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# Lessons for Building a Better BRT

## AC Transit East Bay BRT

Alameda-Contra Costa Transit District  
David Wilkins, BRT Program Director

SPUR Forum // BRT Lessons Learned  
AUGUST 1, 2019 | Oakland, California



# East Bay BRT Corridor

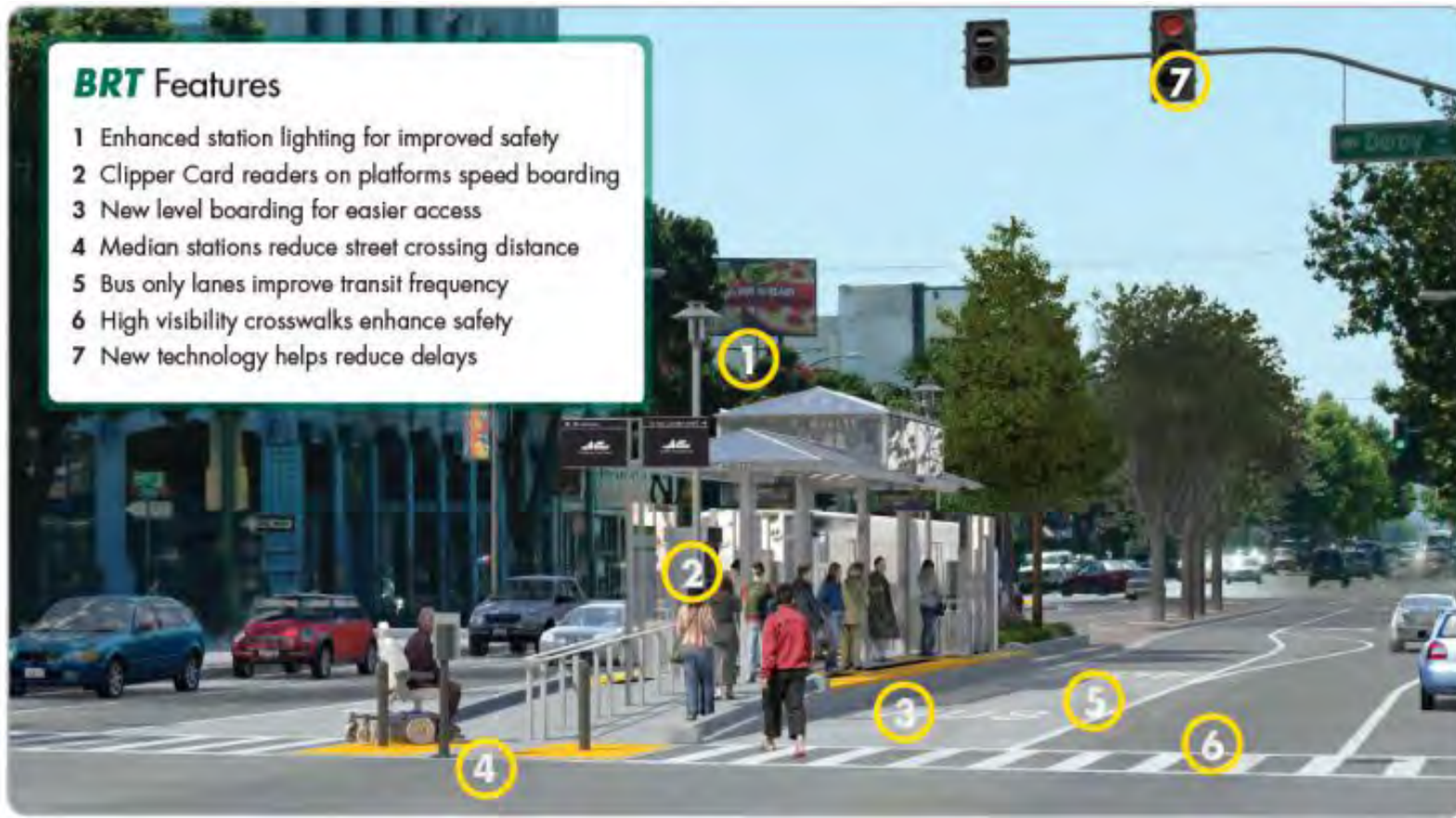
- Uptown Oakland to San Leandro BART Transit Center
- 9 Distinct neighborhoods and communities
- 9.5 mile corridor
- 34 BRT stations (46 raised platforms)
- 171 intersections
- 110 new/mod signals

