

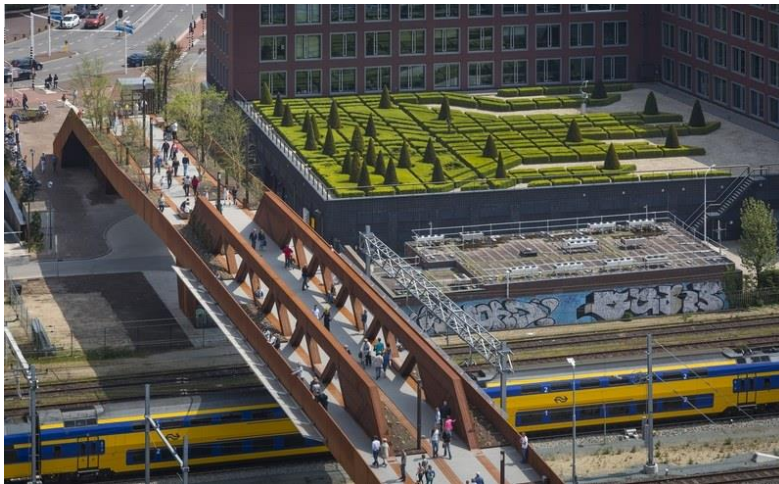


Widening Brokaw to 8 lanes



II. Alternatives promoting **alternative modes of transportation**

II.1. Bike/pedestrian bridge from Charcot to Oakland Rd



II. I. Bike/pedestrian bridge – supporting material

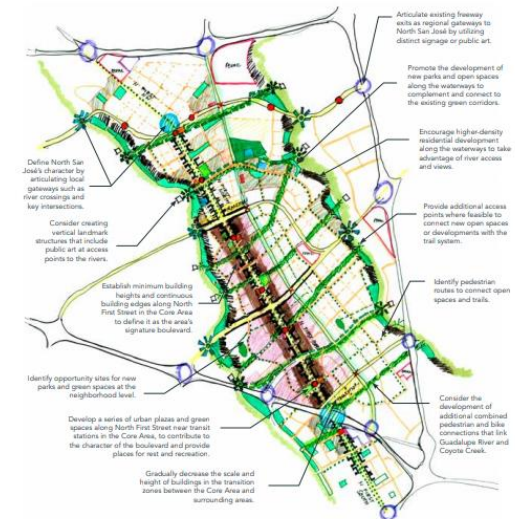
Supports the City's goal of shifting people to other transportation modes

- Creates a more attractive, and even safer, route for people biking into NSJ
- Encourages people to use public transit
- Sets a signal for the direction of further transportation planning in NSJ
- Supports the walkability goals of the NSJ Task Force
- Strengthens San José's position as a leader in sustainable transportation policy

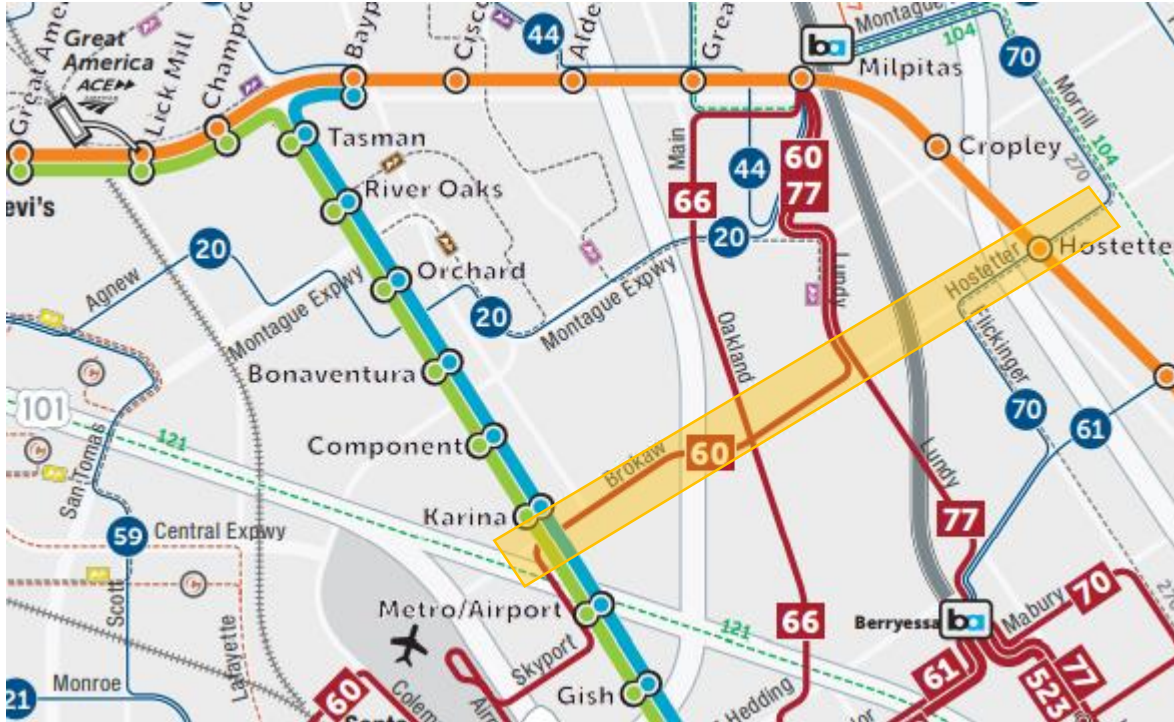
Financially: Less expensive to construct and to maintain in the long term

Create a sense of “place”

- One of the biggest challenges for NSJ is to create a sense of place – “Creating a ‘there-there’ in NSJ requires the creation of walkable, mixed-used communities” (Liccardo, Nguyen, Peralez)
- A well-designed pedestrian bridge serving as a distinct gateway location into NSJ and connecting to the Coyote Creek Trail system and the planned green lush parkway on Charcot leading to the Guadalupe River is much more likely to create this sense of place than a car-centric overpass



II.2. HOV/Transit lanes



HOV lane on Brokaw

- to encourage car-sharing and to connect to HOV/Express lanes on 880, 87, 101
- to support new VTA 60 bus route



