SF’s biggest and most recent transit-only lane addition: Geary Rapid Project

Urbanism Next
May 7, 2019
San Francisco

Population: 884,000 within a region of over 7 million
One agency, connected

Department of Transportation

Transit Agency
The Muni system

- Includes light-rail, bus, historic streetcar, cable car
- Over 700,000 daily riders, 72% (510,000) by bus
- Over 25% of all trips – and 33% of commute trips – in San Francisco are made by transit
San Francisco’s Muni Forward program

Transit Priority Projects

• Toolkit of improvements:
  • Transit-only lanes
  • Transit signal priority
  • Stop removal and optimization
  • Transit and pedestrian bulbs
Muni Forward Transit Priority Projects target the Rapid Network
And it’s working!

Ridership change on Muni Rapid Network in last 2 years +8%

Nationwide change in transit ridership in last 2 years - 4%

Focus on small investments in large amount of network instead of big projects that target 1 line a key explanation for this success
Geary Rapid
The Geary corridor: 54,000 riders/day

- Local, Rapid, and Express service
- Rapid every 4 minutes, local every 8, up to 35 buses/hour
Geary near Webster, 1950s
Geary near Webster, 2018
Then and now
Project goals: Improved transit speed and reliability

CURRENT CONDITIONS

IDEAL CONDITIONS
Project goals: Improved safety and accessibility for people walking

1 YEAR

GEARY

26 pedestrians injured on Geary annually

YOU ARE

8x more likely to be involved in a collision on Geary than the average city street.
Key project features

1. Dedicated bus lanes
2. Bus bulbs
3. Pedestrian bulbs
4. Traffic signal upgrades
Calming the Expressway, Buchanan before
Calming the Expressway, Buchanan after
Comprehensive public engagement
Implementation approach

- Near-term implementation – do as much as project as possible with paint and signage
- City policy to “Dig Once” means small-ish transit elements, trigger major water and sewer upgrades that increase duration

### Timeline

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<thead>
<tr>
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<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
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<tbody>
<tr>
<td>Stanyan to Van Ness</td>
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<td><strong>Demolition of Steiner Street pedestrian bridge over a holiday weekend</strong></td>
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<td>Van Ness to Market</td>
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### Projects

- **Transit and safety treatments**
  - Bus-only lanes
  - Pedestrian safety treatments
  - Bus stop changes
  - Roadway striping changes

- **Utility upgrades**
  - Water main replacement on Geary (Masonic to Market)
  - Fiber-optic cable conduits (Stanyan to Gough)
  - Sewer main replacement (primarily Masonic to Van Ness)

- **Major transit and safety improvements**
  - Bus bulbs
  - Upgraded traffic signals
  - Pedestrian bulbs
  - Roadway repaving (Masonic to Van Ness)
Near-term implementation: new bus-only lanes! ~ 2 new miles/direction
Civil construction underway: beginning with water and sewer upgrades
A closing thought: transit will always be extremely important, especially in dense areas

Space needed to move 60 people by bike, car, and bus
A closing thought: transit will always be extremely important, especially in dense areas

Even if future autonomous vehicles carried 4 passengers/car, they would still be about 4 times less space efficient as a bus
Thank you!

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Implementation approaches: quick build vs. major capital construction

SF Types of Transit-Only Lane Projects underway

- Quick build side-running transit-only lanes +/- other transit priority features, followed by small-scale capital (e.g. Geary Rapid)
- Multi-year center-running transit-only lanes, upgraded stations (e.g. Van Ness Improvement Project)

Rendering of Van Ness Improvement Project (center-running bus-only lanes)
## Side vs. center comparison

<table>
<thead>
<tr>
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<th>Geary Rapid (side-running transit only lanes)</th>
<th>Van Ness Improvement (center-running transit only lanes)</th>
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<tr>
<td>Cost of core project</td>
<td>$35 million</td>
<td>$170 million</td>
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<tr>
<td>Cost of core project + additional coordinated infrastructure upgrades</td>
<td>$65 million</td>
<td>$310 million</td>
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<tr>
<td>Construction duration (current estimate)</td>
<td>2.5 years</td>
<td>5 years</td>
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<tr>
<td>Corridor length</td>
<td>3 miles</td>
<td>2 miles</td>
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<tr>
<td>Major scope differences</td>
<td>Bus bulbs, pedestrian bridge demolition</td>
<td>Overhead catenary system replacement, new street lights, substantial number of new trees, median stations</td>
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The pros of side-running bus lanes

- **Side**: implemented in a few weeks vs. **Center**: requires major civil construction
- Improve a lot of the network quickly and cheaply
- While cannot *eliminate* delays to buses from double-parking and right-turns, data shows they still *reduce* transit delays, especially with enforcement
- Travel time benefits of center-running are likely to be higher, but on a $/second saved and a time to benefit metric, side-running will often outperform center
Transit-only lane markings

Pavement Markings (non-colored)

Pavement Markings (red)

Signage
Quick build asphalt bus bulb

Enabled an important bus stop consolidation to proceed in the near-term, used SF’s Public Works crews to deliver over 2 days. Will ultimately be re-build with concrete in ~2 years
Innovative treatments: benefits and challenges of red transit-only lanes

SF history with red transit-only lanes

- Began installation of red color as a part of FHWA pilot in 2013
- Study of 3 SF streets found that w/ red paint:
  - Fewer violations
  - Reduced collisions
  - More reliable Muni service
Challenges

- Still not a standard treatment in the Manual of Uniform Traffic Control Devices, despite positive findings from pilots in several cities that began over a decade ago
- Pilot requires installation first as non-colored transit-only lane before coloring them red
- Red thermoplastic is kind of expensive! ($25/square foot)
Public input: red transit-only lanes

I'm excited for more red lanes!