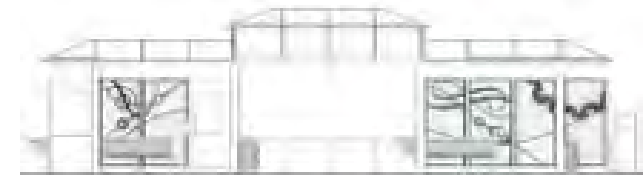
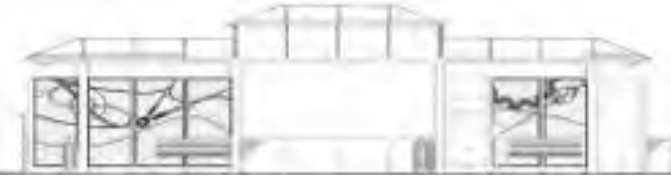




# Project Overview

- \$231M Program
- ~15k daily riders
- Artistic enhancement
- Newly paved streets
- Upgraded ADA facilities
- 27 diesel-electric hybrid buses
- Level boarding
- Operational Service-12/2019





# Partner Agency Relationships

Have all operational agreements in place BEFORE award of design contract.

Have all permits in place BEFORE award of construction contract.

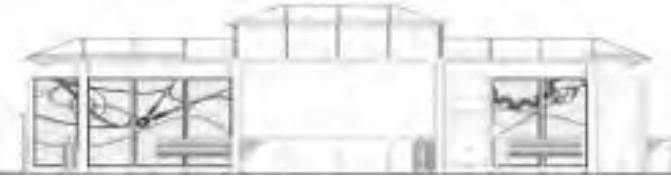
- City of Oakland (R/W authority)
- City of San Leandro (R/W authority)
- Caltrans (R/W authority)
- BART (R/W authority)
- UPRR (R/W authority)
- Division of the State Architect
- Utilities (PG&E, EBMUD, TPx, Verizon, ATT, Comcast)
- AC Transit Union



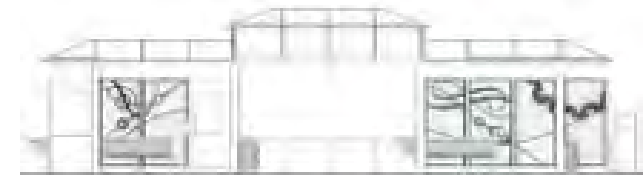


## Partner Agency Relationships

- Cost (\$ and time) of satisfying COA's
- Does budget support agreement requirements?
  - Other related improvements
- Do COA's add scope above SSGA?
- Ongoing costs vs. set fees
  - Reviewer staff time vs. permit fees
- Utility franchise rights!



# Public Process



- Set expectations with the community early as possible
- Establish and fund a robust community outreach and public engagement program from the Business Case stage to Project Completion
- Political pressures and wants
- Community requests to change designs
- Resolving conflicting major developments



# Planning and Environmental Process



- Ensure agreements from each phase are explicit and comprehensive
- Cost to accommodate relinquishments
  - State DOT to City
- One agency's request not meeting ROW authority standards
- Betterments





# Planning and Environmental Process



- Right-of-way certification
- Utility agreements
- Confirm your maintenance agreement includes all design components
- Don't allow Agency Partners to treat you like a developer instead of the State agency you are



# Planning and Environmental Process



- Obtain agency encroachment permits
- Determine in advance which one governs when two agencies have differing requirements
- Negotiate permit conditions with Agency Partners before bid
  - Revision/unforeseen condition approvals
  - Put contractor's permit requirements in bid documents
- Have “blanket” utility permits issued
  - What approvals needed? TCP?



# Project Delivery



- DO NOT use Low-Bid contracting method; Use BEST VALUE
- Implement a separate contract for utility relocations
- Design must include a survey, potholing for utilities in all designated work areas and pavement coring
- Include supplemental Potholing during construction, plan for unforeseen
- Get commitment/schedule from utilities: Include mobilization, agreed duration and notice in Contract
- Create a budgeted for added scope.
- Obtain and incorporate all permit conditions in Contract without “handcuffing” the contractor
- Effective system for tracking contracts/agreements and expiration



# Project Delivery



- Demand that Agency Partners Exercise franchise rights over utilities
- Confirm whether utility companies have availability to perform relocations or adjustments
  - Determine whether utility work can be done by Agency's contractor
  - Weigh availability vs. delay/CCO costs
- Ability to review other construction permits in your work zones prior to issuance



# Questions?

# EL CAMINO REAL

- Started Too Fast
- Poor Messaging
- Jurisdictional Complexity
- Death By Analysis
- Organized Opponents
- Project Dies in Planning











## **Our Arguments Were Weak and Irrelevant**

“Dedicated lanes are a future-proof mobility solution”