Pilot Transit Lane on Oakland Rd

- to support VTA 66 bus route to Downtown
- Oakland Rd sufficiently wide to accommodate lane without impacting car traffic
- Additional protection for bike path
- Allows people in Santa Clara County to experience dedicated transit lane
- BUT: Probably only marginally helpful for east-west travel

II.3. Further alternatives/strategies/instruments to reduce SOV

- **Additional transit routes**
 - Bus line from Berryessa (east of 680) to NSJ
 - Keep direct light rail vom Berryessa to NSJ in addition to light rail to MV
 - Direct light rail connection from Milpitas BART to NSJ/Ist corridor
- **Reduce available parking** in NSJ
- Continue expanding **HOV and express lanes on high- and freeways**
- Provide/encourage additional amenities in NSJ (retail, entertainment, restaurants) to **stagger PM commute time**
- Address regional housing and jobs imbalance
- **Traffic calming measures**
- **Multi-modal improvements e.g. Tasman Corridor Study**, pedestrian improvements (sidewalk gaps) and masterplan, improved bike paths, addressing other accessibility issues
- **Additional TDM-Strategies**

Many of these items may already be in progress or even outside of City jurisdiction.

Replacing or de-prioritizing Charcot could free up staff and resources to support them further.

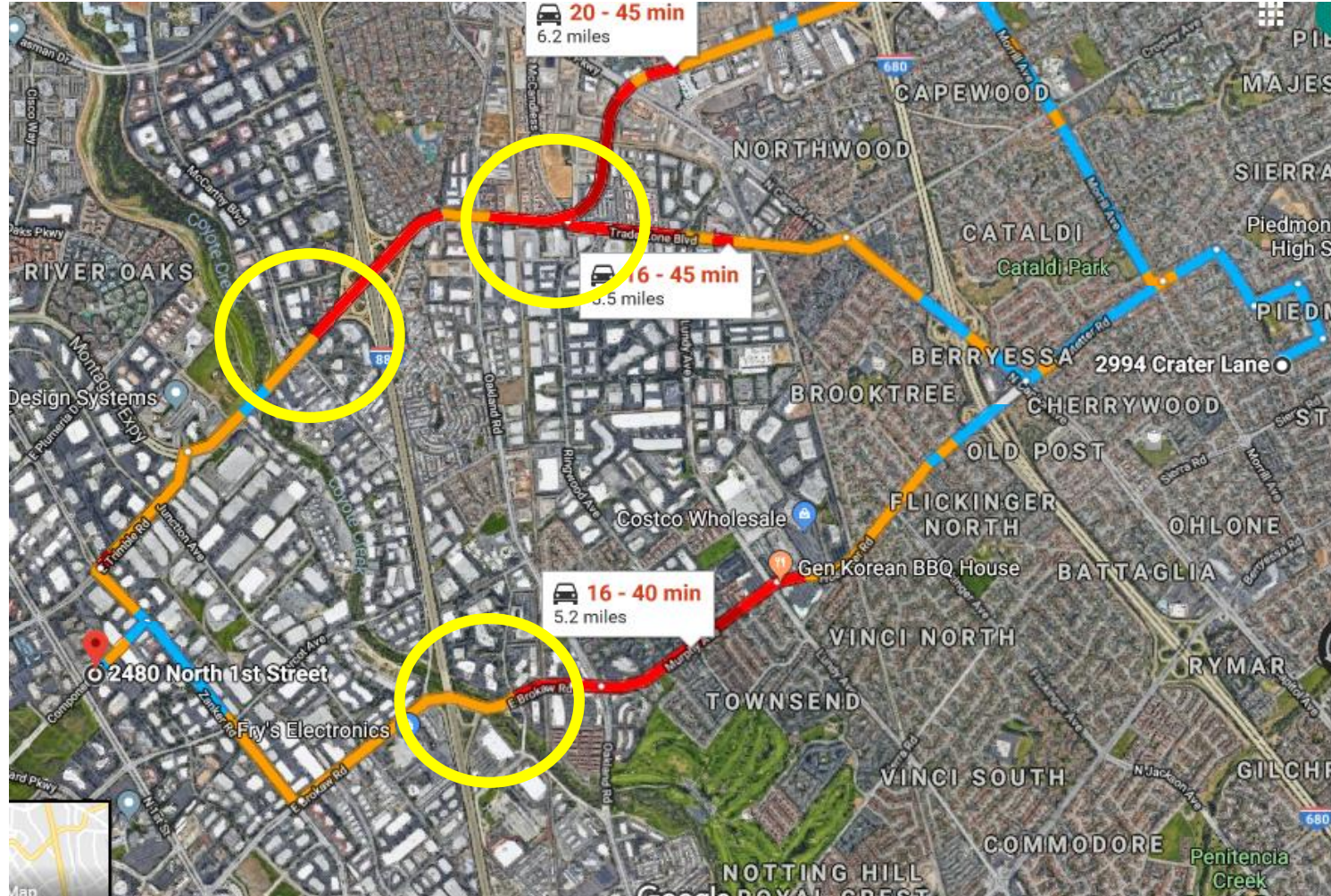
III. Alternatives addressing **existing bottlenecks**

III.I.I. Typical bottlenecks AM westbound traffic (Example Wednesdays, 8:35 AM)

Montague /
Trade Zone
(converging traffic)

Montague / McCarthy/
O'Toole
(see details below)