My favorite part of the project is the bus-only red lanes. I noticed HUGE improvement when they were installed on Mission St.

“Because you are anti car, you are constantly down-playing our need not to have red coloring in front of our property”
Outreach toolkit: how to reach and talk to transit riders, merchants, residents, and other stakeholders

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
**Intercept survey**

Are existing red lanes improving service on Geary?

- Yes: 68%
- No: 9%
- No opinion: 5%
- Don't know: 18%

**Source:** Pedestrian Intercept Survey, March 2017

**Key Findings**

- People coming to the Geary corridor overwhelmingly walk or use transit.

- People are quite familiar with the red lanes on Geary and feel positively about this type of transit improvement.

- People who walk, bike or take transit visit Geary corridor businesses more frequently than people who drive.
Door to door merchant loading survey

The closest yellow curb loading zone to my business is...

- In front of my business: 46%
- Less than 100 ft from my business: 22%
- More than 100 ft from my business: 18%
- Further away but on the same block as my business: 8%
Stakeholder meetings

More than 60 stakeholder meetings and presentations were held during 6 months leading to final project approvals
Go to where the people are
Key collateral: project drawings
Key collateral: project drawings

Geary Rapid Project Drawings
The Geary Rapid project will make traveling on Geary—home to one of the busiest bus corridors in the west—a more reliable and safer experience with dedicated bus lanes and safety improvements for people walking. The Geary Rapid Project reflects numerous design changes in response to community input. The SFMTA Board approved these changes on August 21, 2018.

See updated block-by-block design details:
- O’Farrell Street: Powell Street to Grant Avenue
- Geary Street: Stockton Street to Kearny Street
- O’Farrell Street: Taylor Street to Powell Street
- Geary Street: Mason Street to Stockton Street
- O’Farrell Street: Leavenworth Street to Taylor Street
- Geary Street: Leavenworth Street to Taylor Street
- O’Farrell Street: Larkin Street to Leavenworth Street
- Geary Street: Larkin Street to Leavenworth Street
- O’Farrell Street: Van Ness Avenue to Larkin Street
- Geary Street: Van Ness Avenue to Larkin Street
- O’Farrell Street/Starr King Way: Gough Street to Van Ness Avenue
If possible, look for opportunities for collaboration

- Communities requested investment in public realm enhancements. Response: decorative median panels designed by community

- Represent identities of surrounding neighborhoods: St. Francis Square, Fillmore, Japantown
Outcome: generated community support for project
Invest in high-quality renderings: Calming the Expressway, Webster before
Invest in high-quality renderings: Calming the Expressway, Webster after
How to remove the impossible: bus stop consolidation and parking removal

Geary Rapid bus stop removals/consolidations
Bus stop outreach tactics

Multi-channel outreach campaign/survey

- Signs at bus stops
- Email
- Input via stakeholder meetings

Surveys reached riders who would marginally benefit but unlikely to show up at a Public Hearing

Sometimes those who comment against stop removal at Public Hearings are not regular riders
Bus stop removal is still really hard

- Just as hard, if not harder, than parking removal
- 2 Rapid stops removed, 3 local stops removed
- Most common complaint since project implementation has been about Rapid stops removal
Parking removal

- Project involved removing 2 entire block-faces of parking, as well as many blocks with 1-3 spots removed
- Greatest parking removal was in area with large off-street parking supply
- Talking point “Maintain 98% of parking within 2 blocks of corridor”
Parking removal

- Strive for transparency
  - Informed properties on blocks with removal of the proposals through direct outreach prior to project approval
  - Additional door to door outreach and advance warning signage a week before implementation
- Since implemented in October 2018, only 2 complaints about parking loss
Sticks matter too: enforcing transit-only lanes

- SFMTA can issue *non-moving violations* (e.g. double parking) via Parking Control Officers in the field and via violations caught on Muni dashboard cameras
- SF Police Department can issue *non-moving and moving* violations.
Transit-Only Lane Enforcement (TOLE) Program

- Pilot authorized by California State law in 2008, made permanent in 2015
- Uses cameras on board buses to enforce transit-only parking violations
- Only a sample of video is reviewed for citations, but widespread perception among motorists that they will get a ticket if they park in the bus zone

TOLE Bumper Sticker on a Muni Vehicle
SFPD Enforcement Support for Geary

- Education campaign the first month after implementation
- Ticketing campaign 3 months after implementation
- SFPD did not provide quantitative statistics, but reported that:

  - Fewer drivers violated after 3 months
  - Of those who did, most were doing so knowingly
  - Of those who did not, higher proportion of non-English speaking

Educational flyer handed out by SFPD

*Transit-only lanes: Did you know?*

**In a Transit-Only Lane...**

**You CAN:**
- Make a right turn at intersections and driveways. Safely enter the transit-only lane as you approach the intersection or driveway.
- Access parking. People driving may enter a transit-only lane to pull in or out of a curbside parking space or loading zone.

**You CANNOT:**
- Pick up, drop off or double park. Like any active traffic lane, pick-ups, drop-offs and double parking are not allowed in transit-only lanes.
- Drive. People driving and bicycling are only allowed to enter a transit-only lane when necessary to turn, park or reach the curb.
Red lanes are more likely to be self-enforcing

Change in compliance of Transit-Only Lanes pre- and post-red colorization

Source: SFMTA Red Transit Lanes Evaluation Final Report, 2017
Private transit and transit-only lanes

Muni approves bus lanes on Geary as critics see red over private shuttle use

Rachel Swan  |  Aug. 22, 2018  |  Updated: Aug. 22, 2018 1:39 p.m.