“Projected growth requires new approaches to mobility”

“Would save VTA \$9 million/year in operating costs”

“Would cut transit travel times in half”



Saída

Entrada

Sentido > Praça Carlos Gomes

BR016

AOF-8168

CIRCULAR SUL





**THE VTA'S ILL-CONCEIVED "DEDICATED LANE"  
BUS RAPID TRANSIT PROPOSAL FOR EL CAMINO REAL!**

Due to an insufficient and one-sided 'public awareness' campaign, most Santa Clara County residents are unclear of the ramifications or unaware entirely of this misguided plan. Fewer still realize that potentially irreversible votes on this subject by the VTA Board and individual city councils are imminent.

As it continues to grow, our county will clearly benefit from a comprehensive mass transit plan, one that is capable of serving a significant percentage of our population and moving vehicles en masse off of crowded highways by connecting major employment, residential and transit hubs.

A "Dedicated Lane" Bus Rapid Transit Plan for El Camino Real however will achieve NONE of these goals. Furthermore, if approved, it will come at a tremendous price to residents, consumers and local business, well beyond the estimated \$230,000,000 (two hundred thirty million) in taxpayer dollars.

By the VTA's own "Environmental Impact Report, as compared to their more reasonable and less costly" Mixed Flow" Bus Rapid Transit option, a full "dedicated lane" plan will:

- a. Permanently close 2 of the 6 lanes of traffic on El Camino Real from San Jose to Palo Alto.
- b. Eliminate most of El Camino's left and o-turn lanes and all of its on-street parking
- c. Remove up to 667 trees along El Camino
- d. Continue to operate frequently-stopping "local" bus service within the remaining four lanes of traffic
- e. NOT materially reduce vehicle traffic on El Camino or anywhere else
- f. **DIVERT TRAFFIC** off of El Camino to other streets, INCLUDING RESIDENTIAL NEIGHBORHOODS!
- g. "Significantly and unavoidably" increase traffic congestion at 39 intersections.
- h. "Substantially disrupt" traffic further during the estimated TWO YEARS of construction
- i. Only marginally reduce average bus rider transit time on El Camino
- j. After five years, increase weekday bus ridership on El Camino by only a few thousand.
- k. **FOREVER COMPOUND TRAFFIC CONGESTION** for the other upwards-of-50,000 residents and consumers who currently utilize El Camino Real

**YOUR voice is critical! This is YOUR community and YOUR taxpayer dollars**

Please contact your VTA Board of Directors today w/ your concerns:

board.secretary@vta.org  
(tel. 408.321.5686)

AND ... YOUR City Council at:

mayor@mail@santacruz.ca.gov  
(tel. 408.535.4800),  
council@sanjose.ca.gov  
(tel. 408.738.7475)

mayorandcouncil@santabarrera.gov  
(tel. 408.615.2250),  
citycouncil@quintanillamesa.gov  
(tel. 450.963.6306)

council@cahillca.gov  
(tel. 650.947.2720) or  
city.council@cityofpaloalto.org  
(tel. 650.444.4077)

Tell them to reject the disruptive "Dedicated Lane" plan and support instead the VTA's more reasonable and cost-effective "Mixed-Flow" Bus Rapid Transit enhancement for El Camino Real, one that will improve service but is forecast by the VTA to have "minimal impact" to traffic and surrounding neighborhoods.

Paid for by the El Camino Coalition, a diverse group of concerned local residents and businesspeople

# Car Dealership Attack Ad

“Eliminate most left turns”

“Eliminate all parking”

“Divert traffic into neighborhoods”

“Significantly and unavoidably”

Car dealers threaten to leave El Camino

## **VTA News Release**

Independent study validates El Camino BRT analysis

“The methodologies applied by VTA are consistent with established practices and the resulting calculations are sound.”

## **Mercury News Editorial**

Joe Simitian: Why VTA should abandon El Camino Bus Rapid Transit project

“A wise man once told me: When you’re riding a dead horse, dismount.”