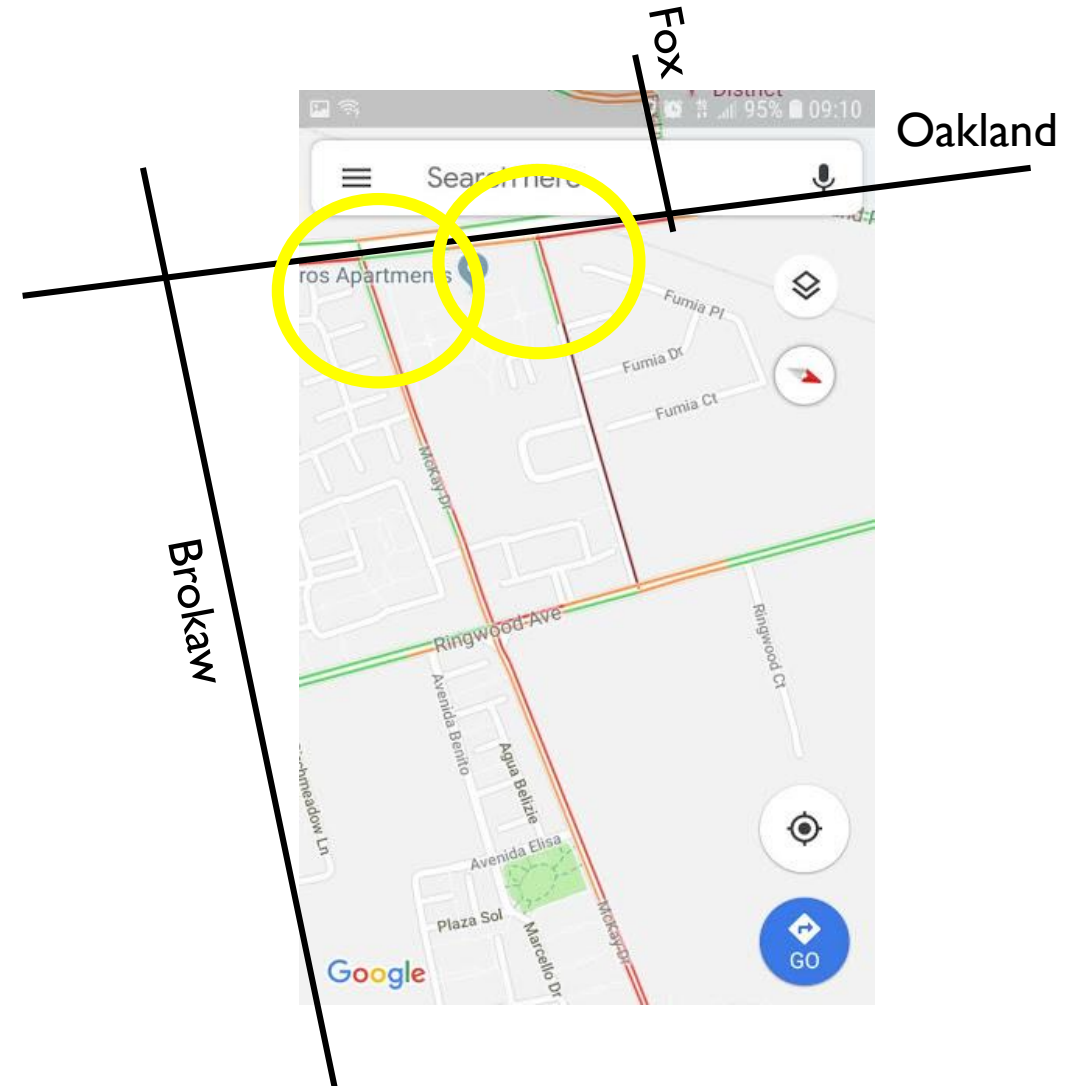
Brokaw / Ridder Park
(see details below)



*Montague WB to
Trimble SB seemingly not a
bottleneck currently,
questioning the need of
flyover.*

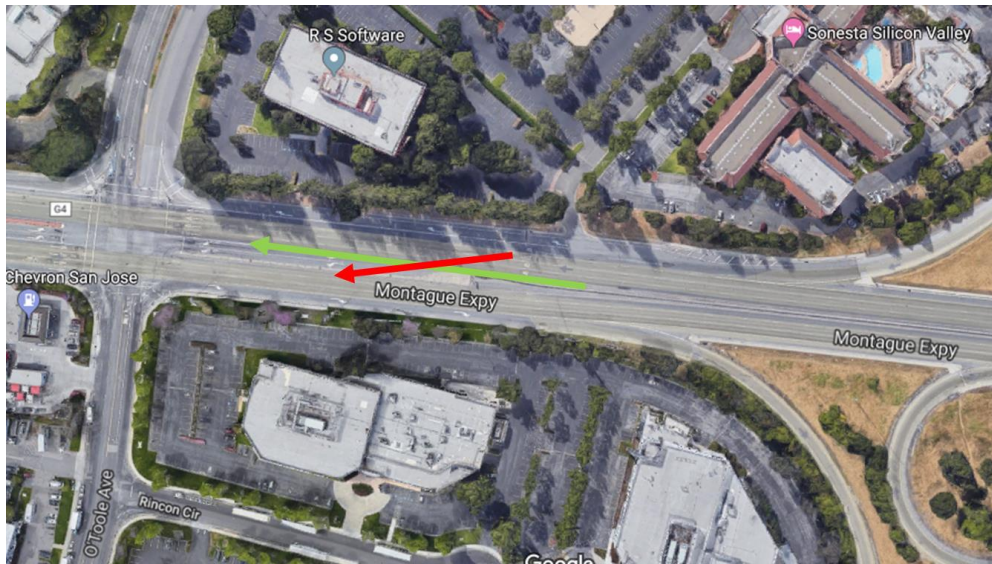
III.I.2. AM bottleneck not shown on large map:

McKay and Wayne backed up towards Oakland Rd as people use it as alternative/additional route to Brokaw



