

Mary Avenue Overcrossing

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Project Goals

Relieve northsouth traffic congestion

Reflect community concerns Provide multimodal connections to Moffett Park

Relationship to General Plan

Project identified in General Plans 1972 – 2011 and incorporated in traffic model for Specific Plan / LUTE – 2017

OLD LUTE

- LT-1.6 Preserve the option to extend Mary Avenue to north of US-101
- LT-1.9b Promote modes and actions that reduce SOV trips
- LT-5.5 Support a variety of transportation modes
- LT-5.1 Achieve LOS D or better on City-wide roads and LOS E or better on regional roads

NEW LUTE

- Policy 41: Clear, safe, convenient connections between work and home
- Policy 24: Promote modes that reduce SOV trips and provide safe access. Consider in this order:
 - 1. Pedestrians
 - 2. Bikes, scooters, nonautomotive
 - 3. Mass transit
 - 4. Delivery vehicles
 - 5. SOVs



OPTION 5: Removal from General Plan (No build)

Issues of Concern to BPAC

- Convenience: Is the facility useful for commuters?
- Ridership: Are options attractive to potential users?
- Safety: How safe are facilities like cycle tracks?
- Connections: How do the transition work to the wider network?

Convenience: Filling Gaps



Image: Joint Venture Silicon Valley Bike Vision Gaps 2017

VTP Bike Program



Potential Bike Superhighway Corridors



Ridership: Attracting Potential Users

- More users = ψ GHGs, ψ road \$, \uparrow warrant
- Most potential users are *Interested but Concerned*: they may not ride if it doesn't feel safe



- People—particularly women, children and seniors prefer to bicycle separated from motor vehicle traffic
- 1. Dill J and McNeil (2012) "Four Types of Cyclists: Testing a typology to better understand bicycle behavior and potential." *Portland State* University
- 2. Garrard et al (2008) "Promoting Transportation cycling for women: the role of bicycle infrastructure." Preventative Medicine 46: 55-9
- 3. Mehan TJ, Gardner R, Smith GA *et al.* (2009) "Bicycle related injuries among children and adolescents in the United States." *Clinical Pediatrics* 48: 166-73
- 4. Hayes JS, Henslee B, Ferber J. (2003) "Bicycle injury prevention and safety in senior riders." Journal of Trauma Nursing 10: 66-8

Ridership & Bikeway Type





OPTION 5: Removal from General Plan (No build)

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Safety & Ridership of Cycle Tracks

- Cyclists feel most secure on cycle tracks
- Cycle tracks lessen crash and injury rates



- 1. Lusk A, Furth P, Morency P, Miranda-Moreno L, Willett W, Dennerlein (2010) "Risk of Injury for Bicycle on Cycle Tracks versus in the Street." *Injury Prevention*
- 2. Jensen SU, Rosenkilde C, and Jensen N (2007) "Road Safety and Perceived Risk of Cycle Facilities in Copenhagen." Copenhagen: Trafitec Research Center

Global Safety and Ridership Indicators

 Cycle tracks are the predominant facility type in the Netherlands Ridership is significantly higher; injury rates lower Injuries/ 250,000 km , 0.91 Female riders, 55% Trips by bike, 27% Female riders, 24% Injuries/ 250,000 km , 0.035 Trips by bike, 0.50%

The Netherlands

United States of America

1. Puecher & Buehler (2008) "Making Cycling Irresistable: lessons from the Netherlands, Denmark and Germany," Transport Reviews 28: 1-34

Safety & Connections to Cycle Tracks

One-way

Two-way

One-Way Class IV Cycle Track

Rosemead Boulevard, Temple City, CA (Streetsblog LA)

Two-Way Class IV Cycle Track

Dunsmuir Street, Vancouver, BC (Paul Krueger)

Safety & Connections to Cycle Tracks

One-way

Two-way

✓ Attract ridership, 8-80 riders

✓ Safe at higher speeds (MV: 30 mph)

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- Lots of access points, driveways, side streets
- Even directionality
- Flat terrain
- Limited ability to deal with transition

- ✓ Few access points, driveways, side streets
- ✓Tidal flow
- ✓ Hilly terrain (passing)
- Ability to add bike phase or link to other 2-way facilities

Transition Concepts: Mary/Almanor



Potential phasing concept based on MassDOT Separated Bike Lane Planning & Design Guide, 2015: 121. Final phasing will depend upon traffic analysis.



San Francisco, CA (SF MTA)

Transition Concepts: Mary/11th







Los Angeles, CA (UCLA)

Transition Concepts: Mary/LRT







(South Dublin County Council)

Timeline and Next Steps





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