## **El Camino Real BRT Lessons Learned**

Build support gradually – Values → Vision → Project Design

Avoid the personal impact, emphasize the societal impact

Cities must want BRT and see transit riders as their constituents

Service levels must be high

Don't give your opponents ammunition

Don't call it Bus Rapid Transit



## **Better Messaging**

Humanize riders

Talk about how transit provides equity, economic mobility

Talk about flaws of auto-oriented approach

Help city leaders realize that BRT achieves their goals

Challenge elitist arguments, don't let opponents define case



# How can we deliver better BRT projects?

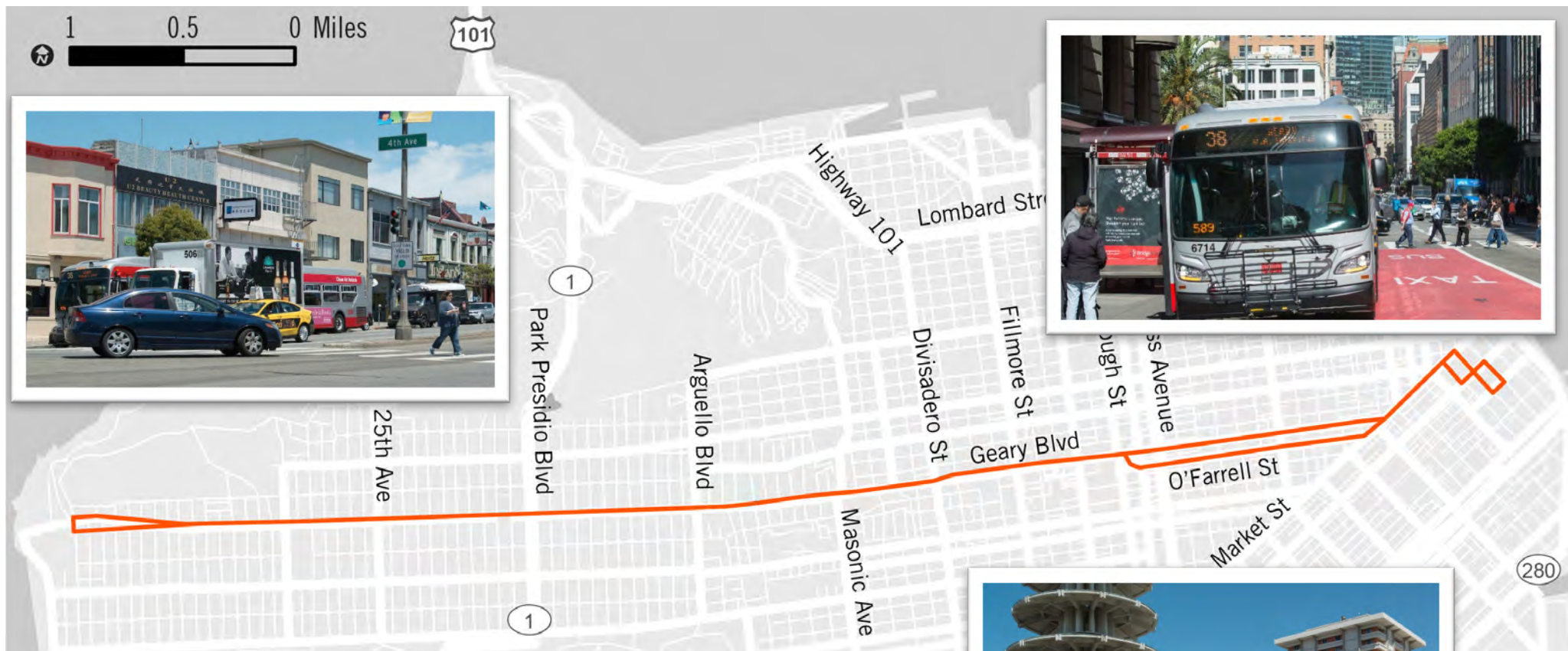
*My 2 cents after 3 years working on Geary BRT*



SPUR Forum

August 1, 2019

# The Geary corridor: 56,000 daily riders



- Local, Rapid, and Express service
- Up to 35 buses/hour (Rapid every 4 minutes, local every 8 minutes)
- ~7 miles in length
- ~25 Rapid stops + ~50 local stops/direction