III.1.3. Detailed look at typical bottleneck AM westbound traffic

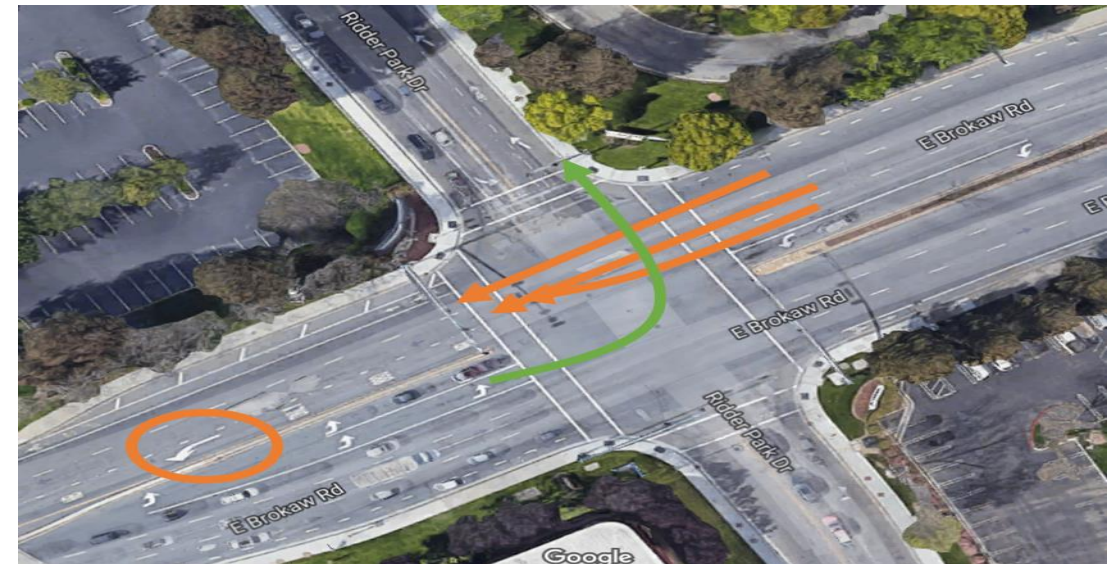
MONTAGUE/MCCARTHY/O'TOOLE



Traffic (including many trucks) coming from I-880 moving across 3 lanes on Montague to turn left on O'Toole or to get into left turn lane at next intersection (Trimble)

Mitigation to be evaluated:
Interchange re-configuration

BROKAW/RIDDER PARK

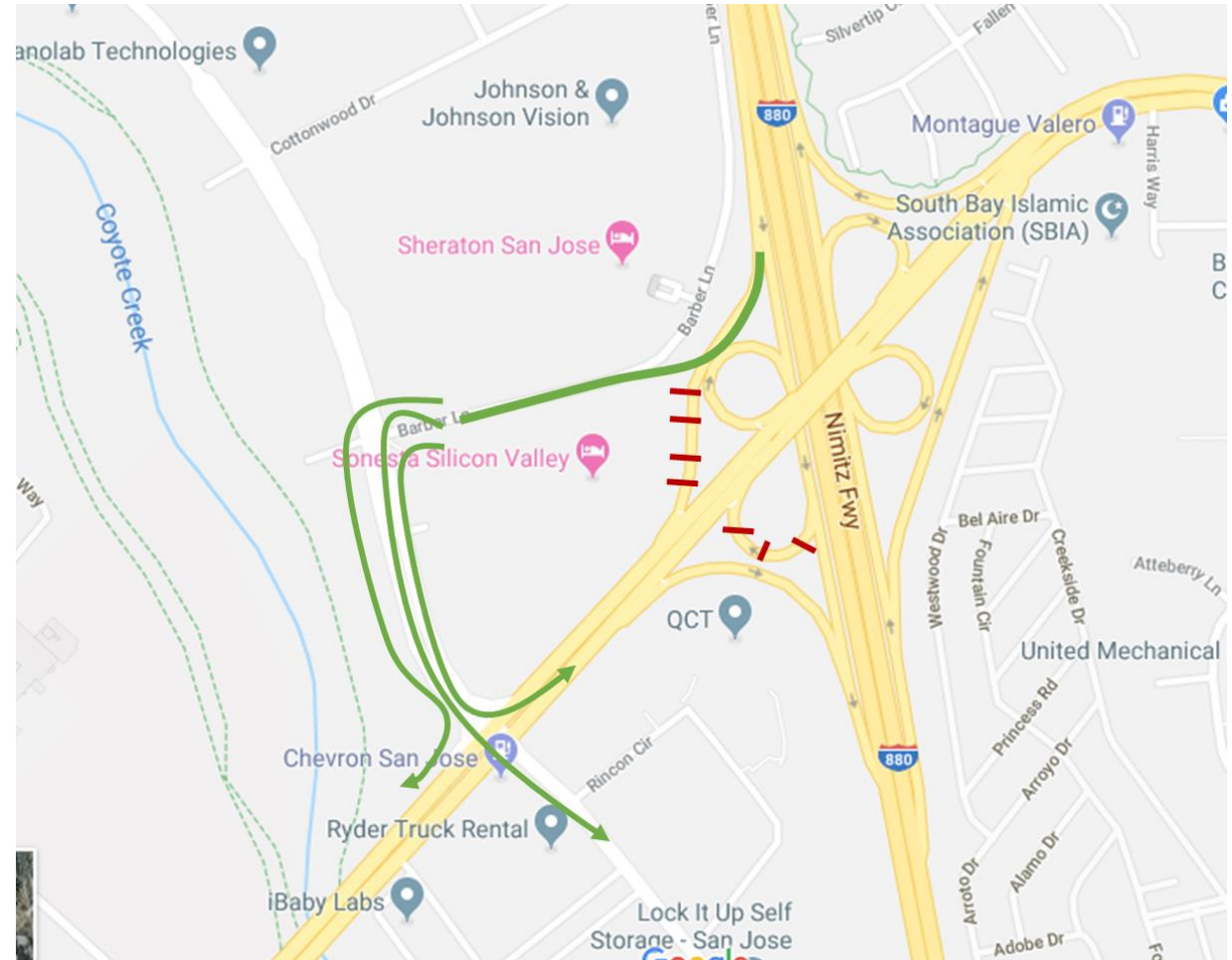


- 3 through-lanes become 2
- Long left turn phase from Brokaw into Ridder Park
- UPPR at grade crossing just before intersection (not shown)

Mitigation to be evaluated:
Adding WB lane to Brokaw, signal timing, rail grade separation

III.I.4. Proposition for Montague/880/McCarthy interchange

- Current deficiency plan and settlement calls for a grade separation at McCarthy (estimated cost: 106 million) and 880 interchange modification
- **ALTERNATIVE SUGGESTION**
Connecting 880 SB off-ramp to Barber Lane/McCarthy:
 - Eliminates weaving across lanes to from 880 off-ramp to left turn lane
 - More controlled merging towards Trimble Road as well
 - (Gasoline) truck traffic crosses Montague straight instead of left turn
 - Eliminates 2 conflicts with bike/ped on Montague
 - Could help with eastbound traffic as well (eliminates one merging section)