# Geary BRT Overview

**Planning: 2004-2007**

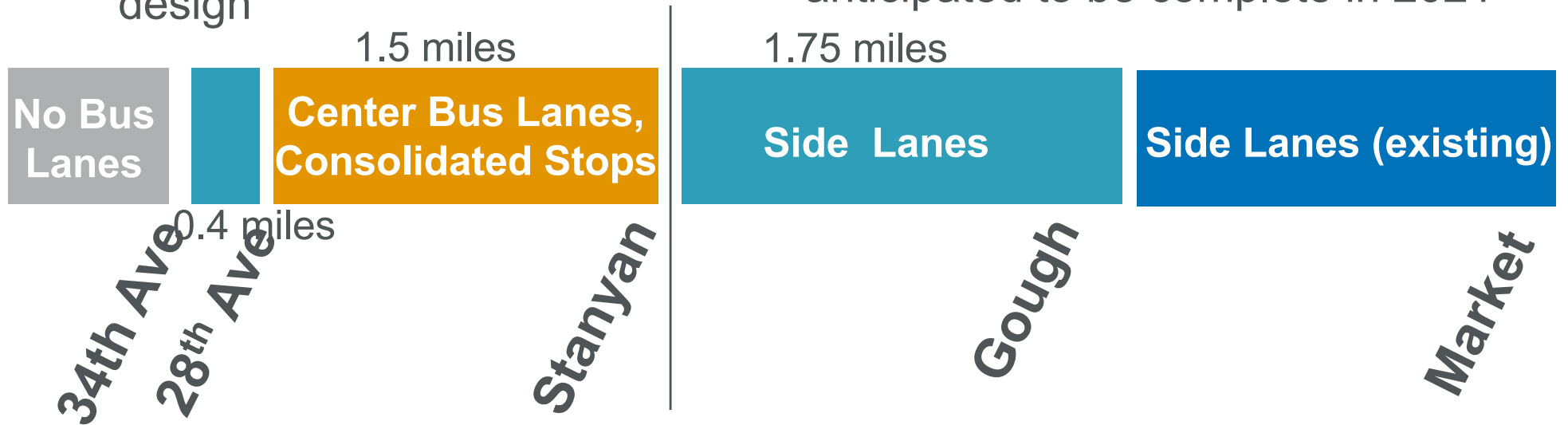
**Environmental review: 2008-2018**

## Phase 2

- \$235 million + TBD coordinated work
- Currently in preliminary design

## Phase 1

- \$35 million + \$30 million of coordinated work
- Implementation began 2018 and anticipated to be complete in 2021



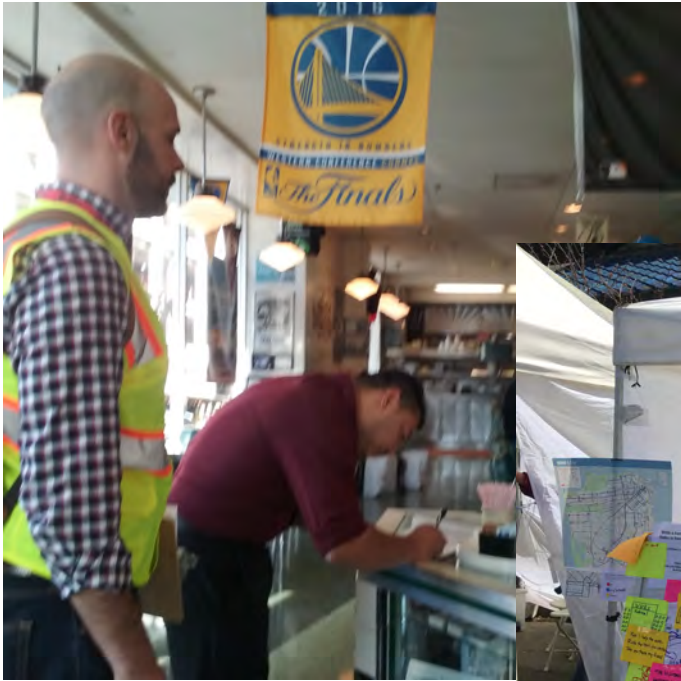
# 6 Lessons

1. Do excellent outreach
2. Choose the right design
3. Invest in adequate project development before environmental review
4. Be mindful of what you can't fully control
5. Balance good planning and strategic politics
6. Be thoughtful about how the work is phased, contracted

# 1. Do excellent outreach

Go to where the people are

Door to door merchant survey



Neighborhood events/festivals

Stakeholder meetings/  
senior center presentation



# 1. Do excellent outreach

Seek out stakeholders who will be beneficiaries



## Transit riders are a key audience

- Seek them out
- They are a captive audience when waiting for the bus
- They are friendlier than some of the people who show up at public meetings
- Tactics: signs, ambassadors, on-board/intercept survey

# 1. Do excellent outreach

## Operationalize construction communications

- Project website, email 24/7, hotline
- Weekly construction forecast
- Monthly public officials' brief
- Quarterly newsletters
- Construction notices
- Wayfinding signage
- Business banners
- Business marketing
- Bi-monthly CAC



The graphic is a white rectangular box with a black border. At the top left is the SFMTA logo. To its right is the text 'Geary Rapid Project'. Below the logo is a photograph of a street scene with construction equipment and vehicles. Below the photo is the heading 'Construction Forecast: July 27 - August 9'. The text below reads: 'The first phase of construction as part of the [Geary Rapid Project](#) continues. Work to replace aging water and sewer lines on Geary Boulevard is being done in coordination with San Francisco Public Utilities Commission. The following two-week construction forecast is subject to change due to weather delays or unexpected field conditions. Mondays through Fridays between 8:00 a.m. and 7:00 p.m.:'