III.2.1. Typical bottlenecks PM westbound traffic (Wednesdays, 5:35 PM)

Montague
Trimble to Oakland

Charcot and Ist

Brokaw from
Ist to Oakland

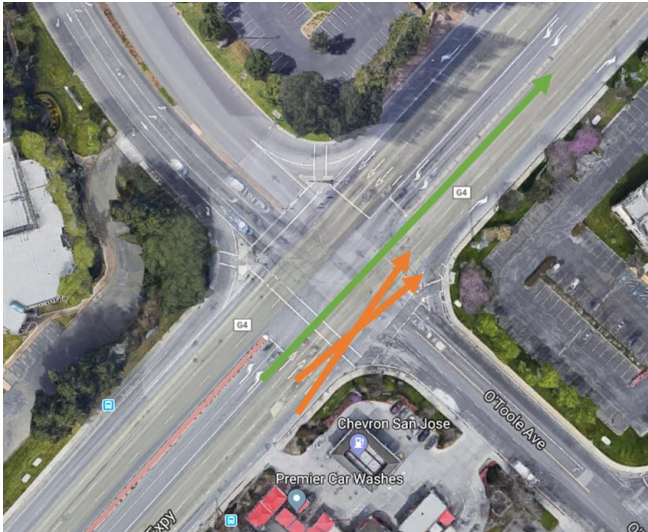


Improved traffic flow on Trade Zone and Murphy/Hofstetter suggests Oakland may function as “metering light” for remainder of network (see: http://cityobservatory.org/backfire_wider_worse_traffic/)

Trimble-flyover would not improve flow for traffic converging in eastbound direction on Montague

III.2.2. Detailed look at typical bottleneck PM eastbound traffic

Taking the left lane from Trimble to Oakland can be faster than taking HOV lane till McCarthy and then trying to move over to left lane at 880.



HOV lane becomes turn lane for going to 880 resulting in significant weaving movement

Mitigation to be evaluated:
Lane configuration, move 880 SB on-ramp to O'Toole



Right hand lanes weaving

Left lane usually relatively free-flowing

Mitigation to be evaluated:
Leading SB 880 off-ramp to McCarthy (see above) eliminates merging



Short merging lane

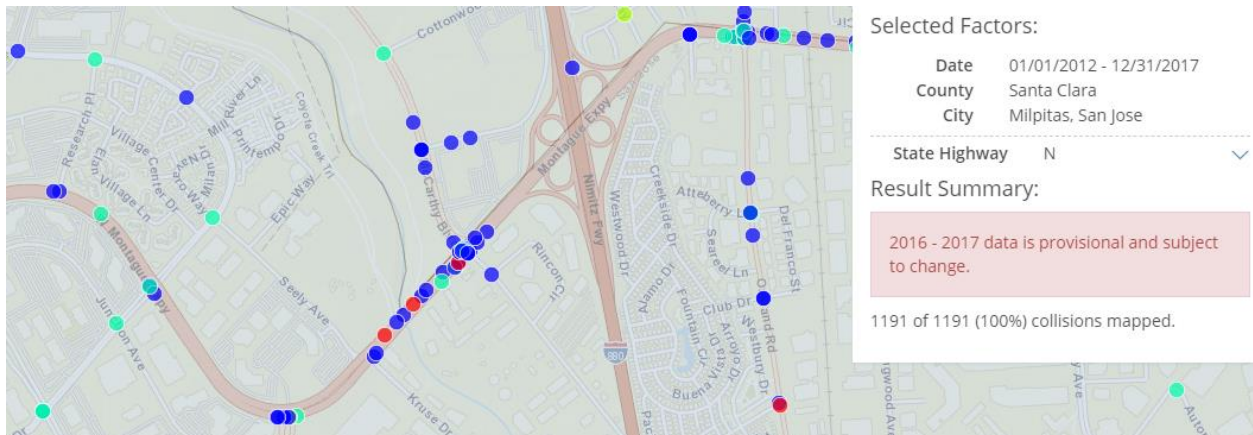
Left lane relatively free flowing

Mitigation to be evaluated:
Increase length of merging lane

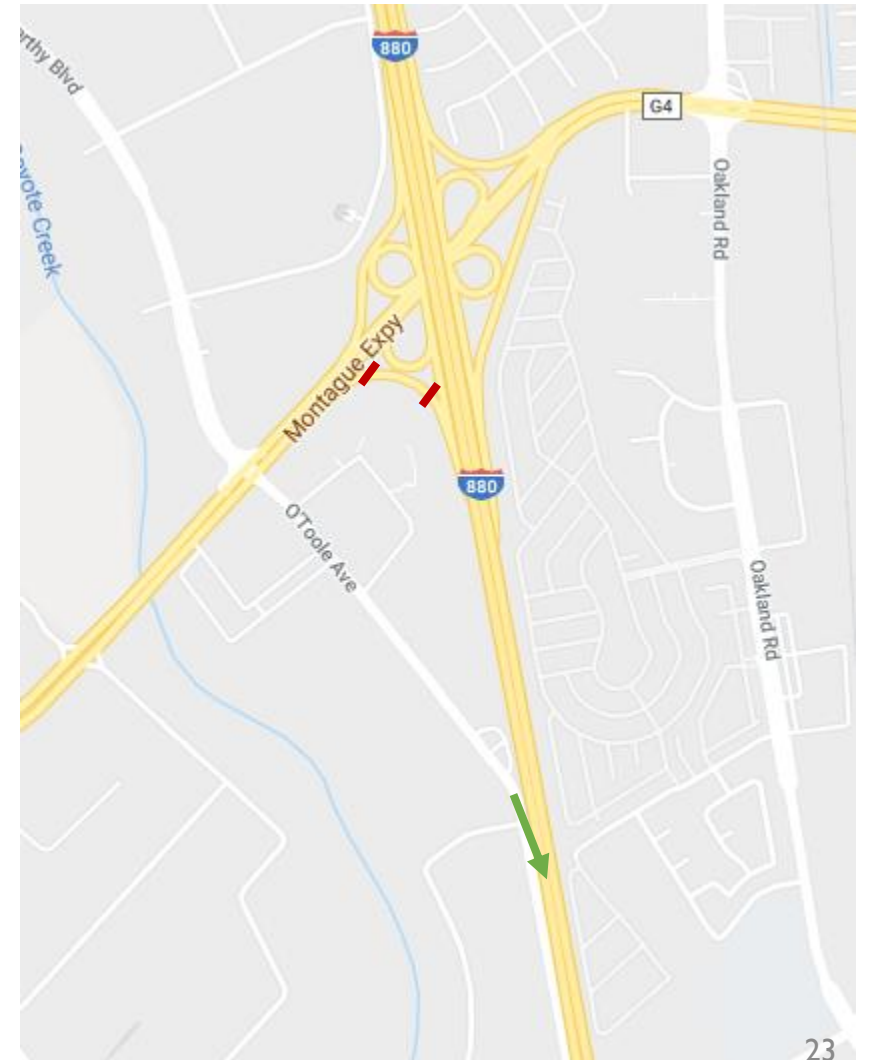
III.2.3. Alternative proposition for 880 SB on-ramp