## 2. Choose the right design



Increasing cost, useful life, and capacity

**Small-scale transit  
priority projects  
“BRT Light”**

**Full-Featured  
BRT**

**Rail**

**Grade Separated Transit  
e.g. Subways**

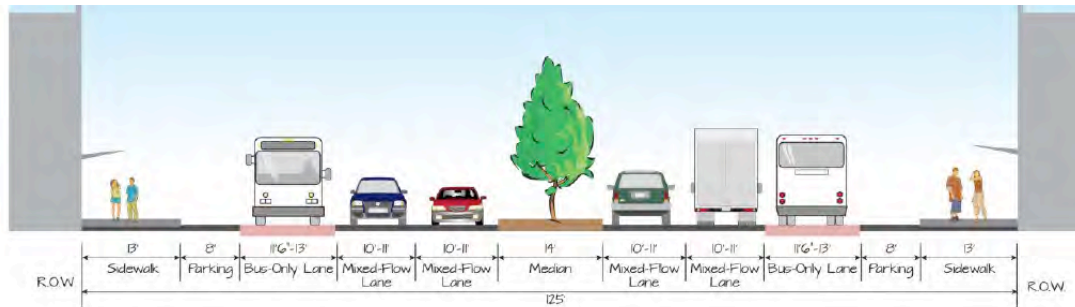
### **Some considerations in determining what is the best choice:**

- Small-scale improvements across an entire transit network can be extremely beneficial for transit riders and have shortest time-to-benefit and lowest level of construction disruption
- BRT may pencil out where rail may not for some corridors and may create a sense of permanence and legibility that entices new riders
- Rail provides higher levels of capacity than bus
- Full featured BRT and surface rail, even with all the bells and whistles and political will, can't beat the performance of subways in dense urban environments because:
  - Stopping at intersections
  - High density of pedestrians

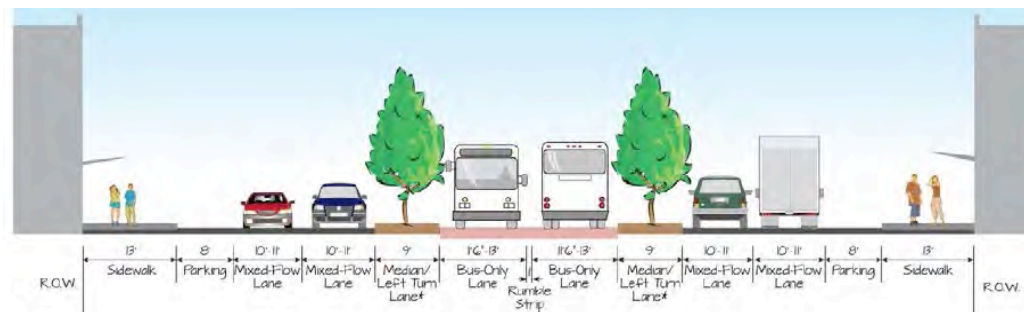
# 3. Invest in adequate project development before environmental review

Build alternatives at start of environmental review in 2008

Geary BRT: Typical Section, Alternative 2 Side-Running



Geary BRT: Typical Section, Alternative 3/3C Center-Running



# 3. Invest in adequate project development before environmental review

But it wasn't until ~2012 that designs that address the engineering constraints of the Fillmore and Masonic underpasses were developed



# 4. Be mindful of what you can't fully control

- **Federal environmental review process**
  - # and duration of review cycles
  - Sometimes the government shuts down!
- **Other infrastructure upgrades that need to be coordinated with your project**
  - Utility upgrades that are un-related to BRT scope may need to occur prior to or concurrent to your project, create associated schedule and construction impacts

# 5. Balance good planning and strategic politics

## Questions to consider

- When should you stand up for integrity of project vs. make design changes that detract from transit performance?
- Is it worth it to avoid a lawsuit, when odds are high you will prevail?
- When should you try win over opposition vs. ignore?

## 6. Be thoughtful about how work is phased, contracted

Lesson learned from Van Ness, applied to Geary Phase 1

- Competitive bidding environment caused utility work on Van Ness to come in much greater than estimated
- Utility contractors are most interested in bidding on work that is simple and low risk (not paired with non-utility civil work such as transportation infrastructure)
- For Geary Phase 1, bid out most utility work as separate contract from transportation-related civil work in order to control costs and get more qualified contractors

# 6 Lessons

1. Do excellent outreach
2. Choose the right design
3. Invest in adequate project development before environmental review
4. Be mindful of what you can't fully control
5. Balance good planning and strategic politics
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# Thank you!