Goal: Separate traffic going over 880 from traffic going to 880 SB

- Current deficiency plan and settlement calls for a grade separation at McCarthy (estimated cost: 106 million) and 880 interchange modification
- Alternative proposition: Connecting 880 SB on-ramp to O'Toole:
 - Eliminates weaving across Montague lanes to 880 on-ramp
 - Allows Montague traffic to 880 SB to turn right on O-Toole
 - Traffic from McCarthy to 880 SB goes straight instead of adding onto Montague
 - Eliminates I conflict with bike/ped on Montague

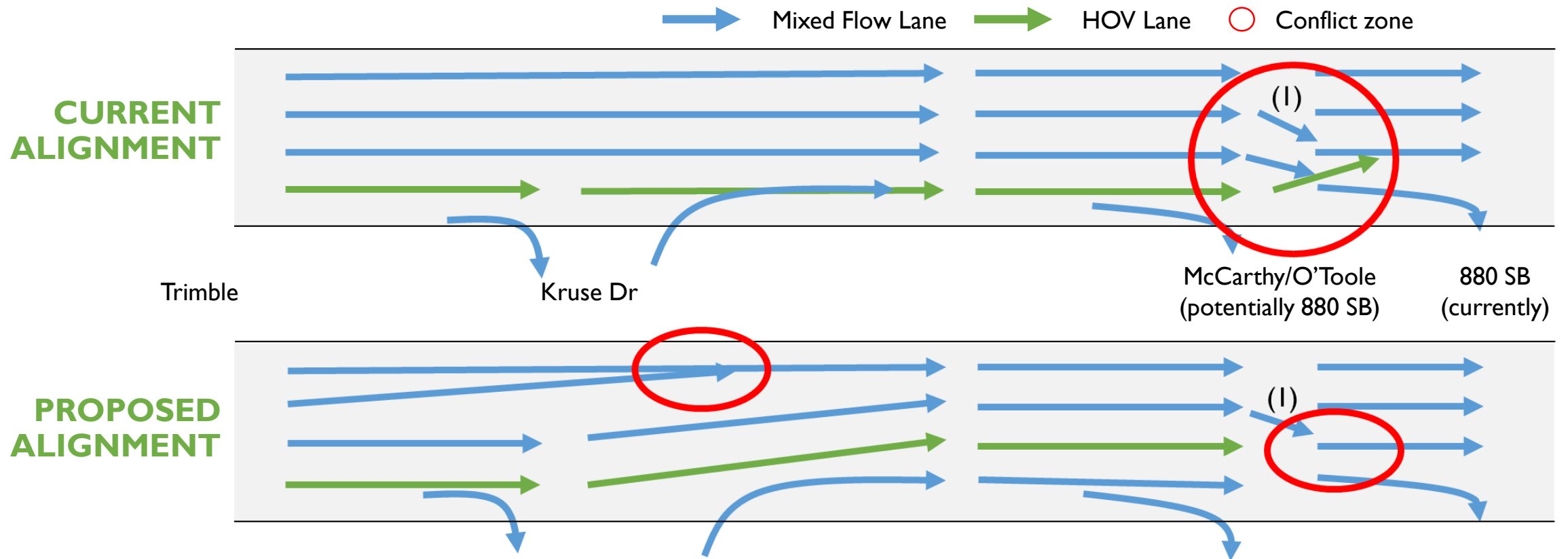


Crash data, fatalities in red



III.2.4. Proposition for alternative merging pattern on Montague

Goal: Improve flow on HOV lane and reduce conflicts at McCarthy/O'Toole intersection