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# San Pablo Avenue Corridor Project



**SPUR**

**August 1, 2019**

# San Pablo Avenue Corridor



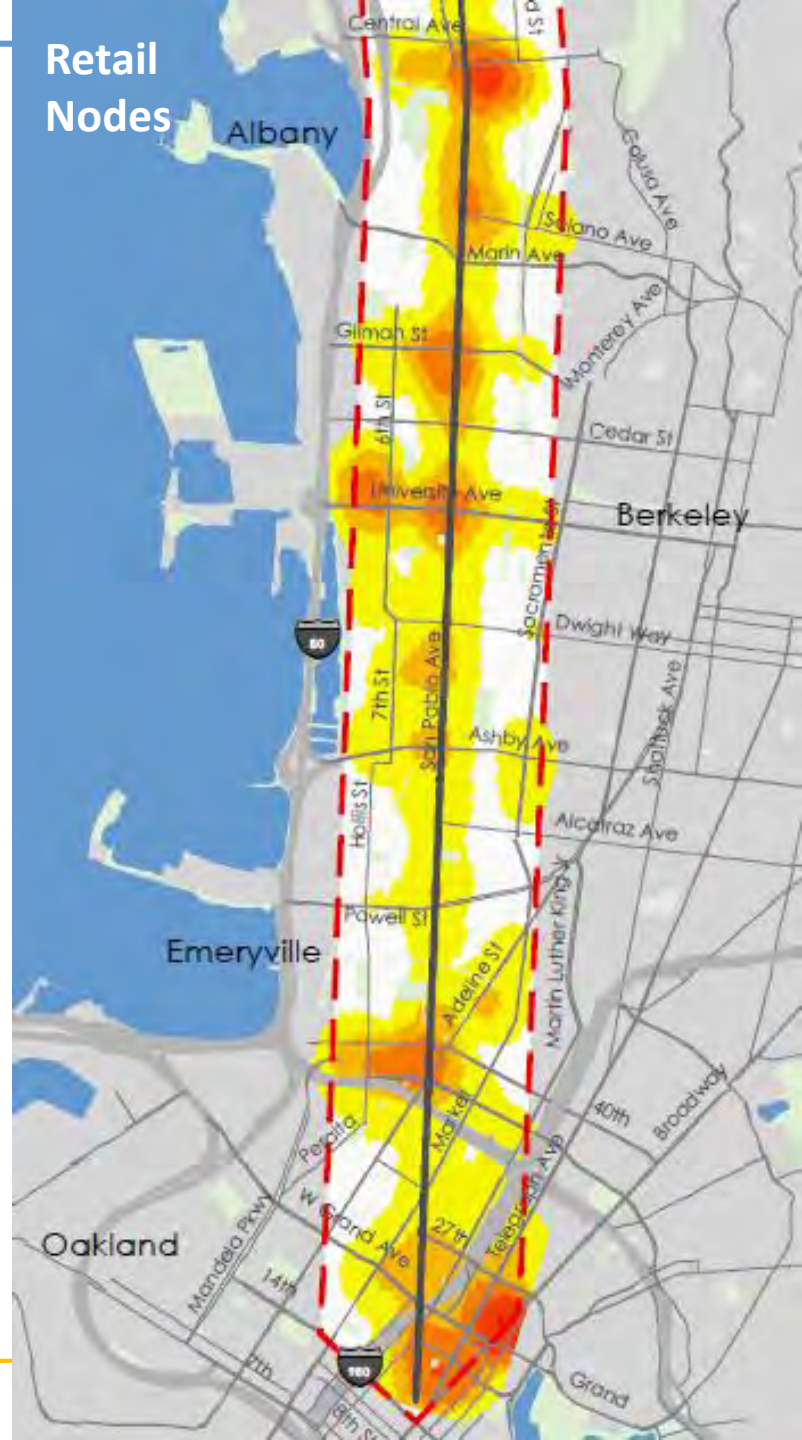
- Legend:**
- BART Station
  - BART Above/Below Ground
  - Capital Corridor Stations
  - Freight Rail and Capital Corridor Tracks
  - San Pablo Avenue Corridor
  - Freeways
  - Water
  - Parks/Open Space

# Building on Many Planning Efforts



# Many Roles of San Pablo Avenue

- Major Bus Route: local, rapid, transbay buses
  - And Emery Go-Round
- Local and regional commercial corridor, supporting small and large businesses
- Significant pedestrian activity
- Neighborhood street, front door to residences
- Designated truck route
- Designated bicycle route in some local plans
- State Highway, Caltrans; I-80 ICM project



# Constrained & Varied Right-of-Way

- San Pablo Ave:
  - 73'- 74' in most of Alameda Co.
  - 70'- 96' in Contra Costa Co.
- For comparison, BRT corridors in region:
  - International ~60-86'
  - Van Ness, SF ~93'
  - Geary, SF ~99'-127'
  - El Camino, Peninsula ~84-106'
- None of these considering bike lanes



# Challenges Loading on Side Streets

Example: Loading Zone on Addison Street  
Access via 10<sup>th</sup> Street, Berkeley



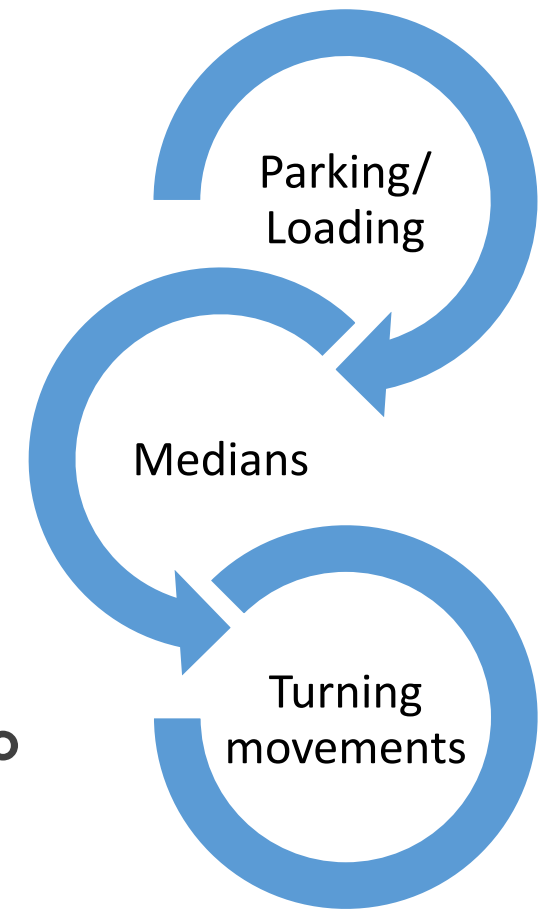
10<sup>th</sup> Street approaching Addison Street



Turning onto Addison Street towards San Pablo Ave.

# Concepts for Consideration

- **Concept A: Bus and Bike Lanes on San Pablo Ave.**
  - Dedicated bus lane and stations
  - One auto lane, limited parking
  - Dedicated bike lane
- **Concept B: Bus and Parking/Managed Lane on San Pablo, Bike facility on parallel street**
  - Dedicated bus lane and stations
  - Managed parking/travel lane in PM peak
  - Bike facility on parallel street
- **Concept C: Spot Bus Improvements & Bike Lane on San Pablo**
  - Transit islands, queue jump lanes
  - Dedicated bike lane
  - Two auto lanes, limited parking



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# Technical & Outreach Results

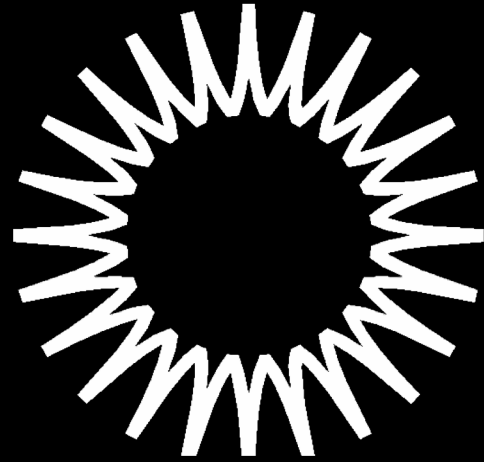
- Dedicated lanes increase ridership and lower bus travel time, especially important in more congested future, BUT
  - Ridership gains are not as significant as we expected
  - Travel time benefits of lanes mitigated by need for additional signals/stops
- Public support split across Concepts
  - Support for bigger changes strongest in south
  - Support for maintaining parking and travel lanes strongest in north
  - Lowest support for Concept C



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# Next Steps

- Continue to evaluate trade-offs and benefits
  - Speed and Delay Study
  - Refine ridership analysis
  - Refine designs
- Initiate Cooperative Agreement with Caltrans
- Develop phasing and delivery strategies
  - Advance near-term safety improvements



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