(I) People planning to go to 880 NB

IV. Summary of suggested alternatives

IV.1. Geographical overview alternatives

Alternatives NOT increasing SOV capacity

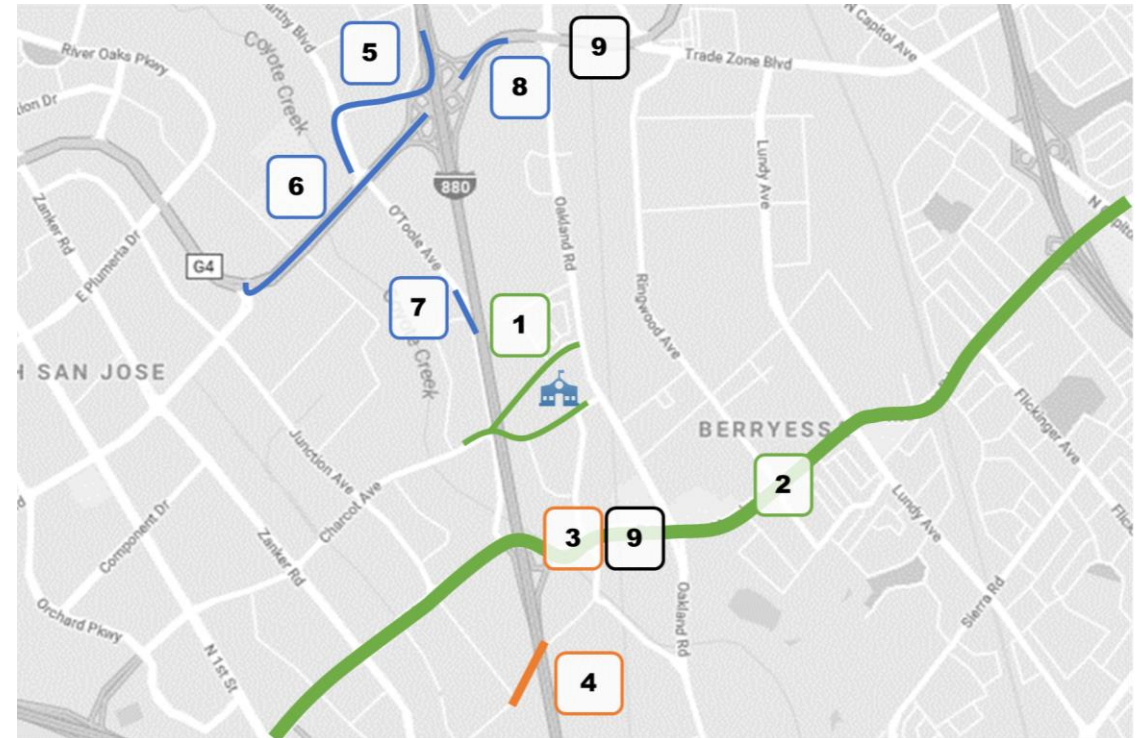
1. Bike/Ped Bridge (2 alignment options)
2. HOV lane on Brokaw

Alternatives increasing SOV capacity

3. Widening Brokaw from 5 to 6 lanes @ Coyote Creek (and improved signal timing)
4. Overpass from Ridder Park to Junction towards Sykport Dr/Zanker

Montague/McCarthy/880 interchange improvements

5. SB 880 off-ramp
6. HOV lane alignment
7. SB 880 on-ramp
8. NB 880/EB Montague merging lane



9. Rail road grade separations

Not shown: South Corridor (Old Bayshore) improvement

IV.2. Draft evaluation of proposed alternatives compared to Charcot

	BENEFIT		COST		NEGATIVE ENVIRONMENTAL IMPACT	
Bike/Ped Bridge	Promotes active transportation	↑	Lower	↓	Much lower	↓
HOV lane on Brokaw	Promotes car sharing, reduces congestion along Murphy, Hofstetter	↑	Lower	↓	Much lower	↓
TDM et al.	Promotes active transportation	↑	TBD		Likely to be lower	↓
Widening Brokaw from 5 to 6 lanes	Eliminates bottleneck	↑	Lower?	↓	Less impact on humans, Impact on Coyote Creek tbd	↓
Overpass from Ridder Park to Junction	Connects to Zanker/Skport interchange, shortens distance to 87	↑	Same? Higher?		Lower on sensitive receptors (only commercial/industrial zone affected)	↓
South corridor	Improves Berryessa BART–NSJ Connection	↑	?		Likely to be lower on sensitive receptors (mostly commercial/industrial zone affected)	↓
Montague/McCarthy/880 interchange improvements	Improves bottleneck and safety	↑	Lower?	↓	Lower, limited additional impact to existing traffic in the area	↓
Rail road crossings			?		?	

V. Conclusion

- **There seem to a number of potentially better alternatives that should be evaluated and either replace or take priority over the Charcot Extension.**
- In addition, NSJ Deficiency Plan calls for a number projects to be prioritized for Phase I of NSJ the development while Charcot was a phase 2 project. Among them seem to be:
 - North First Street & Montague Expressway
 - Trimble Boulevard & Montague Expressway
 - North First Street & Trimble Road
 - North First Street and Charcot Avenue
 - North First Street and Metro Drive
 - Bering Drive and Brokaw Road

“Reductions in cumulative traffic impacts will be largely dependent upon long term changes in the behavior of commuters. Such changes will be necessary in order to reduce the overwhelming dependence on single occupant automobile transportation” (NSJ EIR)

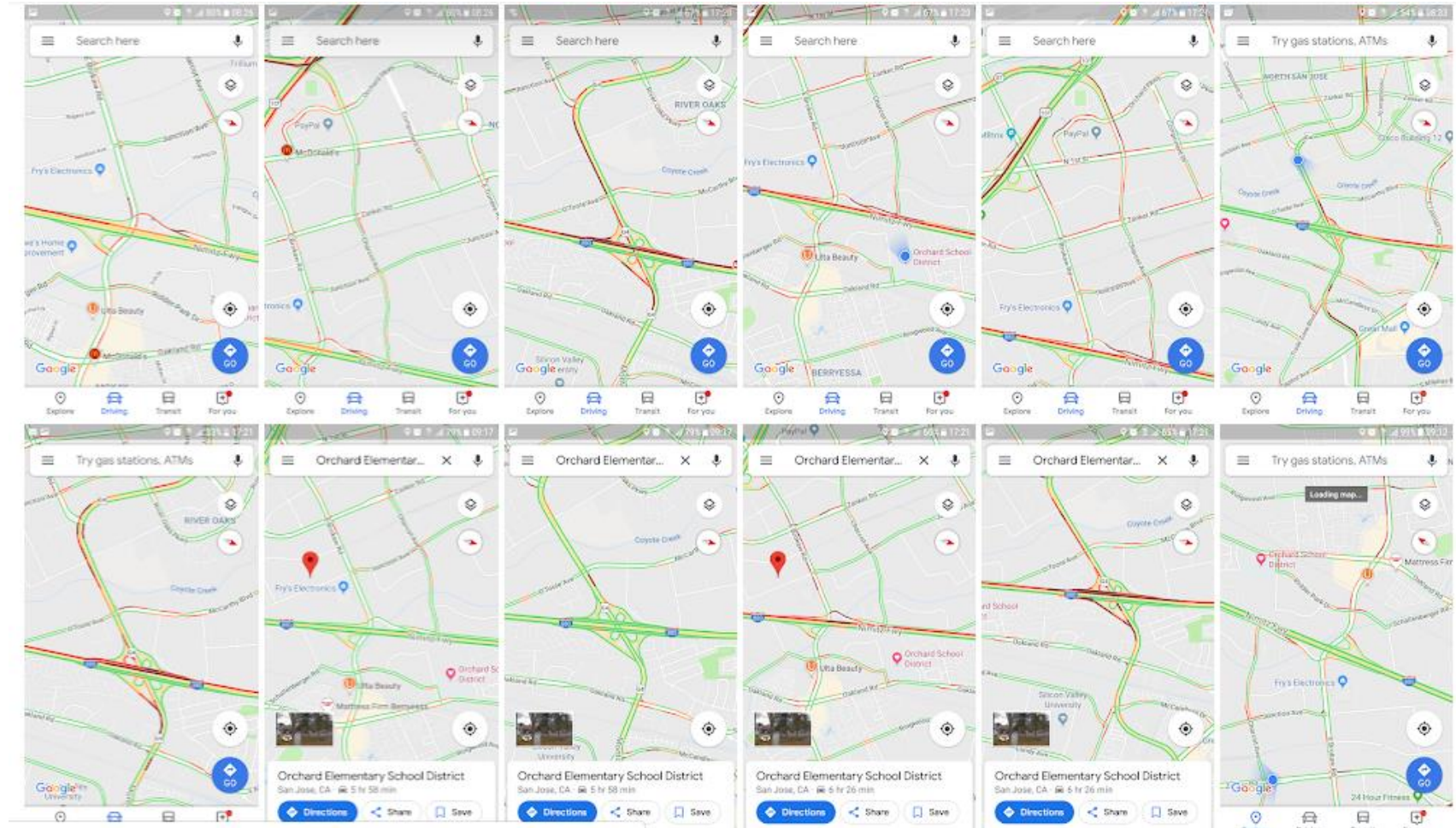
ANNEX

Extended study of traffic conditions on Montague and Brokaw during AM and PM peak hours

In order to further analyze traffic conditions during peak hours, 142 screenshots of Google Maps traffic conditions in the area were taken.

Timeframe: Aug-Nov 2018

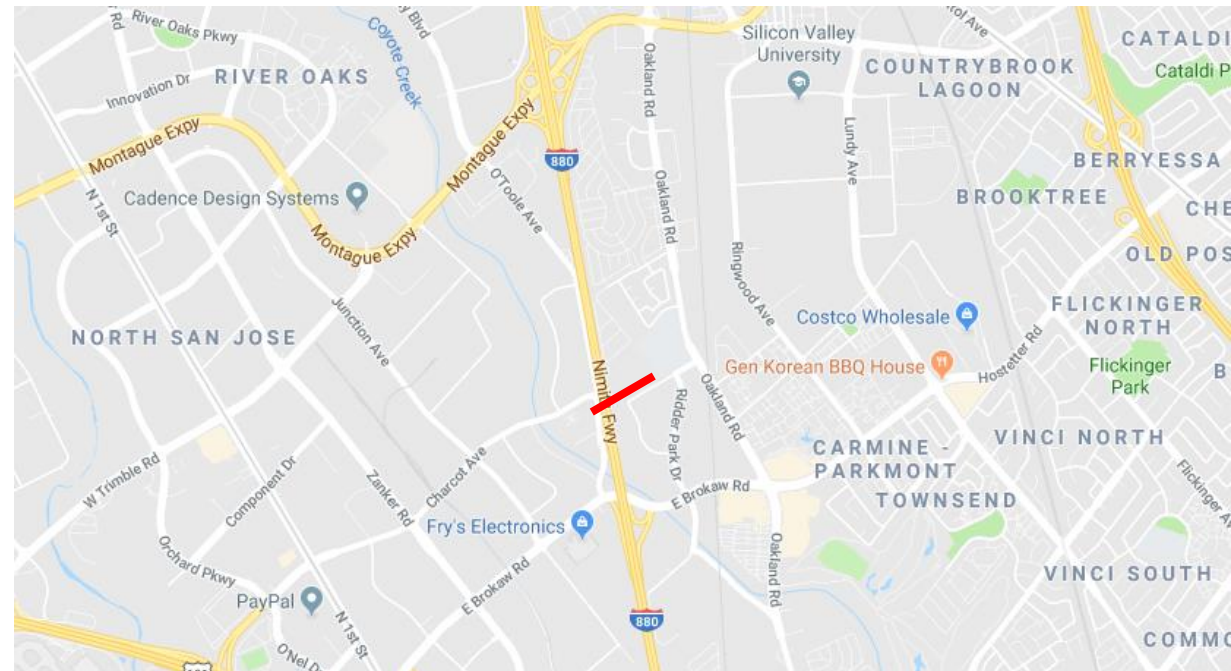
They can be accessed and studied at
<https://photos.app.goo.gl/QES6NqCaRZYxCKTR7>



Dense street grid might improve traffic but not planned or maybe even possible on either side of 880

Dense urban grid systems (e.g. DTSJ on the right) have more capacity and efficiency and reduce pedestrian fatalities because of smaller intersections, smaller human-scale blocks, and ample of alternative routes.

Maps are at the same scale. — 1000 feet



Potentially not possible in parts of NSJ because of barriers (e.g. railroad/BART tracks, Coyote Creek, 880) and block size needed for industrial use. Significant number of roads needed to create a dense grid.

“Why street grids have more capacity”, Congress for the New Urbanism,
<https://www.cnu.org/publicsquare/2018/07/31/why-street-grids-have-more-capacity>

“Urban Sprawl as a Risk Factor in Motor Vehicle Occupant and Pedestrian Fatalities”
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1448007/>

Computer selected routes (AV!) do not care about VMT/length of trips and are likely to use/fill up any existing road capacity

Google map based driving (e.g. Uber, Lyft, AV) leading to longer trips on unexpected routes.

Suggested route from Sunnyvale to Berryessa on a Sunday afternoon without any traffic ignores existing NSJ cross connections adds ~5 miles to trip that could be only ~10 miles.

